Proponent's Environmental Assessment for Southern California Edison Company's Eagle Mountain-Blythe 161 kiloVolt Transmission Line Rating Remediation Project Volume 6

July 31, 2024 (PEA submittal date)

Remove existing subtransmission structures and conductors, install new subtransmission structures and conductors on existing distribution and subtransmission circuits.

The Eagle Mountain-Blythe 161 kiloVolt Transmission Line Rating Remediation Project would be located in Riverside County and the City of Blythe within the State of California.

Application A.24-XX-XX to the California Public Utilities Commission

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Appendix C Biological Resources Technical Report

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Appendix C

Biological Resources Technical Report

Eagle Mountain-Blythe 161 kV Transmission Line Rating Remediation Project

Draft Biological Resources Technical Report

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July 2022

Revised August 2023

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Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
amsl	above mean sea level
APM	Applicant Proposed Measure
ARDR	Aquatic Resources Delineation Report
BLM	Bureau of Land Management
BRTR	Biological Resources Technical Report
°C	degrees Celsius
CCH	Consortium of California Herbaria
CDCA	California Desert Conservation Area
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CWA	Clean Water Act
DOI	United States Department of the Interior
DRECP	Desert Renewable Energy Conservation Plan
DPV2	Devers-Palo Verde 2
DWMA	Desert Wildlife Management Area
EM-B	Eagle Mountain-Blythe
EO	Executive Order
EPA	Environmental Protection Agency
°F	degrees Fahrenheit
FESA	Federal Endangered Species Act
FLPMA	Federal Land Policy Management Act
FR	Federal Register

ft	foot/feet
GANDA	Garcia and Associates
GIS	Geographic Information System
G.O.	General Order
GPS	global positioning system
HCP	Habitat Conservation Plan
I-10	Interstate-10
iPaC	Information for Planning and Consultation
Jacobs	Jacobs Engineering Group Inc.
kV	kiloVolt
LUPA	Land Use Planning Amendment
LWS	light-weight steel
m	meter(s)
MBTA	Migratory Bird Treaty Act
MCVII	*Manual for California Vegetation*, 2nd edition
NECO	Northern and Eastern Colorado Desert Coordinated Management Plan
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NISC	National Invasive Species Council
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWPR	Navigable Waters Protection Rule
O&M	operations and maintenance
OHWM	ordinary high-water mark
PBF	physical or biological features
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
project	Eagle Mountain-Blythe 161 kV Transmission Line Rating Remediation Project
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCE	Southern California Edison
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan

TLRR	Transmission Line Rating Remediation
TNW	traditional navigable water
TSP	tubular steel pole
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WBD	Watershed Boundary Dataset
WDR	Waste Discharge Requirement
WECC	Western Electricity Coordinating Council
WHMA	Wildlife Habitat Management Areas

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Executive Summary

This Biological Resources Technical Report has been prepared for Southern California Edison's Eagle Mountain – Blythe 161-Kilovolt Transmission Line Rating Remediation Project (project). Its purpose is to summarize the biological studies conducted for the project to date, assess the potential direct and indirect project impacts, and present Applicant Proposed Measures to reduce impacts to less-than-significant levels through avoidance, minimization, and mitigation.

The project is located in Riverside County in an existing Southern California Edison right-of-way that extends approximately 53 miles between the existing Eagle Mountain and Blythe Substations. The alignment crosses privately owned lands and lands managed by the Bureau of Land Management. The purpose of the project is to resolve approximately 168 discrepancies by replacing the existing conductor on the Eagle Mountain – Blythe 161-kilovolt circuit and replacing some structures to increase the phase-to-ground and/or phase-to-phase clearance for the lines. Disturbance areas will include replacement structure work areas, existing structure work areas, wire setup sites, guard structure sites, ancillary sites, laydown yards, and access roads. Types of disturbance typical of transmission and distribution projects include vegetation clearing, minor grading, drive and crush, and foot traffic.

A desktop analysis was conducted to determine which special-status species and other biological resources have potential to occur in the Study Area (project disturbance areas plus a resource-appropriate buffer). Data including historical occurrences, aerial imagery, and Geographic Information System data pertaining to geophysical conditions and habitat availability were included in the analysis. An initial habitat assessment and surveys for plants and wildlife were conducted in the Study Area in 2016. Protocol surveys for desert tortoise (*Gopherus agassizii*) were conducted in 2017. Focused surveys for rare plants were conducted in 2018, 2021 and 2023. A field delineation of aquatic resources was conducted in 2021.

Fourteen vegetation communities and four types of developed/disturbed land cover types were identified in the Study Area, including four that are identified as sensitive for the purposes of California Environmental Quality Act environmental review. Ten special-status plant species were identified in the Study Area during project surveys, and none of these plant species are federally or state listed. One listed wildlife species (desert tortoise) occurs in the Study Area, and the project crosses federally-designated critical habitat for the desert tortoise. Fourteen non-listed special-status wildlife species are likely to occur in the Study Area, of which six were detected during surveys. Suitable habitat for protected nesting birds and habitats that facilitate wildlife movement are present throughout the Study Area. Ephemeral features classified as intrastate isolated Waters of the State were delineated in the Study Area; no federal waters or federal or state wetlands were identified.

Implementation of the project is expected to result in approximately 31 acres of temporary direct impacts. Impacts would occur to 20.58 acres native vegetation communities and 1.29 acres of vegetation identified as sensitive (alkali weed – salt grass playas and sinks, allscale scrub, blue palo verde – ironwood woodland, mesquite thickets, and Mojave – Sonoran desert dunes). Temporary direct impacts would occur to 0.68 acre of isolated waters under California Department of Fish and Wildlife jurisdiction and 0.09 acre under Regional Water Quality Control Board (RWQCB) jurisdiction. Because the pole footprints of the replacement structures are slightly larger than those of the original structures, the project would result in a net increase in permanent impacts of

approximately 0.06 acre, negligible relative to the abundance of habitat in the project vicinity. Indirect impacts to vegetation communities could result from the project, including soil compaction, impacts to seed germination, revegetation rates, and plant vigor, and the introduction or spread of invasive species.

As currently designed, project implementation may result in direct impacts to six special-status plant species: Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), gravel milk-vetch (*Astragalus sabulonum*) foxtail cactus (*Coryphantha alversonii*), ribbed cryptantha (*Cryptantha costata*), California ditaxis (*Ditaxis serrata* var. *californica*), and desert unicorn plant (*Proboscidea althaeifolia*). Project activities are expected to result in a maximum of 16.73 acres of impacts to desert tortoise habitat, of which 9.44 acres are located in designated critical habitat. Desert tortoises and other wildlife may be directly impacted by project activities, including being injured or killed if struck by project vehicles or equipment. Wildlife may also be impacted by visual and noise disturbance, which may cause them to abandon nests or territories, impede wildlife movement, and negatively affect wildlife breeding.

Applicant Proposed Measures will be implemented to avoid and minimize impacts to biological resources. These measures will include a worker environmental awareness program, pre-construction surveys and clearance sweeps, biological monitoring, limiting disturbance areas, restoring temporarily impacted areas, and compensating for impacts to sensitive resources.

1 Introduction

This Biological Resources Technical Report (BRTR) has been prepared for Southern California Edison's (SCE) Eagle Mountain – Blythe (EM-B) 161-Kilovolt (kV) Transmission Line Rating Remediation (TLRR) Project (project). The purpose of the BRTR is to summarize the methods and results of biological studies conducted for the project to date, to assess the potential of the project to result in direct or indirect impacts to biological resources, and to present Applicant Proposed Measures (APM) intended to avoid, minimize, or mitigate those impacts. The BRTR has been prepared to assist SCE with project planning and to provide a framework for potential permitting.

1.1 Project Location

The project is located in an existing SCE right-of-way (ROW) that extends approximately 53 miles between the existing Eagle Mountain and Blythe Substations (Figure 1; Appendix A). The alignment crosses lands managed by the Bureau of Land Management (BLM) (approximately 34.5 linear miles) and privately owned lands (approximately 18.5 linear miles) (Figure 1). The project extends south and east through the Chuckwalla Valley from Desert Center to Blythe, in Riverside County, California. The project area is encompassed by the Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, and Ripley 7.5-minute United States Geological Survey (USGS) topographic quadrangles.

1.2 Project Background

The TLRR is a compliance-based program implemented to bring SCE's transmission system into compliance with updated North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) standards and the revised California Public Utilities Commission General Order (G.O.) 95. SCE requires that all circuits meet or exceed the most stringent strength, clearance, and reliability requirements of those regulating bodies. G.O. 95, while not applicable to the NERC transmission ratings requirements, requires greater mechanical and electrical performance. SCE has determined that all its facilities will meet the requirements of G.O. 95 and that any remediation efforts requiring new construction will meet the latest SCE standards.

Without the TLRR program, some circuit spans lack sufficient clearances between conductors and other conductors, structures, and/or the ground to meet the requirements of G.O. 95 during peak and emergency loading conditions (i.e., discrepancy). These discrepancies reduce overall system reliability because they limit the circuit operating potential. The TLRR program intends to address approximately 11,783 discrepancies among approximately 300 circuits throughout SCE's service territory through a variety of remediation options, including replacing existing conductors and existing structures. The EM-B project is one project in SCE's broader TLRR program.

The purpose of the project is to resolve approximately 168 phase-to-ground clearance discrepancies along the EM-B 161-kV circuit by replacing the existing conductors and replacing select structures to meet the line rating clearance requirement for the circuit.

1.3 Project Description

1.3.1 Project Overview

The project consists of the following project components:

- Replacing approximately 53 circuit miles of the existing 161 kV 336 Merlin and 336 Linnet aluminum conductor, steel reinforced (ACSR) with new 336 Oriole ACSR between the Eagle Mountain and Blythe Substations (this process is referred to as "reconductoring"[1])
- Replacing approximately 1 circuit mile each of 2 existing 66 kV subtransmission circuits between Eagle Mountain Substation and new structure 7029503
- Replacing approximately 1 mile of existing 12 kV distribution circuit between Eagle Mountain Substation and new structure 7029503
- Installing approximately 1 mile of overhead ground wire between Eagle Mountain Substation and new structure 7029503
- Transferring 1 existing single communication line on the first mile north of Eagle Mountain Substation to the newly installed structures
- Removing 25 Pumco steel poles with foundations and 1 single wood pole and replacing them with 17 tubular steel poles (TSPs) with 17 foundations (9 of the Pumco steel poles that would be removed would be not replaced)
- Replacing 16 wood three-pole dead-end structures with 16 three-pole TSPs with 48 foundations
- Replacing 11 wood H-frame structures with 11 lightweight steel (LWS) H-frame structures
- Installing approximately 3.26 circuit miles of fault return conductor (FRC) to support LWS grounding requirements at various points along the alignment

The Pumco steel poles to be removed support the EM-B 161-kV circuit, as well as two 66-kV underbuild circuits and a 12-kV underbuild circuit. These Pumco steel poles and their associated overhead ground wire and underbuilds are in the portion of the alignment extending for approximately 1 mile north from the Eagle Mountain Substation.

Currently, the EM-B line comprises 392 structures. This includes 339 structures that would not be removed or replaced as part of this Project. The Project includes removal of 53 structures and replacement with 44 structures, resulting in a total of 383 structures on the circuit after completion of the Project (i.e., a net reduction of 9 structures). For some of the structures that are removed, the existing disturbance areas (e.g., stub roads and cleared areas) would be restored and no longer used as disturbance areas upon completion of construction.

Ground-disturbing activities would occur within disturbance areas defined as structure replacement work areas, existing structure sites, wire setup sites, and guard structure sites. The network of existing unpaved access roads would be used for Project activities and may require maintenance and/or improvement to ensure safe access. Four laydown yards, which would be used for staging equipment and materials and as a place for personnel to meet, have been identified for the Project

[1] 336 Oriole (30/7) has a higher rated breaking strength than the 336 Merlin (18/1) and 336 Linnet (26/7) with minimal increase in conductor diameter, which results in fewer required structure replacements.

(see *Disturbance Areas* section). Two of the laydown yards are established; therefore, no additional improvement would be required for their use on the Project. Two of the laydown yards are not yet established and would require minor grading, fencing, and rocking in order to be used for the Project. In addition, access to these work areas would be provided by existing paved public roads and a network of existing unpaved access roads maintained by SCE along the existing ROW. Project construction activities and disturbance areas, including laydown yards and access roads, are described in detail in the following sections.

1.3.2 Disturbance Types

The Project would require little to no grading outside of established access roads. In some cases, use of the existing access roads will minimize ground disturbance typically required at wire sites, and the equipment would create a minor amount of disturbance where off-road work areas would be required. The following sections include descriptions of the types of disturbance typical for this Project.

Minor Grading

Minor grading activities consist of the removal of surface vegetation, where necessary, and blading to remove surface irregularities, leaving a relatively flat site. Vegetation clearing is avoided to the extent feasible. Where vegetation must be removed, care is taken to retain the root structure to the extent feasible. With minor grading, no slope engineering occurs. Rather, the original slopes and contours of the site are retained to the extent feasible, but the site is "smoothed out." The hydrology of the site is not altered or obstructed. Example equipment used to perform minor grading includes skid steers. Typically, the depth of soil disturbance is limited to topsoil, although some subsoil may be mixed in. This practice is typical for sites where small, rubber-tired equipment is sufficient to complete the work and the topography is not dynamic.

Minor grading would be required at select Project work areas, such as where the TSPs would be erected and where pull sites feature dynamic topography. At these sites, cranes would be required.

Drive and Crush

With drive and crush, minor vegetation trimming may be required, but the root structures of existing vegetation are retained. Site preparation using grading equipment is not required; no blading or grading occurs. Rather, the equipment required to perform the task (e.g., crane, pulling machine, pickup truck) drive over and set up on the native vegetation and soils. The original grade, contours, and hydrology are retained.

To the extent feasible, SCE would implement drive and crush methods for the Project.

Foot Traffic Only

For the entire length and width of the project ROW, crews may be required to access via foot traffic to perform a variety of project activities. At sites only disturbed by foot traffic, vehicles and equipment are parked on nearby existing disturbed areas (e.g., access roads, Operations and Maintenance [O&M] work areas [see below for definition]) and personnel access and perform work within the site on foot. If feasible, construction vehicles and equipment would be parked within the access roads and/or existing disturbed areas such that the structures can be reached without overland travel.

Road Work

Access roads supporting the Project may require improvement to ensure safe passage during construction activities. Road improvement levels are described below:

0: No Improvement	No improvements to be performed on road. Includes Travel Paths.
1: Overland Travel	Drive and crush only. No road improvement or design. No vegetation clearing or grubbing.
2: Minimum Improvement	Scraping/Blading, grubbing, vegetation clearing within existing driveable surface. No widening.
3: Medium Improvement	Scraping/Blading, grubbing, vegetation clearing within existing road prism (driveable surface, berm and swale) additional grading. Fill ruts and wash outs. No widening.
4: Heavy Improvement	Scraping/Blading, grubbing, vegetation clearing within existing road prism (driveable surface, berm and swale) additional grading. Fill ruts and wash outs. Road widening permitted to within SCE specifications.
5: Design Road	Civil engineered road with grading, cut and fill.

No new access roads are required for this Project; however, SCE plans to implement up to Medium Improvement on all access roads.

1.3.3 Disturbance Areas

Structure Replacement Work Area

The removal and replacement of existing structures would occur within structure replacement work areas. To the extent feasible, drive and crush would be favored over minor grading (i.e., leveling) because it preserves the vegetation. To the extent feasible, equipment would be positioned within the roadway, O&M work areas, or other previously disturbed areas. If vegetation trimming is needed, the root structures would remain intact.

Existing Structure O&M Work Areas

For the existing structure locations where structure replacement would not occur, the existing hardware that holds the conductors in suspension would be replaced. To the extent feasible, equipment would be limited to the O&M work area (e.g., an approximately 80-foot radius around each structure footprint limited to the ROW) and other disturbed areas (e.g., access roads). It is important to note that these disturbance areas are considered existing permanent disturbance and, therefore, are not included in the calculations of new project impacts. However, for clarity, these areas are included in the Project mapping (see **Error! Reference source not found.**).

Wire Setup Sites

Wire setup sites are locations where equipment would be set up to assist with wire stringing. Once the new structures have been erected and hardware replaced on the existing structures, the new

conductors can be installed (i.e., reconductoring or wire stringing). These locations may also be used for splicing and other aspects of wire stringing. Approximately 46 wire setup sites have been designated and are included in the Project mapping. Wire setup sites would be located primarily within the ROW, although a few would be located outside the ROW on privately-owned land. Wire setup sites would be accessed from existing roads via drive and crush (overland travel) to the extent feasible, although minor grading may be required at some sites.

Guard Structure Sites

Guard structure sites are located where temporary facilities would be installed at transportation, flood control, and utility crossings for wire stringing/removal activities. These structures are designed to prevent a conductor from sagging below conventional stringing height. To the extent feasible, drive and crush would be employed at guard structure sites, especially where the guard structures are comprised of parked boom trucks.

Laydown Yards

SCE proposes to use the Blythe, Chuckwalla, Desert Center and Mirage Laydown Yards during construction. The Blythe Laydown Yard is located in the City of Blythe immediately south of Interstate 10 (I-10) and at the southeastern corner of South Lovekin Boulevard and West 14th Avenue. The Chuckwalla Laydown Yard is located south of I-10 and immediately south of Chuckwalla Valley Road near its intersection with Augustine Pass Road. The Desert Center Laydown Yard is located immediately north of I-10 northeast of the intersection of I-10 and Rice Road in Desert Center. The Mirage Laydown Yard is located at SCE's existing Mirage Substation east of the intersection of Ramon Road and Vista De Oro in Thousand Palms. The yards would be used for staging equipment and materials and as locations for construction personnel to meet. Two of the laydown yards (Mirage Yard and Desert Center Laydown Yards) are established; therefore, no additional improvements would be required for their use for the Project. Two of the laydown yards (Chuckwalla and Blythe Laydown Yards) are not yet established and would require minor grading, fencing, and rocking in order to be used for the Project.

Access Roads

The Project work areas would be accessed via existing access roads that follow the alignment, inside and outside the ROW and through the structures in some locations. The access roads extend toward the ROW from Kaiser Truck Road, Eagle Mountain Road, Chuckwalla Valley Road, Ford Dry Lake Road, and Hobsonway. Several unpaved public dirt roads also provide access to the ROW. No new permanent roads would be constructed for the Project.

The access roads proposed for use during Project execution are identified in the mapping for the Project included in **Error! Reference source not found.**.

1.3.4 Construction Activities

Structural Removal/Replacement

The project involves removing 25 Pumco steel poles and one single wood pole and replacing them with 17 TSPs (nine of the Pumco steel poles that will be removed will be not replaced), replacing 16 wood three-pole dead-end structures with 16 three-pole TSPs, and replacing 11 wood H-frame structures with 11 LWS H-frame structures. In general, each new structure will be installed adjacent to the existing structure that it is to replace. However, at a few locations where a structure is to be

removed and not replaced, the replacement structure for the nearest existing structure that is to be replaced will be installed at a location somewhere between the two existing structures rather than immediately adjacent to the one being replaced. All removal and replacement activities will occur within a delineated structure replacement work area.

New Tubular Steel Poles

For each new TSP, whether stand-alone or part of a three-pole structure, one new concrete foundation would be installed within the delineated structure replacement work area to support each new pole. The new foundation would be approximately 5 to 8 feet across and 18 to 32 feet deep. A line truck with an auger attachment or low-profile drill rig would drill the hole. The excavated material from the hole (approximately 23 to 150 cubic yards) would be spread using a small bulldozer to create a level pad for a crane to stage. To the extent feasible, existing disturbed areas would be selected for the location of the crane pad in order to avoid impacts to native vegetation. Where crane pads must be located in native vegetation, the top approximately 2 to 4 inches of topsoil would be salvaged from the area subject to ground disturbance prior to constructing the crane pad, stockpiled on site, and re-spread in the temporary disturbance area upon completion of construction. Once the foundation has been drilled, a rebar cage would be placed into the foundation hole using a crane. The footing steel would then be set, and concrete would be poured to fill each foundation hole. The concrete would be delivered in ready-mixed concrete trucks, with approximately two to three concrete truck loads per each new foundation. An approved wash-out container would be on site during concrete work.

Once the concrete foundation has cured, a TSP would be delivered to the site using a flatbed truck. The TSP would be offloaded by either a crane or a rough terrain (RT) forklift. Each section of the structure would be erected and assembled with a crane. Once the new TSP has been erected, the line crew would proceed to “de-clip” the existing conductor on the existing structures and transfer the conductor into travelers on the new TSP using a crane and/or boom trucks.

Along the one mile of the alignment between Eagle Mountain Substation and new structure 7029503, the subtransmission and distribution circuits would be removed from the existing structures and held at an appropriate distance from the centerline of the circuit prior to installation of replacement TSPs. This activity would be conducted using cranes and/or bucket trucks or temporary poles or structures. The purpose is to separate the energized conductor to allow sufficient clearances to erect the new structure in between while limiting line outage durations.

The work area around each new TSP would vary based on terrain and available space. Temporary grading areas would be restored using a small bulldozer, and the site would be returned to its natural condition once structure installation is complete. Excess dirt from the excavations would either be used to backfill removed structure foundations, recontour the site, or be spread over the existing access road and compacted.

New Direct-Bury Lightweight Steel H-Frames

At each location, a line truck with an auger attachment or low-profile drill rig will dig two holes approximately 8 to 15 feet deep. The excavated material from the holes (approximately 4 to 6 cubic yards per hole) will be used to create a level pad for the RT crane to stage. To the extent feasible, existing disturbed areas will be selected for the location of the crane pad to avoid impacts to native vegetation. Where crane pads must be located in native vegetation, prior to constructing the crane pad, the top approximately 2 to 4 inches of topsoil will be salvaged from the area subject to ground disturbance, stockpiled on-site, and re-spread in the temporary disturbance area upon completion

of construction. The H-frame vertical sections will be set upright in the holes using a crane. The holes will be backfilled with pea-gravel and slurry (sand, water, 2-sac slurry cement). Then, the crane will be used to place a LWS pole horizontally between the two upright poles. These activities will occur within a delineated structure replacement work area.

The work area around each new H-frame will vary based on terrain and available space. Temporary grading areas will be restored, and the site will be returned to its natural condition once structure installation is complete. Excess dirt from the excavations will either be used to recontour the site or spread over the existing ROW road and compacted.

Existing Structural Removal

Once installation of the new structures is finished and the existing conductor has been transferred to the new structures, all structures that have been replaced will be removed.

Wooden poles will be removed completely. A digger-derrick, crane, or similar equipment will be used to extract wooden poles from the ground. The removed wooden poles will be transported off-site intact using a flatbed truck. The holes left behind by the wood poles will be back filled with the dirt excavated for the new structures.

The Pumco steel poles will be dismantled in sections that will be brought to the ground, then further dismantled. A crane will be used to hold the structure during removal of each section. The sections will be sheared on-site and broken down into sections that can be hauled off with a flatbed truck. The foundations of the old structures will be excavated 2 feet below ground grade using a backhoe and small bulldozer and cut off, and the excavated area around the foundation will be back filled with the dirt excavated from new structure foundations. The excavated concrete will be hauled off-site using dump trucks.

Reconductoring

Reconductoring (i.e., wire stringing) includes all activities associated with the removal of existing conductor and installation of the new conductors. Wire stringing is typically divided into separate “pulls” from one dead-end structure to another. Due to angles, freeway crossings, and other factors, based on current planning, the project will involve 50 pulls. Some pulls will include the spans between multiple structures, while some pulls will involve only the segment between two adjacent structures. The individual activities associated with reconductoring are detailed in the following sections.

Reconductoring activities occur at many disturbance areas within any given pull, including structure replacement work areas (where a new structure is part of the pull), existing structure work areas (for the purpose of modifying the hardware for wire stringing and then reverting it back to insulators), wire setup sites (location of the pulling machinery), guard structure sites (placement of guard structures), and within the limits of the existing access roads (splicing, etc.)

Work Activities at Structures along the Reconductor Segment

Every structure along the line, including both new structures and those not being replaced, will be accessed for hardware replacement and reconductoring activities for conductor replacement and overhead ground wire replacement. Structures will be accessed by rubber-tired pick-up trucks and bucket trucks. The existing conductor will be “rigged” and lifted out of the existing conductor shoe. The existing ceramic insulators will be replaced with new polymer type insulators, including all the associated hardware used to pin the insulator to the tower. Then a roller, approximately 25 to 30

inches in diameter will be hung from the bottom of the newly installed insulator and the old conductor will be placed into the roller so it can be pulled out and replaced with new conductor. The existing conductor will be used to pull in the new conductor. Similar activities will take place for the overhead ground wire. At the 44 new structures, this activity will occur in the same structure work area used for the replacement activity. At each of the 383 existing structures that are not replaced, this work would be completed within the existing O&M structure work area. The sizes and shapes of the work areas may vary based on efforts to avoid potentially regulated drainage features.

Similar activities would take place to install the overhead ground wire and FRC. Where overhead ground wire or FRC is not currently installed on the structures, a roller will be installed on the attachment hardware. A rope or hard line would be placed into the rollers so it can be used to install the new overhead ground wire or FRC.

Once the new conductor, overhead ground wire, and/or FRC has been installed and sagged in that section, the wire crews would come back to each tower, take the conductor, ground wire, and/or FRC out of the rollers, and then "clip" it into the new hardware on suspension structures or complete terminal connections at the dead-end structures.

Work Activities for the Removal of Line Sleeves

Existing line sleeves (a device which is used to splice conductors together) are typically "cut out" and replaced with pulling socks (a device that will connect the two ends of the conductor back together). The old line sleeves could separate during the installation phase of the new conductor, so they need to be replaced with line socks. These line sleeves are typically located mid-span between two structures. The specific locations, which will be identified prior to construction start, will be within defined disturbance areas or existing access roads. Cutting out the sleeves and installing socks requires access from the ground (typically with a boom truck). Line sleeve locations will be accessed by boom trucks.

Work Activities to Install Guard Structures

Approximately 40 temporary guard structures would be installed. Guard structures usually consist of two wood pole "uprights" and one wood pole in a horizontal position at the top of the uprights, which looks similar to an H-frame. These structures keep the moving conductors from touching the ground or contacting the electrical circuits. These structures are used to protect existing road and electrical crossings. Guard structures will be between 40 to 100 feet high, depending on the crossing being protected. To install the guard structures, holes will be drilled with a line truck with an auger attachment, approximately 24 to 38 inches in diameter and approximately 4 to 10 feet deep. The wood pole uprights are then set into the holes using boom truck-like equipment. A wood pole cross arm will be hung on top of the upright structures. After the new conductor has been installed and "clipped-in," the guard structures will be removed using a crane, and the holes will be filled and compacted in with native dirt.

In some cases, the wood poles could be substituted with the use of specifically equipped boom trucks, or, at highway crossings, temporary netting could be installed if netting is required by the governing transportation agency.

Work Activities at Wire Setup Sites

Wire setup sites are required to pull out the existing conductors and install the new conductors. They are required at specific locations along the entire length of the project. Approximately 50 sites

would be required. Most of the wire setup sites have been selected so that minimal ground disturbance will be required. The equipment will "drive and crush" to the site; no access roads will be required for wire setup sites. Minor leveling using a small bulldozer may be required to provide a flat surface for the equipment to stage. At the pulling end, a machine with a take-up reel mounted on a truck chassis will be connected to the existing conductor. The existing conductor will be connected to the new conductor at the tensioning end. As the existing conductor or hard line is pulled out, the new conductor will be pulled in. A reel is attached to the puller that will wind up the existing conductor. This reel can hold several thousand feet of old conductor. Once the reel is full, a crane or forklift will be used to remove the full reel and replace it with an empty reel. The process is repeated until all the old conductor located in that pull section has been removed and replaced with the new conductor.

At the tensioning end of the pull, a machine is mounted on a truck that has a bull wheel. Behind this machine is a conductor reel truck (or trailer) with the new conductor reels mounted on it. The conductor is "fed" through the tensioning machine bull wheel that acts as a braking device as the conductor is being "paid" out.

At both pulling and tensioning sites, screw-in anchors will be used to secure the conductors and free them from the pulling and tensioning machines. A screw-in anchor is a long metal rod with an auger at one end and an eye at the opposite end. The anchor is screwed into the ground at the pulling and tensioning sites, with the top eye portion exposed to secure the conductor. Once the conductor has been brought to final sag and the two ends of the conductors are sleeved together, the conductor is let up. The screw-in anchors are then removed, and the process is repeated at the next pulling/tensioning site. A sagging cat with a winch will connect to the new conductor and pull it to final sag.

As described above, at some locations wire setup activities would occur using the existing roads rather than within a delineated wire setup site. At these locations, activity would be confined to within the existing roadbed. Construction equipment would not travel, operate, or maneuver beyond the edge of the road at these locations. However, equipment outriggers may have to be placed outside of the road prism for safety. In these instances, cribbing or other padding will be implemented to prevent ground disturbance and/or damage to existing vegetation.

Work Activities at Sleeve/Splice Sites

To reduce ground disturbance as much as possible, wire setup sites have been spaced far apart. As a result, multiple reels of new conductor would have to be sleeved/spliced together for each pull section (per each phase). While the new conductor is being pulled in, the reels would be temporarily connected with pulling socks. Once the pulling operation is complete, a sleeve would be installed to permanently splice the reels together. Installing the sleeves would require access to the sleeve locations from the ground. A boom or bucket truck would access each of these sites, and crews would be lifted up to install the sleeves. Sleeve/splice sites would not require ground-disturbing work; all work can be completed from existing access roads or designated disturbance areas or by a crew walking in to the location.

1.3.5 Post-Construction Activities

The Project incorporates the use of existing disturbed areas to the extent feasible. Minor grading (i.e., leveling) may be required at some locations. While some native vegetation may need to be removed, "drive and crush" methods would be used to the extent possible to preserve the root

structures and seed bank. Following completion of construction, the temporary disturbance areas would be returned to pre-disturbance contours and, where native vegetation is affected, would be revegetated.

Equipment, tools, and vehicles will be required to arrive clean and free of weed propagules to prevent the introduction or spread of noxious and invasive weed species.

1.3.6 Construction Equipment

Construction equipment to be used includes the following:

- Auger
- Backhoe
- Boom truck
- Bucket truck
- Bulldozer
- Concrete trucks
- Conductor puller, tensioner, stringing equipment(s)
- Conductor reel stands
- Crane
- Dump trucks
- Flatbed trucks
- Forklifts
- Generators
- Haul trucks
- Line trucks
- LoDrill
- Moto-grader
- Pickup/Tool trucks
- Sag cat
- Skid steer
- Water trucks

1.3.7 Schedule

Construction of the Project is anticipated to start in the fourth quarter of 2024 and continue for approximately four months. Project activities would shut down for the summer loading period and to minimize impacts to special-status species in the area. Project activities would resume in the fourth quarter of 2025 and continue for approximately four months. The schedule is primarily driven by the potential for line outages, which is regulated by the California Independent System Operator. To the extent feasible, construction activities would occur between 6:00 a.m. and 5:00 p.m., Monday through Saturday or during the hours established in local ordinances and/or in any permits obtained. Construction is not anticipated to occur on holidays. However, at limited times, Project construction may be required or finished outside of these hours. The dates and locations of such work is not known at this time.

1.3.8 Operations and Maintenance

The Project involves the upgrade of existing facilities. Upon completion of the construction phase of the Project, O&M activities would resume. Since O&M is part of the baseline conditions and no new

O&M activities are proposed, the current and future O&M activities are not considered part of the Project.

1.3.9 Applicant Proposed Measures

Based on the impacts analysis presented in Section 5, the project has the potential to result in impacts to biological resources. Therefore, SCE has developed APMs that will be implemented to avoid, minimize, and/or mitigate potential impacts to biological resources.

APM BIO-1. Worker Environmental Awareness Program. All workers on the project site shall be required to attend a Worker's Environmental Awareness Training Program (WEAP). Training shall inform all construction personnel of the resource protection and avoidance measures as well as procedures to be followed upon the discovery of environmental resources. The WEAP training will include, at a minimum, the following topics so crews will understand their obligations:

- Environmentally Sensitive Areas boundaries
- Housekeeping (trash and equipment cleaning)
- Safety
- Work stoppage
- Communication Protocol
- Consequences of non-compliance

APM BIO-2. Pre-Construction Biological Clearance Surveys and Monitoring. Pre-construction clearance surveys will be performed by a qualified biologist (i.e., a biologist with the requisite education and experience to address specific resources), who may be chosen from biologists previously approved by the California Department of Fish and Wildlife (CDFW), to avoid or minimize impacts on special-status plants and wildlife species, habitat, nesting birds and other sensitive biological resources in areas with the potential for resources to be present. Sensitive resources identified during the clearance survey will be:

- flagged for avoidance
- moved to outside impact areas
- avoided by implementing procedures to avoid impacts to individuals while impacting habitat (e.g., burrows, dens, etc.)
- documented based on permit authorizations

Specific details on the pre-construction survey requirements may be found within measures for each individual species.

Where special-status species (e.g., reptiles, birds, mammals, and bat roosts) or unique resources (defined by regulations and local conservation plans) are known to occur and there is a potential for significant impacts, qualified biologists will monitor construction activities to ensure that impacts to special-status species, sensitive vegetation types, wildlife habitat, and unique resources are avoided and minimized.

APM BIO-3. Nesting Bird Management Plan.

Prepare Nesting Bird Management Plan. SCE will prepare and implement a Nesting Bird Management Plan (NBMP) to address nesting birds undertaken in collaboration with CDFW and United States Fish and Wildlife Service (USFWS). The Plan will be an adaptive management plan that

may be updated as needed if improvements are identified or conditions in the field change. The Plan will include the following:

- nest management and avoidance
- field approach (survey methodology, reporting, and monitoring)
- communication protocols
- the project's avian biologist's qualifications

Prepare and Implement a Nesting Bird Management Plan. SCE shall prepare a NBMP in coordination with CDFW, BLM, and USFWS. The NBMP shall describe methods to minimize potential project effects to nesting birds and avoid any potential for unauthorized take. Project-related disturbance including construction and pre-construction activities shall not proceed within 300 feet of active nests of common bird species or 500 feet of active nests of raptors or special-status bird species until approval of the NBMP by CDFW and BLM in consultation with USFWS.

- Surveys shall cover all potential nesting habitat within the ROW or other work areas within 500 feet of these areas for raptors and 300 feet for non-raptors.
- Pre-construction surveys shall be conducted for each work area, no longer than 10 days prior to the start of construction activity. On the first day of construction at any given site, a qualified avian biologist will perform a pre-construction "sweep" to identify any bird nests or other resources that may have appeared since the 10-day survey.
- SCE shall provide the CDFW and BLM a report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity of the surveyor(s); a list of species observed; and electronic data identifying nest locations and the boundaries of buffer zones. The electronic data set will be updated following each preconstruction nest survey throughout the nesting season. The format and contents of this report will be described in the draft NBMP and will be subject to review and approval by CDFW and BLM.

Nest Buffers and Acceptable Activities. The NBMP shall specify measures to delineate buffers on the work site, to consist of clearly visible marking and signage. Buffer locations shall be communicated to the construction contractor and shall remain in effect until formally discontinued (when each nest is no longer active). In addition, the NBMP shall specify measures to ensure the buffers are observed, including a direct communication and decision protocol to stop work within buffer areas. In some cases, active nests may be found while work is underway. Therefore, the NBMP shall include a protocol for stopping ongoing work within the buffer area, securing the work site, and removing personnel and equipment from the buffer.

The NBMP shall describe proposed measures to avoid take or adverse effects to nests, such as buffer distances from active nests. These measures shall be based on the specific nature of the bird species and conservation status, and other pertinent factors. The NBMP will identify bird species (or groups of species) that are relatively tolerant or intolerant of human activities and specify smaller or larger buffer distances as appropriate for each species. If no information is available to specify a buffer distance for a species, then the NBMP shall specify 300 feet as a standard buffer distance, and 500 feet for raptors and, special-status species. Nest management for listed threatened or endangered species will be prescribed in a USFWS Biological Opinion, CDFW Incidental Take Permit, or both. All applicable avoidance measures, including buffer distances, must be continued until nest monitoring (below) confirms that the nestlings have fledged and dispersed, or the nest is no longer active. For each special-status species potentially nesting within or near project work areas, the

NBMP shall specify applicable buffers and any additional nest protection measures, specialty monitoring, or restrictions on work activities, if needed.

The NBMP shall identify acceptable work activities within nest buffers (e.g., pedestrian access for inspection or BMP repair) including conditions and restrictions, and any monitoring required. The NBMP shall include pictorial representation showing buffer distances for ground buffers, vertical helicopter buffers, and horizontal helicopter buffers for nests near the ground and nests in towers.

Nest Buffer Modification or Reduction. At times, SCE or its contractor may propose buffer distances different from those approved in the NBMP. Buffer adjustments shall be reviewed and recommended by a qualified avian biologist, who has been approved by CDFW and BLM in consultation with the USFWS. The NBMP shall provide a procedure and timing requirements for notifying CDFW, BLM, and USFWS of any planned adjustments to nest buffers. Separate and distinct procedures will be provided for special-status birds. The NBMP will list the information to be included in buffer reduction notifications in a standardized format.

Nest Deterrents. The NBMP shall describe any proposed measures or deterrents to prevent or reduce bird nesting activity on project equipment or facilities, such as buoys, visual or auditory hazing devices, bird repellents, securing of materials, and netting of materials, vehicles, and equipment. It shall also include timing for installation of nest deterrents and field confirmation to prevent effects to any active nest, guidance for the contractor to install, maintain, and remove nest deterrents according to product specifications, and periodic monitoring of nest deterrents to ensure proper installation and functioning and prevent injury or entrapment of birds or other animals. In the event that an active nest is located on project facilities, materials or equipment, SCE will avoid disturbance or use of the facilities, materials or equipment (e.g., by red-tag) until the nest is no longer active.

Communication. The NBMP shall specify the responsibilities of construction monitors in regards to nests and nest issues and specify a direct communication protocol to ensure that nest information and potential adverse impacts to nesting birds can be promptly communicated from nest monitors to construction monitors, so that any needed actions can be taken immediately.

The NBMP shall specify a procedure to be implemented following accidental disturbance of nests, including wildlife rehabilitation options. It also shall describe any proposed measures, and applicable circumstances, to prevent take of precocial young of ground-nesting birds such as killdeer or quail. For example, chick fences may be used to prevent them from entering work areas and access roads. Finally, the NBMP will specify a procedure for removal of inactive nests, including verification that the nest is inactive and a notification/approval and approval process prior to removal.

Monitoring. SCE shall be responsible for monitoring the implementation, conformance, and efficacy of the avoidance measures (above). The NBMP shall include specific monitoring measures to track any active bird nest within or adjacent to project work areas, bird nesting activity, project-related disturbance, and outcome of each nest. For nests with reduced buffers, SCE shall monitor each nest until nestlings have fledged and dispersed or until the nest becomes inactive. Nests with default buffers do not require further monitoring once construction work is completed in the area. New nests discovered after work completion in an area will not require monitoring. In addition, monitoring shall include pre-construction surveys, daily sweeps of work areas and equipment, and any special monitoring requirements for particular activities (tree trimming, vegetation removal, etc.) or particular species (noise monitoring, etc.). Nest monitoring shall continue throughout the breeding season during each year of the project's construction activities.

Reporting. Throughout the construction phase of the project, nest locations, project activities in the vicinity of nests (including helicopter traces), and any adjustments to buffer areas shall be updated and available to CDFW on a daily basis in the Field Reporting Environmental Database. All buffer reduction notifications and prompt notifications of nest-related non-compliance and corrective actions will be made via email to CDFW. In addition, the NBMP shall specify the format and content of nest data to be provided in regular monitoring and compliance reports. At the end of each year's nest season, SCE will submit an annual NBMP report to the CDFW, BLM, and USFWS.

APM BIO-4. Burrowing Owl.

Pre-Construction Survey. A pre-construction, focused burrowing owl (*Athene cunicularia*) survey will be conducted no more than 30 days prior to initial start of construction within habitat to determine if any occupied burrows are present. If occupied burrows are found, adequate buffers shall be established around burrows. Adequate buffers will be determined by a project avian biologist based upon field conditions and resource agency guidelines for wintering burrows and breeding season burrows.

Prepare Burrowing Owl Management Plan. SCE will develop a Burrowing Owl Management Plan for the Project. The Plan will include information related to:

- assessment of burrow suitability
- replacement burrows
- methods for relocation
- monitoring and reporting
- implementation locations

Conduct Surveys and Avoidance for Burrowing Owl. Burrowing owl surveys shall be conducted in accordance with the most current CDFW guidelines (CDFW 2012 or updated guidelines as they become available). SCE shall take measures to avoid impacts to any active burrowing owl burrow within or adjacent to a work area. The default buffer for a burrowing owl burrow is 300 feet for ground construction and 300 feet horizontal and 200 feet vertical for helicopter construction. The NBMP will specify a procedure for adjusting this buffer, if needed. Binocular surveys may be substituted for protocol field surveys on private lands adjacent to the project site only when SCE has made reasonable attempts to obtain permission to enter the property for survey work but was unable to obtain such permission.

If active burrowing owl burrows are located within project work areas, SCE may passively relocate the owls by preparing and implementing a Burrowing Owl Passive Relocation Plan, as described below. SCE shall prepare a draft Burrowing Owl Passive Relocation Plan for review and approval by CDFW prior to the start of any ground-disturbing activities. No passive relocation of burrowing owls shall be permitted during breeding season, unless a qualified biologist verifies through noninvasive methods that an occupied burrow is not occupied by a mated pair, and only upon authorization by CDFW. The Plan shall include, but not be limited to, the following elements:

Assessment of Suitable Burrow Availability. The Plan shall include an inventory of existing, suitable, and unoccupied burrow sites within 300 feet of the affected project work site. Suitable burrows will include inactive desert kit fox, ground squirrel, or desert tortoise burrows that are deep enough to provide suitable burrowing owl nesting sites, as determined by a qualified biologist. If two or more suitable and unoccupied burrows are present in the area for each burrowing owl that will be passively relocated, then no replacement burrows will need to be built.

Replacement Burrows. For each burrowing owl that will be passively relocated, if fewer than two suitable unoccupied burrows are available within 300 feet of the affected project work site, then SCE shall construct at least two replacement burrows within 300 feet of the affected project work site, or in suitable locations within 0.25 mile when suitable locations within 300 feet are not available. Burrow replacement sites shall be in areas of suitable habitat for burrowing owl nesting and subject to minimal human disturbance and access. The Plan shall describe measures to ensure that burrow installation or improvements will not affect sensitive species habitat or any burrowing owls already present in the relocation area. The Plan shall provide guidelines for creation or enhancement of at least two natural or artificial burrows for each active burrow within the project disturbance area, including a discussion of timing of burrow improvements, specific location of burrow installation, and burrow design. Design of the artificial burrows shall be consistent with CDFW guidelines (CDFW 2012 or more current guidance as it becomes available) and shall be approved by CDFW.

Methods. Provide detailed methods and guidance for passive relocation of burrowing owls, outside the breeding season. An occupied burrow may not be disturbed during the nesting season (generally, but not limited to, February 1 to August 31), unless a qualified biologist determines, by non-invasive methods, that it is not occupied by a mated pair. Passive relocation will include installation of one-way doors on burrow entrances that will let owls out of the burrow but will not let them back in. Once owls have been passively relocated, burrows will be carefully excavated by hand and collapsed by, or under the direct supervision of, a qualified biologist.

Monitoring and Reporting. Describe monitoring and management of the replacement burrow site(s) and provide a reporting plan. The objective shall be to manage the relocation area for the benefit of burrowing owls, with the specific goal of maintaining the functionality of the burrows for a minimum of two years. Monitoring reports shall be available to CDFW on a weekly basis.

APM BIO-5. Desert Tortoise.

Pre-Construction Surveys/Construction Monitoring. Prior to initial ground-disturbing activities, a biological monitor under the supervision of a USFWS- or CDFW-approved biologist—with experience monitoring and handling desert tortoise—will conduct a pre-activity survey in all work areas within potential desert tortoise habitat, plus an approximately 100-foot buffer. All desert tortoise burrows within the pre-activity survey area (including desert tortoise pallets) will be prominently flagged at that time so that they may be avoided during work activities.

An approved biologist will be on-site to monitor vegetation removal and grading and provide regular inspections of all other construction activities within desert tortoise habitat. The approved biologist will have the authority to halt all non-emergency actions (as soon as safely possible) that may result in harm to desert tortoise and will assist in the overall implementation of APMs for the tortoise.

In the event a desert tortoise is encountered in the work area, all work will cease, and the approved biologist will be contacted. Work will not commence until the animal has voluntarily moved to a safe distance away from the work area.

No tortoise will be handled except under authorization from the USFWS and CDFW. Encounters with desert tortoise will be documented and provided to the appropriate wildlife resource agencies. In the event a dead or injured desert tortoise is observed, the approved biologist will be responsible for notifying SCE's herpetologist and reporting the incident to the wildlife resource agencies.

Coordinate with agencies. If desert tortoise is observed in the project area, and avoidance cannot be ensured through project design, SCE will obtain the necessary permits or authorizations in consultation with USFWS, CDFW, and/or land management agencies.

APM BIO-6. Mojave Fringe-Toed Lizard. Pre-construction surveys for Mojave fringe-toed lizards (*Uma scoparia*) shall be conducted by qualified biologist(s) in suitable habitat (sand dunes/partially stabilized dunes) within 14 days prior to the start of construction. The survey area shall include disturbance areas, plus a 100-foot buffer. Qualified biologist(s) shall walk transects at 5-meter (16-foot) intervals. Biological monitor(s) shall be present in each area of active construction in occupied Mojave fringe-toed lizard habitat. Biological monitor(s) shall examine the disturbance areas periodically for the presence of Mojave fringe-toed lizards and shall inspect all trenches, holes, or excavations for the presence of lizards prior to backfilling. If a lizard is found trapped in an excavation, the biological monitor(s) shall capture the lizard by hand, if feasible, and immediately release it to suitable habitat outside of the disturbance area, placed in the shade of a shrub.

APM BIO-7. Desert Kit Fox and Other Special-Status Mammal Species. Pre-construction surveys for special-status mammals shall be conducted within 14 days prior to the start of construction. The survey area shall include the project disturbance areas, plus a 300-foot buffer during the breeding season (March 1 through August 31) and a 100-foot buffer outside the breeding season. Potentially occupied burrows in project disturbance areas and the survey buffer shall be mapped and qualified biologist(s) shall utilize tracking stations and/or wildlife cameras to determine whether the burrows are occupied. If a burrow is determined to be occupied by desert kit fox or other special-status mammal species during the breeding season, the burrow shall be demarcated with a 300-foot buffer. If a burrow is determined to be occupied outside the breeding season, it shall be demarcated with a 100-foot buffer. Burrows determined to be unoccupied shall be demarcated with a 50-foot buffer. If occupied burrows are found in project disturbance areas and cannot be avoided, qualified biologist(s) shall passively relocate the occupying animals through the use of one-way doors at burrow entrances that allow the animals to leave on their own. Once vacant, burrows shall be excavated by hand and collapsed. Passive relocation will be avoided from March 1 through August 31 and shall not occur while young are in the burrow and still dependent upon their parents. CDFW shall be consulted prior to any relocation of desert kit fox.

APM BIO-8. Bats, Common and Sensitive Species.

Pre-Construction Surveys. A qualified bat biologist will conduct surveys before the start of construction to identify active bat roosting or maternity colonies within or adjacent to project impact areas. Trees, rock outcrops, and man-made structures with bat roost potential will be assessed for the presence of bats during the maternity season (April 15 to August 15) or winter torpor season (October 31 to February 15). For the maternity season, a one-night visual emergence survey during acceptable weather conditions (e.g., no rain or high winds, night temperatures >45F) may be employed to determine presence. Alternatively, the roost can be physically examined if conditions permit (e.g., remote cameras or lift equipment).

High-value habitat features (large tree cavities, crevices, bark fissures, basal hollows, loose or peeling bark, larger snags, palm trees with intact thatch, rock outcrops, buildings, etc.) will be identified and the area around these features searched for bats and bat sign (guano, culled insect parts, staining, etc.).

If no roosts (maternity, wintering, or otherwise) are present, tree trimming/removal or building/structure removal may continue as planned. If an active roost has been identified or lasiurine bats are present, removal of trees/structures around the roost will be conducted between

September 15 to October 30, and February 15 to April 15, which corresponds to time periods when bats are active, not in torpor, and not caring for non-mobile young.

Removal of trees requires the following two-step process prior to trimming/removal:

- On Day 1 under the supervision of a qualified bat biologist, Step 1 will include branches and limbs with no cavities removed by hand (e.g., using chainsaws). This will create a disturbance (noise and vibration) and physically alter the tree. Bats roosting in the tree will either abandon the roost immediately (rarely) or, after emergence, will avoid returning to the roost.
- On Day 2, Step 2 of the tree removal may occur, which will be removal of the remainder of the tree. Trees that are only to be trimmed and not removed will be processed in the same manner; if a branch with a potential roost must be removed, all surrounding branches will be trimmed on Day 1 under supervision of a qualified bat biologist and then the limb with the potential roost will be removed on Day 2.

Removal of structures requires the following process:

- Removal of structures containing or suspected to contain active bat roosts shall be partially dismantled (e.g., create holes in roof, remove windows) under the supervision of the qualified biologist in the evening prior to the emergence of bats. Structures shall be partially dismantled to significantly change the roost conditions (i.e., temperature, air currents), causing adult bats to abandon the roost and seek new roosting locations. Structure removal shall be completed the subsequent day.

Construction Monitoring. If a colonial or solitary maternity roost was located, tree/structure removal will be avoided between April 15 and August 15 (the maternity period) to avoid impacts to active maternity roosts (reproductively active females and dependent young). A qualified biologist will determine the appropriate buffer area around active nest(s) and provisions for buffer exclusion areas. Unless restricted by the qualified biologist, construction vehicles will be allowed to move through a buffer area with no stopping or idling. The qualified biologist will determine, evaluate, and modify buffers as appropriate based on species tolerance and behavior, the potential disruptiveness of construction activities, and existing conditions. Furthermore, the roost will be monitored to determine activity. Roost monitoring will be conducted by qualified biological monitors with knowledge of bat behavior under the direction of a CDFW-qualified bat biologist. The qualified biological monitor will observe and document implementation of appropriate buffer areas around active roosts(s) during project activities.

APM BIO-9. Habitat Restoration and Revegetation Plan. Temporary impacts to regulated species' habitats, plant species, and vegetation communities shall be restored or revegetated. Regulated species and vegetation communities include all species designated as threatened, endangered or rare, sensitive, or of concern by resource or land agencies. Species and vegetation communities that require restoration and revegetation will be determined by the resource agencies through the permitting process.

SCE shall develop and implement a Habitat Restoration and Revegetation Plan (HRRP). SCE will consult with appropriate agencies during development of the HRRP and implement the HRRP in conjunction with applicable permit conditions and mitigation measures. The HRRP shall be submitted to CDFW for review and approval prior to the start of construction. Invasive plant management will be performed in conjunction with the HRRP per the Invasive Plant Management Plan (IPMP; APM BIO-12).

For all revegetation or restoration sites, the HRRP shall include:

- Revegetation and restoration goals and objectives based on vegetation type and jurisdictional status of each site
- Quantitative restoration success criteria
- Implementation details as applicable. Details may include topsoil stockpiling and handling, post-construction site preparation, soil decompaction and recontouring, planting and seeding palettes to include only native, locally sourced materials with confirmed ability to produce from suppliers, fall or other suitable season-season planting or seeding dates
- Maintenance details, which may include irrigation or hand-watering schedule and equipment, and erosion control
- Monitoring and reporting, specifying monitoring schedule and data collection methods throughout establishment of vegetation with key indicators of successful or unsuccessful progress, and quantitative criteria values to objectively determine success or failure at the conclusion of the monitoring period
- Adaptive management procedures such as reseeding, re-planting, drainage repairs, adjustments to irrigation schedule, and repair or remediation of sites to meet success criteria on schedule

For temporary disturbance in common vegetation or habitat (e.g., creosote bush scrub) or in disturbed areas such as roads or agricultural lands, the goal of the HRRP will be revegetation to minimize spread of invasive plants, dust generation, and soil erosion. For revegetation sites the goals, objectives, and success criteria specified in the HRRP will be limited to requirements of the project specific Stormwater Pollution Prevention Plan (SWPPP) and the IPMP (APM BIO-12). No additional goals, objectives, or success criteria regarding habitat condition are required for revegetation sites.

For species and vegetation communities with permit requirements, including wetlands and riparian habitats, the goal of the HRRP will be to restore plant species, habitat values, or vegetation communities. For restoration sites the goals, objectives, and success criteria specified in the HRRP will include native species cover and species richness compatible with the specific vegetation and habitat type.

For all revegetation or restoration areas, if a fire, flood, or other disturbance beyond the control of SCE, CDFW, and BLM damages the area within the monitoring period, SCE will be responsible for one reseeding or replanting event, as applicable. If a second event occurs, no replacement is required.

For all revegetation (per SWPPP requirements) or restoration (per the HRRP) areas, seed and/or potted nursery stock of locally native species will be used. The list of plants observed during botanical surveys of the project area will be used as a guide to site-specific plant selection, additional appropriate species may be included.

Monitoring of the revegetation sites will be conducted according to requirements of the SWPPP, and the IPMP. Monitoring of the restoration sites will continue annually until HRRP success criteria are achieved. SCE will be responsible for implementing adaptive management as needed.

Reporting of revegetation will be according to requirements of the SWPPP and the IPMP. For all restoration areas, SCE will provide annual reports to the CDFW and BLM to verify the total vegetation acreage subject to restoration, areas that have been completed, and areas still outstanding. The annual reports will also include a summary of the restoration and adaptive

management activities for the previous year, success criteria progress and completion, and any adjustments to planned activities, for the upcoming year.

APM BIO-10. Invasive Plant Management Plan. SCE shall prepare and implement an IPMP. This plan shall include measures designed to avoid the introduction and spread of new nonnative invasive plant species (invasive plants) and minimize the spread of existing invasive plants resulting from project activities. The IPMP also must meet BLM's requirements for NEPA disclosure and analysis if herbicide use is proposed for the project. The IPMP shall be submitted to CDFW and BLM for review and approval prior to the start of construction.

For the purpose of the IPMP, invasive plants shall include plants that (1) are invasive and rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC 2006), or (2) aid and promote the spread of wildfires (such as *Bromus tectorum* [cheatgrass], *Brassica tournefortii* [Sahara mustard], and *Bromus madritensis* spp. *Rubens* [red brome]), or (3) identified by BLM as special concern. The IPMP will be implemented throughout project pre-construction, construction, and restoration phases.

The IPMP will include the information defined in the following sections:

Assessment. An assessment of the proposed project's potential to cause spread or introduction of invasive plants into new areas, or to introduce new invasive plants into the ROW. This section will list known and potential invasive plants occurring on the ROW and in the project region and identify threat rankings and potential for project-related occurrence or spread for each species. This section will identify control goals (e.g., eradication, suppression, or containment) for invasive plants of concern with potential to occur on the ROW.

Pre-Construction Invasive Plant Inventory. SCE shall inventory all invasive plants of concern in areas (both within and outside the ROW) subject to project-related vegetation removal/disturbance, overland travel, and ground-disturbing activity. The invasive plants inventory area shall also include vehicle and equipment access routes within the ROW and all project laydown yards. Invasive plants of concern shall be mapped by area of occurrence and percent cover. The map will be updated with new occurrences at least once a year.

Pre-Construction Invasive Plants Treatment. Invasive plant infestations identified in the pre-construction invasive plants inventory shall be evaluated to identify potential for project-related spread and potential benefits (if any) of pre-construction treatment. Pre-construction treatment will consider the specific invasive plants, potential seed banks, or other issues. The IPMP will identify any infestations to be controlled or eradicated prior to project construction. Control and follow-up monitoring of pre-construction invasive plants treatment sites will follow methods identified in appropriate sections of the IPMP.

Prevention. The IPMP will specify methods to minimize potential transport of new invasive plant seeds onto the ROW, or from one section of the ROW to another. The ROW may be divided into "weed zones," based on invasive plants of concern in the ROW. The IPMP will specify inspection procedures for construction equipment entering the proposed project area. Vehicles and equipment may be inspected and cleaned at entry points to specified sections of the ROW, and before leaving work sites where invasive plants of concern must be contained locally. Construction equipment shall be inspected to ensure it is free of any dirt or mud that could contain invasive plant seeds, roots, or rhizomes, and the tracks, outriggers, tires, and undercarriage will be carefully washed, with special attention being paid to axles, frame, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g., pick-up trucks) that will be frequently entering and exiting the site will be inspected and washed on an as-needed

basis. Tools such as chainsaws, hand clippers, pruners, etc., shall be cleaned of dirt and mud before entering project work areas.

All vehicles will be washed off-site when possible. If off-site washing is infeasible, on-site cleaning stations (including air washing) will be set up at specified locations to clean equipment before it enters the work area. Wash stations will be located away from native habitat or special-status species occurrences. Wastewater from cleaning stations will not be allowed to run off the cleaning station site. When vehicles and equipment are washed, a daily log must be kept stating the location, date and time, types of equipment, methods used, and personnel present. The log shall contain the signature of the responsible crewmember. Written or electronic logs shall be available to BLM and CDFW monitors on request.

Erosion control materials (e.g., straw bales) must be certified free of invasive plant seed ("weed-free") before they are brought onto the site. The IPMP must prohibit on-site storage or disposal of mulch or green waste that may contain invasive plant material. Mulch or green waste will be removed from the site in a covered vehicle to prevent seed dispersal and transported to a licensed landfill or composting facility.

The IPMP will specify guidelines for any soil, gravel, mulch, or fill material to be imported into the proposed project area, transported from site to site within the proposed project area, or transported from the proposed project area to an off-site location, to prevent the introduction or spread of invasive plants to or from the proposed project area.

Monitoring. The IPMP shall specify methods to survey for invasive plants of concern during pre-construction, construction, and restoration phases, and shall specify qualifications of specialists responsible for invasive plant monitoring and identification. It must include a monitoring schedule to ensure timely detection and immediate control of new invasive plant infestations to prevent further spread. Surveying and monitoring for invasive plant infestations shall occur at least two times per year, to coincide with the early detection period for early season and late season invasive plants. The monitoring section shall also describe methods for post-eradication monitoring to evaluate success of control efforts and any need for follow-up control.

Control. The IPMP must specify manual and chemical invasive plant control methods to be employed. The IPMP shall include only invasive plant control measures with a demonstrated record of success for target invasive plants, based on the best available information. The plan shall describe proposed methods for promptly scheduling and implementing control activity when any project-related invasive plant infestation is located (e.g., located on a project disturbance site), to ensure effective and timely invasive plant control. Invasive plant infestations must be controlled or eradicated as soon as possible upon discovery, and before they go to seed, or when appropriate with the goal to prevent further spread. All proposed invasive plant control methods must minimize disturbance to native vegetation, limit ingress and egress to defined routes, and avoid damage to any environmentally sensitive areas identified within or adjacent to the ROW. New infestations by invasive plants of concern will be treated at a minimum of once annually until eradication, suppression, or containment goals are met. Invasive plant occurrences can be considered eradicated when no new seedlings or resprouts are observed for three consecutive years, or a single season where new seedlings or resprouts are observed in reference populations but not at the control site. Invasive plant control efforts may cease when eradication is complete.

Manual control shall specify well-timed removal of invasive plants or their seed heads with hand tools; seed heads and plants must be disposed of in accordance with San Bernardino County guidelines, if such guidelines are available.

The chemical control section must include specific and detailed plans for any herbicide use. It must indicate where herbicides will be used, which herbicides will be used, and specify techniques to be used to avoid drift or residual toxicity to native vegetation or special-status plants, consistent with BLM's Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM 2007) and National Invasive Species Management Plan (NISC 2008). All herbicide applications will follow United States Environmental Protection Agency label instructions and will be in accordance with federal, state, and local laws and regulations. Only state and BLM-approved herbicides may be used. Herbicide treatment will be implemented by a licensed qualified applicator. Herbicides shall be applied in accordance with product labels and applicator licenses. Herbicides shall not be applied during or within 24 hours of high confidence predicted rain. Only water-safe herbicides shall be used in riparian areas or within channels (engineered or not) where they could run off into downstream areas. Herbicides shall not be applied in high wind conditions.

Reporting Schedule and Contents. The IPMP shall specify reporting schedule and contents of each report.

APM BIO-11. Sensitive Vegetation Communities Protective Measures and Compensatory Mitigation. SCE shall avoid impacts to sensitive vegetation communities to the extent feasible. Work areas shall be designed to avoid sensitive vegetation communities. Sensitive vegetation communities shall be flagged for avoidance prior to the start of construction. Overland travel methods shall be implemented to the extent feasible. Care shall be taken to not cause root erosion or damage to sensitive vegetation community plant root systems. A biological monitor shall be present during construction to help direct crews where to drive and stage vehicles to minimize impacts to sensitive vegetation. Workers shall restrict activities to established work areas and access routes.

SCE shall compensate for impacts to 1.38 acres of alkali weed – saltgrass playas and sinks, 0.25 acre of desert willow-smoketree wash woodland, 0.04 acre of mesquite thicket, and 0.33 acre of Mojave – Sonoran desert dunes through on-site restoration (APM-BIO-9) and land acquisition and/or preservation at a ratio of 1:1. Compensation for impacts to sensitive vegetation communities may be satisfied concurrent with mitigation for impacts to special-status species (e.g., desert tortoise) habitat and jurisdictional waters where impacts overlap.

APM BIO-12. Special-Status Herbaceous Plants. SCE shall avoid, minimize or mitigate impacts to any state or federally listed or California Rare Plant Rank (CRPR) 1 or 2 herbaceous plants that may be located on the project disturbance areas or surrounding buffer areas.

Pre-Construction Survey. Pre-construction clearance surveys will be performed by a qualified biologist (i.e., a biologist with the requisite education and experience to address specific resources), which may be chosen from a previously approved CDFW-approved biologist, to avoid or minimize impacts on special-status plants. Disturbance-free buffers for herbaceous species shall be 25 feet from the individual and/or occurrence boundary. These buffers shall be established from the previously conducted focused surveys and preconstruction survey results. If a smaller buffer is required, SCE shall develop and implement site-specific monitoring plan to minimize direct impacts to the species. The plan will be submitted to the CDFW for review and approval.

In the event of a discovery of previously undescribed species, the boundary of the occurrence (defined by CNDDB as all individuals within a 0.25 mile of each other) will be flagged, avoided, and monitored as discussed above and the CDFW and/or BLM will be notified.

Focused Survey. For construction areas where focused surveys have not occurred, focused surveys will take place prior to construction. Focused surveys will be conducted consistent with methodology described in the Project Biological Technical Report.

Restoration and Mitigation

SCE will implement the following activities; other conflicting permit conditions will supersede the activities below.

- **Coordinate with Agencies.** Agencies shall approve any impacts to special-status plants. Impacts in excess of 10 percent of any occurrence shall be restored or mitigated.
- **Habitat Restoration and Revegetation.** A HRRP shall address topsoil, plant or propagules salvage, and restoration. A Habitat Mitigation and Management Plan (HMMP) shall address mitigation. Approval of the HRRP by appropriate agencies is required before impacts to special-status plant occurrences are allowed. A draft HMMP will be submitted to the appropriate agencies prior to impacts to special-status plants. For more information see APM BIO-RES-1.
- **Salvage.** SCE shall consult with a qualified restoration ecologist or horticulturist regarding the feasibility and likely success of salvage efforts for each species. If salvage is feasible, based on prior success with similar species, SCE shall include salvage methods in the HRRP. For special-status plants, the goal shall be to preserve existing populations or establish new populations. The HRRP will include at minimum: (a) species and locations of plants identified for salvage, (b) criteria for determining whether a species is appropriate for salvage, (c) the appropriate season for salvage, (d) equipment and methods for collection, transport, and re-planting plants or propagules, to retain intact soil conditions and maximize success, (e) details regarding storage of plants or propagules for each species, (f) location of the proposed recipient site, and detailed site preparation and plant introduction techniques, as applicable, (g) a description of the irrigation, and other maintenance activities, as applicable, (h) success criteria, including specific timeframe for survivorship of each species, and (i) a detailed monitoring program, commensurate with the HRRP goals. Invasive plant control for special-status plants will be addressed in the IPMP (APM BIO-12).
- **Off-Site Compensation.** Where restoration is not feasible, SCE shall provide compensation lands consisting of habitat occupied by the impacted CRPR 1 or 2 ranked plant occurrences at a 1:1 ratio of acreage for any occupied habitat affected by the project. Occupied habitat will be calculated on the project site and on the compensation lands as including each special-status plant occurrence. If compensation is selected as a means of mitigating special-status plant impacts, it may be accomplished by purchasing credit in an established mitigation bank, acquiring conservation easements, or direct purchase and preservation of compensation lands. Compensation for these impacts may be “nested” or “layered” with compensation for habitat loss.

Annual construction monitoring reports shall be submitted to CDFW and BLM. Reports shall include, but not be limited to, details of plants or propagules salvaged, stored, and transplanted (salvage and transplanting locations, species, number, size, condition, etc.), adaptive management efforts implemented (date, location, type of treatment, results, etc.), and evaluation of success of transplantation. After construction, salvage status will be described in the HRRP annual report.

APM BIO-13. Jurisdictional Waters, Wetlands, and Riparian Habitats. The project shall avoid and/or minimize impacts to all state and federally jurisdictional waters, wetlands, and riparian habitat that occur within the project area to the maximum extent feasible. All grading, fill, staging of equipment,

infrastructure construction or removal, and all other construction activities shall be designed, sited, and conducted outside of state and federally jurisdictional waters, wetlands, and riparian habitat to the maximum extent feasible.

The implementation of appropriate BMPs (e.g., silt fencing, straw wattles, secondary containment, avoiding fueling in close proximity to waters, etc.) shall be utilized to ensure that indirect impacts to jurisdictional waters, wetlands and riparian areas are avoided or minimized to the maximum extent feasible. BMPs are also necessary to reduce the risk of an unintended release of sediment or other material into jurisdictional waters. New and upgraded roadways will use at-grade type stream crossings, where possible. Stockpiled and bermed sediment will be redistributed or removed from the site so as not to alter flows. New poles will be sited outside stream channels to the extent possible.

If permanent impacts to waters, wetlands, and riparian habitats are unavoidable, they shall be mitigated for at a minimum of a 1:1 ratio, or at a ratio determined by the applicable resource agencies (i.e., United States Army Corps of Engineers [USACE], the State Water Resources Control Board/RWQCBs, and CDFW). Temporary impacts to jurisdictional waters shall be returned to pre-existing contours upon completion of the work.

APM BIO-14. Disturbance Area. Project disturbance areas and access routes shall be limited to existing access roads and previously disturbed areas (such as spur roads, pads, etc.) to the greatest extent feasible. The boundaries of all disturbance areas shall be clearly demarcated with stakes and flagging prior to the initiation of construction activities, and no work shall extend outside of the delineated areas. No paint or permanent discoloring agents will be applied to rocks or vegetation. All temporary fencing and flagging shall be removed at the conclusion of project activities. Crushing/removal of perennial, native vegetation in disturbance areas shall be avoided, and SCE shall limit ground disturbance to overland travel rather than vegetation removal and grading to the maximum extent feasible. Spoils shall be stockpiled in either disturbed areas lacking native vegetation or areas that do not contain special-status plant species, sensitive vegetation communities, or jurisdictional waters. Where minor grading is needed, the grade shall match surrounding contours and allow for surface flows through the area. Adequate measures shall be taken to prevent any potential runoff from entering areas containing special-status plant species, sensitive vegetation communities, or jurisdictional waters. Parking areas and staging areas shall be located in previously disturbed areas without native vegetation, special-status species habitat, or jurisdictional waters (such as along access roads, spur roads, and pads) to the extent feasible, and conspicuously delineated.

APM BIO-15. Wildlife Pitfalls and Entrapment. All trenches, pipes, and culverts shall be inspected at the end of each workday to ensure that all potential wildlife pitfalls have been backfilled, sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or completely covered to prevent wildlife access. All trenches, pits, or other excavations shall be inspected to ensure no wildlife, including special-status species, are present prior to backfilling. Both ends of all pipes and culverts shall be capped to prevent entry by burrowing owl, desert kit fox, desert tortoise, herpetofauna, or other wildlife. If wildlife become entrapped, they will be relocated by authorized or qualified biologists, as appropriate.

APM BIO-16. Standing Water. Water applied for dust abatement shall be the minimal amount needed to meet safety and air quality standards to avoid the formation of puddles, which may attract wildlife to project work areas. In particular, desert tortoises and other special-status wildlife species may be attracted to project work areas and access roads if they are sprayed with water. A qualified biologist shall be present after water application to ensure that no special-status wildlife

species (or nuisance predators such as common ravens or coyotes) are attracted to the water. No standing water shall be allowed to persist.

APM BIO-17. Pets and Firearms. SCE shall prohibit firearms and domestic dogs from the project area during project construction, except those in the possession of authorized security personnel or local, state, or federal law enforcement officials, or persons with disabilities (in the case of service dogs).

APM BIO-18. Vehicle Travel. Motor vehicle speeds along project routes and existing access roads shall not exceed 20 miles per hour and project personnel shall exercise care to observe and avoid wildlife, including desert tortoises. SCE shall restrict project-related vehicle traffic to the established project work areas, including existing roads, staging and parking areas, and established construction areas. Project personnel shall not cross native species habitat outside of or in route to the project work areas and vehicular travel in washes shall be avoided. SCE shall clearly mark speed limits and inform all project personnel of these limits. Engines of stopped vehicles shall be turned off if the vehicle is not required for immediate use for project activities. If additional routes are needed, they shall be surveyed by the qualified biologist(s).

APM AIR-2. Fugitive Dust. During construction, fugitive dust will be controlled by implementing the following measures: Surfaces disturbed by construction activities shall be covered or treated with a dust suppressant or water until the completion of activities at each site of disturbance.

- Inactive, disturbed (e.g., excavated or graded areas) soil and soil piles shall be sufficiently watered or sprayed with a soil stabilizer to create a surface crust, or would be covered.
- Drop heights from excavators and loaders shall be minimized to a distance of no more than 5 feet. Vehicles hauling soil and other loose material would be covered with tarps or maintain at least 6 inches of freeboard.
- Construction equipment shall be staged in designated material yards to decrease travel distance of such equipment to the Project alignment.
- Vehicles will maintain speeds of 15 mph or less on unpaved public roads that do not have a posted speed limit, Proposed Project-specific access routes, and within temporary work areas.

APM HAZ-1. Hazardous Materials Management Plan. SCE will prepare and implement a HMMP/Hazardous Materials Business Plan, during project construction. The program will outline proper hazardous materials handling, use, storage and disposal requirements, as well as hazardous waste management procedures. This plan will be developed to ensure that all hazardous materials and wastes will be handled and disposed of according to applicable rules and regulations.

The HMMP will address:

The types of hazardous materials to be used during the project, hazardous materials storage, employee training requirements, hazard recognition, fire safety, first aid/emergency medical procedures, hazardous materials release containment/control procedures, hazard communication training, PPE training, and release reporting requirements. It will also include fueling and maintenance procedures for helicopters and construction equipment.

2 Regulatory Setting

Regulated or sensitive resources analyzed in this report include special-status plant and animal species, nesting birds and raptors, sensitive vegetation communities, jurisdictional waters and wetlands, wildlife movement corridors, and locally protected resources. Regulatory authority over biological resources is shared by federal, state, and local authorities. A detailed regulatory background for the project is in Appendix B (Regulatory Framework).

2.1 Environmental Regulatory Framework

The following laws, regulations, and management policies provide the regulatory framework for assessing the potential impacts of the project to biological resources (Appendix B):

- California Environmental Quality Act (CEQA)
- National Environmental Policy Act (NEPA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Wetland Riparian Area Protection Policy
- Executive Order 11990 – Wetlands
- Invasive Species – Executive Order 13112
- Native Plant Protection Act
- California Desert Native Plant Act
- Northern and Eastern Colorado Desert Coordinated Management Plan (NECO)
- Desert Renewable Energy Conservation Plan (DRECP)
- California Desert Conservation Area (CDCA)
- County of Riverside General Plan
- City of Blythe General Plan 2025

2.2 Definition of Special-Status Species

For the purposes of this report, plant and animal taxa were considered to be special-status species if they were classified as one or more of the following:

- Species listed as threatened or endangered under FESA, or candidates for listing under FESA
- Species listed as rare, threatened, or endangered under CESA, or candidates for listing under CESA
- Species designated as Fully Protected, Species of Special Concern (SSC), or Watch List by CDFW

- Species designated as Sensitive by BLM
- Wildlife species identified as protected furbearers by the CFGC
- Plants assigned a CRPR, a ranking system originally developed by the California Native Plant Society (CNPS) (CNPS 2006) to better define and categorize rarity in California's flora
- Species designated as locally important by the local agency and/or otherwise protected through ordinance or local policy

2.3 Definition of Sensitive Vegetation Communities

The sensitivity of vegetation communities is ranked based on the NatureServe Conservation Status Assessments: Methodology for Assigning Ranks (Faber-Langendoen et al. 2012). Vegetation communities are designated as sensitive by CDFW if they have state (S) ranks of S1 (very rare to threatened) to S3 (vulnerable).

2.4 Definition of Critical Habitat

Under the FESA, the USFWS may designate critical habitat for federally listed species. Critical habitat is defined as “the specific areas within the geographic area occupied by a species on which are found those physical or biological features (PBF) essential to the conservation of the species and which may require special management considerations or protection” as defined in section 3(5)(A) of the FESA.

3 Methodology

The following sections summarize the methods for database queries, literature review, and desktop analyses conducted to determine which special-status plant and wildlife species and other sensitive biological resources are known to occur or have potential to occur in the Biological Study Area (Study Area) for the project. The Study Area includes all project disturbance areas, access roads, and material yards plus an appropriate buffer to account for potential direct and indirect impacts to biological resources. The size of the Study Area varies for each taxa or biological resource, and typically corresponds to the area in which focused surveys for a given taxa or resource were conducted.

Lists of special-status species with potential to occur in the Study Area (i.e., Species List) were derived from database queries, Geographic Information System (GIS) data from previous projects in the region, and other publicly available resources. These analyses began in 2016 as part of planning level assessments of the proposed project. Since then, the database queries and desktop analysis have been updated periodically to incorporate more current information.

3.1 Database Queries

Prior to conducting the initial desktop analyses, biological surveys, and impact analyses, data regarding the biological baseline of the Study Area were obtained from the following resources, within the query areas specified:

- **7.5-minute USGS topographic quadrangle maps.** USGS quadrangles that encompass the project area include Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, and Ripley.
- **Aerial imagery of the project area** (Google Earth Pro 2022)
- **CDFW California Natural Diversity Database (CNDDB) RareFind5.** Queries of the CNDDB (CDFW 2022a) included the EM-B ROW plus a 5-mile buffer for the Habitat Resource Assessment Report (AECOM 2016) and a 2-mile buffer for the Special-Status Plants Survey Report (Garcia and Associates [GANDA] 2018)
- **Consortium of California Herbaria (CCH).** The CCH was queried for records of rare plants within the geographic area bounded by the following points: Northwest, 33.89901, -115.539; Northeast, 33.89901, -114.585; Southwest, 33.51944, -115.539; and Southeast, 33.51944, -114.585, which encompass the project area (CCH 2022)
- **USFWS Information for Planning and Consultation (IPaC).** An unofficial IPaC report was generated for the project, which included the EM-B ROW and proposed laydown yard plus a 500-foot buffer to determine what federally-listed species, designated critical habitat, migratory birds, or other federally regulated natural resource might be impacted by the project (USFWS 2021a)
- **CDFW Special Plants and Animals Lists.** The Species List was cross-referenced with CDFW's Special Animals List and Special Plants List to determine the current conservation status of each species identified (CDFW 2022b, CDFW 2022c)
- **The National Wetlands Inventory** Wetlands and Riparian Google Earth file (USFWS 2021b)
- **The Watershed Boundary (WBD) Dataset** (USGS 2019)

- **The web-based Natural Resources Conservation Service (NRCS) Web Soil Survey** (NRCS 2019)
- **The National List of Hydric Soils** (NRCS 2015)

3.2 Literature Review

Reports, GIS data, and data from SCE's Field Reporting Environmental Database for past SCE projects or related renewable energy projects within a 5-mile buffer of the project were also reviewed.

The projects from which the reviewed data were derived included the following:

- DPV2
- Devers to Palo Verde No. 1 Reconductor Project
- Red Bluff Substation Project
- Colorado River Substation Expansion

3.3 Desktop Analysis

A preliminary desktop analysis was conducted to determine which of the special-status species identified in the database queries and literature review have potential to occur in the Study Area. The initial analysis was based on the species' known ranges, the proximity and recency of historical occurrences, and aerial imagery and GIS data representing potential habitat. The analysis was later updated to incorporate the results of the habitat assessment, vegetation mapping, and focused field surveys.

The baseline potential for a given species to occur in the Study Area was ranked according to the following standard criteria:

- **Absent** – The species and/or positive sign were not observed during focused survey(s), and it is reasonable to assume it would have been observed if present. Surveys were conducted during the appropriate blooming/activity period (and, for plants, the species was observed at a reference population).
- **Occurs** – The species and/or positive sign were observed during a site visit or field survey.
- **Does Not Occur** – The species would not occur because the Study Area is outside the species' known current geographic/elevation range, lacks habitat or suitable conditions, and/or absence can be reasonably assumed based on historical records.
- **Likely** – All site features indicate this species is very likely present and should be expected. Criteria include:
  - Study Area is within the species' geographic range.
  - Suitable habitat (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.) is present.
  - Distance to historical record(s) less than 25 years old is less than 1 mile for fish, 2 miles for plants, and 5 miles for mammals, birds, and herptiles.
- **Unlikely** – Species could occur given the presence of habitat, but local records of the species are not known or are greater than 25 years old.

3.4 Survey Methodology

The following sections describe the methods employed for field surveys intended to identify special-status species and other sensitive biological resources occurring in the Study Area. The field surveys were guided by the preliminary Species List, which was subsequently updated based on the results.

The initial vegetation mapping, habitat assessment, and focused surveys covered locations subject to ground disturbance (e.g., locations where structures will be replaced, wire setup areas, material staging yards, guard sites), based on the iteration of the project design available at the time of the surveys, plus a 500-foot buffer. For the existing structure locations where structure replacement would not occur, the existing hardware that holds the conductors in suspension would be replaced. To the extent feasible, equipment would be limited to the O&M work area (e.g., an approximately 80-foot radius around each structure footprint, restricted to the existing ROW) and other disturbed areas (e.g., access roads). Use of the existing O&M work areas will be confined to areas of previous permanent disturbance within the approximate 80-foot radius and will not result in new impacts to vegetation or undisturbed land cover. These existing disturbance areas are considered existing permanent disturbance and if construction activities require disturbance beyond these existing disturbed areas, those impacts will be tracked and included as part of the project's restoration requirements. However, for the purpose of assessing the estimated maximum potential impacts, these areas are included in the Project mapping and included in the impact analysis.

Due to new design and safety considerations, work areas were later delineated for all project sites where work will occur. As needed, additional surveys were conducted at sites that were excluded from previous surveys, as described below.

3.4.1 Vegetation Mapping, General Habitat Assessment, and Reconnaissance Survey

A reconnaissance survey was conducted as part of preliminary planning efforts for this project (AECOM 2016). The purpose of the survey was to map vegetation communities, assess the suitability of habitat for the special-status plant and wildlife species with potential to occur in the Study Area, and document observations of special-status species. The survey did not constitute a protocol-level presence/absence survey for any taxa. Rather, special-status species were recorded if observed incidentally to the habitat assessment and vegetation mapping efforts. A botanist and wildlife biologist conducted a comprehensive pedestrian field survey of the Study Area between November 14 and 17, 2016. Areas that were not accessible were assessed from an adjacent location using binoculars to document as many species as possible. Species were recorded if observed directly (sightings and vocalizations) or indirectly (physical sign such as tracks or scats). Data were collected using hand-held global positioning system (GPS) units, photographs, and field maps.

The EM-B alignment overlaps SCE's DPV2 alignment for approximately 7 miles. The overlap area was not visited by the EM-B field team, and data from DPV2 were incorporated into the desktop analysis. Previous assessments of the area (e.g., DPV2 surveys) described vegetation communities using the system of Holland (Holland 1986). These communities were cross-referenced in the field during the 2016 effort with the *Manual for California Vegetation*, 2nd edition (MCVII) (Sawyer et al. 2009), to align with current SCE data collection methods.

A follow-up vegetation mapping effort was conducted in January and April 2021 to address work areas that were added to locations where the existing structures will not be replaced, but where activities supporting wire stringing are required. The survey area for the 2021 effort included the

new work areas plus a 25-foot buffer, restricted to the width of the SCE ROW. Minor adjustments to the earlier vegetation mapping were also made throughout the Study Area to reflect current conditions. Furthermore, the 2016 mapping was revised as appropriate based on vegetation alliance updates from the online MCVII database (CNPS 2022a).

3.4.2 Focused Surveys

Special-Status Plants

2017 Special-Status Plant Surveys

Based on the desktop analysis and habitat assessment, it was determined that 11 special-status plant species have potential to occur in the Study Area. Prior to conducting focused special-status plant surveys, supplemental database queries and a literature review were conducted to refine the preliminary Species List. Floristic surveys were then conducted in two phases to target peak bloom periods typical of each species having potential to occur in the Study Area. Phase I surveys were conducted in May 2017. Phase II surveys were conducted in August 2017 to detect late-blooming species. The survey area for the special-status plant surveys included areas subject to ground disturbance based on the 2016 project description plus a 100-foot survey buffer. Surveys were conducted by walking transects spaced approximately 33 feet (10 meters) apart to fully cover the plant survey area. In areas that did not contain suitable habitat for special-status plants or where terrain prevented that method, transects were spaced at 49 feet (15 meters) apart. The survey methods followed industry-standard plant survey guidelines (CDFW 2009, CNPS 2001). Special-status plant species were mapped using a Trimble Juno GPS unit capable of 1-meter accuracy. Vascular plant species encountered were identified to the level necessary to determine their status. A complete list of plant species observed was compiled (Appendix D). Keys used for identification were those found in the *The Jepson Manual Second Edition* (Baldwin et al. 2012). Nomenclature used also follows *The Jepson Manual Second Edition*. The complete methods and results of this effort can be found in the Special-Status Plants Survey Report (GANDA 2018) (Appendix E).

2021 Special-Status Plant Surveys

Focused special-status plant surveys were scheduled for spring 2021. However, based on reference site visits on March 26, 2021, and information from botanists surveying for other projects in Southern California, drought conditions had significantly impeded the germination of annual plant species and many perennial plants were found to be desiccated. Due to the lack of germination in the Study Area, the spring survey effort was postponed.

Focused special-status plant surveys were conducted in September 2021 during the fall blooming period. Although the monsoonal rainfall of the summer was variable across the Study Area, rainfall was sufficient in many areas to enable the detection of special-status annual plants. The survey area covered all locations where work will be performed, including those that were excluded from the previous surveys, plus a 100-foot buffer. Access roads and a 10-foot buffer were also surveyed, as were construction material yards except for the Ragsdale Yard. The complete methods and results of this effort can be found in the Special-Status Plants Survey Report (Artemis 2021a) (Appendix F).

2022 Special-Status Plant Surveys

Focused special-status plant surveys were again scheduled for the spring of 2022. Reference site visits in the project area and reports from botanists working on other SCE and non-SCE projects in

the Chuckwalla Valley suggested field conditions worse than 2021. Virtually no spring annuals were observed germinating. Therefore, surveys were once again postponed.

2023 Special-Status Plant Surveys

Spring floristic surveys were then conducted in March and April 2023 during the spring blooming period. Rainfall was variable across the Study Area but was sufficient in most areas to enable the detection of special-status annual plants. The survey area covered all locations where work will be performed, including those that were excluded from the previous surveys, plus a 50-foot buffer. Access roads and a 10-foot buffer were also surveyed, as were construction material yards except for the Ragsdale Yard. The amount of potential special-status plant species with potential to occur was reduced from 11 to 10 after determining some species were absent from the Study Area. The complete methods and results of this effort can be found in the Special-Status Plants Survey Report (Artemis 2023) (Appendix G).

Desert Tortoise

Based on the desktop analysis and habitat assessment, desert tortoise was determined to be the only FESA- or CESA-listed species with potential to occur in the Study Area, and it was assumed to be present. The area in which federally listed species may be affected directly or indirectly by the proposed action is termed the Action Area (50 Code of Federal Regulations [CFR] 402.02). In this report, the Action Area is synonymous with the Study Area for desert tortoise and is defined as the existing EM-B ROW, all areas where ground disturbance will occur (e.g., structure work areas, wire setup areas, material laydown yards, guard sites) and the existing transmission line access road plus a 200-foot buffer.

The following sections describe the methods of a focused desert tortoise survey and habitat assessment conducted in May 2017. The purpose of the survey was to confirm presence of desert tortoise and, if possible, to provide data useful for determining abundance of the species in the Action Area. Because the Action Area included the entire ROW, the desert tortoise habitat assessment and survey covered the work areas that were excluded from initial surveys for other resources. The complete methods and results are presented in the Desert Tortoise Survey Report (Jacobs 2017) (Appendix G).

Desert Tortoise Habitat Assessment

On May 1, 2017, prior to conducting the focused survey, qualified biologists mapped habitats in the Action Area suitable for desert tortoise (e.g., various desert scrub communities). The biologists drove the alignment and stopped approximately every half mile to assess the habitat. Based on aerial imagery and historical data, it was assumed that the majority of the Action Area was suitable habitat for desert tortoise. The biologists mapped areas not suitable for desert tortoise, such as developed land and agricultural areas. Areas that were inaccessible to the biologists due to land ownership and man-made barriers (e.g., I-10) were also mapped and were assessed from a distance using binoculars. Polygons representing suitable habitat, unsuitable habitat, and inaccessible areas were later digitized using GIS. The habitat mapping informed the transect surveys that followed.

Desert Tortoise Protocol Surveys

From May 1 through May 15, 2017, a protocol-level survey was conducted in accordance with the *Pre-Project Field Survey Protocol for Potential Desert Tortoise Habitats* (USFWS 2010). In suitable habitats in the Action Area, surveyors walked transects spaced 33 feet (10 meters) apart to ensure

100 percent coverage. The surveys were conducted using one team of 10 people or two teams of five people depending on staff availability, topography, habitat patch size, and other factors. Surveyors searched for desert tortoises, desert tortoise burrows, and desert tortoise sign (e.g., shells, bones, scutes, scats, tracks, eggshell fragments, courtship rings, drinking sites). All desert tortoises, burrows, and sign observed in identifiable condition were documented.

The survey was conducted during one of the species' most active periods (April through May or September through October when air temperatures are below 104 degrees Fahrenheit (°F) (40 degrees Celsius [°C]) (USFWS 2010). Air temperature was measured approximately 2 inches (5 centimeters) above the soil surface in an area of full sun but in the shade of the observer using a digital thermometer. Measurements were taken at the start and end of each survey day.

The surveyors used ESRI's Collector application in conjunction with ArcGIS Online for navigation and data collection and management. Hand-held data collectors with internal GPS receivers accurate to less than 16 feet (5 meters) were loaded with background files including aerial imagery, project features, Action Area, and pre-determined transect lines. Surveyors collected points and polygons representing the individual locations of desert tortoise sign. Surveyors collected information consistent with the USFWS 2010 Desert Tortoise Pre-Project Survey Data Sheet with paper data sheets as backup. In accordance with the USFWS protocol, a modified data sheet including a GIS data table of all observations was prepared for submittal to the USFWS. Incidental observations of other special-status species and resources of interest were noted, which contributed to a master plant species list. Representative photographs were taken using mobile phone cameras.

3.4.3 Aquatic Resources Delineation

Aquatic resource delineations were conducted in July 2017, April 2019, and January 2021. The 2017 delineation included the disturbance areas in the project design at that time, primarily the locations where structures will be replaced, wire sites, guard structures, and laydown yards. The survey area included the disturbance areas plus an 82-foot (25-meter) buffer. As discussed above, the locations where existing structures will not be replaced were excluded from the 2017 delineation. In 2019, the 2017 survey area was revisited to document any changes in hydrology. In 2021, an additional delineation focused on the work areas recently added to the project design for locations where existing structures will not be replaced, but where activities associated with wire stringing will occur. The survey area for the 2021 effort included the disturbance areas, plus a 25-foot buffer, restricted to the width of the existing ROW. Cumulatively, the delineations conducted to date include all disturbance areas in the current design of the project. The aquatic resources delineations were conducted in accordance with current guidelines from the USACE, RWQCB, and the CDFW. The full methods and results are presented in the *Aquatic Resources Delineation Report* (ARDR) (Artemis 2021b) (Appendix H).

3.4.4 Survey Limitations

Habitat Assessment and Vegetation Mapping

Due to the nature of a reconnaissance level survey effort, it is understood that special-status plant and wildlife species occupying the Study Area may not have been detected during this survey effort. Areas inaccessible by foot, such as private property, were scanned with binoculars.

Vegetation classifications for DPV2 followed Holland (1986); when the data were used for EM-B, they were converted to vegetation communities described by the MCVII (Sawyer et al. 2009).

Some habitats, particularly sand dunes and partially stabilized dunes that may support Mohave fringe-toed lizards, are dynamic and may change location over time.

Desert Tortoise Survey

The survey was limited to suitable habitats in the Action Area. Certain sections of the Action Area were not accessible and were therefore not surveyed. Due to the observation of desert tortoise sign and the assumed presence of desert tortoise, as well as the access restrictions, additional surveys of transects at 656, 1,312, and 1,969 feet (200, 400, and 600 meters) from the perimeter of the Action Area were not conducted.

Botanical Surveys

Portions of the plant survey area were not accessible on foot, either due to terrain or private property, and were scanned with binoculars. Although the timing of the surveys was appropriate for most special-status plant species with potential to occur in the Study Area, it is possible that not all species were in an identifiable condition at the time of the survey.

A protocol-level rare plant survey intended to capture the spring blooming period was planned for April 2021 with a reference site visit conducted on March 26, 2021. However, the survey effort was not completed due to drought conditions that severely limited the detection of special-status plant species. Surveys were also planned for 2022, however after checking reference sites, environmental conditions were determined to be worse than 2021. Conditions in 2023 improved significantly and reference populations showed good growing conditions. Surveys were performed in March and April 2023.

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4 Existing Conditions

The following sections describe the biological baseline based on the desktop analyses and field studies conducted for the project, as described in Section 3.

4.1 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the *CEQA Guidelines* Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) *Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state Habitat Conservation Plan.*

4.2 Physical Conditions

4.2.1 Climate

The project is located in a desert climate region characterized by hot, dry summers and mild, dry winters. Summer temperatures often reach 110°F and winter temperatures fall below 50°F, with an occasional freeze. Average annual temperature ranges are fairly moderate, ranging from 61.7°F to 87.7°F. The Blythe AP, California Station (Station ID: 040927) is the closest weather station to the project with reliable (i.e., no missing days) monthly rainfall totals for the duration of the biological study period. Monthly precipitation data for the seasons during which the biological studies were conducted (2016/2017), as well as the most recent seasons (2018 to 2022) are provided in Table 1 (Western Regional Climate Center [WRCC] 2021). Average total precipitation for the area is approximately 3.47 inches per year.

Table 1 Monthly Precipitation (Inches)

Season	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Total
2016/2017	0.13	0.14	0.06	1.95	0.72	1.27	0.00	0.00	0.55	0.00	0.02	0.41	**5.25**
2017/2018	0.27	0.00	0.00	0.00	0.14	0.00	0.03	0.00	0.00	0.00	0.10	0.70	**1.24**
2018/2019	0.02	0.85	0.00	0.49	0.64	0.33	0.19	0.10	0.00	0.00	0.00	0.00	**2.62**
2019/2020	0.03	0.00	1.80	0.42	0.00	0.24	1.92	0.66	0.00	0.00	0.00	0.00	**5.07**
2020/2021	0.00	0.00	0.00	0.02	0.86	0.00	0.00	0.00	0.00	0.06	0.21	0.11	**1.26**
2021/2022	0.00	0.00	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.00	2.27	**2.31**
Average	**0.09**	**0.20**	**0.37**	**0.60**	**0.47**	**0.41**	**0.43**	**0.15**	**0.11**	**0.01**	**0.07**	**2.51**	**5.42**

Source: Western Regional Climate Center, 2020

4.2.2 Hydrology

The Project overlaps two USGS watersheds identified in the WBD (USGS 2019): Southern Mojave (18100100) and Imperial Reservoir (15030104). The McCoy Mountains, located in the eastern portion of the project area, form the topographical divide between the two watersheds. Table 2 summarizes the locations of individual survey sites within these watersheds and identifies whether the watershed connects to a traditionally navigable water (Artemis 2021b).

Table 2 Watersheds in the Study Area

Individual Survey Site IDs	Watershed (HUC 8 Code)	Connection to Traditionally Navigable Water
1 through 316	Southern Mojave (18100100)	No. Drains to isolated playas.
317 through 388	Imperial Reservoir (15030104)	Yes. To McCoy Wash and on to the Colorado River.

Watershed boundaries correspond to the eight-digit Hydrologic Unit Code (HUC 8)

Source: Artemis 2021a

Drainages in the Southern Mojave Watershed (18100100) flow north into isolated playas, including Hayfield Lake west of Desert Center, and Ford Dry Lake approximately 22 miles west of Blythe, California. These playas are intrastate isolated waters and are not Traditional Navigable Waters (TNW) (Artemis 2021b).

The ephemeral drainages on the western end of the Imperial Reservoir Watershed (15030104) drain the McCoy Mountains north of the project and the Mule Mountains south of the project. The drainages generally develop from stormwater runoff originating in unnamed ephemeral washes that flow west to east from these mountains into a large alluvial fan that generally comprises the Palo Verde Mesa, which drains into the McCoy Wash. The McCoy Wash is a large ephemeral wash that drains 210 square miles of the Palo Verde Mesa (including the McCoy Mountains, Little Maria Mountains, and Big Maria Mountains). McCoy Wash has an indirect hydrological connection to the Colorado River through a system of drains and canals owned and operated by the Palo Verde Irrigation District (PVID). The PVID system contains approximately 141 miles of canals and drains that return irrigation flows and stormwater back to the Colorado River (PVID 2015). The Colorado River is a TNW (Artemis 2021b).

The entire Study Area in the Colorado River hydrologic region subject to RWQCB Region 7 (Colorado River Basin) jurisdiction. The Study Area crosses two hydrologic units (Chuckwalla and Colorado River), and three hydrologic areas (Palen, Ford, and Palo Verde).

4.2.3 Soils and Topography

Digital soil data are not available for most of the project area. The data that are available show that the project is in the Cherioni-Hyder-Cipriano, Aco-Rositas-Carrizo, Gilman-Rositas-Indio, and Rositas-Carsitas-Dune Land soil mapping units (NRCS 2019, Artemis 2021b).

Elevations in the project area are relatively low, averaging approximately 550 feet above mean sea level (amsl) and ranging from approximately 325 feet amsl in the eastern portion of the project near Blythe to approximately 1,000 feet amsl near Victory Pass at the western end of the project, with an average slope of 0.6 percent.

The project alignment is located entirely in the Sonoran Desert Bioregion of California, crossing most of the Chuckwalla Valley and skirting south of Ford Dry Lake along the central portion of the alignment. The alignment then continues through Palo Verde Mesa and the Palo Verde Valley in Blythe. The Palen and McCoy Mountains are located to the north of the project alignment. Most of the alignment is bounded by the Chuckwalla Mountains to the south, approximately 3 miles away. The Mule Mountains are located south of the eastern terminus of the alignment near Blythe.

4.3 Biological Baseline

The following sections summarize the results of field studies conducted for the project. The individual survey reports for some studies are included as appendices to this BRTR. Representative photographs and detailed figures can be found in those reports. Additional figures were also created and are presented in Appendix A.

4.3.1 Vegetation Communities/Land Cover Mapping

Fifteen vegetation communities and four types of developed/disturbed land cover types were identified in the Study Area. Characterization of the vegetation communities followed the MCVII, and the communities are categorized by alliance (Sawyer et al. 2009, CNPS 2022a). Descriptions of vegetation communities and other land cover types are provided below and mapped in Figure 2. Included in the description of each alliance is the CDFW California Natural Community Code, a unique 7-digit code in the format ##.###.## used as part of a nationally standardized coding system, as well as the global (G) and state (S) conservation status ranking. Developed/disturbed areas were categorized as active agriculture, developed, disturbed, and open water.

A complete list of plant species observed in the Study Area during botanical surveys (GANDA 2018, Artemis 2021a) is included in Appendix D.

Description of Vegetation Communities and Land Cover Types

Alkali Weed – Salt Grass Playas and Sinks. Alkali Weed – Salt Grass Playas and Sinks (*Cressa truxillensis – Distichlis spicata* Herbaceous Alliance; 46.100.00) (G2/S2) are usually characterized by alkali weed (*Cressa truxillensis*) and saltgrass (*Distichlis spicata*) in the herbaceous layer. Non-native swamp grass (*Crypsis schoenoides*) may also be present. This alliance consists of an open to continuous herbaceous and subshrub layer or may be devoid of vegetation. Alkali Weed – Salt Grass Playas and Sinks occur in alkaline or saline vernal playas and alkali sinks. Soils are alluvium infused with alkali salts and are seasonally inundated, losing water mostly through evaporation (Sawyer et al. 2009). In the Study Area, this community was primarily devoid of vegetation.

Allscale Scrub. Allscale Scrub (*Atriplex polycarpa* Shrubland Alliance; 36.340.00) (G4/S4) is dominated by allscale (*Atriplex polycarpa*) with a shrub canopy that includes white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), four wing saltbush (*Atriplex canescens*), red brome (*Bromus rubens*), smallseed sandmat (*Chamaesyce polycarpa*), bladderpod (*Cleome isomeris*), alkali goldenbush (*Isocoma acradenia*), and creosote bush (*Larrea tridentata*). This alliance comprises a continuous shrub canopy less than 10 feet in height and an herbaceous layer including seasonal annuals. Allscale Scrub occurs in washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate-rich, alkaline, sandy, or sandy clay loams (Sawyer et al. 2009).

Big Galleta Shrub-Steppe. Big Galleta Shrub-Steppe (*Pleuraphis rigida* Herbaceous Alliance*;* 41.030.00) (G3/S2) is dominated by big galleta (*Pleuraphis rigida*) or co-dominant with Indian ricegrass (*Achnatherum hymenoides*), black grama (*Bouteloua eriopoda*), red brome, soft prairie clover (*Dalea mollissima*), snakeweed (*Gutierrezia sarothrae*), desert panicgrass (*Panicum urvilleanum*), Thurber's sandpaper plant (*Petalonyx thurberi*), and desert globemallow (*Sphaeralcea ambigua*). This herb layer includes seasonal annuals and is less than 4 feet in height. Low cover of emergent trees and shrubs may be present, including catclaw acacia (*Senegalia greggii*), white bursage, cheesebush, four wing saltbush, buck thorn cholla (*Cylindropuntia acanthocarpa*), California jointfir (*Ephedra californica*), Nevada ephedra (*Ephedra nevadensis*), creosote bush, water-jacket (*Lycium andersonii*), Mojave yucca (*Yucca schidigera*), desert-willow (*Chilopsis linearis*), and Joshua tree (*Yucca brevifolia*). Big Galleta Shrub-Steppe occurs on flat ridges, lower bajadas, slopes, dune aprons, and stabilized dunes. Soils may be clayey, sandy, or rocky (Sawyer et al. 2009).

Blue Palo Verde – Ironwood Woodland. Blue Palo Verde – Ironwood Woodland Alliance (*Parkinsonia florida – Olneya tesota* Woodland; 61.545.00) (G4/S4) is dominated by either blue palo verde (*Parkinsonia florida*) or ironwood (*Olneya* tesota). This alliance consists of an open to continuous canopy less than 50 feet in height, with an intermittent or open shrub layer and seasonal annuals. Blue Palo Verde – Ironwood Woodland occurs in desert arroyo margins, seasonal watercourses and washes, bottomlands, middle and upper bajadas and alluvial fans, and lower slopes. Soils consist of sandy, well-drained, alluvium or colluvium (Sawyer et al. 2009). Vegetation communities mapped as Blue Palo Verde – Ironwood – Smoke Tree Woodland And Ironwood Woodland for the DPV2 project have been included in the Blue Palo Verde – Ironwood Woodland Alliance.

Cheesebush – Sweetbush Scrub. Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea* Shrubland Alliance; 33.200.00) (G4/S4) is dominated by cheesebush, sweetbush (*Bebbia juncea*), woolly brickellbush (*Brickellia incana*), and/or spiny senna (*Senna armata*) in the shrub layer or may be or co-dominant with silver cholla (*Cylindropuntia echinocarpa*), brittlebush (*Encelia farinosae*), California jointfir, desert rabbitbrush (*Ericameria paniculata*), California buckwheat (*Eriogonum fasciculatum*), sticky snakeweed (*Gutierrezia microcephala*), white rhatany (*Krameria grayi*), creosote bush, beavertail cactus (*Opuntia basilaris*), Thurber's sandpaper plant, Schott's pygmy-cedar (*Peucephyllum schottii*), desert Christmas tree (*Pholisma arenarium*), bladder sage (*Salazaria mexicana*), purple sage (*Salvia dorrii*), and desert globemallow. In addition, emergent trees or tall shrubs may be present at low cover, including desert willow, desert lavender (*Hyptis emoryi*), ironwood, blue palo verde, smoke tree (*Psorothamnus spinosus*), or catclaw acacia. This alliance comprises of an open to intermittent shrub canopy less than 7 feet in height and a sparse or seasonally present herbaceous layer. Cheesebush – Sweetbush Scrub occurs in valleys, flats, rarely flooded low-gradient deposits, arroyos, and intermittent channels and washes. Soils consist of sandy and gravelly alluvium and disturbed desert pavement (Sawyer et al. 2009).

Creosote Bush Scrub. Creosote Bush Scrub Alliance (*Larrea tridentata* Shrubland Alliance; 33.010.00) (G5/S5) is dominated by creosote bush or co-dominant in the shrub canopy with Shockley's goldenhead (*Acamptopappus shockleyi*), rayless goldenhead (*Acamptopappus sphaerocephalus*), white bursage, cheesebush, evergreen shrub (*Atriplex confertifolia*), desert holly (*Atriplex hymenelytra*), allscale, woolly brickellbush, brittlebush, California jointfir, Nevada ephedra, and water-jacket. This alliance consists of an intermittent to open shrub canopy less than 10 feet in height and an intermittent to open herbaceous layer that includes seasonal annuals or perennial grasses. Creosote Bush Scrub occurs in alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained and sometimes contain desert pavement (Sawyer et al. 2009). Vegetation communities mapped as creosote bush – cheesebush scrub and creosote bush – big galleta for the DPV2 project have been included in the Creosote Bush Scrub Alliance.

Creosote Bush – White Bursage Scrub. Creosote Bush – White Bursage Scrub (*Larrea tridentata – Ambrosia dumosa* Shrubland Alliance; 33.140.00) (G5/S5) is co-dominated by creosote bush and white bursage in the shrub canopy with cheesebush, chaffbush (*Amphipappus fremontii*), evergreen shrub, desert holly, allscale, sweetbush (*Bebbia juncea*), California croton (*Croton californicus*), buck horn cholla (*Cylindropuntia acanthocarpa*), diamond cholla (*Cylindropuntiaramosissima*), soft prairie clover, cotton top cactus (*Echinocactus polycephalus*), brittlebush, virgin river brittlebush (*Encelia virginensis*), joint-pine (*Ephedra* spp.), California buckwheat, rhatany (*Krameria* spp.), desert pepperweed (*Lepidium fremontii*), water-jacket, indigo bush (*Psorothamnus* spp.), bladder sage, spiny senna, Parish goldeneye (*Viguiera parishii*), and Mojave yucca. This alliance comprises an open to intermittent two-tiered shrub canopy less than 10 feet in height and an open to intermittent herbaceous layer with seasonal annuals. Creosote Bush – White Bursage Scrub occurs in minor washes and rills, alluvial fans, bajadas, and upland slopes. Soils are well drained, alluvial, colluvial, sandy, and sometimes underlain by a hardpan that may be calcareous and/or covered with desert pavement (Sawyer et al. 2009).

Desert-Willow – Smoketree Wash Woodland. Desert-Willow – Smoketree Wash Woodland (*Chilopsis linearis – Psorothamnus spinosus* Woodland Alliance; 61.555.00) (G4/S3) is dominated by desert-willow and/or smoketree in the tree or tall shrub canopy with ironwood, blue palo verde, honey mesquite (*Prosopis glandulosa*), or Joshua tree potentially co-dominant. Shrubs may include woolly bursage, cheesebush, allscale, sweetbush, woolly brickellbush, buck horn cholla, Mojave rabbitbrush (*Ericameria paniculata*), California buckwheat, creosote bush, shrubby ragwort (*Senecio flaccidus*), catclaw acacia, wire lettuce (*Stephanomeria pauciflora*), or Parish viguiera (*Bahiopsis parishii*). Habitats include washes, intermittent channels, canyon bottoms, arroyos, along floodplains, and wash terraces where flooding is infrequent but where subterranean water is available. Soils are well-drained sands and gravels that are moderately acidic to slightly alkaline (Sawyer et al. 2009).

Mesquite Thickets. Mesquite Thickets (*Prosopis glandulosa – Prosopis velutina – Prosopis pubescens* Woodland Alliance; 61.514.00) (G5/S3) are dominated by honey mesquite and/or screw bean mesquite (*Prosopis pubescens*). Mesquites may also be co-dominant in the tree canopy with sandbar willow (*Salix exigua*), arroyo willow (*Salix lasiolepis*), and black elder (*Sambucus nigra*). Shrubs may include iodine bush (*Allenrolfea occidentalis*), white bursage, four wing saltbush, allscale, sweetbush, Thurber's sandpaper plant, arrowweed (*Pluchea sericea*), sugar sumac (R*hus ovata*), or Mojave seablite (*Suaeda moquinii*). The tree canopy is less than 40 feet in height with open to intermittent shrub and herbaceous layers. Mesquite Thickets occur in the fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and

sand dunes. Soils are slightly to moderately saline with a wide range of soil textures (Sawyer et al. 2009).

Mojave – Sonoran Desert Dunes. Mojave – Sonoran Desert Dunes (*Dicoria canescens – Abronia villosa – Panicum urvilleanum* Sparsely Vegetated Alliance; 22.105.00) (G3/S2) contains scattered plants such as Indian ricegrass, white bursage, desert dicoria (*Dicoria canescens*) creosote bush, desert panicgrass, big galleta, hairy sand-verbena (*Abronia villosa*) and/or Eureka dunegrass (*Swallenia alexandrae*). The combined absolute vegetative cover in Mojave – Sonoran Desert Dunes is usually between 2 and 10 percent. Mojave – Sonoran Desert Dunes occur in active dune areas, partially stabilized dunes, stabilized dunes, and sand fields. Soils are fine to moderately coarse sand (Sawyer et al. 2009).

Red Brome or Mediterranean Grass Grasslands. This Herbaceous Semi-Natural Alliance (*Bromus rubens - Schismus* [*arabicus, barbatus*] Grassland; 42.024.00) (GNA/SNA) is dominated by red brome and/or Mediterranean grass (*Schismus arabicus* or *Schismus barbatus*) with other non-native species in the herbaceous layer. Emergent shrubs may be present at low cover. Habitats include all topographic settings (Sawyer et al. 2009).

Rigid Spineflower – Hairy Desert Sunflower. Rigid Spineflower – Hairy Desert Sunflower (*Chorizanthe rigida – Geraea canescens* Desert Pavement Sparsely Vegetated Alliance; 22.310.00) (G4/S4) is characterized by rigid spineflower (*Chorizanthe rigida*) and/or hairy desert sunflower (*Geraea canescens*) in the sparse to intermittent herbaceous layer with windmills (*Allionia incarnata*), Saharan mustard (*Brassica tournefortii*), red brome, brittle spineflower (*Chorizanthe brevicornu*), desert plantain (*Plantago ovata*), big galleta, and others. Sparse shrub cover may be present and include white bursage, desert holly, silver cholla, brittlebush, rhatany, creosote bush, beavertail cactus, and honeysweet (*Tidestromia suffruticosa* var. *oblongifolia*). This alliance includes a non-vascular (cryptogamic crust) layer that is sparse to intermittent and can be found in desert pavement, broad alluvial fans, and lower slopes in the desert. The ground surface is sandy and gravelly mixed alluvium, with various racks and gravel along with interstitial fine sediments (Sawyer et al. 2009).

Tamarisk Thickets. Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-natural Alliance; 63.810.00) (GNA/SNA) is dominated by either saltcedar (*Tamarix ramosissima*) or another *Tamarix* species. Emergent trees, such as Fremont's cottonwood (*Populus fremontii*) or willow (*Salix* spp.), may be present at low cover. This alliance consists of a continuous or open tree canopy less than 30 feet in height and a sparse herbaceous layer. Tamarisk Thickets occur in the margins of arroyos, lakes, ditches, washes, rivers, and other watercourses (Sawyer et al. 2009).

Tournefort's Mustard and Other Ruderal Desert Forb Patches. Tournefort's Mustard and Other Ruderal Desert Forb Patches (*Brassica tournefortii – Malcolmia africana* Provisional Herbaceous Semi-Natural Alliance; 42.012.00) (GNR/SNR) is dominated by Tournefort's mustard (i.e., Saharan mustard), African mustard (*Malcolmia africana*) and/or London rocket (*Sisymbrium irio*) in the open to intermittent herbaceous layer. This alliance is found in low level bottoms, alluvial fans, roadsides, sand dunes, lake shorelines, and washes, typically in disturbed areas. Soils are sandy to clay loam (Sawyer et al. 2009).

White Bursage Scrub. White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance; 33.060.00) (G5/S5) is dominated by white bursage with rayless goldenhead, four wing saltbush, shadescale (*Atriplex confertifolia*), desert holly, blackbrush (*Coleogyne ramosissima*), buck horn cholla, teddy bear cholla (*Cylindropuntia bigelovii*), cotton top cactus, brittlebush, Death Valley jointfir (*Ephedra funereal*), ocotillo (*Fouquieria splendens*), creosote bush, beavertail cactus, and big galleta

potentially co-dominant. This alliance comprises an open to intermittent shrub canopy less than 4 feet in height and an open to intermittent herbaceous layer with seasonal annuals. White Bursage Scrub occurs in older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized and stabilized sand fields, and upland slopes. Soils are sandy, clay-rich, or calcareous and may have pavement surfaces (Sawyer et al. 2009).

Developed/Disturbed. This land cover type includes areas that are shaped by past or current human activity. Four types of developed/disturbed areas were mapped in the project area:

- **Active Agriculture.** Active agricultural lands consist of annually planted crops. These lands include both active and formerly active (i.e., fallow) agriculture.
- **Developed**. Developed areas include homes, businesses, cemeteries, and similar developed lands, including their associated landscape plantings. They may also include roads and lands that have been highly disturbed by past or current human activity. Vegetation communities mapped as Disturbed Land and Open Pavement for the DPV2 project have been included in the Developed lands.
- **Disturbed.** Disturbed areas consist of lands that are disturbed but undeveloped and predominantly unvegetated.
- **Open Water.** Open water includes constructed evaporation ponds or holding ponds. Open Water was mapped in the Study Area for the project; however, it does not occur in the project ROW, disturbance areas, or material staging yards.

4.3.2 Sensitive Vegetation Communities

Five CDFW-sensitive communities were mapped in the Study Area: Alkali Weed – Salt Grass Playas and Sinks, Big Galleta Shrub-Steppe, Desert-Willow – Smoketree Wash Woodland, Mesquite Thickets, and Mojave – Sonoran Desert Dunes.

Five of the non-sensitive communities mapped in the Study Area have defined associations that are considered sensitive: Cheesebush – Sweetbush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Desert-Willow – Smoketree Wash Woodland, Rigid Spineflower – Hairy Desert Sunflower, and White Bursage Scrub. The vegetation mapping data does not permit classification of communities at the association level. Therefore, these communities, which are not sensitive at the alliance level, are treated as non-sensitive in this report.

4.3.3 Non-Native and Invasive Plants

The Study Area is dominated by barren ground or sparse native vegetation. However, non-native plant species occur throughout the Study Area (Table 3). The dominant non-native species are Mediterranean grass and Saharan mustard. Limited amounts of three other non-native plant species that are classified as “noxious” by the California Department of Food and Agriculture (CDFA) are present in the Study Area: puncture vine (*Tribulus terrestris*), saltcedar, and Russian thistle (*Salsola paulsenii*). Small amounts of other non-native weedy species are also present, including rescue grass (*Bromus catharticus*), Bermuda grass (*Cynodon dactylon*), little seed canarygrass (*Phalaris minor*), crystalline iceplant (*Mesembryanthemum crystallinum*), pigweed goosefoot (*Amaranthus albus*), flax-leaved horseweed (*Erigeron bonariensis*), prickly lettuce (*Lactuca serriola*), nettle leaf goosefoot (*Chenopodium murale*), common sowthistle (*Sonchus oleraceus*), and shepherd’s purse (*Capsella bursa-pastoris*) (GANDA 2018).

Table 3 Weeds Observed in the Study Area and their Rating

Scientific Name	Common Name	Cal-IPC Invasive Plant Rating	CDFA Weed Rating
Ambrosia artemisiifolia	annual ragweed	Not rated	Not rated
Amaranthus albus	pigweed goosefoot	Not rated	Not rated
Avena fatua	wild oat	Moderate	Not rated
Brassica tournefortii	Saharan mustard	High	Not rated
Bromus catharticus	rescue grass	Not rated	Not rated
Capsella bursa-pastoris	shepherd's purse	Not rated	Not rated
Chenopodium murale	nettle-leaved goosefoot	Not rated	Not rated
Cuscuta denticulata [1]	desert dodder	Not rated	C
Cynodon dactylon	Bermuda grass	Moderate	Not rated
Erigeron bonariensis	flax-leaved horseweed	High	Not rated
Lactuca serriola	prickly lettuce	High	Not rated
Mesembryanthemum crystallinum	crystalline iceplant	Moderate	B
Phalaris minor	little seed canarygrass	Moderate	C
Salsola paulsenii	russian thistle	Limited	C
Sonchus oleraceus	common sowthistle	Moderate	C
Tamarix aphylla	athel tree	Limited	Not rated
Tamarix ramosissima	saltcedar	High	Listed but not rated
Tribulus terrestris	puncture vine	Not rated	A

[1] This is a native species but is classified as noxious by the California Department of Food and Agriculture (CDFA).

Cal-IPC Invasive Plant Ratings (Cal-IPC 2006):

High - These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate - These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited - These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

CDFA Weed Rating (CDFA 2022):

Rating A - A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment. A-rated pests are prohibited from entering the state because, by virtue of their rating, they have been placed on the of Plant Health and Pest Prevention Services Director's list of organisms "detrimental to agriculture" in accordance with the FAC Sections 5261 and 6461. The only exception is for organisms accompanied by an approved CDFA or USDA live organism permit for contained exhibit or research purposes. If found entering or established in the state, A-rated pests are subject to state (or commissioner when acting as a state agent) enforced action involving eradication, quarantine regulation, containment, rejection, or other holding action.

Rating B - A pest of known economic or environmental detriment and, if present in California, it is of limited distribution. B-rated pests are eligible to enter the state if the receiving county has agreed to accept them. If found in the state, they are subject to state endorsed holding action and eradication only to provide for containment, as when found in a nursery. At the discretion of the individual county agricultural commissioner, they are subject to eradication, containment, suppression, control, or other holding action.

Rating C - A pest of known economic or environmental detriment and, if present in California, it is usually widespread. C-rated organisms are eligible to enter the state as long as the commodities with which they are associated conform to pest cleanliness standards when found in nursery stock shipments. If found in the state, they are subject to regulations designed to retard spread or to suppress at the discretion of the individual county agricultural commissioner. There is no state enforced action other than providing for pest cleanliness.

Source: GANDA 2018

4.3.4 Special-Status Plants

A total of 68 special-status plant species were originally evaluated for potential to occur (AECOM 2016). Based on a 2-mile CNDDB radius search parameter and a review of literature, the potential plant list was revised to 29 species (Appendix J). Ten special-status plant species were identified in the Study Area during the habitat assessment or botanical surveys:

- Watson's amaranth (*Amaranthus watsonii*)
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*)
- Gravel milk-vetch (*Astragalus sabulonum*)
- Emory's crucifixion thorn (*Castela emoryi*)
- foxtail cactus (*Coryphantha alversonii*)
- ribbed cryptantha (*Cryptantha costata*)
- California ditaxis (*Ditaxis serrata* var. *californica*)
- Abram's spurge (*Euphorbia abramsiana*)
- roughstalk witch grass (*Panicum hirticaule* ssp. *hirticaule*)
- desert unicorn plant (*Proboscidea althaeifolia*)

None of the plant species with potential to occur in the Study Area are federally or state listed. There are no records of federally or state listed plant species within 2 miles of the project. The 10 non-listed special-status species that were observed in the Study Area or determined to be likely to occur are discussed below.

Watson's Amaranth (*Amaranthus watsonii*)

Federal Status: None; State Status: None; CRPR 4.3

Watson's amaranth is an annual herb in the amaranth family that blooms between April and September. It is distributed in California, Arizona, and northwestern Mexico. In California, it is known from San Bernardino, Riverside, and Imperial counties (CNPS 2022b). Watson's amaranth occurs in sandy soils in dunes, beaches, saline flats, and disturbed areas.

Numerous Watson's amaranth were observed in the eastern portion of the plant Study Area in 2021 (Artemis 2021), within 1 mile east of Ford Dry Lake Road (Figure 3, pages 92-95).

Harwood's Milk-Vetch (*Astragalus insularis* var. *harwoodii*)

Federal Status: None; State Status: None; CRPR 2B.2

Harwood's milk-vetch is an annual herb in the pea family that blooms from January through May. It is distributed in California, Arizona, and northwestern Mexico. In California, it is known from San Bernardino, Riverside, Imperial, and San Diego counties (CNPS 2022b). Harwood's milk-vetch occurs in sandy or gravelly areas at elevations up to 3,200 feet.

Two plants were observed in the Study Area in 2017 (GANDA 2018). Both plants were mapped in the construction area for a wire setup site just north of the point where the alignment crosses I-10 and east of Ford's Dry Lake Road (Figure 3, pages 90-95, 105-106, 131-140).

Gravel Milk-Vetch (*Astragalus sabulonum*)

Federal Status: None; State Status: None; CRPR 2B.2

Gravel milk-vetch is an annual herb in the pea family that blooms from February through June. It is distributed in California, Arizona, Nevada, and Sonora Mexico. In California, it is known North-

eastern San Diego, eastern Riverside, western Imperial, and Inyo counties. Harwood's milk-vetch occurs in sandy or gravelly areas at elevations up to 3,200 feet (CNPS 2023). Hundreds of individuals were observed in the loose sands of the Survey Area flanking and occasionally within the access road between the Wiley's Well Rest Stop area and the Ford Dry Lake Road area. See also Appendix C, Photos 7, 8, and 9. There are only two occurrences recorded within 2 miles of this area; therefore, these data will be submitted to the CNDDB (Figure 3, pages 97-100, 102-103)

Emory's Crucifixion Thorn (*Castela emoryi*)

Federal Status: None; State Status: None; CRPR 2B.2

Emory's crucifixion thorn is a perennial shrub in the quassia family that blooms in June and July. It is distributed in in California, Arizona, and northwestern Mexico. In California, it is known from Inyo, San Bernardino, Riverside, and Imperial counties (CNPS 2022b). It occurs in dry, gravelly washes on slopes and flats in creosote bush scrub (Jepson Flora Project 2021).

One Emory's crucifixion thorn plant was observed inside the Study Area 2021 (Artemis 2021a). Four individuals and a population consisting of seven plants were observed within 200 feet of the Study Area in 2016 (AECOM 2016). Two additional individuals were observed within 200 feet of the Study Area in 2017 (GANDA 2018). All the observed plants are located within 0.4 mile of each other in a large ephemeral wash east of Kaiser Road (Figure 3, pages 14, 15).

Foxtail Cactus (*Coryphantha alversonii)*

Federal Status: None; State Status: None; CRPR 4.3

Foxtail cactus is a perennial herb (stem succulent) in the cactus family that blooms between April and June. The species is endemic to California, where it is reported from San Bernardino, Riverside, and Imperial counties (CNPS 2022b). Foxtail cactus occurs in sandy to rocky alluvium in creosote bush scrub at elevations ranging from 295 to 4,430 feet (Jepson Flora Project 2021).

Foxtail cactus occurs in the western end of the project along the north–south portion of the alignment leading from the primary access road to the Eagle Mountain Substation (Figure 3, pages 1-4). Numerous individuals were observed in the Study Area during the 2017, 2021, and 2023 botanical surveys in rocky areas, benches, and the banks of ephemeral drainages. Several of the plants are in or adjacent to disturbance areas. A portion of the Study Area north of the substation could not be surveyed due to access restrictions. Biologists conducted a binocular scan of this area through the fencing and did not observe foxtail cactus.

Ribbed Cryptantha (*Cryptantha costata*)

Federal Status: None; State Status: None; CRPR 4.3

Ribbed cryptantha is an annual herb in the borage family that blooms between February and May. It is distributed in California, Arizona, southern Nevada, and Baja California, Mexico. In California, it is reported from Inyo, Tulare, San Bernardino, Riverside, Imperial, and San Diego counties (CNPS 2022b). The species occurs primarily on sand dunes in creosote bush scrub at elevations ranging from 125 to 5,445 feet (Jepson Flora Project 2021).

Ribbed cryptantha occurs in sandy dunes along the project alignment just north of I-10 between Ford Dry Lake Road and Wiley's Well Road. Ten populations were observed in the Study Area in 2017, some of which contained up to 1,000 individuals (GANDA 2018). Additional observations were made during surveys in 2021 and 2023 (Figure pages 97-99, 102-107).

California Ditaxis (*Ditaxis serrata var. californica)*

Federal Status: None; State Status: None; CRPR 3.2

California ditaxis is a perennial herb in the euphorbia family that blooms from March to December. It is endemic to California and is known from San Diego, Imperial, Riverside, and San Bernardino counties (CNPS 2022b). It grows in washes and canyons in creosote bush scrub from 150 to 3,200 feet elevation (Jepson Flora Project 2021).

California ditaxis occurs along the project alignment northwest of Rice Road. One individual was observed in the Study Area in 2017 (GANDA 2018) and 30 individuals were observed in the Study Area in 2021 (Artemis 2021a) (Figure 3, pages 20, 23).

Abram's Spurge (*Euphorbia abramsiana*)

Federal Status: None; State Status: None; CRPR 2B.2

Abram's spurge is an annual herb in the euphorbia family that occurs in California, Arizona, and arid parts of northern Mexico (Jepson Flora Project 2021). In California it occurs in San Bernardino, Riverside, Imperial, and San Diego counties (CNPS 2022b). Abram's spurge blooms from September through November and grows in sandy flats at elevations up to 600 feet (Jepson Flora Project 2021).

Numerous individuals of Abram's spurge were observed in and adjacent to the Study Area in 2021 (Artemis 2021a). The plants are clustered along two stretches of the alignment, one approximately 1 mile east of Ford Dry Lake Road and the other centered around a wash approximately 1 mile west Wiley's Well Road (Figure 3, pages 92-95).

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

Federal Status: None; State Status: None; CRPR 2B.1

Roughstalk witch grass is an annual grass that blooms between August and December. It is known throughout the western U.S. and into South America. In California the species has been recorded in San Bernardino, Riverside, and Imperial counties (CNPS 2022b). It favors sandy soils and open sites in creosote bush scrub at elevations below 4,500 feet (Jepson Flora Project 2021).

Numerous individuals of roughstalk witch grass were observed in and adjacent to the Study Area in 2021 (Artemis 2021a). The species occurs in the same sections of the alignment east of Ford Dry Lake Road and west of Wiley's Well Road as does Abram's spurge (Figure 3, pages 92-95, 102-104).

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Federal Status: None; State Status: None; CRPR 4.3

Desert unicorn plant is a perennial herb in the martynia family that blooms from May through August. It is distributed in California, Arizona and the Mexican states of Baja California and Sonora. In California it is known from San Bernardino, Imperial, San Diego, Riverside, and Calaveras counties (CNPS 2022b). The species grows in sandy soils at elevations below 3,000 feet (Jepson Flora Project 2021).

Numerous individuals of desert unicorn plants were observed in and adjacent to the Study Area in 2017 (GANDA 2018), 2021 (Artemis 2021a), and 2023 (Artemis 2023). The occurrences are concentrated in two areas, between Ford Dry Lake Road and Wiley's Well Road and northwest of Rice Road. (Figure 3, pages 16-19, 22, 84-87, 109-114).

4.3.5 Special-Status Wildlife

Based on the results of a 5-mile radius CNDDB query, 38 special-status wildlife species were evaluated for their potential to occur in the Study Area (Appendix J). Five special-status wildlife species were detected in the Study Area during project surveys (Figure 3): desert tortoise, burrowing owl, loggerhead shrike, black-tailed gnatcatcher, and desert kit fox. Based on the presence of historical occurrences and the results of the habitat assessment and vegetation mapping, it was determined that nine additional species are likely to occur in the Study Area: Couch's spadefoot, Mojave fringe-toed lizard, prairie falcon, Bendire's thrasher, crissal thrasher, LeConte's thrasher, California leaf-nosed bat, cave myotis, and American badger. The 14 special-status wildlife species that were observed or determined to be likely to occur are described below. Among these, the federally and state threatened desert tortoise is the only species that is covered by FESA or CESA. The remainder are non-listed special-status species.

Desert Tortoise

Status: The desert tortoise was listed as threatened under CESA on June 22, 1989 (California Fish and Game Commission 1989). The desert tortoise was initially listed as threatened under the FESA by emergency rule on August 4, 1989 (USFWS 1989) and by final rule on April 2, 1990 (USFWS 1990). The federal listing status applies to the Mojave population (i.e., the Agassiz's desert tortoise), which includes tortoises occurring north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Sonoran Desert in California (USFWS 2012). On March 30, 1994, USFWS published the *Draft Recovery Plan for the Desert Tortoise (Mojave Population)* which divided the range of the desert tortoise into six recovery units and recommends establishment of 14 Desert Wildlife Management Areas (DWMA) in the recovery units (USFWS 1994a). A revised recovery plan was published in 2011 (USFWS 2011). Critical habitat for the species was designated in 1994 (USFWS 1994b).

Desert tortoise inhabits the Mojave, Colorado, and Sonoran Deserts in the southwestern United States and adjacent parts of Mexico (USFWS 1994a). The Mojave population historically occupied a relatively continuous distribution of habitat but now occurs in portions of Antelope, Indian Wells, and Searles valleys which have not yet been developed for urban uses (USFWS 1994a). Desert tortoise is generally found in gently sloped terrain at elevations between 1,000 and 3,000 feet in habitats with friable sandy-gravel soils suitable for burrows and sparse vegetative cover that is diverse in both perennial and annual plants.

Significant threats to desert tortoise populations have been identified as fragmentation and loss of habitat, off-road vehicle use, illegal dumping, and the introduction of invasive species. Urbanization has resulted in increasing human population in close proximity to desert tortoise habitat, resulting in direct and indirect impacts to the habitat (USFWS 1994a).

During protocol desert tortoise surveys for the project, four Class 3 burrows (deteriorated condition; definitely belonging to desert tortoise), nineteen Class 4 burrows (deteriorated condition; possibly belonging to desert tortoise), and six Class 5 burrows (good condition; possibly belonging to desert tortoise) were observed in the Action Area (Jacobs 2017) (Figure 3, pages 7-14, 43-45, 52, 76, 77, 79, 84-88, 116, 119-122, 124-126). One Class 5 (disarticulated and scattered) desert tortoise carcass was observed (Figure 3, page 124). No live desert tortoises were observed during the survey. Most of the Study Area is suitable habitat for desert tortoise. Unsuitable habitat occurs primarily in agricultural fields and developed areas near Desert Center and Blythe.

Amphibians

Couch's Spadefoot (Scaphiopus couchii)

Status: CDFW SSC; BLM Sensitive

In California, Couch's spadefoot is endemic to the Sonoran Desert region, with scattered populations east of the Algodones sand dunes in Imperial County and north into San Bernardino County (Nafis 2000-2020). The species occurs in arid and semi-arid habitats including shrublands, short grass plains, mesquite savannah, creosote bush desert, and thorn forest at elevations ranging from 690 to 1,120 feet (CDFW 2000). Couch's spadefoot is absent from former habitat that has been urbanized or converted to agriculture but persists throughout its small range in California likely due to an increased number of temporary pools resulting from road and railroad construction and agricultural irrigation (Nafis 2000-2020). Individuals spend most of their time underground, sometimes in rodent burrows, but emerge to breed following heavy rains in spring or summer (NatureServe 2020).

Suitable habitat for Couch's spadefoot may be present in the Study Area in streambeds and basins where rainwater may pool. Couch's spadefoot toad was observed near the Colorado River Substation in 2013 (CDFW 2022a), approximately 4.5 miles south of the project near its eastern end. The species was not observed during project surveys but is likely to occur due to the presence of suitable habitat in the Study Area and the proximity of documented occurrences.

Reptiles

Mojave Fringe-Toed Lizard (Uma scoparia)

Status: CDFW SSC; BLM Sensitive

Mojave fringe-toed lizard is distributed in the Mohave Desert from the southern end of Death Valley south to the Colorado River around Blythe at elevations from near sea level up to 3,000 feet (Stebbins 1985). In California it is known from Inyo, San Bernadino, Los Angeles, and Riverside counties. Generally occurring in creosote bush scrub desert habitat, the Mojave fringe-toed lizard can be found in aeolian sand deposits including large and small dunes and isolated dune pockets along hillsides (Norris 1958, Stebbins 1985). Fine sand is required for thermoregulatory burrowing; the species avoids extreme temperatures by going underground in November and emerging in February. Since the dune ecosystem is dependent on source sand and sand transport corridors, preservation of these resources is necessary for this species (Barrows 1996). Mojave fringe-toed lizard is highly vulnerable to off-road vehicle activity and the establishment of windbreaks that affect the deposition of windblown sand (Stebbins 2003).

CNDDB reports that 12 Mojave fringe-toed lizards were observed just east of Wiley's Well Road in the Study Area in 2010 and one was observed in the same area in 2011 (CDFW 2022a). The species was not observed during project surveys but is likely to occur due to the presence of suitable habitat in the Study Area and the proximity of documented occurrences.

Birds

Western Burrowing Owl (Athene cunicularia)

Status: CDFW SSC; BLM Sensitive

Western burrowing owl is a yearlong resident of open grasslands, especially prairie, plains, and savanna. It sometimes occurs in open areas near human habitation such as agricultural fields, vacant lots, or airports. The species is dependent on the presence of burrowing mammals. Burrowing owls roost and nests in abandoned burrows such as those dug by ground squirrels, desert kit foxes, and badgers (NatureServe 2020).

Western burrowing owl populations are threatened by habitat loss and degradation due to rapid urbanization of farmland in the Central and Imperial valleys (CDFW 2012). Populations have declined in California according to the Christmas Bird Count (1996-1989) and local surveys have detected declining populations and/or range reductions as well. Other threats to the species include elimination of burrowing mammals through control programs, use of pesticides, and illegal shooting (Klute et al. 2003).

One active burrowing owl burrow was observed in the Study Area during protocol desert tortoise surveys (Jacobs 2017) (Figure 3, page 95). Burrowing owls are more common west of the Study Area in the Coachella Valley but have been detected throughout the area during historical surveys. The species is more common during the winter when an influx of birds that breed farther north spend the winter in Southern California. Therefore, the potential to encounter burrowing owls using burrows in the Study Area is greater during the winter months (generally October through March).

Prairie Falcon (Falco mexicanus)

Status: CDFW Watch List

In California, prairie falcon habitat includes mountainous areas, steppes, plains, or prairies. The species typically nests on a rocky cliffs or steep earth embankments and nests may be placed in man-made excavations on otherwise unsuitable cliffs (NatureServe 2020). Foraging areas are large, but individuals only defend a small territory around the nest site. The species is declining in most of Southern California due to habitat loss as a result of urbanization, as well as disease, collisions, pesticides, and other threats. Research in the Mojave Desert suggests that remote nests have a higher productivity than nests closer to human activity (NatureServe 2020).

Prairie falcon has not been observed during project surveys, but a prairie falcon was observed during the implementation of the SCE Red Bluff Substation Project (AECOM 2016), which overlaps the Study Area. There are also CNDDB occurrences that overlap the Study Area (CDFW 2022a). No nesting habitat is present in the Study Area, but the species is likely to forage there or occur during migration.

Loggerhead Shrike (Lanius ludovicianus)

Status: CDFW SSC

Throughout California, loggerhead shrike is a common resident and winter visitor in lowlands and foothills. Suitable habitat includes open country with scattered trees and shrubs, savannah, desert scrub, and occasionally open woodland. The species nests in shrubs or small trees with dense foliage. Suitable hunting perches are an integral part of the habitat (NatureServe 2020).

A decline in the abundance of loggerhead shrike has been documented throughout its range, even in areas with ample habitat. Pesticides, loss of wintering habitat quality, and/or dependency on roadside habitat with high-predation pressure have been suggested as possible causes. Predation is the leading cause of nest failure, but nest predation does not appear to constitute an important

limiting factor. While food shortages may limit nesting success, shrikes are not perturbed by nearby human activity (NatureServe 2020).

One loggerhead shrike was observed in the Study Area during the 2016 habitat assessment (Figure 3, pages 14-15). Loggerhead shrikes have been documented within 5 miles of the Study Area near the Colorado River Substation on multiple occasions, most recently in 2013 (CDFW 2022a). The species is likely to occur in suitable shrub habitat in the Study Area.

Black-Tailed Gnatcatcher (Polioptila melanura)

Status: CDFW Watch List

In California, black-tailed gnatcatcher occurs in deserts in the southeastern part of the state. It is a common resident and winter visitor in wooded desert washes. Suitable nesting habitat for the species contains mesquite, paloverde, ironwood, or acacia. During the winter it may be found in a variety of desert scrub habitats.

Black-tailed gnatcatcher populations have experienced significant declines where habitat has been lost to agricultural or urban development. Loss of mesquite brushland habitat in the Coachella, Imperial, and Colorado River valleys is the main factor causing the decline (Tinant 2006). Destruction of habitat in desert washes due to off-road vehicle use may also be a factor (Remsen 1978).

Three black-tailed gnatcatchers were observed during the 2016 habitat assessment (Figure 3, pages 4-5, 113-117). The species is likely to occur in the Study Area where larger woody vegetation is present in washes.

Bendire's Thrasher (Toxostoma bendirei)

Status: CDFW SSC; BLM Sensitive

Bendire's thrasher occurs in the deserts of southeastern California, primarily as a summer resident. The species nests in desert scrub vegetation with high density of *Yucca* species and cholla cacti and generally avoids steep slopes and rocky terrain. Nests are placed in shrubs, trees, and cacti (Sterling 2008). The population trends of Bendire's thrasher in California are not well understood. A declining trend observed prior to 2001 may be attributed to drought conditions and appears to have reversed. The primary threat to the species is habitat loss resulting from housing and agricultural development.

Two occurrences of the Bendire's thrasher were documented in 2004 approximately 1.5 miles southeast of the Ragsdale laydown yard. The species was not observed during project surveys but is likely to occur in the Study Area due to the presence of suitable habitat and the proximity of documented occurrences.

Crissal Thrasher (Toxostoma crissale)

Status: CDFW SSC; BLM Sensitive

Crissal thrasher occurs year-round in the deserts of southeastern California in widely scattered patches of suitable habitat. It primarily occupies riparian scrub and woodland at lower elevations and dense shrub associated with arroyos at higher elevations. Nests are placed in dense shrub vegetation. The species may forage in agricultural areas adjacent to native habitat (Fitton 2008). In California, crissal thrasher is most abundant in the Colorado River valley. Although the species' range in California is stable, in some areas it has become increasingly localized and overall numbers

have declined at least moderately (Fitton 2008). The primary threat to Crissal thrasher is loss and degradation of habitat, particularly due to agriculture.

Multiple occurrences of Crissal thrasher were documented in 2012 within 5 miles of the project near the Colorado River Substation (CDFW 2022a). The species was not observed during project surveys but is likely to occur in the Study Area due to the presence of suitable habitat and the proximity of documented occurrences.

LeConte's Thrasher (Toxostoma lecontei)

Status: CDFW SSC; BLM Sensitive

LeConte's thrasher is an uncommon resident of the deserts of the American Southwest (Sheppard 1996). Suitable habitats for the species include open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub. Habitat may also consist of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having high proportion of one or more species of saltbush or shadescale and/or cylindrical cholla cactus (*Cylindropuntia* spp.) (Sheppard 1996). Nests are typically placed in shaded locations in dense thorny desert shrubs or small trees or cholla cactus, usually between 2 and 8 feet above the ground (Sheppard 1996).

LeConte's thrasher is uncommon over most of its range (Sheppard 1996). Degradation, fragmentation, and loss of habitat due to urbanization, agriculture, irrigation, oil and gas development, fire, and over-grazing by sheep or cattle are the primary reasons for a declining trend in its population (NatureServe 2020).

Three nesting pairs of LeConte's thrasher were observed in 1977 approximately 1 mile south of the project and Power Line Road (CDFW 2022a). Several observations of the species occurred three miles south of the project near the Colorado River Substation between 2011 and 2013 (CDFW 2022a). LeConte's thrasher was not observed during project surveys but is likely to occur in the Study Area due to the presence of suitable habitat and the proximity of documented occurrences.

Mammals

California Leaf-Nosed Bat (Macrotus californicus)

Status: CDFW SSC; BLM Sensitive

California leaf-nosed bat inhabits lowland desert scrub with day roosts located in abandoned mine tunnels, caves, or natural rock shelters in canyon walls (NatureServe 2020). Foraging habitats include desert riparian woodland, desert wash, desert scrub, desert succulent scrub, alkali scrub, and palm oasis habitats with rocky, rugged terrain. The species roosts singly or in groups of up to several hundred individuals, typically in caves or mines (NatureServe 2020).

California leaf-nosed bat is locally common in parts of its range (NatureServe 2020). Primary threats to the species are human entry into caves or mines where roosts occur, as disturbance may lead to abandonment, and the closure or improper gating of mine entrances for hazard abatement. Loss of desert riparian habitat (such as the development of housing and golf courses in the Coachella Valley) has also likely contributed to population declines (Western Bat Working Group 2005).

California leaf-nosed bat was documented at several locations in the southern McCoy Mountains within 5 miles of the project in 1993 and in a quad (Roosevelt Mine) that overlaps the project in 2020 (CDFW 2022a). Night roost habitat suitable for California leaf-nosed bat is potentially present in the Study Area, consisting of bridges on I-10. Foraging habitat may also be present in agricultural

areas. The species was not observed during project surveys but is likely to occur in the Study Area due to the presence of suitable habitat and the proximity of documented occurrences.

Cave Myotis (Myotis velifer)

Status: CDFW SSC; BLM Sensitive

Cave myotis is restricted in California to lowlands of the Colorado River valley and adjacent mountain ranges in Imperial, Riverside and San Bernardino counties (CDFW 1999). The species inhabits evergreen or pine-oak forests at middle and high elevations, as well as riparian habitats near desert scrub at lower elevations (Reid 1997). It roosts in tight clusters in caves, mine tunnels, buildings, and under bridges. Once a common species with colonies of over 1,000 individuals, cave myotis has experienced a significant decline due to human disturbance of roosts, loss of riparian vegetation, and use of pesticides (CDFW 1999).

Cave myotis was documented in a quad (Roosevelt Mine) that overlaps the project in 2020 (CDFW 2022a). Night roost habitat suitable for cave myotis is potentially present in the Study Area, consisting of bridges on I-10. Foraging habitat may also be present in agricultural areas. The species was not observed during project surveys but is likely to occur in the Study Area due to the presence of suitable habitat and the proximity of documented occurrences.

American Badger (Taxidea taxus)

Status: CDFW SSC

American badger has a large range in the western and central U.S., southern Canada, and northern and central Mexico. The species occurs in desert, grassland, savanna, shrubland/chaparral, and cropland and is most abundant in drier open stages of shrub, forest, and herbaceous habits with friable soils. Since the badger digs burrows and preys on burrowing rodents, open, uncultivated ground is preferred (NatureServe 2020).

American badger is relatively common over much of its range, but has declined substantially in parts of the west, where grassland habitat has been replaced by intensive agriculture and where prey such as prairie dogs and ground squirrels have been reduced or eliminated. The species has also been threatened by collisions with vehicles and by direct persecution (NatureServe 2020).

While American badgers have not been reported in the Study Area, they are known to occur in the surrounding area (CDFW 2022). American badgers may construct burrows in the Study Area at any time.

Desert Kit Fox (Vulpes macrotis arsipus)

Status: California Protected Furbearer

Desert kit fox has historically had a broad distribution across the California desert, relying on creosote scrub communities that support abundant rodent populations (Kadaba et al. 2013). The species inhabits open, level desert areas with low levels of human disturbance, sparse shrubby vegetation, and loose-textured soils that are suitable for burrowing. It has been threatened by habitat destruction, particularly due to large scale industrial energy development. Canine distemper, grazing, urbanization, agriculture, and mortality from vehicles are other threats to the population (Kadaba et al. 2013).

Two active kit fox den complexes and one potential kit fox den were observed during protocol desert tortoise surveys in 2017 (Jacobs 2017) (Figure 3, pages 23, 35, 80-81). Desert kit fox burrows

were also observed in the Study Area during the 2016 habitat assessment (Figure 3, pages 52, 107-108, 147).

4.3.6 Nesting Birds

The MBTA and CFGC Section 3513 address the protection of migratory bird species, including species without special status. Suitable nesting habitat, including trees, shrubs, man-made structures, and the ground surface, is present in the Study Area. Numerous bird species protected by the MBTA and CFGC were observed during project surveys (Appendix D). Special-status bird species with potential to occur include burrowing owl, prairie falcon, loggerhead shrike, black-tailed gnatcatcher, Bendire's thrasher, Crissal thrasher, and LeConte's thrasher.

4.4 General Wildlife Species and Wildlife Movement

The Study Area includes suitable habitats for desert wildlife species typical of the region, including reptiles such as zebra-tailed lizard (*Callisaurus draconoides*) and common side-blotched lizard (*Uta stansburiana*), birds such as common raven (*Corvus corax)* and greater roadrunner (*Geococcyx californianus*), and mammals such as coyote (*Canis latrans*) and black-tailed jackrabbit (*Lepus californicus*). A complete list of wildlife species observed in the Study Area during the 2016 habitat assessment is included in Appendix D.

Wildlife movement corridors are linear landscape linkages that connect fragmented patches of suitable habitat. These connections provide safe passage through urban or agricultural landscapes and are essential for population persistence, promoting gene flow between populations, and maintaining high biological diversity. Corridors can be used for movement associated with dispersal, seasonal migration, foraging, finding a mate, or escaping catastrophic events. Types of wildlife corridors include those that exist naturally, such as riparian linkages, mountain ranges, and valleys, and those that are constructed, such as highway overpasses or underpasses. Depending on the landscape features, wildlife corridors can accommodate terrestrial or aquatic species.

In the project area, scrub vegetation communities provide direct connectivity to other larger stretches of similar habitat. These provide potential local migration corridors for birds, mammals, and reptiles. Near the project, mountain ranges and underpasses beneath I-10 also provide corridors for wildlife movement. The Pacific Flyway, a major north-south corridor for migratory birds, intersects the Study Area and project locations may provide foraging and/or shelter habitats for migrating birds that move through the California desert ecosystem in spring and fall. For example, migratory habitat for special-status species such as prairie falcon has been identified in the Study Area.

A network of wildlife linkages identified in the DRECP Land Use Planning Amendment (LUPA) cross the project alignment (BLM 2016). In addition, the project is in or near several designated conservation areas. The Chuckwalla DWMA and the Palen-Ford Multi-Species Wildlife Habitat Management Areas (WHMA), which encompass portions of the project, provide large areas of high-quality habitat for several special-status wildlife species and thus serve as local migration corridors. The Chuckwalla DWMA also contains USFWS-designated critical habitat for the desert tortoise and provides excellent habitat for several migratory bird species. Both the Mule-McCoy Linkage Area of Critical Environmental Concern (ACEC) and the Palen-Ford Dunes ACEC, which also encompass portions of the project, were specifically established to create and protect wildlife movement linkages to other conservation and wilderness areas (BLM 2016) (Figure 4).

The project is located adjacent to the Colorado Desert ecoregion subarea of the California Desert National Conservation Lands (CDNCL). The CDNCL were identified in the DRECP LUPA for inclusion in the National Landscape Conservation System under Public Law 111-11. This subarea provides habitat for multiple special-status plant and wildlife species and creates linkages to various conservation and wilderness areas. The eastern end of the project overlaps the Lower Colorado River Valley, an Audubon Important Bird Area and a DRECP Focus and BLM Special-Status Bird Area. This area provides important riparian bird habitat and serves as a migration corridor and crucial stopover location for many birds. Approximately 35 miles southeast of the project is the Salton Sea, which is also identified as an Audubon Important Bird Area and a DRECP Focus and BLM Special-Status Bird Area. Migratory birds are likely to pass through the project as they migrate between the Lower Colorado River Valley and the Salton Sea. However, no parts of the Study Area have been identified as crucial stopover locations that attract large numbers of migratory birds (BLM 2016).

4.5 USFWS Designated Critical Habitat

A desktop review of critical habitat boundaries indicates that USFWS-designated critical habitat for the desert tortoise coincides with the project Study Area (Figure 5). The Action Area (as defined in Section 3.2.2) includes approximately 1,336 acres of desert tortoise critical habitat in the Chuckwalla Critical Habitat Unit and the Colorado Desert Recovery Unit (USFWS 2011). Impacts to desert tortoise critical habitat are discussed in Section 5.2.7.

The PBFs for desert tortoise include sufficient space for the growth and normal behavior of individuals and populations, which can range from 100 to 200 acres, food, water, or other nutritional or physiological requirements, cover or shelter; sites for breeding, reproducing, and rearing of offspring, and habitats that are protected from disturbance or representative of the historical geographical and ecological distribution of the species (USFWS 1990). These PBFs are present in and adjacent to the Study Area, where it coincides with designated critical habitat.

4.6 Aquatic Resources

Results described in the following sections are from the ARDR (Artemis 2021b; Appendix H). Potential jurisdictional waters are shown in Figure 6 of the ARDR. Representative photographs of delineated waters are also provided in the ARDR. Table 4 presents a summary of the type, jurisdiction, and size of waters delineated in the Study Area. Additional tables of jurisdictional delineation results by jurisdiction and survey site are provided in the ARDR.

Table 4 Aquatic Resources in the Project Area

Waters Type	Amount (acres/linear feet)
Waters of the State (RWQCB/CDFW Jurisdiction)[1]	
Basin	8.44/NA
Ditch/Canal	0.30/1,660
Unvegetated Channel	8.88/42,405
Vegetated Channel	1.39/4,472
Subtotal Waters of the State (RWQCB/CDFW Jurisdiction)	*19.01/48,536*
Waters of the State (CDFW Exclusive Jurisdiction)	

Waters Type	Amount (acres/linear feet)
Basin	0.13/NA
Ditch/Canal - Channel Bank[2]	0.21/1,660
Unvegetated Channel - Channel Bank[2]	2.50/42,40511,760
Vegetated Channel - Channel Bank[2]	0.04/4,472
Watercourse[3]	17.03/NA
Subtotal Waters of the State (CDFW Exclusive Jurisdiction)	*19.91/4,472*
Grand Total RWQCB Jurisdiction	19.01/48,536
Grand Total CDFW Jurisdiction	38.92/48,536

CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board

[1] Defined by ordinary high water mark limits. Includes intrastate isolated waters. Includes stream channels within watercourse polygons.

[2] Includes individual stream channel banks within watercourse polygons.

[3] Defined as a larger channel delineated to encompass multiple smaller channels. Linear distances for watercourses are the same as the linear distances for the vegetated and unvegetated channels located within the watercourse. Does not include acreage and linear distance of individual stream channels and channel banks within watercourse polygons.

NA = Not applicable

Source: Artemis 2021b

4.6.1 Federal Aquatic Resources

Wetland Waters

No areas potentially meeting the federal wetland definition were identified in the jurisdictional survey area. No wetland plant species were observed in the densities or assemblages that would normally indicate the presence of a hydrophytic plant community. Hydrology indicators including shallow mud cracks and drainage patterns were observed in the jurisdictional survey area. However, these indicators were observed in upland areas dominated by creosote scrub or in predominantly unvegetated areas where riverine processes were observed. Thus, because the observed hydrology indicators did not co-occur with hydrophytic vegetation communities, subsurface soils investigations were not conducted, and no USACE wetland determination data forms were completed.

Non-Wetland Waters

Vegetated and unvegetated stream channels possessing an ordinary high water mark (OHWM) that may be Waters of the U.S. were delineated in the jurisdictional survey area. However, all of these features were determined to be isolated state waters that are non-navigable, are not relatively permanent, and that lack a surface water or significant nexus connection with a TNW or a tributary thereof.

4.6.2 State Aquatic Resources

Wetland Waters

For the same reasons described in Section 4.6.1 above, no wetland Waters of the State were delineated.

Non-Wetland Waters

All features delineated as ditch/canal, basin, vegetated channel, unvegetated channel, channel bank, and watercourse are non-tributary, ephemeral features classified as intrastate isolated Waters of the State subject to both RWQCB and CDFW jurisdiction. The banks of these features are subject to CDFW-exclusive jurisdiction, as are watercourses consisting of floodplains and alluvial terraces.

Isolated Waters

After reviewing aerial imagery, WBD data, and 7.5-minute USGS quadrangle maps and applying the guidance detailed in the ARDR, it is concluded that intrastate isolated waters were delineated in the jurisdictional survey areas located in the Southern Mojave HUC 18100100 and Imperial Reservoir Watershed HUC 15030104 watersheds. Stream channels delineated as isolated are non-navigable waters that are not relatively permanent and lack a surface water or significant nexus connection with a TNW or a tributary thereof.

Isolated Waters in the Southern Mojave Watershed

Survey sites 1 through 316 (see ARDR [Appendix H] for a summary table of survey sites) are in the Southern Mojave HUC 18100100 watershed, which does not have a TNW within its boundaries and does not have an outlet. Rather, the watershed is composed of smaller sub-basins that transport waters to intrastate dry lake beds. The Chuckwalla Valley, which originates at Chiriaco Summit and slopes east toward Blythe (the eastern terminus of the project Study Area), contains three large dry lake beds: Hayfield Lake, Palen Lake, and Ford Dry Lake. All of the delineated features (streams) in the jurisdictional survey area and in the Southern Mojave watershed drain to or toward either Palen Lake or Ford Dry Lake. These streams are intrastate isolated waters because Palen Dry Lake and Ford Dry Lake are not TNWs nor are they tributaries to TNWs.[2] Furthermore, several of these streams are part of the freeway levee system, some of which have been hydrologically disconnected from their upstream water sources.

Isolated Waters in the Imperial Reservoir Watershed

Survey sites 317 through 388 are in the Imperial Reservoir HUC 15030104 watershed. Survey sites 319-321, 323-326, 328, 331-334, 336, 339, and 341 contain delineated streams that possess OHWMs.

Except for the stream channel in survey sites 319-321, 323-326, and 328, which abates into uplands, Palowalla Ditch is the receiving water body for all of the delineated stream channels in the Imperial Reservoir watershed. From the site of its last confluence with a delineated stream channel, Palowalla Ditch flows to the southeast for about 1.5 miles before abating into sandy uplands in the Palo Verde Mesa. There are no surface channels, streams, ditches, or washes present that could covey flows from the area of abatement to the nearest water body with a hydrologic connection to the Colorado River or Rannells Drain, which is located about 3.25 miles to the southeast of the upland terminus of Palowalla Ditch. Therefore, neither Palowalla Ditch nor any of the delineated stream channels located at survey sites in the Imperial Reservoir watershed have a hydrological connection with any TNW, and none of these features are considered Waters of the U.S.

[2] On December 15, 2015, the USACE determined that Palen Dry Lake and Ford Dry Lake do not form a connection with the Colorado River or any other TNW (see approved jurisdictional determination for USACE File No. SPL-2015-00572-TWJ available at: http://corpsmapu.usace.army.mil/cm_apex/f?p=340:11:0::NO). USACE determinations are generally valid for 5 years. Although this determination may no longer be valid, the conclusions remain the same that these dry lakes do not form any connection with a TNW.

5 Impact Analysis

This section includes analysis of the potential impacts to special-status species and other sensitive biological resources that may result from project implementation. The analysis is both qualitative and quantitative, based on data derived from the studies conducted for the project and the project design (work areas, access roads, etc.) current to the date of this BRTR. This section also identifies the relevant APMs intended to avoid or minimize the potential impacts to special-status species and other sensitive biological resources.

5.1 Impact Types

Impacts are defined as project-related activities that destroy, damage, alter, or otherwise affect biological resources. This may include injury or mortality to plant or animal species, alteration of an animal's behavior (such as through harassment or frightening of an animal by construction noise), as well as the loss, modification, or disturbance of natural resources or habitats. Impacts are defined as either direct or indirect, and either permanent or temporary.

5.1.1 Direct Impacts

Direct impacts are generally those that occur during project implementation and at the same time and location as the cause of the impact. Direct impacts for this project may include injury, death, and/or harassment of special-status wildlife species, if present in the work areas or vicinity during project implementation. Direct impacts may also include the destruction of vegetation communities required by special-status species for breeding, foraging, or shelter. Direct impacts to plant species can include crushing of plants, bulbs, or seeds where present in the impact areas.

5.1.2 Indirect Impacts

Indirect, or secondary impacts are those that are reasonably foreseeable and caused by a project but occur later in time and/or potentially at locations of some distance from the source of the impact. If a direct physical change in the environment in turn leads to another change in the environment, then the second change is an indirect impact. Specific examples for this project may include soil compaction that, following completion of the project, prevents wildlife from digging burrows or allows weedy plant species to thrive. Other examples may include dust that drifts outside of project disturbance areas and covers native plants, thereby decreasing their photosynthetic capacity, and the unintentional introduction of weedy plant species that over time negatively affect the local ecology.

5.1.3 Permanent Impacts

Impacts that result in the long-term or irreversible loss of biological resources are considered permanent. For example, construction of a new electrical substation, which would result in a large developed and fenced property where native vegetation may be removed would be a permanent impact.

5.1.4 Temporary Impacts

Temporary impacts to biological resources are those that are reversible over time, with or without implementation of APMs. Examples include the generation of noise and fugitive dust during project implementation, trimming or crushing vegetation that will regrow following project completion, and removal of vegetation that will be actively restored.

In desert ecosystems, especially during periods of drought, it can take many years for the vegetation to return to preconstruction conditions. In some cases, temporary impacts may be considered long-term or permanent. It is important to note, however, that the nature of transmission lines is such that they result in a relatively small permanent (i.e., developed) footprint. The areas of native vegetation between structures remain undisturbed and the temporary work areas, which are typically very small relative to the abundance of are in the vicinity of the project, do recover over time. The project has been designed to minimize impacts to native vegetation to the extent feasible, and drive and crush methods will be employed to the extent feasible. Upon completion of construction, SCE will restore temporarily disturbed areas following the methods in the project HRRP, which will include success criteria subject to review and approval by the appropriate agencies. Therefore, for the purpose of discussion in this BRTR, impacts to native vegetation associated with temporary disturbance areas are considered temporary.

5.2 Project Impacts

The project has been designed to minimize impacts to sensitive biological resources to the extent feasible. The project involves the upgrade of existing facilities within an existing ROW—the infrastructure (e.g., poles, access roads) are in place, part of the baseline conditions. Currently, the EM-B line consists of 392 structures. This includes 339 structures that will not be removed or replaced as part of this project. The project involves removal of 53 structures and their replacement with 44 structures, resulting in a total of 383 structures on the EM-B line after completion of the project (a reduction of nine overall). For nine of the structures that are permanently removed, the existing disturbance areas (e.g., stub roads and cleared areas) would be restored and no longer used as disturbance areas upon completion of construction.

The dimensions of the pole footprints for the replacement structures are slightly larger than those of the original structures, with each pole footprint accounting for an average of approximately 0.00067 acre (29 square feet) of permanent impacts. Based on these assumptions, the net increase in project footprint is approximately 0.06 acre in total, negligible relative to the abundance of habitat in the project vicinity. No net increase in project footprint would occur in sensitive vegetation communities and an increase of only 0.007 acre would occur in desert tortoise critical habitat. Furthermore, when accounting for restoration of existing stub roads that will no longer be needed after construction is concluded, it is anticipated that there will be an overall slight decrease in project footprint relative to the baseline. While there may be permanent impacts to individual biological resources (e.g., special-status plants or wildlife), relative to baseline, no net addition of permanent disturbance of native vegetation providing habitat for these species is anticipated.

To the extent feasible, temporary work areas have been positioned in areas of existing disturbance (e.g., access roads, staging areas) to minimize impacts to native vegetation. Following mapping of sensitive vegetation communities and resources, such as jurisdictional waters, the boundaries of some work areas were modified to avoid the sensitive resources to the extent feasible. Generally, the work areas represent the smallest area possible to safely perform the work. However, in some

sites workers will have the flexibility to further reduce the work areas and/or to position equipment to avoid sensitive resources (e.g., tortoise burrows). In addition, drive and crush methods will be used to the extent feasible to minimize the severity of impacts to native vegetation, which will shorten temporal impacts to native vegetation and habitats for sensitive species.

Nevertheless, the project has the potential to result in direct and indirect impacts to sensitive biological resources. The following sections present a detailed impact analysis and APMs intended to minimize the significance of the impacts. Providing habitat for these species is anticipated.

The following sections describe direct and indirect temporary impacts to plants, wildlife, and habitats in the project area. These impacts may also apply to the special-status species that have potential to occur in the project area, as described in Section 5.2.6.

5.2.1 Impacts to Vegetation Communities and Native Plants

Twelve natural vegetation communities were mapped in project disturbance areas. Of these communities that may be impacted by the project, four are considered sensitive as part of the CEQA environmental review process: Alkali Weed – Saltgrass Playas and Sinks (i.e., playas), Desert-Willow – Smoketree Wash Woodland, Mesquite Thicket, and Mojave – Sonoran Desert Dunes. Table 5 provides the acreages of project impacts for each type of land cover, which includes the vegetation communities as well as developed and disturbed areas.

Table 5 Temporary Project Impacts to Vegetation Communities

		Impacted Area (acres)			
Type of Land Cover	**Status**	**Structure Work Areas**	**Guard Structure Sites**	**Wire Setup Sites**	**Total**
Sensitive Vegetation Communities					
Alkali Weed – Saltgrass Playas and Sinks	G2/S2	0.00	--	0.64	**0.64**
Big Galleta Shrub-Steppe	G3/S2	--	--	--	**--**
Desert-willow – Smoketree Wash Woodland	G4/S3	0.25	--	--	**0.25**
Mesquite Thicket	G5/S3	0.00	0.02	--	**0.02**
Mojave – Sonoran Desert Dunes	G3/S2	0.00	0.00	0.2	**0.02**
Total Sensitive Vegetation Communities		**0.25**	**0.02**	**0.84**	**1.29**
Non-Sensitive Vegetation Communities					
Allscale Scrub	G4/S4	0.00	--	--	**0.00**
Blue Palo Verde – Ironwood Woodland	G4/S4	5.69	0.12	1.37	**7.18**
Cheesebush – Sweetbush Scrub	G4/S4	0.00	--	--	**0.00**
Creosote Bush Scrub	G5/S5	1.33	0.55	4.43	**5.73**
Creosote Bush – White Bursage Scrub	G5/S5	2.61	0.27	2.85	**6.31**
Red Brome or Mediterranean Grass Grasslands	GNA/SNA	--	--	--	**--**
Rigid Spineflower – Hairy Desert Sunflower	G4/S4	0.02	--	0.82	**0.84**
Tamarisk Thickets	GNA/SNA	0.07	--	--	**0.07**
Tournefort's Mustard and Other Ruderal Desert Forb Patches	GNR/SNR	0.00	--	--	**0.00**

Type of Land Cover	Status	Impacted Area (acres)			
		Structure Work Areas	Guard Structure Sites	Wire Setup Sites	Total
White Bursage Scrub	G5/S5	--	--	--	**--**
Total Non-Sensitive Vegetation Communities		**9.72**	**0.98**	**9.47**	**19.29**
Total Vegetation Communities Overall					
Developed/Disturbed Areas					
Active Agriculture	None	0.42	0.06	0.58	**1.06**
Developed	None	0.86	0.67	0.45	**1.98**
Disturbed	None	2.55	0.95	4.05	**7.55**
Open Water	None	--	--	--	**--**
Developed/Disturbed Areas Total		**3.83**	**1.68**	**5.08**	**10.59**
Total Project Impact Acreage		***13.55***	***2.66***	***14.55***	***30.76***

Note: dashes indicate no impacts

Direct Impacts

In addition to the negligible amount of permanent loss of habitat due to installation of replacement structures poles, potential direct impacts would include the crushing of vegetation and compaction of soil in temporary disturbance areas. These impacts would result primarily from the use of construction vehicles and equipment in work areas associated with structure replacement, wire setup, and guard pole installation, overland travel (i.e., drive and crush), and from excavation where direct replacement is not feasible. Soil compaction may prevent seeds from germinating or becoming established should they occur in disturbance areas. Implementation of the project is expected to result in approximately 30.76 acres of temporary direct impacts. However, impacts to only 20.58 acres would occur in native vegetation communities.

Indirect Impacts

Indirect impacts could result from project activities, and may include reduced seed germination, revegetation rates, and plant vigor. Grading and the use of construction equipment and vehicles may generate fugitive dust and lead to erosion and sedimentation, which may indirectly impact vegetation communities, as well as individual native plants, by degrading soil and reducing the photosynthetic capabilities of vegetation. If project activities result in the introduction or spread of invasive plant species, they may indirectly impact vegetation communities and native plants through competition for resources or alteration of natural fire regimes or other processes. Invasive, non-native plants are opportunistic and often occupy disturbed soils (e.g., within transmission line corridors, areas of exposed bare ground), that may occur in project disturbance areas. Once introduced, invasive plant species often lead to a reduction in growth, dispersal, and recruitment of native species and the eventual degradation of the vegetation community.

Other indirect effects to plants may include microclimate changes due to removal or modification of adjacent vegetation such as local increases in temperature, incident sunlight, and surface wind speeds. These can increase the incidence of heat shock and drought stress for plants, reduce growth rates and reproductive success, and increase mortality associated with heat and drought. Changes in vegetative cover or plant vigor may also affect pollinator abundance and reproduction. In addition,

some construction activities have the potential to result in wildfires, which may damage or destroy entire vegetation communities. Hazardous materials may contaminate soil and hinder native plant germination and growth.

Avoidance, Minimization, and Mitigation Measures

Disturbance areas have been designed to include the smallest possible area that allows for safe construction. Upon initiation of construction, "microsite" modifications may be made to avoid sensitive vegetation. In all temporarily disturbed areas, trucks and equipment would drive over and crush existing vegetation without removing it to the extent feasible. Leaving vegetation in place and keeping intact the roots of woody plants would aid in the regeneration of vegetation, reducing overall impacts. Where possible, the new structures will be erected via direct replacement. Impacts from cutting, clearing, or removal of existing vegetation would occur only where necessary. In addition, boom trucks staged on access roads may be substituted for guard poles. Temporary disturbance areas will be revegetated upon completion of construction activities as described in the HRRP (see Section 5.3). Implementing the following APMs would avoid and minimize direct and indirect impacts to native vegetation communities and individual native plants. Please see Section 1.4.1 for complete descriptions of the APMs that are listed below and in subsequent sections.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-11** Sensitive Vegetation Communities Protective Measures and Compensatory Mitigation
- **APM BIO-12** Special-Status Herbaceous Plants
- **APM BIO-13** Jurisdictional Waters, Wetlands, and Riparian Habitats
- **APM BIO-14** Disturbance Area
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust
- **APM HAZ-1** Hazardous Materials Management Plan

5.2.2 Impacts to Wildlife and Wildlife Habitat

Direct Impacts

Death and Injury

Wildlife could be killed or injured during construction activities. The risk would be greatest for small mammals, reptiles, amphibians, young animals, and other less mobile species and individuals. The most likely cause of death or injury would be the use of construction vehicles during pole replacement. Burrowing animals may be harmed through the crushing of burrows, the loss of refugia, and direct mortality during construction activities. Increased vehicle traffic along access roads during construction could also result in an increase in accidental road kills. Diurnally active reptiles and mammals are the most vulnerable to mortality from vehicle strikes. Other potential

causes of wildlife death or injury include entrapment in excavations, supplies, and equipment, drowning in stored water, and consumption of construction microtrash. Liquids used by equipment and vehicles (e.g., hydraulic fluid, antifreeze, oil, fuel) that are spilled, even in small quantities, may result in illness or death if ingested by wildlife. Predators and scavengers may then consume the contaminated wildlife and also become poisoned.

Direct losses of animals may occur as a result of disturbance (e.g., where flushing of adults from nests or the abandonment of nests results in loss of eggs or nestlings due to predation or exposure). Increased abandonment of nests, resulting in nestling mortality, may occur in and adjacent to project work areas. In addition, powerlines pose threats of collision or electrocution for birds, which may result in death or injury.

Wildlife “subsidies” such as food trash or water could attract wildlife to the project area where they may be at increased risk of vehicle strike or other injury or mortality. In addition, wildlife subsidies may attract predators such as ravens, coyotes, or feral dogs to the project area where they may prey on other species, including special-status species. Pet animals, particularly dogs, may harass or injure wildlife in the project vicinity or introduce illnesses such as canine distemper into native wildlife populations.

Disturbance and Displacement

Disturbance and loss of wildlife habitat could result in the displacement and potential mortality of both common and special-status wildlife that are poor dispersers, such as snakes, lizards, and small mammals. Effects of disturbance on wildlife have been well-documented, with most species exhibiting a "flight" response. More mobile species such as birds and larger mammals would be expected to avoid the disturbance by moving into adjacent areas during construction. However, they would be at increased risk of predation when they flush from cover during site clearing. After leaving their home territories, displaced animals may be unable to find suitable food or cover in new, unfamiliar areas. They may find themselves in the occupied territory of another individual of the same or similar species, leading to competition for resources. Displacement may be temporary or become permanent if the disturbance is long-lasting.

The flight response can also negatively affect animal health by requiring increased energy expenditures. In some cases, an animal’s stress in response to disturbance and displacement may consume more energy than can be replaced, causing the animal to deplete its stored energy reserves. Continuous stress may eventually result in illness, death, or failure to reproduce, particularly when combined with other factors such as severe weather. In such cases, populations would be expected to decline. When disturbance occurs over a large region for many years, some animal populations may be unable to persist in the area (Knight and Gutzwiller 1995).

Birds are especially sensitive to noise disturbance. The ability to differentiate vocalizations of the same and different species from background noise is important for pair bonding, breeding displays, territorial defense, flock communication, etc. Potential impacts from noise and other forms of disturbance include alteration of habitat use (avoidance or abandonment of an area, either temporarily or permanently), interruption of reproductive activities (courtship, mating, prenatal care, nesting, etc.), and increased predation (especially of abandoned nests) (Knight and Gutzwiller 1995). At some point, disturbance may cause birds to avoid or abandon the areas where they have been foraging and nesting, which may affect occupancy and reproductive success.

Noise, vibration, dust, visual disturbance from increased human activity, and exhaust emissions from vehicles and equipment during construction could cause wildlife to avoid habitats adjacent to

the construction sites. Wildlife that remain in these areas may be impacted by disturbance through altered movement patterns or reduced foraging or breeding success.

Disruption of Breeding

Wildlife species are most vulnerable to construction-related disturbance during their breeding seasons. Disturbance from construction could result in abandonment of nests, roosts, or territories and subsequent reproductive failure if it occurs during an affected species' breeding season. Disturbance prior to breeding season may disrupt courtship behaviors resulting in failure to reproduce or causing animals to move to adjacent areas where they must compete with other individuals for resources. Disturbance after breeding has started may result in loss of the season's reproduction if the animals abandon existing offspring.

Barriers to Wildlife Movement

The project alignment spans 53 miles and overlaps several ACECs, which are special management areas that contain native habitats and function as movement corridors for desert wildlife species. Such movement is typically associated with daily activities involving reproduction, foraging, and seeking shelter. Construction activities could cause localized, short-term impediments to movement through the Study Area by resident or migratory wildlife due to increased noise, lighting, dust, and human activity in construction areas. During construction, certain species may temporarily avoid active disturbance areas, but these areas are small relative to open space in the surrounding area to support wildlife movement. Because the project involves the replacement of existing transmission towers and structures, no permanent alterations of existing wildlife corridors are anticipated as a result of project implementation.

Indirect Impacts

Wildlife species would be subject to indirect impacts similar to those discussed above for native plants. Fugitive dust, erosion and sedimentation, fire, hazardous materials, and invasive non-native plants have potential to degrade habitats used by wildlife for foraging, breeding, or movement. The creation of long-term obstacles to movement or the fragmentation of habitat can result in isolation of populations, making them more susceptible to localized extirpation due to stochastic events or diminished resource availability. However, as stated above, the project is not expected to result in long-term impacts to wildlife movement.

Avoidance, Minimization, and Mitigation Measures

Measures intended to minimize impacts to vegetation communities and native plants (Section 5.2.3) would also apply to disturbance and displacement of wildlife, wildlife corridors, and wildlife breeding. To further minimize the risk of disturbance, injury, or death to wildlife, construction personnel would be trained on all measures designed to protect wildlife species, including speed limits and vehicle inspections. Pre-construction surveys, clearance sweeps, and biological monitoring would be conducted to identify wildlife that may be in harm's way. To limit powerline collisions, the proposed distribution line will follow Avian Power Line Interaction Committee recommendations (APLIC 2006) to reduce those risks. Specifically, the hardware configurations to be used on new poles will be constructed in accordance with the applicable specifications and guidelines in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006), which were developed to protect birds from collision and electrocution associated with powerlines.

Direct and indirect impacts to wildlife and wildlife habitat would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-3** Nesting Bird Management Plan
- **APM BIO-4** Burrowing Owl
- **APM BIO-5** Desert Tortoise
- **APM BIO-6** Mojave Fringe-Toed Lizard
- **APM BIO-7** Desert Kit Fox and Other Special-Status Mammal Species
- **APM BIO-8** Bats, Common and Sensitive Species
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-13** Jurisdictional Waters, Wetlands, and Riparian Habitats
- **APM BIO-14** Disturbance Area
- **APM BIO-15** Wildlife Pitfalls and Entrapment
- **APM BIO-16** Standing Water
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust
- **APM HAZ-1** Hazardous Materials Management Plan

5.2.3 Impacts to Nesting Birds

Nesting birds protected by the MBTA and CFGC may place nests on trees, shrubs, transmission poles, man-made structures, and the ground surface, substrates that can be found throughout the Study Area. Several species of birds have been identified in the Study Area during various project surveys (Appendix D).

Direct Impacts

Vegetation clearing could directly impact nesting birds by crushing active nests and destroying eggs or chicks, as well as by reducing suitable foraging and nesting habitat. Increased noise and human presence could result in nest abandonment. Vehicle strikes resulting in injury or mortality could also increase with additional vehicles and equipment being operated in the area. Fatal collisions with powerlines may also reduce nesting bird populations. Pets brought to work areas may disturb or kill nesting birds and destroy nests.

Indirect Impacts

Indirect impacts are likely to result from fugitive dust generated by road grading, which can accumulate on surrounding vegetation and degrade the quality of nesting and foraging habitats for

birds. Vegetation trimming may temporarily reduce the quantity and quality of habitat by decreasing vegetative cover. Erosion and sedimentation, fire, hazardous materials, and invasive non-native plants can also indirectly impact nesting and foraging habitats. Although several special-status bird species were considered for their potential to occur in the Study Area (see Appendix J), some were determined to be unlikely to nest there because only migration or foraging habitats are present. Many common bird species may also forage or migrate in the Study Area. Impacts to migration or foraging habitats during construction activities may have an indirect effect on birds that rely on these habitats but nest elsewhere.

Avoidance, Minimization, and Mitigation Measures

Measures intended to minimize impacts to vegetation communities (Section 5.2.3) and limit the death and injury of wildlife (Section 5.2.4) would also apply to nesting birds. Direct and indirect impacts to nesting birds would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-3** Nesting Bird Management Plan
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-13** Jurisdictional Waters, Wetlands, and Riparian Habitats
- **APM BIO-14** Disturbance Area
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust

5.2.4 Impacts to Special-Status Plant Species

Implementing the project could directly or indirectly impact 10 non-listed special-status plant species that occur or have potential to occur in or adjacent to the disturbance areas. Ten non-listed special-status plant species are known to occur in the study area: Watson's amaranth, Harwood's milkvetch, gravel milkvetch, Emory's crucifixion thorn, foxtail cactus, ribbed cryptantha, California ditaxis, Abram's spurge, roughstalk witch grass, and desert unicorn plant. As currently designed, the Project may result in direct impacts to Abram's spurge, Alverson's foxtail cactus, desert unicorn plant, Harwood's milkvetch, and ribbed cryptantha. As currently designed, project implementation may result in direct impacts to all special-status plant species known to occur in the Study Area with the exception of Emory's crucifixion thorn.

Direct Impacts

If special-status plants are present in disturbance areas in a live, vegetative state when construction activities occur, and if avoidance is not feasible, they may be subject to direct impacts. These direct impacts may include crushing, trampling, and burying of plants by vehicles and construction equipment and personnel.

A preliminary impact analysis was conducted to quantify direct impacts to any special-status plant species known to occur in the Study Area. Each individual plant or group of individuals documented as a point or polygon during project surveys (Section 3) was buffered by 25 feet to create a polygon representing occupied habitat, based on the assumption that the soils surrounding plants contain a viable seed bank. Occupied habitat polygons that overlapped were dissolved into a single polygon. A GIS analysis was conducted to determine the distances between the occupied habitat polygons. Polygons of a given species separated from each other by no more than 0.25 mile were grouped together and considered a "local occurrence" of that species. The occupied habitat polygons were then intersected with the disturbance areas to determine which local occurrences may be impacted during construction. The space between occupied habitat polygons within a local occurrence was considered to be unoccupied and therefore was excluded from the impact analysis.

Through the methods described above, five occupied habitat polygons of Watson's amaranth comprising one local occurrence; 66 occupied habitat polygon and seven local occurrence of Harwood's milkvetch; six occupied habitat polygons of Emory's crucifixion thorn comprising one local occurrence; 57 occupied habitat polygons of Alverson's foxtail cactus comprising one local occurrence; eight occupied habitat polygons of California ditaxis comprising two local occurrences; 39 occupied habitat polygon of Abram's spurge comprising two local occurrences; 27 occupied habitat polygons of ribbed cryptantha comprising four local occurrences; 20 occupied habitat polygons of roughstalk witch grass comprising two local occurrences; 3 occupied habitat polygons of gravel milkvetch comprising three local occurrences, and 118 occupied habitat polygons of desert unicorn plant comprising 10 local occurrences.

Based on the current Project design, impacts are anticipated to one local occurrence of Harwood's milkvetch, one local occurrence of Alverson's foxtail cactus, one local occurrence of Abram's spurge, three local occurrences of ribbed cryptantha, one local occurrence of Gravel milkvetch, and three local occurrences of desert unicorn plant (Table 6).

Table 6 Potentially Impacted Special-Status Plant Species

Species[1]	Local Occurrence Unique Identifier	Occupied Habitat Unique Identifier	Work Area[2]
Astragalus insularis Harwood's milkvetch CRPR 2B.2	ASTINS-07	ASTINS-064	Guard Site
		ASTINS-065	Guard Site
Coryphantha alversonii Alverson's foxtail cactus CRPR 4.3	CORALV-01	CORALV-002	SWA:1604705E
		CORALV-003	O_M:7029492, SWA:1604706E
		CORALV-005	O_M:7029492, SWA:1604706E
		CORALV-007	SWA:1604707E
		CORALV-010	SWA:1604708E
		CORALV-011	SWA:1604708E
		CORALV-012	O_M:7029493, SWA:1604708E
		CORALV-015	O_M:7029494, SWA:1604710E
		CORALV-016	O_M:7029494, SWA:1604710E
		CORALV-017	O_M:7029494, SWA:1604710E

Species[1]	Local Occurrence Unique Identifier	Occupied Habitat Unique Identifier	Work Area[2]
		CORALV-019	SWA:1604710E
		CORALV-027	O_M:7029495, SWA:1604711E
		CORALV-028	SWA:1604713E
		CORALV-030	SWA:1604713E
		CORALV-032	O_M:7029497, SWA:1604715E
		CORALV-035	SWA:1604716E
		CORALV-036	O_M:7029498, SWA:1604716E
		CORALV-038	SWA:1604717E
		CORALV-039	O_M:7029499, SWA:1604719E
		CORALV-040	SWA:1604720E
		CORALV-042	O_M:7029500, SWA:1604720E
		CORALV-044	SWA:1604721E
		CORALV-047	SWA:1604723E
		CORALV-052	O_M:7029502, SWA:1604724E
		CORALV-055	SWA:1604725E
Euphorbia abramsiana Abram's spurge CRPR 2B.2	EUPABR-01	EUPABR-025	Wire Setup
Johnstonella costata Ribbed cryptantha CRPR 4.3	JOHCOS-01	JOHCOS-001	Wire Setup
	JOHCOS-02	JOHCOS-023	Guard Site
		JOHCOS-024	Guard Site
		JOHCOS-025	Guard Site
		JOHCOS-026	Guard Site
	JOHCOS-03	JOHCOS-009	Wire Setup
Astragalus sabulonum Gravel milkvetch CRPR 2B.2	ASTSAB-02	ASTSAB-008	SWA:N4587725E_C4587724E_S4587723E
		ASTSAB-010	SWA:N4587725E_C4587724E_S4587723E
Proboscidea althaeifolia Desert unicorn plant CRPR 4.3	PROALT-06	PROALT-055	Guard Site
		PROALT-057	Guard Site
		PROALT-060	Wire Setup
		PROALT-062	Wire Setup
		PROALT-063	Wire Setup
		PROALT-068	Wire Setup
	PROALT-07	PROALT-085	SWA:124684AE_124684BE
	PROALT-09	PROALT-095	SWA:E4169110E_W4169109E
		PROALT-102	Wire Setup

[1] Federally listed, state-listed, and California Rare Plant Ranks (CRPR) 1, 2, 3 and 4 species documented in project disturbance areas

[2] SWA = Structure work area; ESWA = Existing structure work area; WS = Wire stringing site; GS = Guard site

Indirect Impacts

Indirect impacts may occur to special-status plant species in the Study Area. Potential indirect impacts to special-status plant species may occur from fugitive dust which can adversely affect plants by reducing the rates of metabolic processes such as photosynthesis and respiration. Additional indirect impacts to special-status plant species may occur from soil compaction that permits water to pond for longer periods of time, enabling weedy invasive plant species to become established or spread. Weedy plant species, which are opportunistic and often occupy disturbed soils such as those along the ROW access roads and spur roads, may compete with native species for limited resources. special-status species. This competition can adversely affect special-status plant species by reducing their growth, dispersal, and recruitment.

Avoidance, Minimization, and Mitigation Measures

Direct and indirect impacts to special-status plant species are similar to those for vegetation communities and native plants (see Section 5.2.3). To limit these impacts, disturbance areas have been designed to include the smallest area possible to allow for safe construction. Pre-construction surveys would be conducted to identify special-status plants present in disturbance areas and flag them for avoidance. At the start of construction, “microsite” modifications will be made to as necessary and feasible to avoid special-status plant species. In all temporary disturbance areas, trucks and equipment will drive over and crush existing vegetation without removing it to the extent feasible. Direct and indirect impacts to special-status plants would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-9** Implement Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-11** Sensitive Vegetation Communities Protective Measures and Compensatory Mitigation
- **APM BIO-12** Special-Status Herbaceous Plants
- **APM BIO-13** Jurisdictional Waters, Wetlands, and Riparian Habitats
- **APM BIO-14** Disturbance Area
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust
- **APM HAZ-1** Hazardous Materials Management Plan

5.2.5 Impacts to Special-Status Wildlife Species

Project implementation could result in significant impacts to one federally listed wildlife species (desert tortoise) and 13 non-listed special-status wildlife species. The 2016 habitat assessment identified and mapped suitable habitat for several special-status wildlife species to evaluate the potential for special-status species to occur in the Study Area. It was not intended to provide a basis

for quantifying impacts to species because it did not cover all portions of the Study Area or address all special-status wildlife species with potential to occur. The following species-specific impacts sections focus instead the types of impacts that may result from project implementation and the appropriate APMs that will be employed to minimize these impacts.

Desert Tortoise and Desert Tortoise Critical Habitat

Direct Impacts

Nearly all project impacts to desert tortoise habitat would be temporary in nature; permanent impacts are considered negligible as described in Section 5.2.1. Project activities are expected to result in approximately 16.73 acres of impacts to suitable desert tortoise habitat, of which 9.44 acres are in designated critical habitat (Table 7). Individual desert tortoises would be at risk of being injured or killed if struck by vehicles and equipment used during project implementation. Desert tortoise burrows may be damaged or collapsed by project vehicles, equipment, or personnel. Improper disposal of trash associated with the project could attract predators of the desert tortoise, such as common ravens and domestic and feral dogs. Direct impacts to desert tortoise may result from the removal of annual vegetation on which tortoises forage and mature shrubs they use for shade and predator evasion. Desert tortoises would also be subject to many of the other potential direct impacts described for wildlife generally in Section 5.2.4 above.

Table 7 Estimated Maximum Temporary Impacts to Critical and Suitable Desert Tortoise Habitat

Habitat Type	Impacts (acres) by Project Feature Type[1]				
	Structure Work Areas	Guard Structure Sites	Wire Setup Sites	Staging Areas	Total[2]
Critical Habitat	0.00	0.40	4.02	5.02	9.44
Suitable Habitat[1]	1.21	0.48	5.61	0.00	7.29
Total	1.21	0.88	9.63	5.02	**16.73**

[1] Suitable habitat refers to habitat suitable for desert tortoise outside of USFWS-designated critical habitat. Approximately 28.21 acres of developed, disturbed, and/or active agricultural land, which do not include the physical and biological features essential to the recovery of the species, are not included among the suitable habitat or critical habitat impacts.

Indirect Impacts

Indirect impacts to desert tortoise suitable and critical habitat may result from the introduction and spread of invasive and non-native plants, which can reduce available foraging resources for desert tortoise by outcompeting native plants and by fueling wildfires. The presence of humans and human-caused food and water subsidies during project implementation may temporarily increase the presence of common ravens, which may prey on juvenile desert tortoises. Additional indirect impacts similar to those described in Section 5.2.4 may occur.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

The project could result in impacts to desert tortoise and desert tortoise critical habitat. Direct and indirect impacts to the species and its habitat would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-5** Desert Tortoise
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-14** Disturbance Area
- **APM BIO-15** Wildlife Pitfalls and Entrapment
- **APM BIO-16** Standing Water
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust
- **APM HAZ-1** Hazardous Materials Management Plan

In addition, the project will implement the adopted conservation measures for protection of desert tortoise contained in the USFWS-issued Biological Opinion (BO) for Activities in the California Desert Conservation Area (USFWS 2017), as approved under the guidance of the DRECP LUPA (BLM 2016). The BO includes sections describing transmission/utility work occurring in the DRECP area. These

measures will be implemented during project construction and restoration. Since they have been approved by the USFWS for impacts to desert tortoise habitat in the DRECP area, the measures are expected to sufficiently protect the desert tortoise and its critical habitat in the project area.

Similar to the BO, the project will also implement the measures issued by the CDFW in the state issued Incidental Take Permit (ITP) that provides coverage under CESA for impacts to state listed and candidate species.

The measures in the BO and ITP include environmental training, reduced speed limits, monitoring by qualified tortoise biologists, limiting the size and extent of the disturbance area, fencing open trenches, and flagging all potentially active burrows for avoidance.

Couch's Spadefoot

One non-listed special-status amphibian species, Couch's spadefoot, has potential to occur in the Study Area. Suitable habitat for Couch's spadefoot was not identified in disturbance areas during the 2016 habitat assessment but may be present in the larger Study Area. Couch's spadefoot individuals may cross access roads or move through disturbance areas that are located in the vicinity of suitable habitat.

Direct Impacts

Direct impacts to Couch's spadefoot individuals may include being crushed by project vehicles and equipment, buried by displaced soil, or trapped in excavations. Because no suitable habitat for Couch's spadefoot has been identified in project disturbance areas, most direct impacts to this species are note anticipated. However, Couch's spadefoot can be crushed by vehicles traveling on access roads in the larger Study Area, especially if workers deviate from approved routes.

Indirect Impacts

Nearby suitable habitat may be indirectly impacted by runoff of sediment and hazardous materials from disturbance areas and by the spread or introduction of invasive plants.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Although suitable habitat is not expected in project disturbance areas, impacts to this species may still occur. Direct and indirect impacts to Couch's spadefoot would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-14** Disturbance Area
- **APM BIO-15** Wildlife Pitfalls and Entrapment
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel

- **APM AIR-2** Fugitive Dust
- **APM HAZ-1** Hazardous Materials Management Plan

Mojave Fringe-Toed Lizard

Mojave fringe-toed lizard is a non-listed special-status reptile species with potential to occur in the Study Area. Suitable sandy dune habitat may be present in the Study Area and in project disturbance areas.

Direct Impacts

Direct impacts could include injury or death as a result of individuals being crushed or buried by project vehicles, equipment, or displaced soil, entrapment in excavations, disturbance from construction-related noise and vibration, impacts to vegetation used for food and shelter, and disturbance of ant colonies that Mojave fringe-toed lizards also rely on for food.

Indirect Impacts

Indirect impacts may result from an increase in invasive plants that could outcompete native plants and thereby reduce foraging habitat for Mojave fringe-toed lizard. Erosion and sedimentation, fire, and hazardous materials may also indirectly impact this species by decreasing the quality of foraging habitat. Additionally, if soil compaction occurs it could reduce the ability of lizards to burrow.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Direct and indirect impacts to Mojave fringe-toed lizard would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-6** Mojave Fringe-Toed Lizard
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-14** Limit Disturbance Area
- **APM BIO-15** Avoid Wildlife Pitfalls and Entrapment
- **APM BIO-16** Minimize Standing Water
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust

Burrowing Owl

Burrowing owl, a non-listed special-status bird species, is known to occur in the Study Area (Jacobs 2017). Suitable habitat is present in project disturbance areas.

Direct Impacts

Direct impacts to burrowing owl could result from destruction of occupied burrows and/or active nest sites, loss or degradation of foraging habitat, collisions with project vehicles or equipment, and disturbance from construction noise and activity that may cause owls to flush from active nest sites or preferred foraging grounds.

Indirect Impacts

The introduction or spread of invasive or non-native plants could indirectly impact burrowing owl by decreasing habitat value. Soil compaction as a result of construction activities may limit burrow creation.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Direct and indirect impacts to burrowing owl would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-3** Nesting Bird Management Plan
- **APM BIO-4** Burrowing Owl
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-14** Disturbance Area
- **APM BIO-16** Minimize Standing Water
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust

Black-Tailed Gnatcatcher, Bendire's Thrasher, Crissal Thrasher, LeConte's Thrasher, Loggerhead Shrike, and Prairie Falcon

Five non-listed special-status passerine bird species occur, or have potential to occur, in the Study Area: black-tailed gnatcatcher, Bendire's thrasher, crissal thrasher, LeConte's thrasher, and loggerhead shrike. These species may nest in the Study Area where suitable habitat is present. One non-listed special-status raptor species, prairie falcon, has potential to forage in the Study Area but is not expected to nest there due to lack of cliff habitat. Direct and indirect impacts to these species would be similar to those describe above for nesting birds.

Avoidance, Minimization, and Mitigation Measures

Direct and indirect impacts to special-status bird species would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring

- **APM BIO-3** Nesting Bird Management Plan
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-14** Disturbance Area
- **APM BIO-16** Minimize Standing Water
- **APM BIO-17** Pets and Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust

American Badger and Desert Kit Fox

American badger and desert kit fox, both non-listed special-status mammal species, occur or have potential to occur in the Study Area. Suitable habitat for these species is present in the Study Area and may be present in project disturbance areas. However, desert kit fox burrows, which are indicative of the species' presence, were only observed outside disturbance areas during the focused desert tortoise surveys (Jacobs 2017).

Direct Impacts

If American badger or desert kit fox are present in disturbance areas during construction, there is potential for direct impacts to the species, including injury or death resulting from vehicle collision, damage or destruction of occupied burrows, disturbance from construction noise/vibration, and loss or degradation of foraging habitat. In addition, vehicle collisions can occur on access roads used in the larger Study Area.

Indirect Impacts

Potential indirect impacts to American badger and desert kit fox include soil compaction and vegetation removal during ground disturbance, which reduce habitat suitability and may promote the establishment of invasive plant species. Additionally, the presence of humans and human-caused food and water subsidies may attract both species to disturbance areas during project implementation. Pets (i.e., dogs) brought on-site may harass or kill either species and can spread canine distemper to the desert kit fox and American badger populations.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Direct and indirect impacts to American badger and desert kit fox would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-7** Desert Kit Fox and Other Special-Status Mammal Species
- **APM BIO-9** Develop and Implement Habitat Restoration and Revegetation Plan
- **APM BIO-10** Develop Invasive Plant Management Plan
- **APM BIO-14** Limit Disturbance Area

- **APM BIO-15** Wildlife Pitfalls and Entrapment
- **APM BIO-16** Minimize Standing Water
- **APM BIO-17** No Pets or Firearms
- **APM BIO-18** Vehicle Travel
- **APM AIR-2** Fugitive Dust

California Leaf-Nosed Bat and Cave Myotis

Two non-listed special-status bat species, California leaf-nosed bat and cave myotis, have potential to occur in the Study Area. Suitable foraging habitat may be present in project disturbance areas and the I-10 bridges may provide suitable night roost habitat in the larger Study Area.

Direct Impacts

The project may impact foraging habitat for bats, including California leaf-nosed bat and cave myotis. Potential direct impacts could also include disturbance from construction noise/vibration and vehicle strikes during foraging activity.

Indirect Impacts

Indirect impacts are likely to result from fugitive dust generated by road grading near potential night roosts. Implementation of construction activities may also decrease the quality of foraging habitat.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Direct and indirect impacts to California leaf-nosed bat and cave myotis would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-8** Bats, Common and Sensitive Species
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-14** Limit Disturbance Area
- **APM AIR-2** Fugitive Dust

5.2.6 Impacts to Aquatic Resources

No regulated Waters of the U.S. or wetlands that fall under federal or state jurisdiction are present in the Study Area. Intrastate stream channels under state jurisdiction (CDFW and/or RWRCB) have been identified in the jurisdictional survey area, some of which are in project work areas and may be impacted by project implementation. Due to the isolated nature of these features and the limited number of features present in disturbance areas, the project would not substantially affect the hydrology of the area. No impacts would occur to aquatic or riparian habitats because none have been identified in the Study Area.

Table 8 summarizes the project's potential impacts to Waters of the State under joint RWQCB and CDFW jurisdiction, and under exclusive CDFW jurisdiction.

Table 8 Potential Impacts to Jurisdictional Waters of the State

Waters Type	Impact Type	Amount (acres/linear feet)
Waters of the State (RWQCB/CDFW Jurisdiction)		
Basin	None	--/NA
Ditch/Canal	None	-- / --
Unvegetated Channel	Temporary fill from structure Replacement and wire setup	0.09/128.70
Vegetated Channel	None	--/--
Subtotal Waters of the State (RWQCB/CDFW Jurisdiction)		*0.09/128.70*
Waters of the State (CDFW Exclusive Jurisdiction)		
Ditch/Canal - Channel Bank	None	--/--
Unvegetated Channel - Channel Bank	Temporary fill from structure Replacement and wire setup	<0.01/0.00
Vegetated Channel - Channel Bank	None	--/--
Watercourse[1]	Fill from structure replacement, wire setup, and guard pole	0.49/NA
Subtotal Waters of the State (CDFW Exclusive Jurisdiction)		*0.50/--*
Grand Total RWQCB Jurisdiction		0.09/128.70
Grand Total CDFW Jurisdiction		0.59/128.70

CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board

[1] Defined as a larger channel delineated to encompass multiple smaller channels.

NA = Not applicable

Direct Impacts

Temporary direct impacts to jurisdictional waters may result from minor grading and leveling activities to ensure equipment stabilization: removal and replacement of structures in structure replacement work areas; removal of fill in structure removal work areas; vegetation crushing and overland travel in all work areas; and installation of temporary erosion control fencing, berms, and other erosion control measures to comply with SWPPP requirements.

Indirect Impacts

Potential indirect impacts may occur to jurisdictional waters where they are present adjacent to the limits of designated work areas. Adjacent jurisdictional waters may be indirectly impacted by the introduction or spread of invasive weeds and by increased or altered water flow from runoff if site contours in work areas are appreciably changed.

Avoidance, Minimization, and Mitigation Measures

The project will likely require (1) submittal of an Approved Jurisdictional Determination package to USACE, (2) authorization from RWQCB Region 7 to discharge waste (i.e., fill material) into Waters of the State, (3) a Lake and Streambed Alteration Agreement from CDFW for impacts to Waters of the

State, and (4) a project specific SWPPP with the Colorado River Basin RWQCB.The development of a SWPPP under the State's National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP; Order No. 2009-0009-DWQ), will include BMPs to control and reduce the potential for erosion to occur during stormwater runoff events. The SWPPP plan along with the RWQCB and CDFW permits may mandate additional measures to avoid, minimize, or mitigate the temporary impacts to jurisdictional waters. In addition, direct and indirect impacts to aquatic resources would be avoided and minimized through implementation of the following APMs.

- **APM BIO-1** Worker Environmental Awareness Program
- **APM BIO-2** Pre-Construction Biological Clearance Surveys and Monitoring
- **APM BIO-9** Habitat Restoration and Revegetation Plan
- **APM BIO-10** Invasive Plant Management Plan
- **APM BIO-11** Sensitive Vegetation Communities Protective Measures and Compensatory Mitigation
- **APM BIO-13** Jurisdictional Waters, Wetlands, and Riparian Habitats
- **APM BIO-14** Disturbance Area
- **APM AIR-2** Fugitive Dust
- **APM HAZ-1** Hazardous Materials Management Plan

6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. The biological surveys are limited by the environmental conditions present at the time of the surveys. In addition, general biological and protocol surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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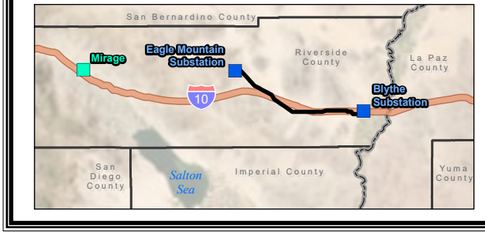
Appendix A

Figures

Pinto Wash
Joshua Tree National Park
Eagle Mountain Substation
Big Wash
177
Palen Lake
Desert Center Yard
Hayfield Lake
10
Ford Dry Lake
Chuckwalla Yard
Blythe
Salt Creek
Chocolate Mountain Aerial Gunnery Range
Coachella Canal
Riverside County
Imperial County
Rice Valley Dunes Off Highway Recreation Area
California
Arizona
Blythe
Blythe Substation
Blythe Yard
La Paz County
Mohave Wash
Yuma Proving Ground
Colorado River



0 2.5 5
Miles

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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- Existing Substation
- Existing Laydown Yard
- Existing EM-B Right of Way
- Blythe City Limit

Land Ownership *

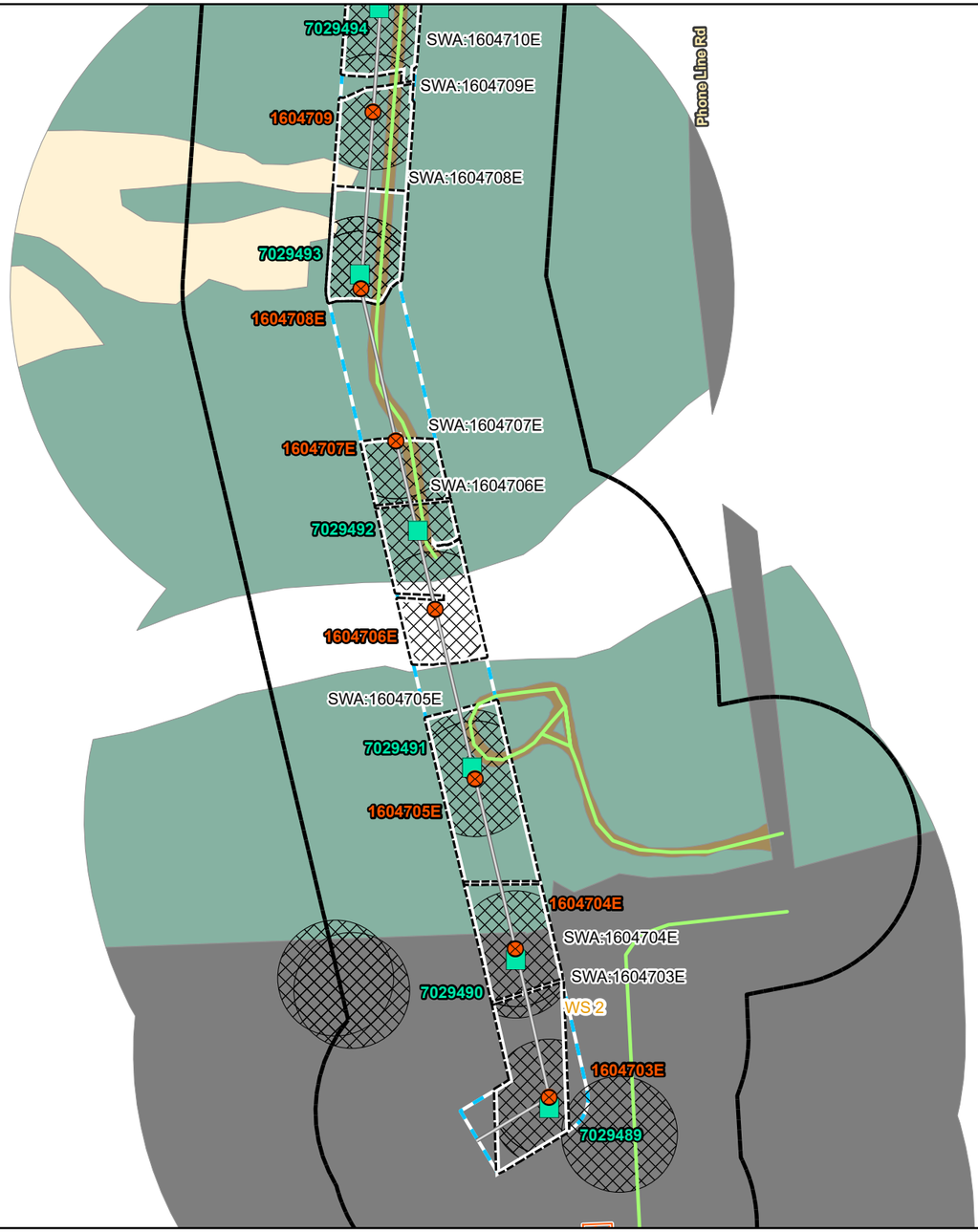
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- State Land
- Department of Defense
- National Park Service

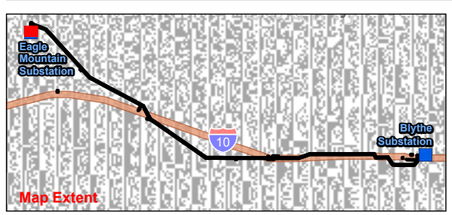
* Areas with no color fill are private lands.

FIGURE 1

Project Overview

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

Imagery and basemaps provided by ESRI and its licensors © 2023. Additional sources provided by SCE 2023.

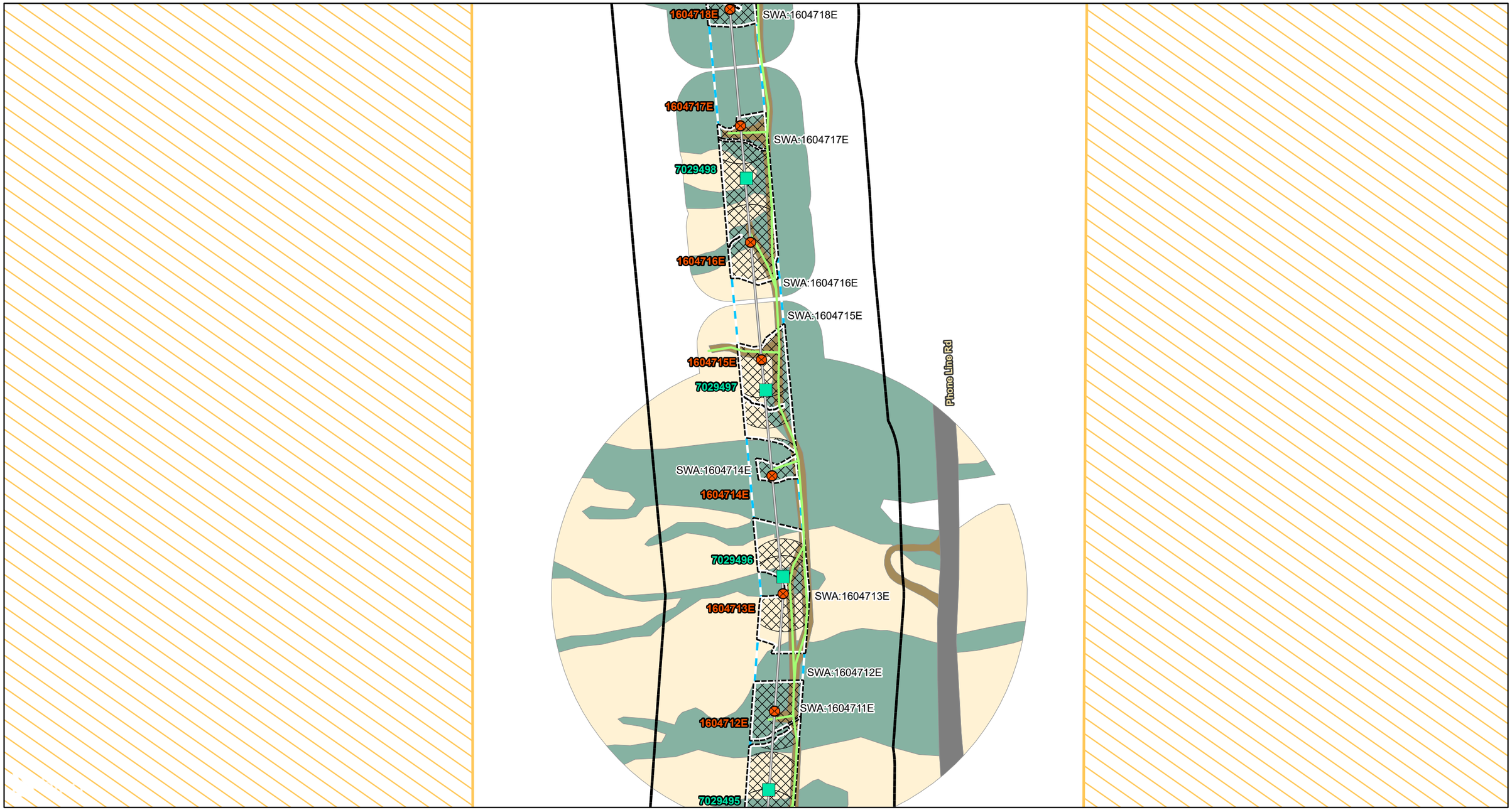
- New Structure
- Existing Structure (to be removed)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Developed
- Disturbed

FIGURE 2
Vegetation Communities
Page 1 of 150

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



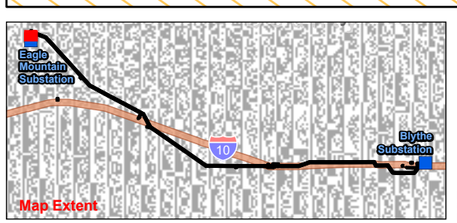


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FIGURE 2
Vegetation Communities
Page 2 of 150

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

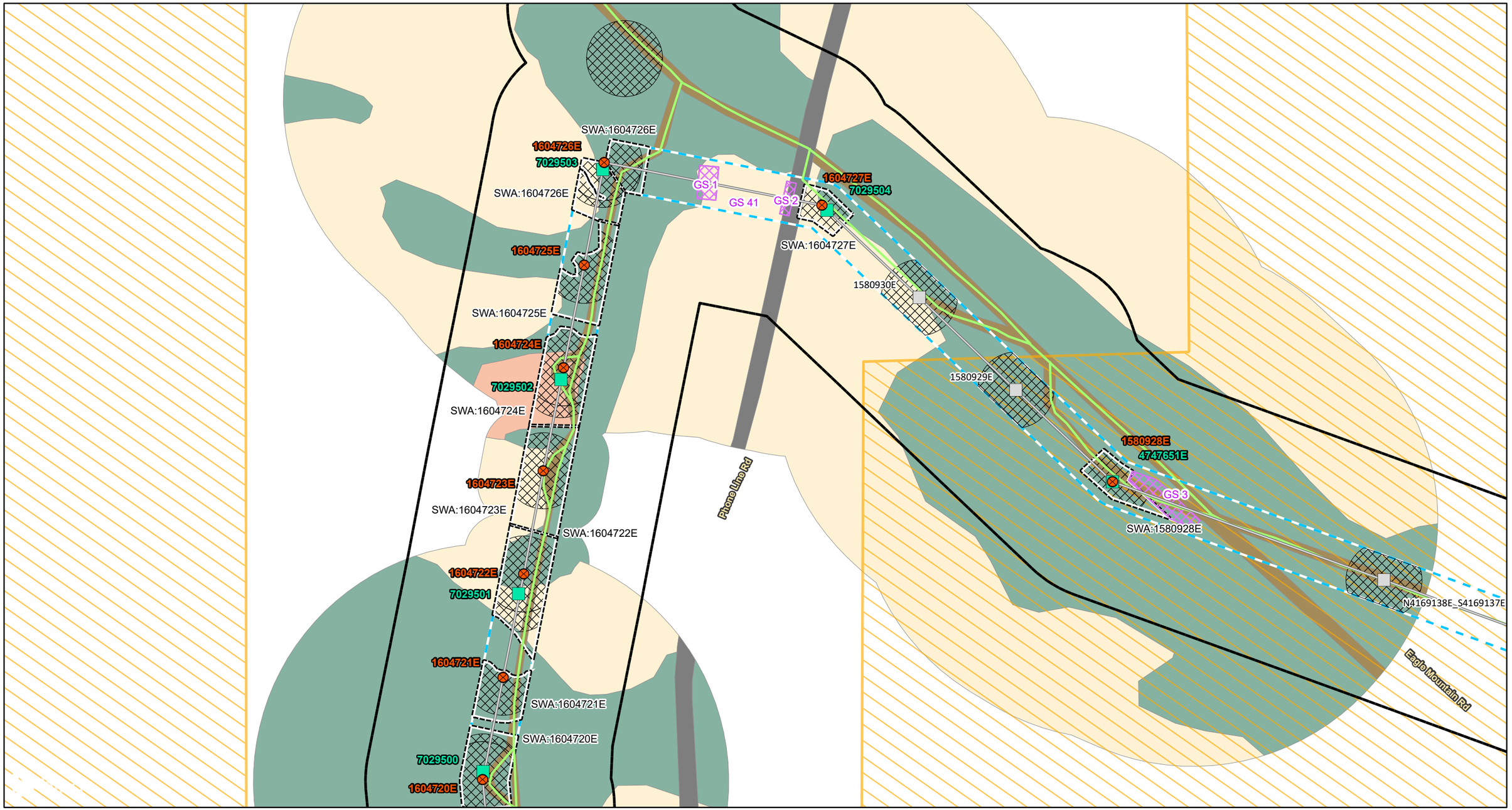

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

1580929E

1580928E
4747651E

GS 3

SWA:1580928E

N4169138E_S4169137E

Eagle Mountain Rd

N4169136_S4169135
7029505

SWA:N4169136_S4169135

N124956AE_S124956BE
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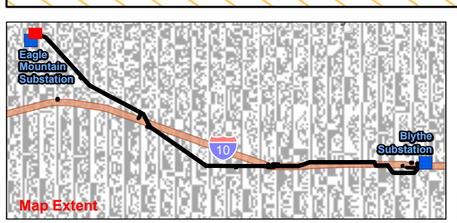
SWA:N124956AE_S124956BE

N124955AE_S124955BE



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- BLM Land

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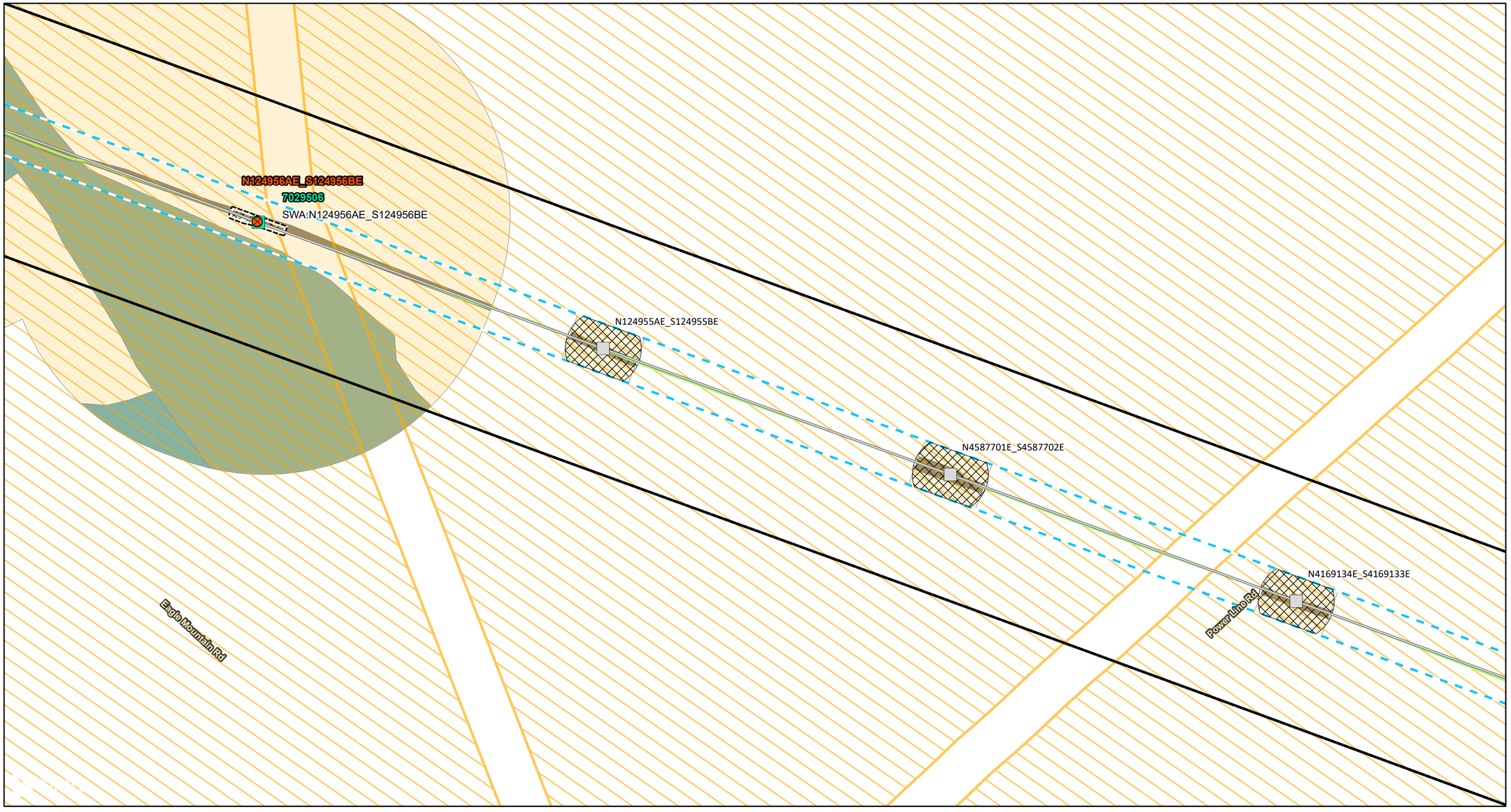
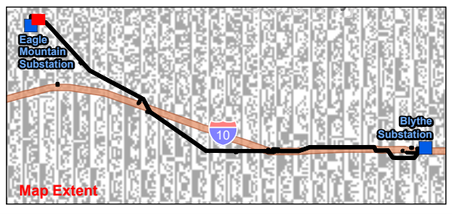
- Creosote bush - white burr sage scrub
- Disturbed

FIGURE 2
Vegetation Communities
Page 4 of 150

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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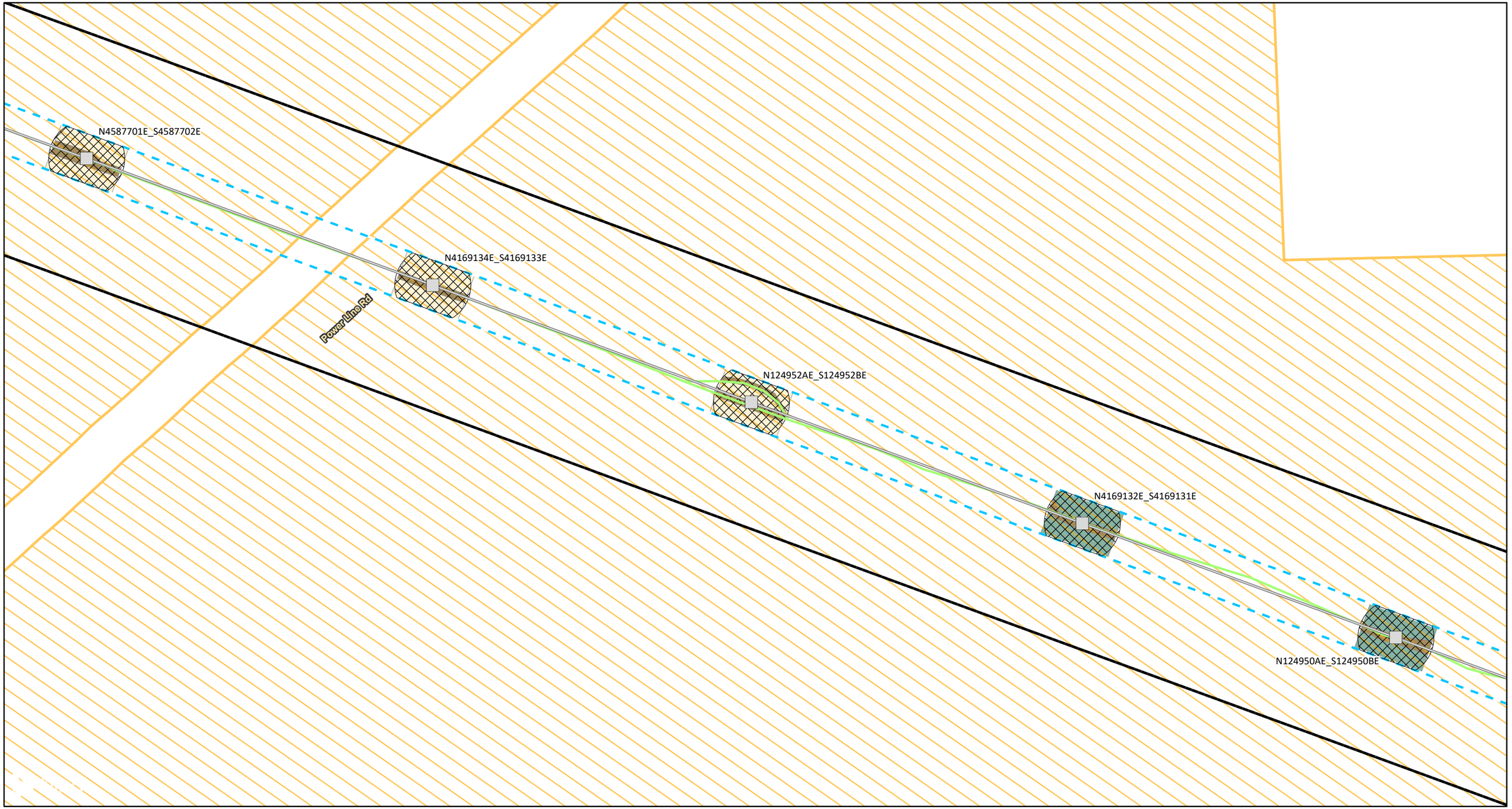
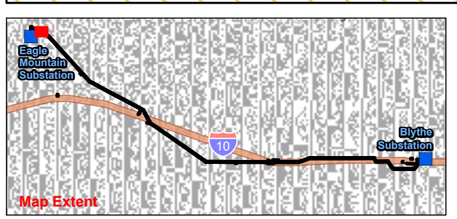
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Vegetation Communities

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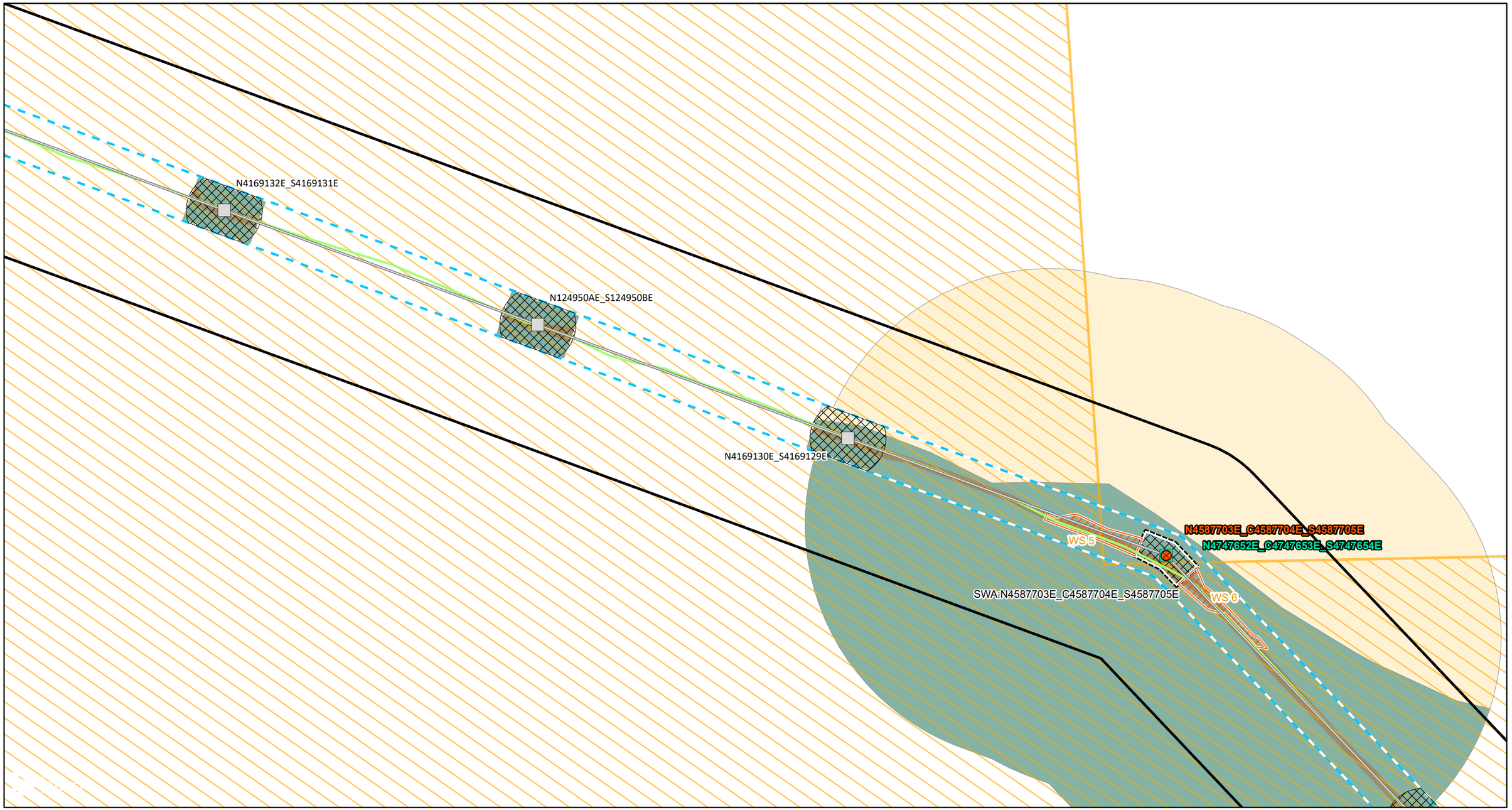
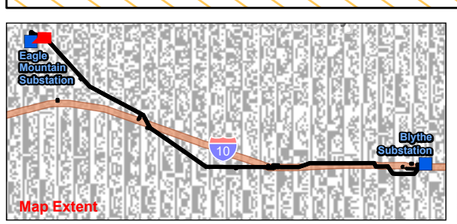
Eagle Mountain-Blythe 161-kV Project





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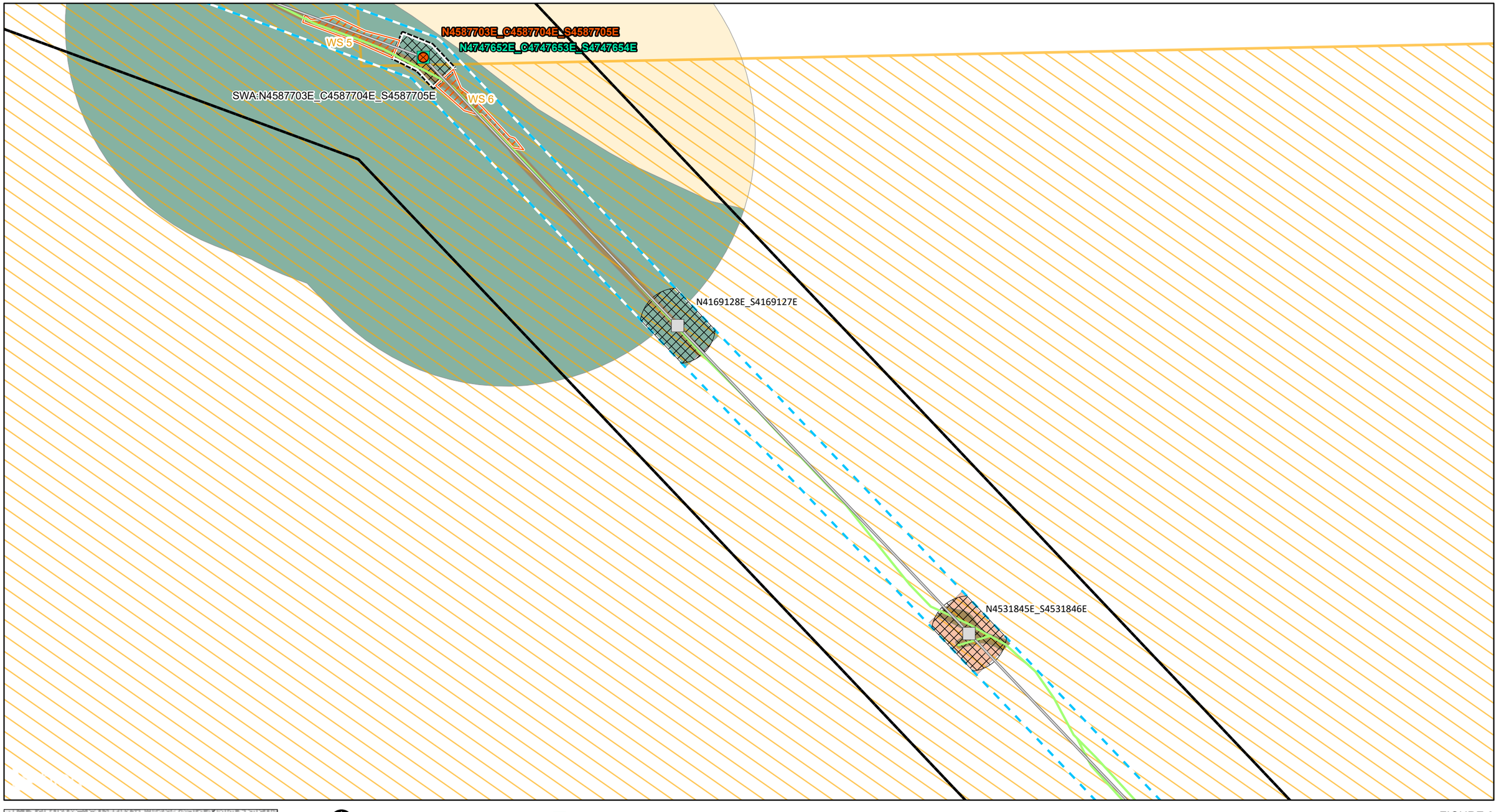
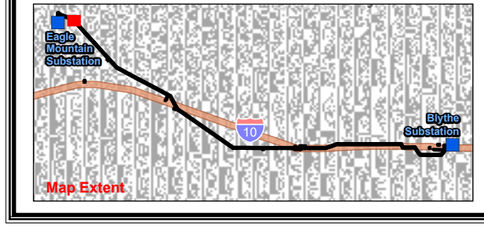
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- New Structure
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- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

N124945AE_S124945BE

N124944AE_S124944BE

N4169126E_S4169125E

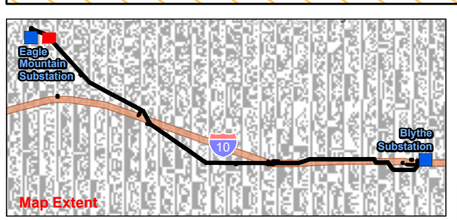

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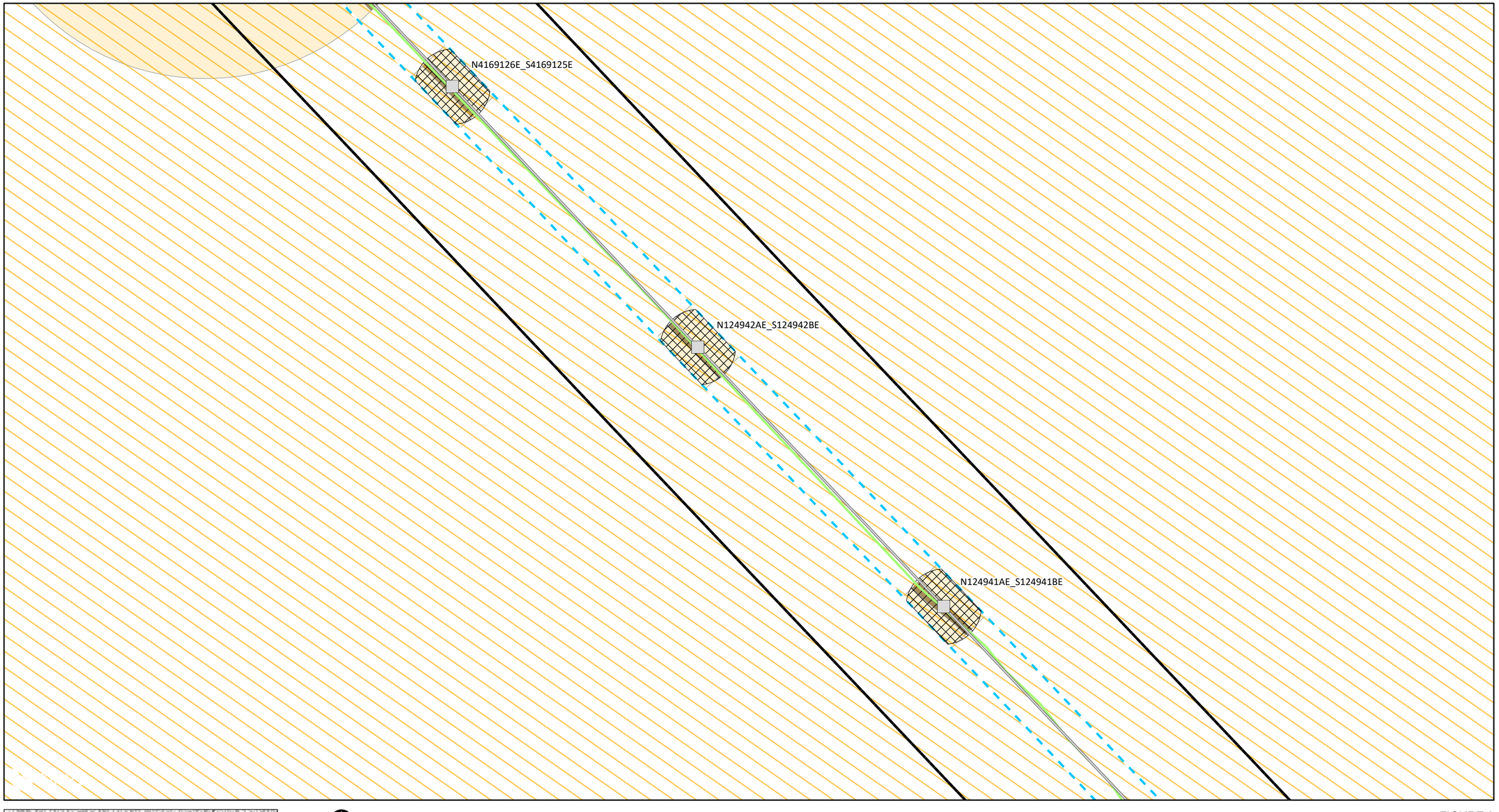
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



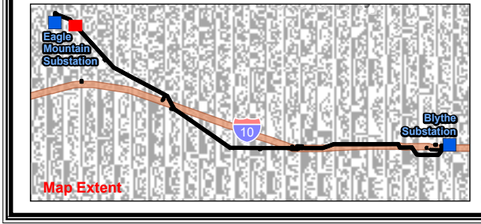


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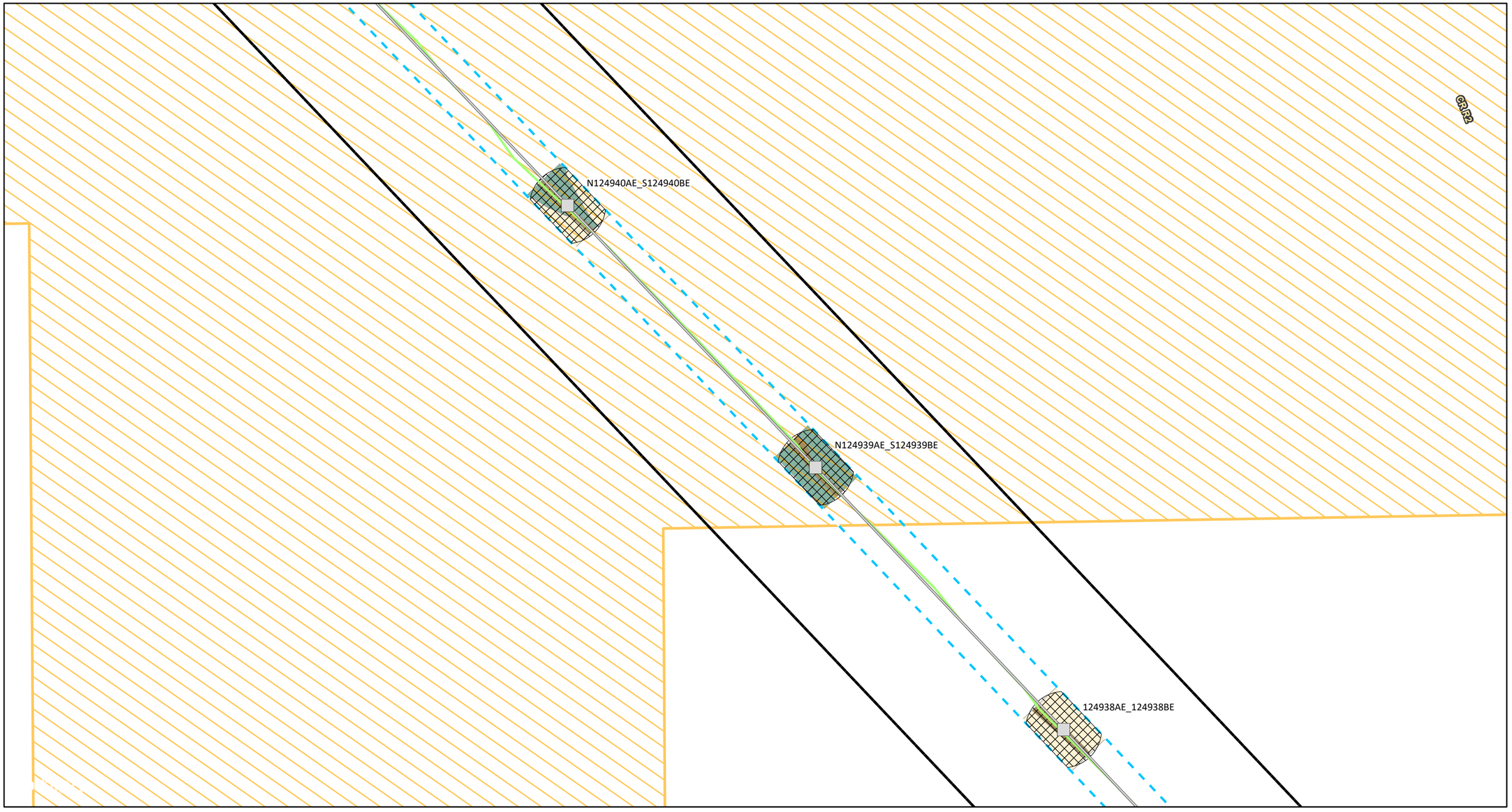
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



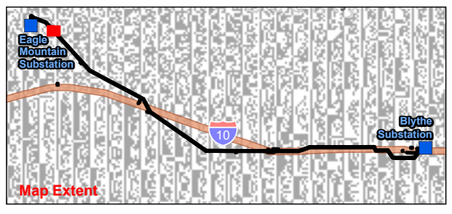


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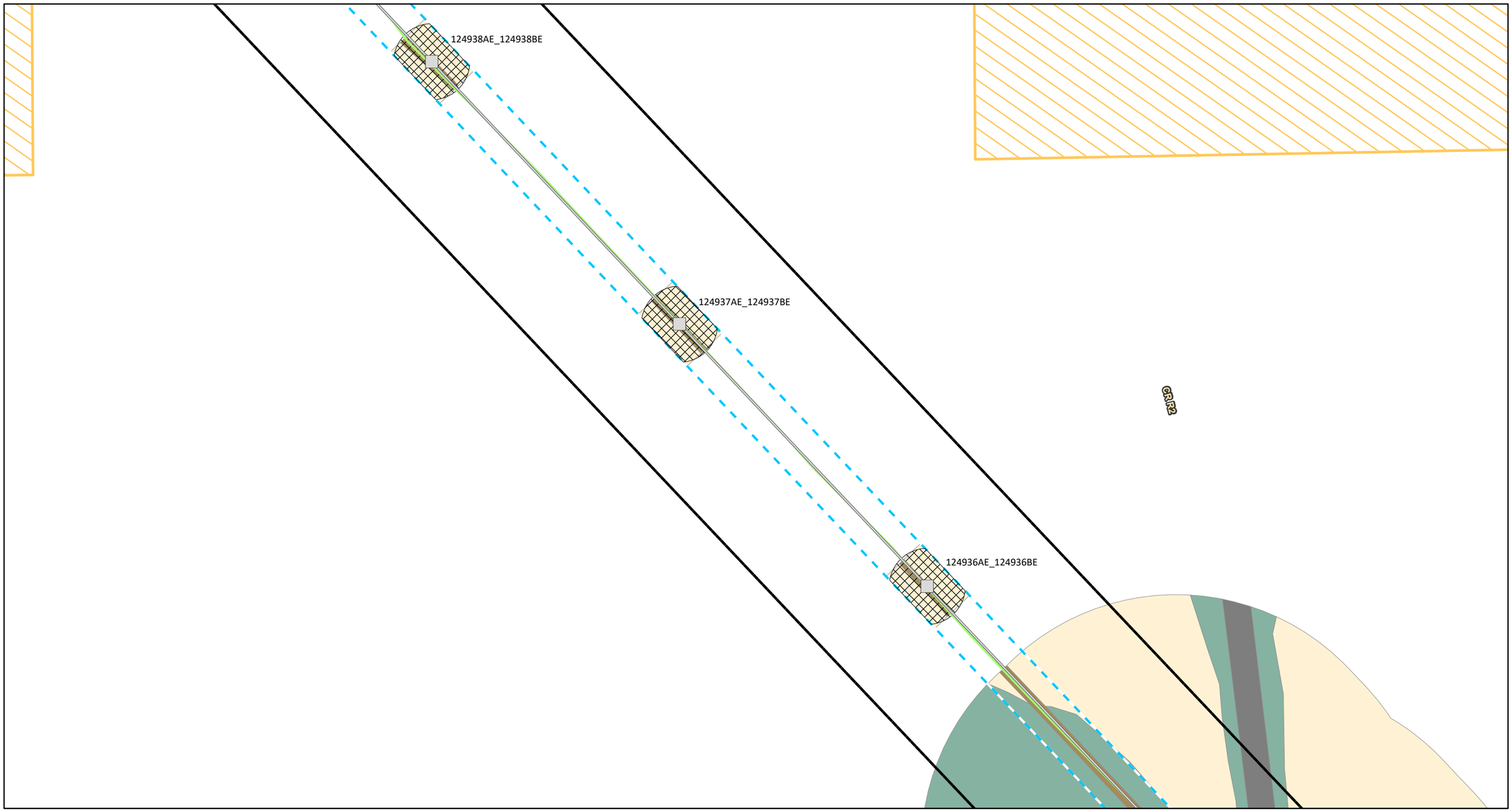
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



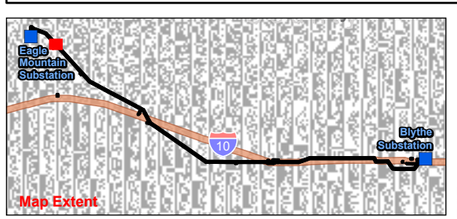


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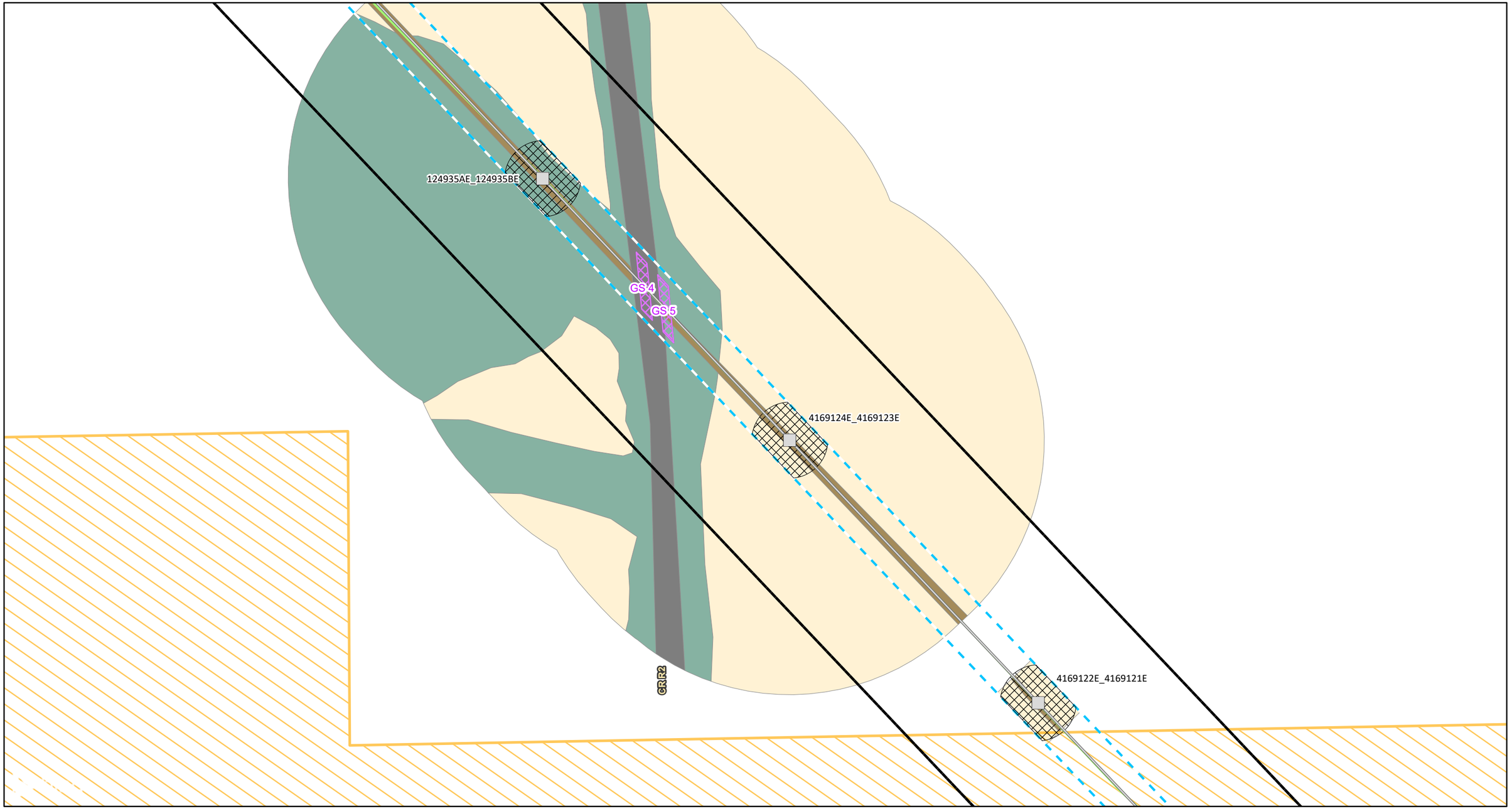
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



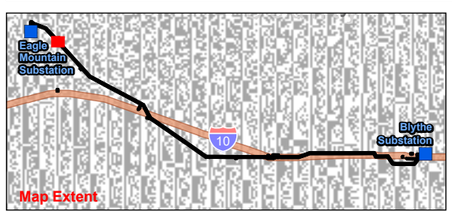


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FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

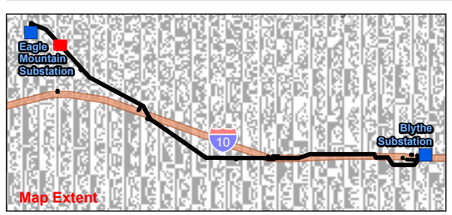
4169122E_4169121E

124932AE_124932BE

4169120E_4169119E

WS-7

CR R2



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Vegetation Communities

Southern California Edison
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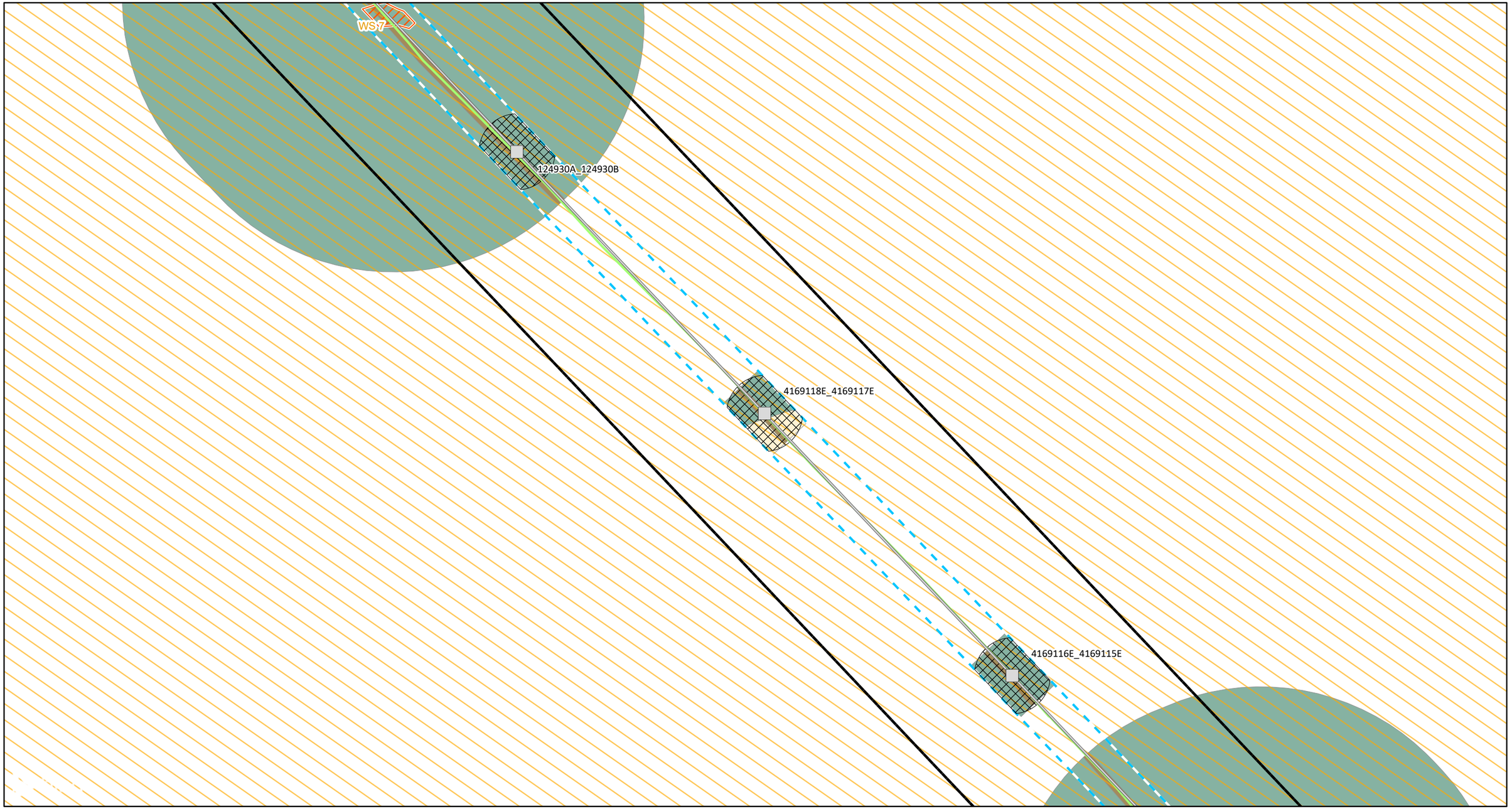

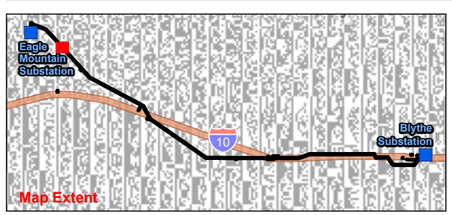

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Vegetation Communities

Southern California Edison
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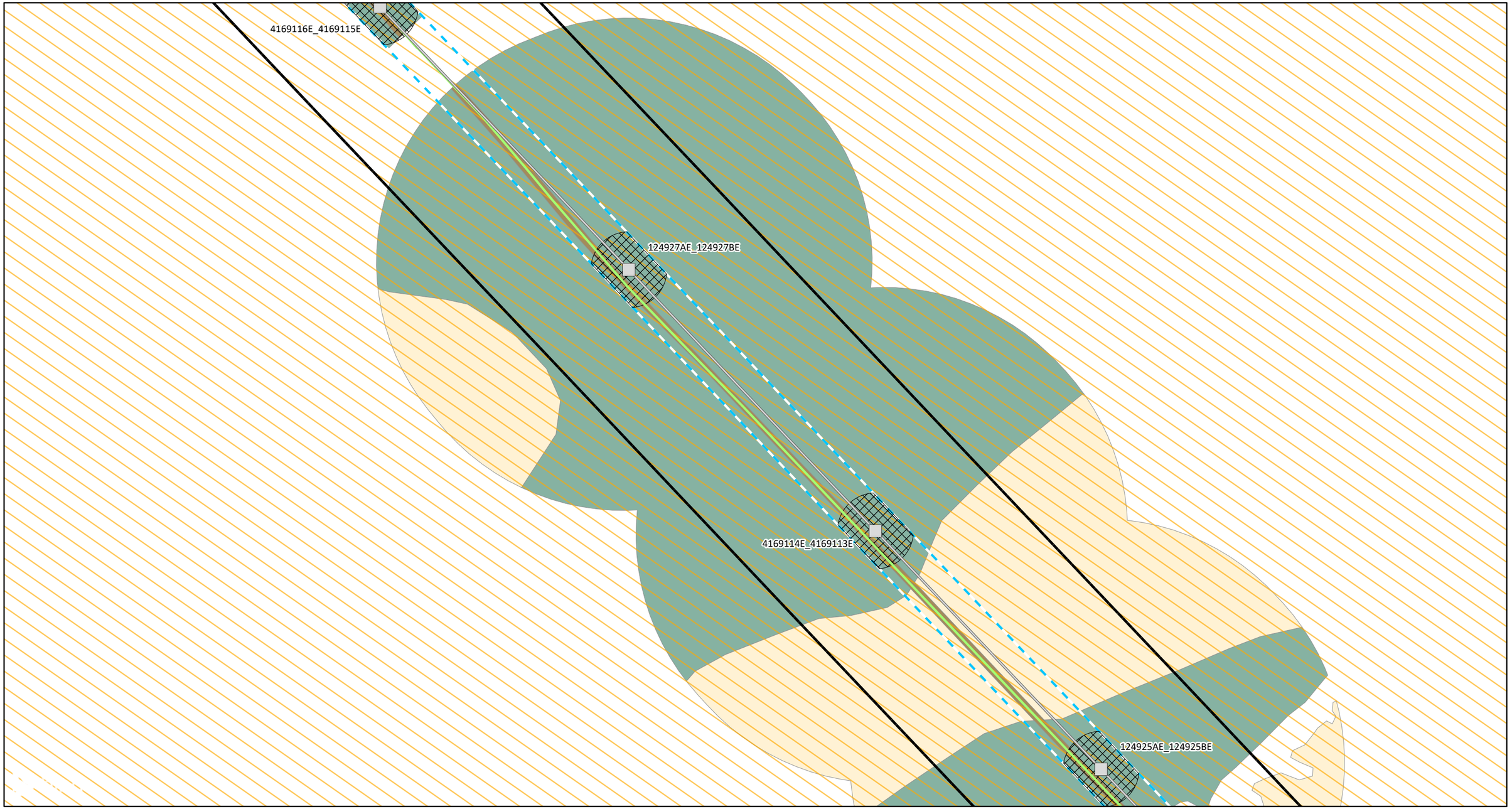

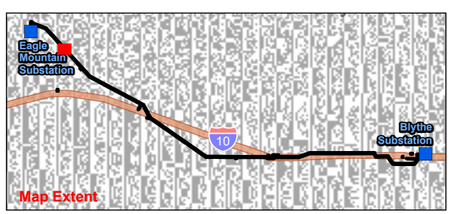

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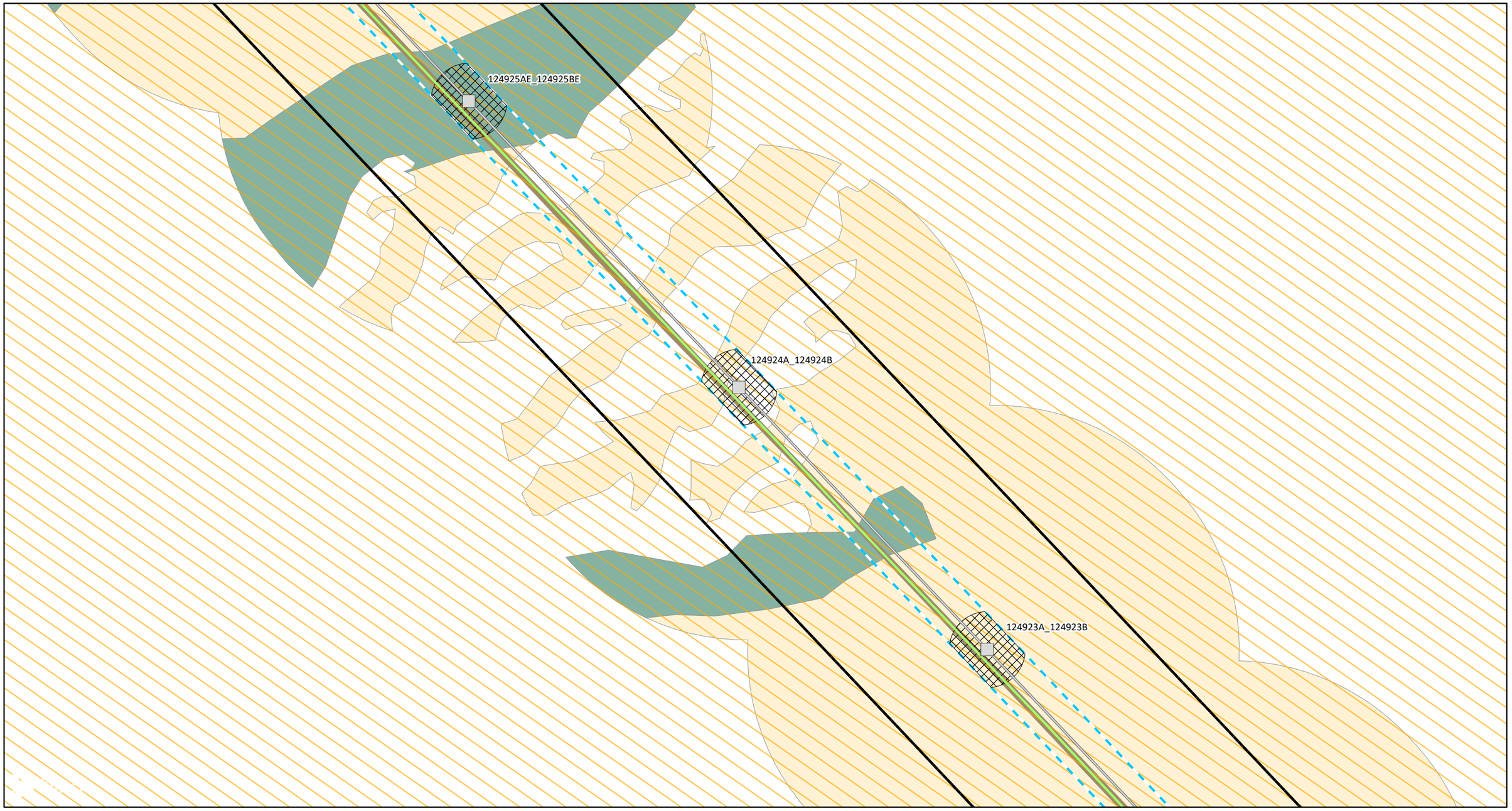
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



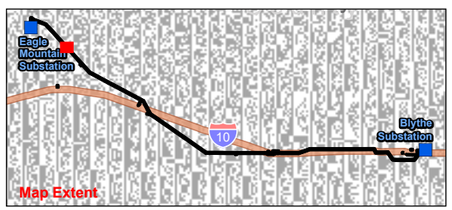


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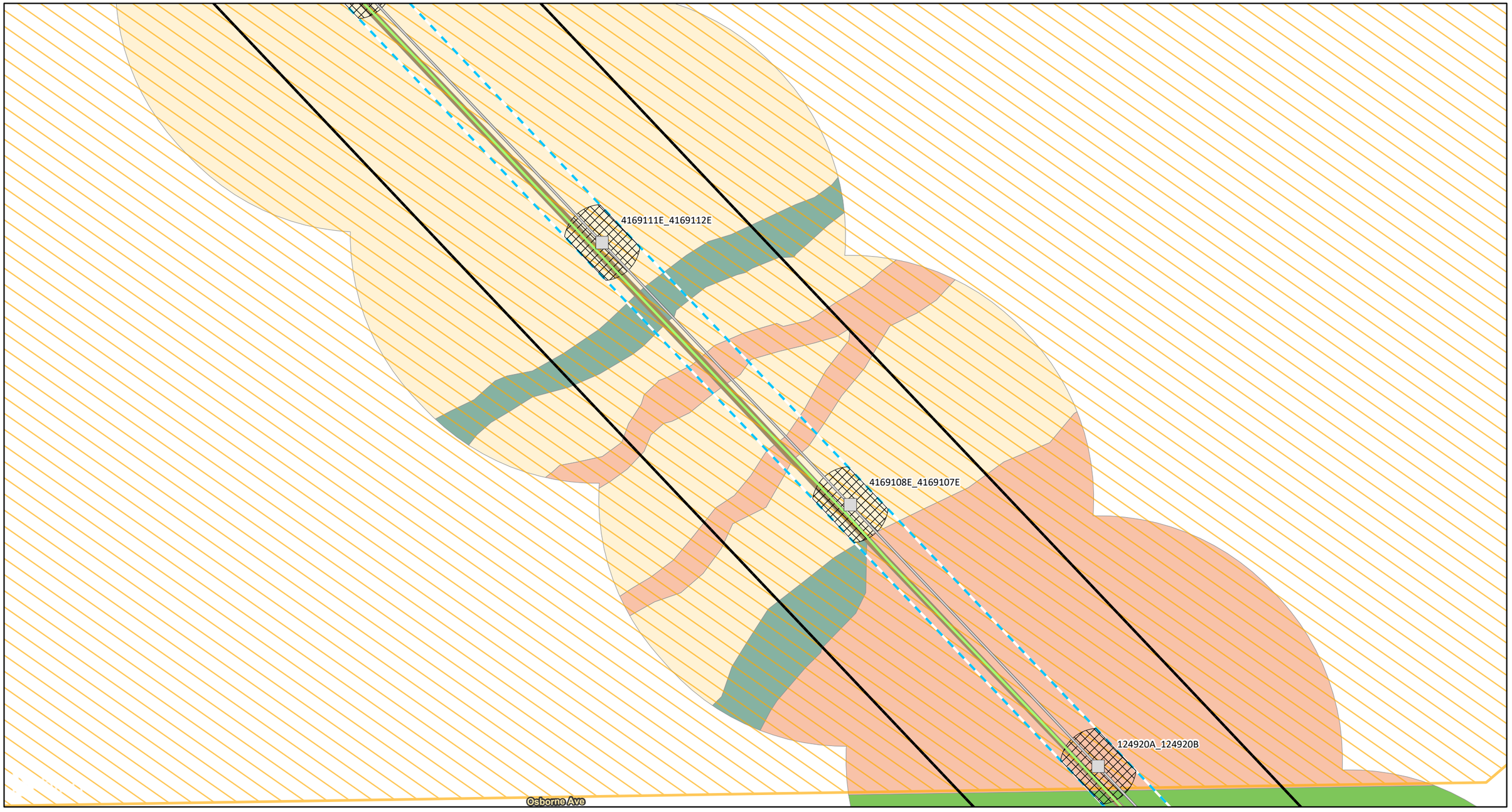
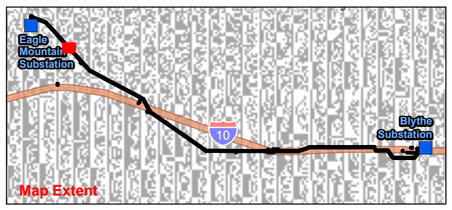
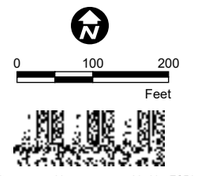
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Land Cover Type

- Active Agriculture
- Blue palo verde - ironwood woodland
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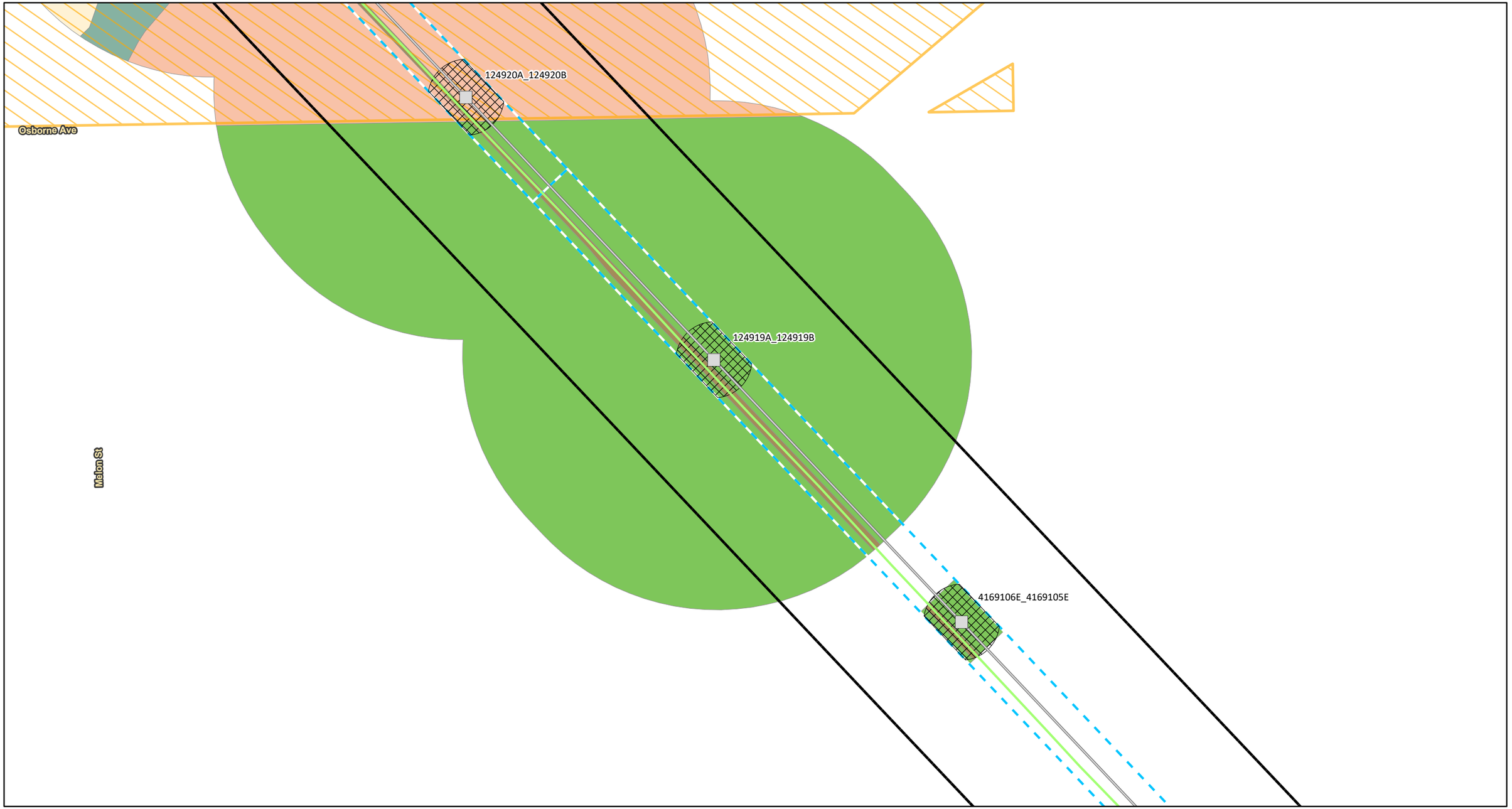
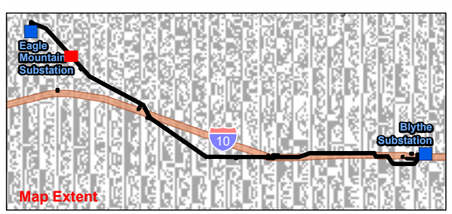
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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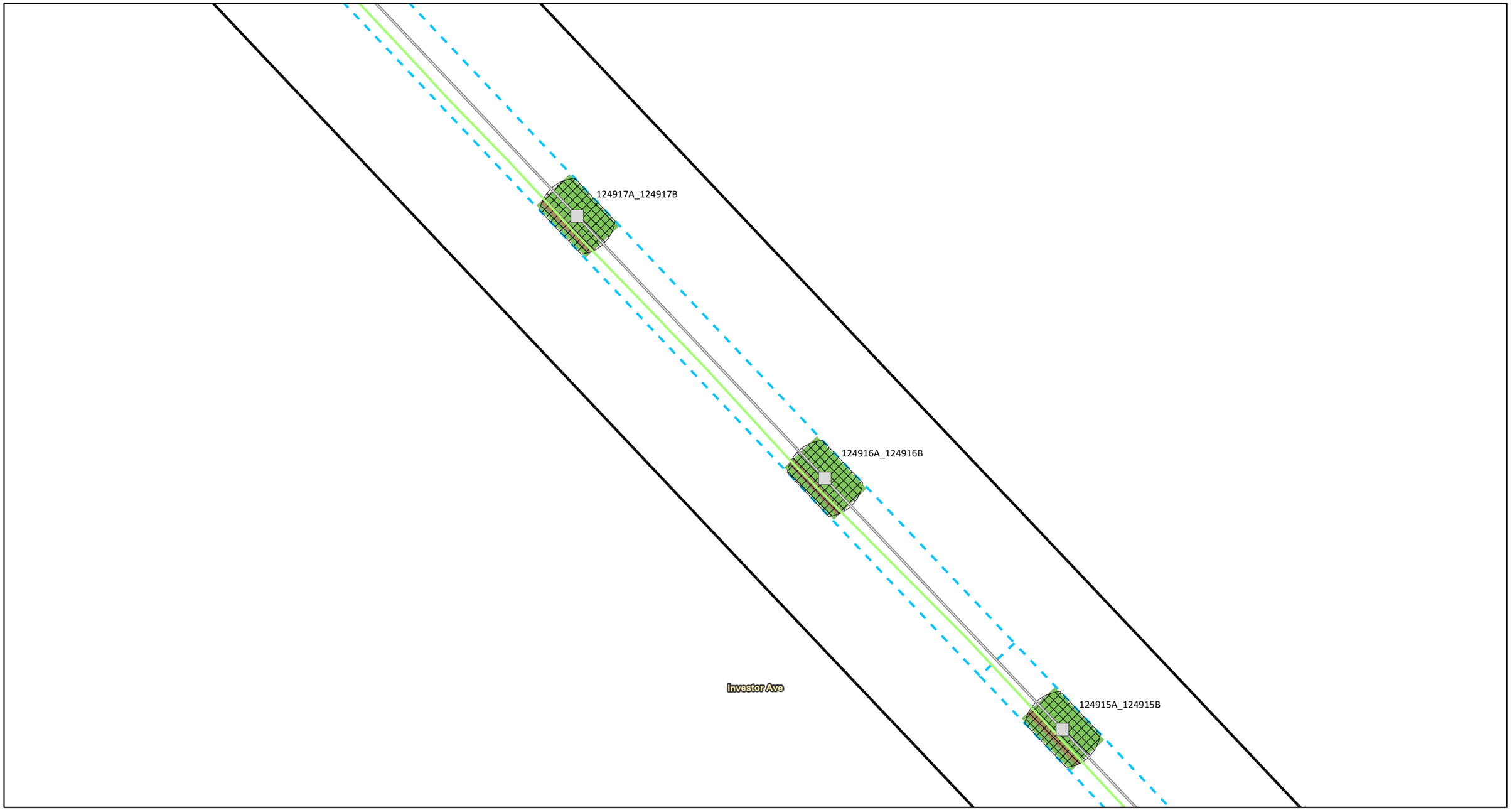
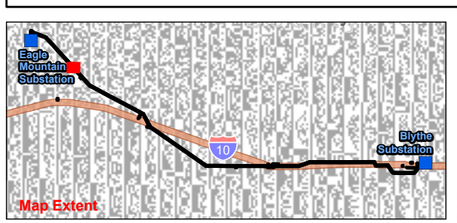
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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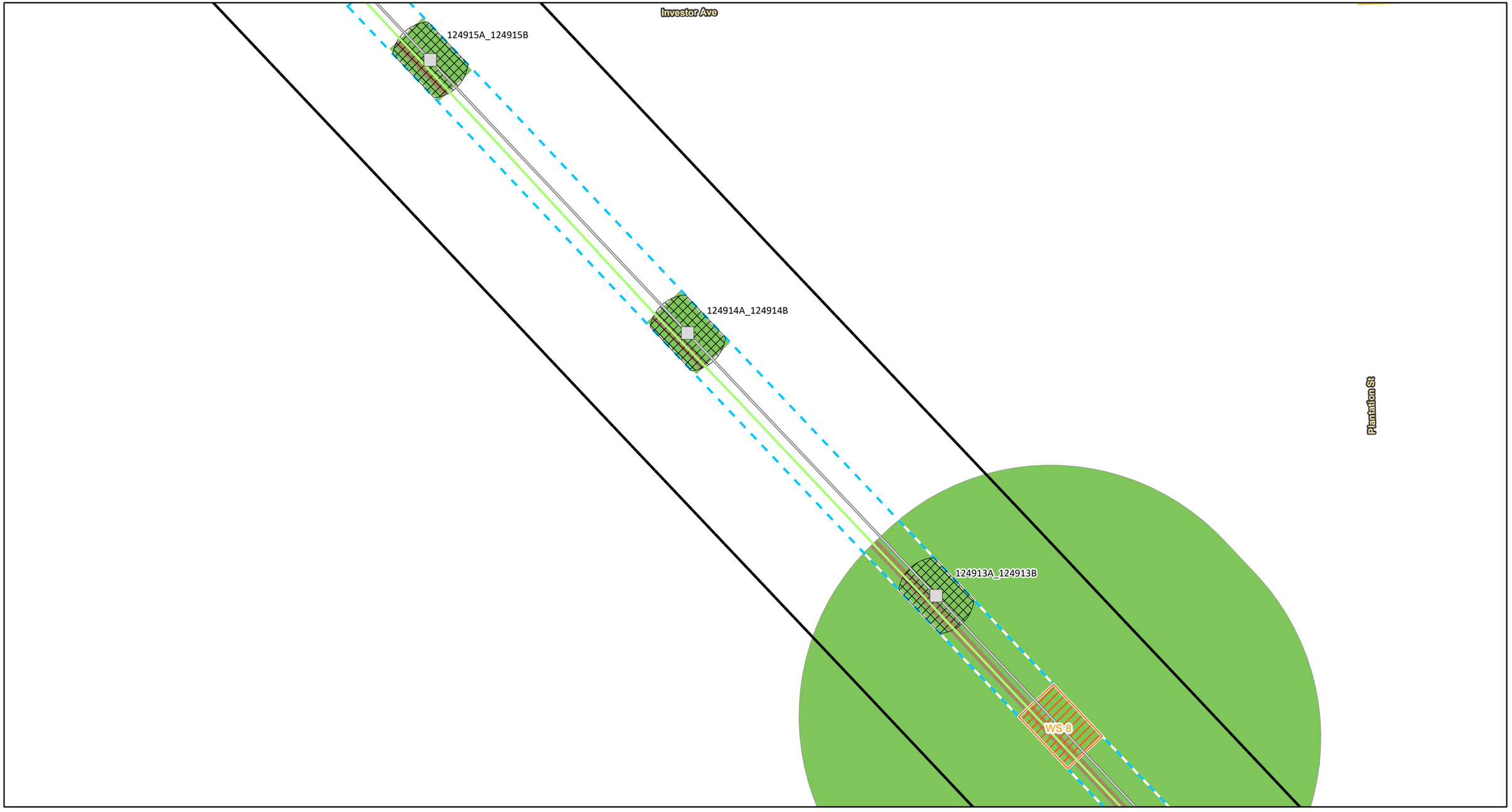
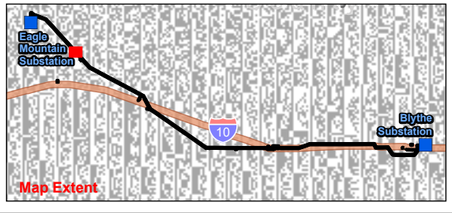
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- BLM Land

Land Cover Type
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FIGURE 2
Vegetation Communities

Southern California Edison
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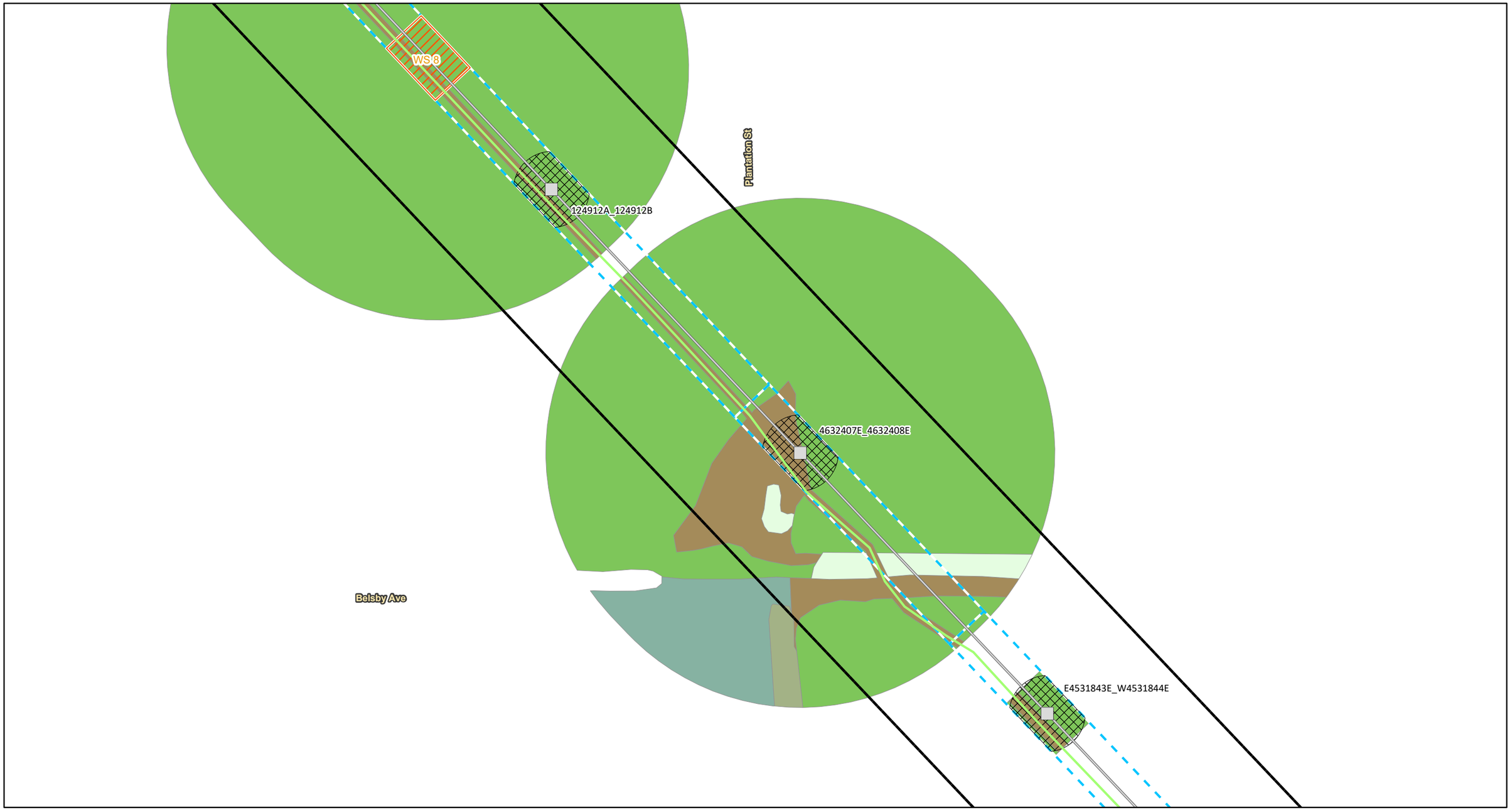

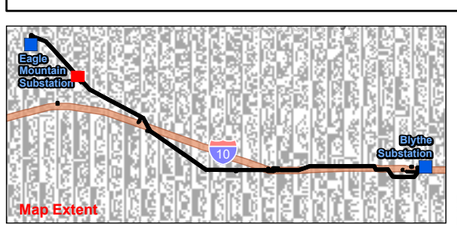

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Construction Area
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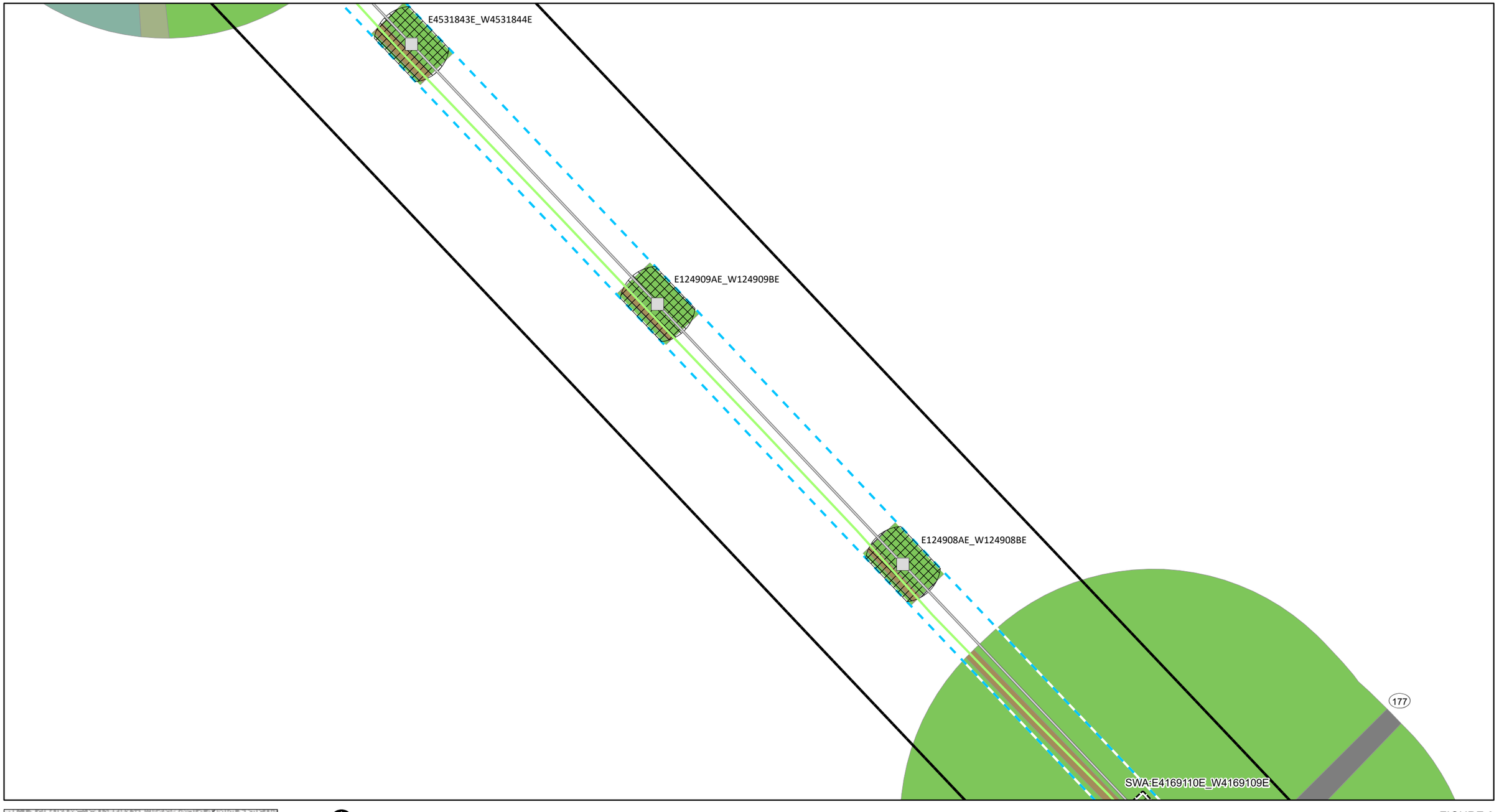
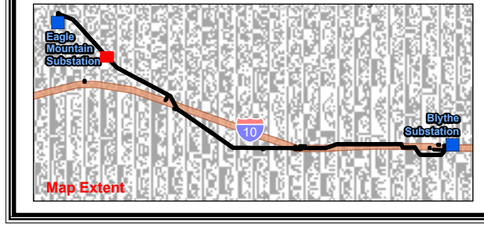
Land Cover Type
- Active Agriculture
- Blue palo verde - ironwood woodland
- Cheesebush - sweetbush scrub
- Disturbed
- Tamarisk thickets

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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- Blue palo verde - ironwood woodland
- Cheesebush - sweetbush scrub
- Developed
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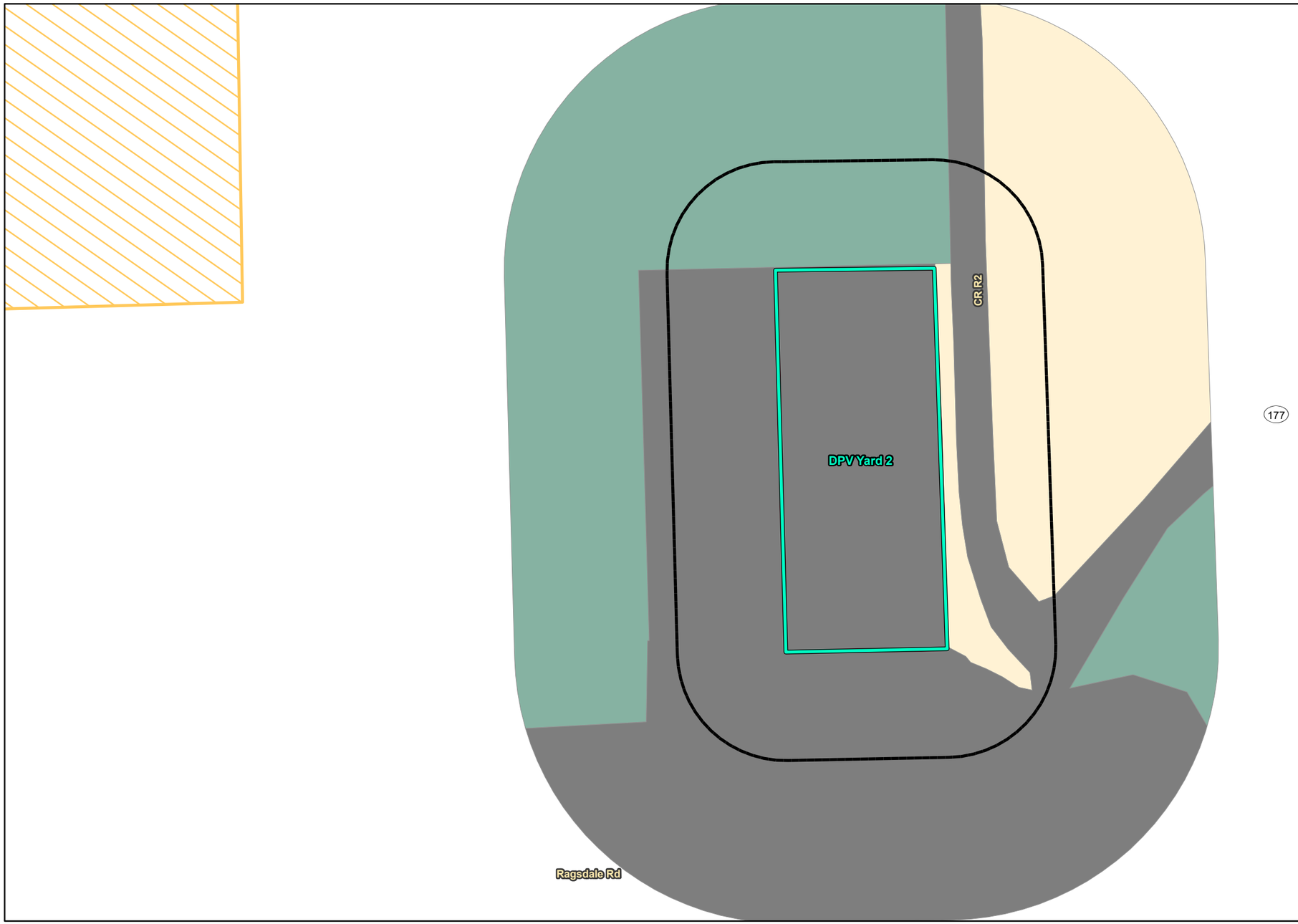
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



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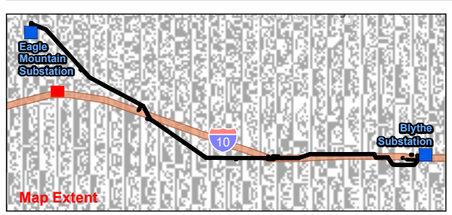

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Feet

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Study Area
Proposed Laydown Yard

Construction Area
Guard Structure
Wire Setup

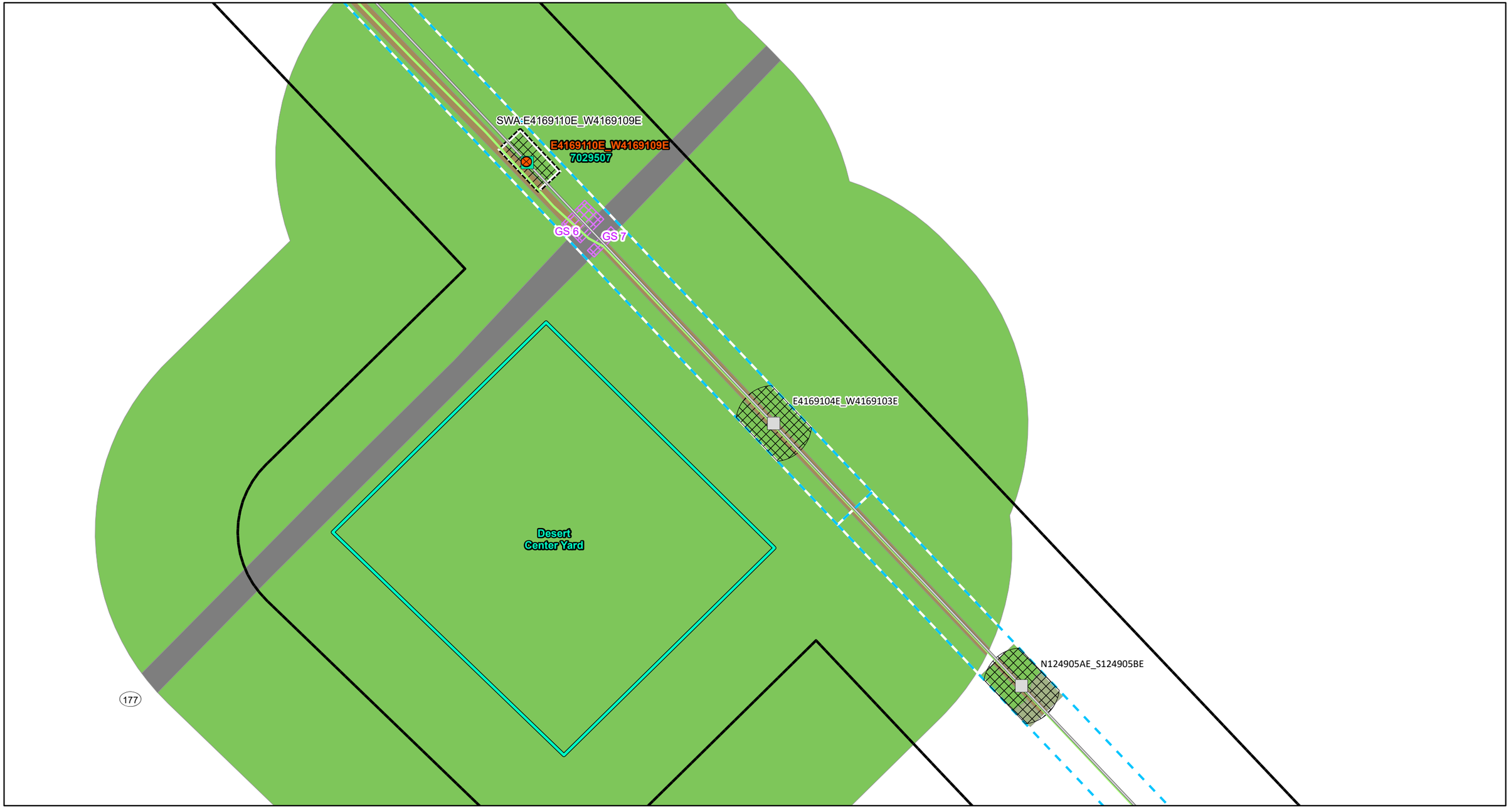
Structure Work Area
O&M Area

Land Owner
BLM Land

Land Cover Type
Blue palo verde - ironwood woodland
Creosote bush - white burr sage scrub
Developed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



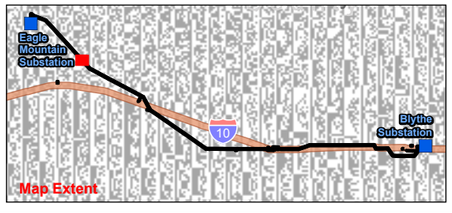


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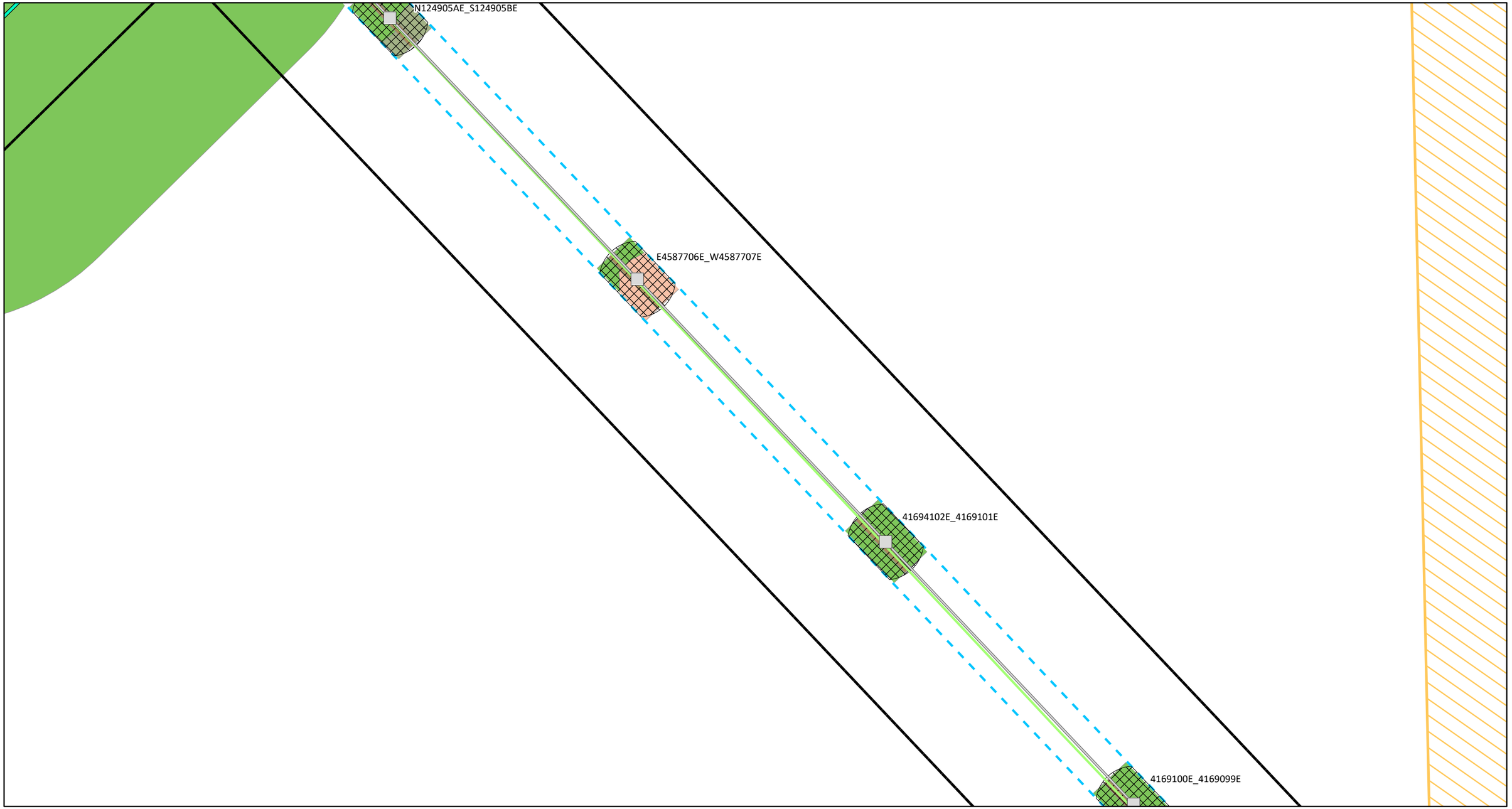
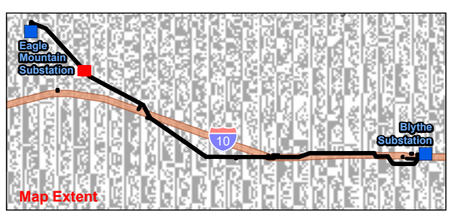
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Proposed Laydown Yard
- Existing EM-B Right of Way

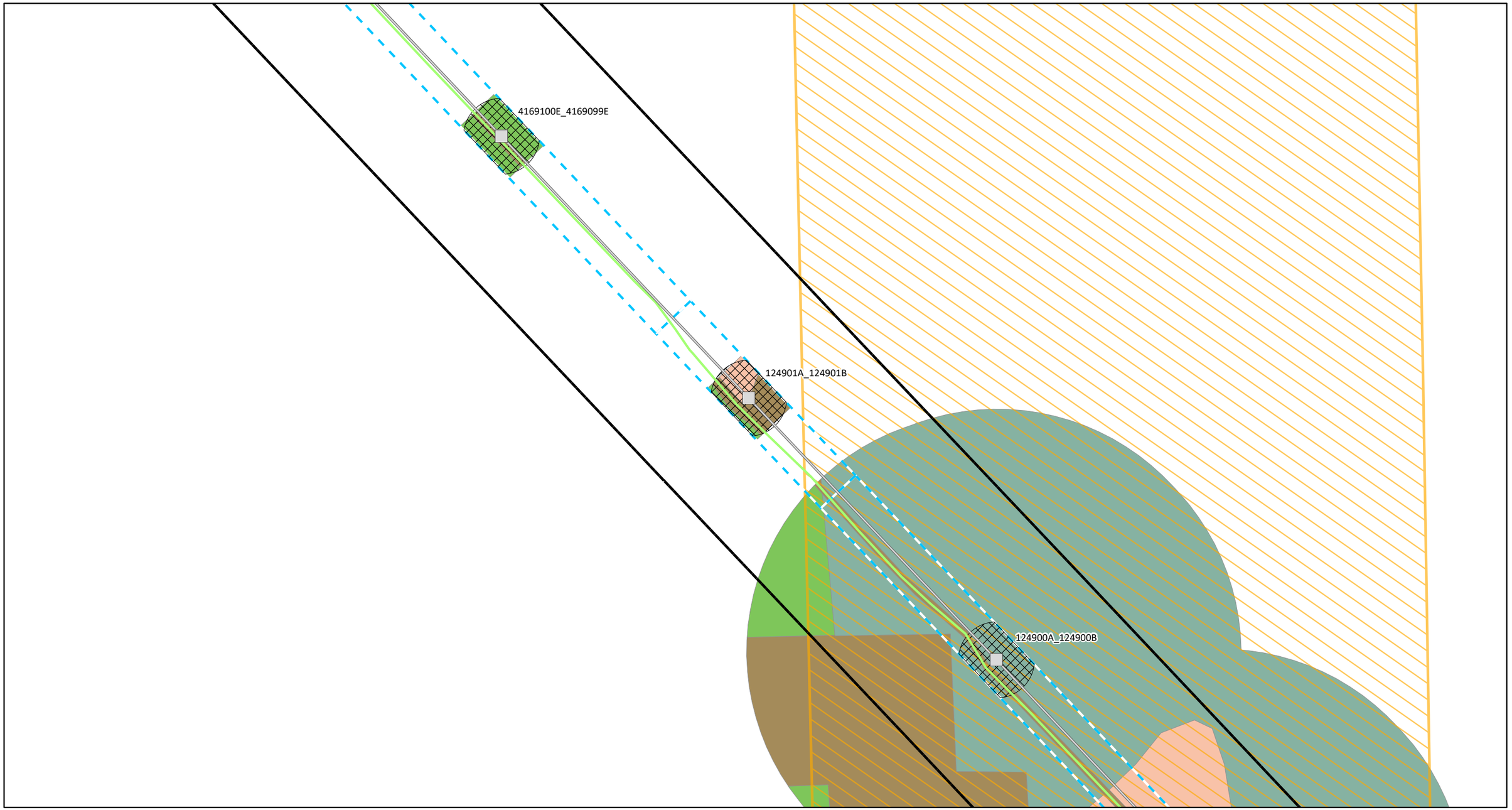
Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

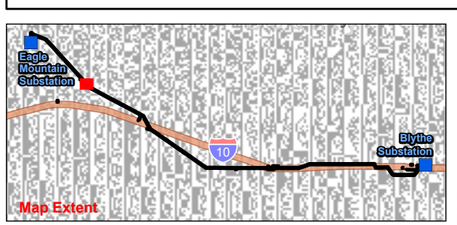
Land Owner
- BLM Land

Land Cover Type
- Active Agriculture
- Cheesebush - sweetbush scrub
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner

- BLM Land

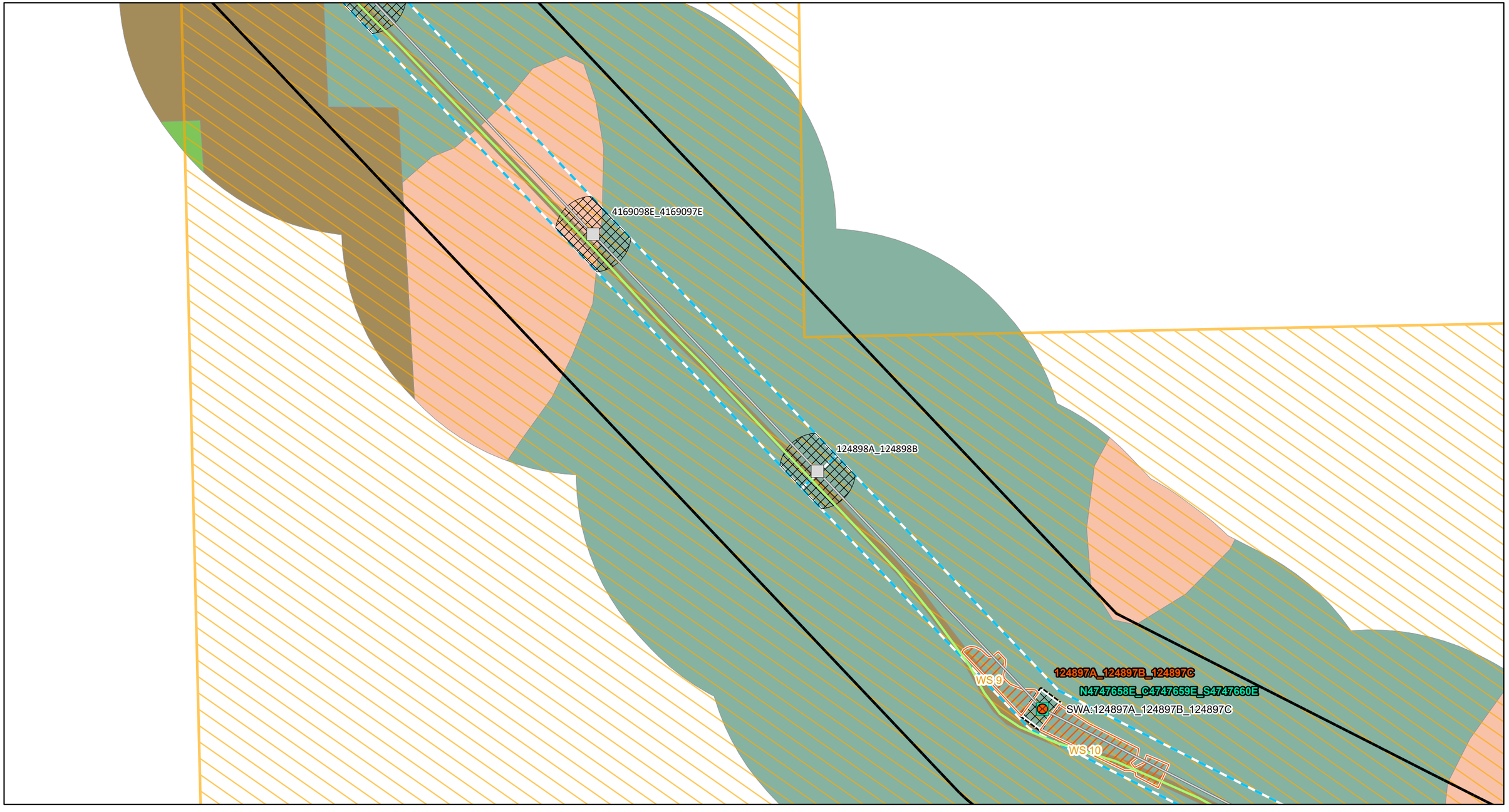
Land Cover Type

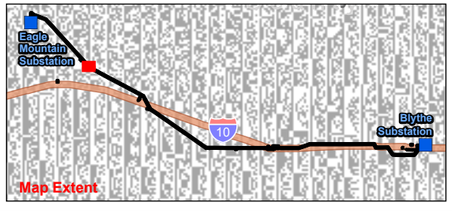
- Active Agriculture
- Blue palo verde - ironwood woodland
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- New Structure
- Existing Structure (to be removed)
- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
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Construction Area
- Guard Structure
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- Structure Work Area
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Land Cover Type
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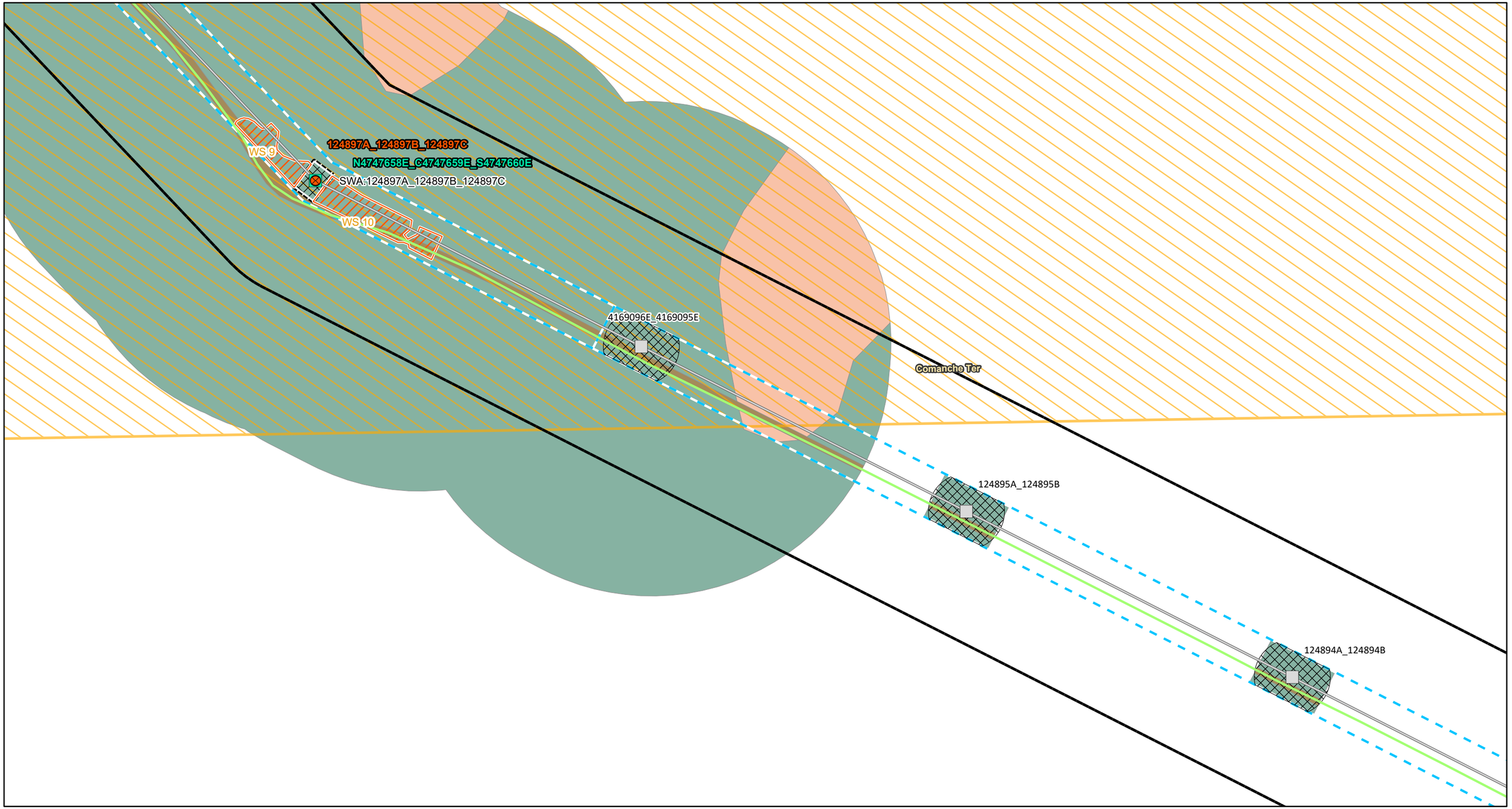
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



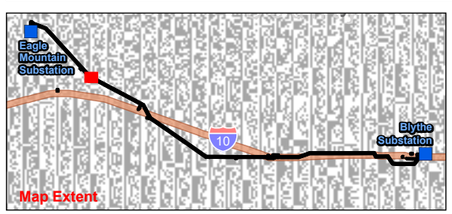


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FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

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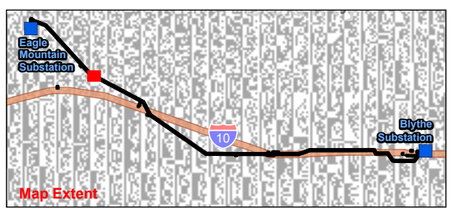
124891A_124891B



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Land Cover Type

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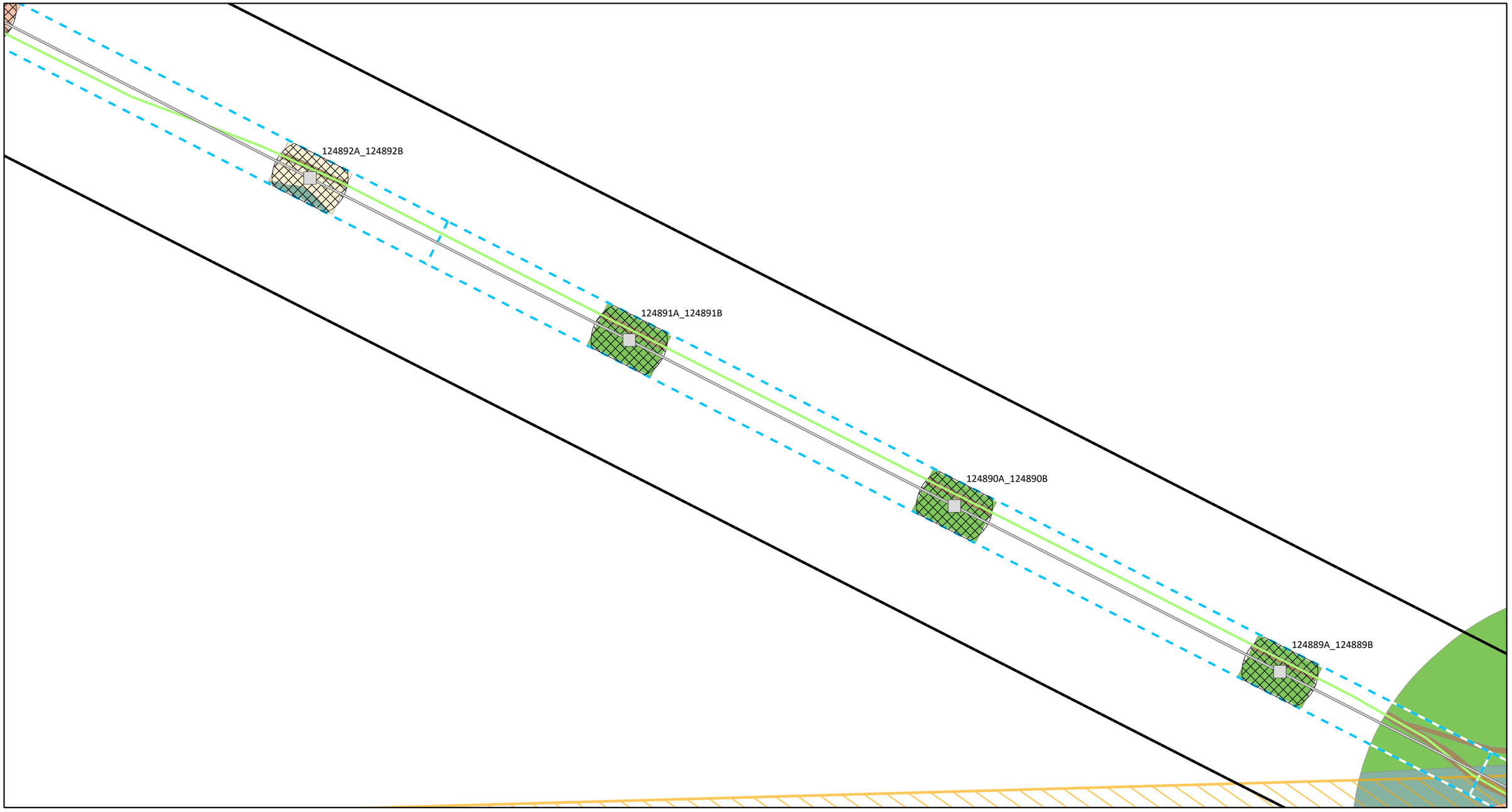
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



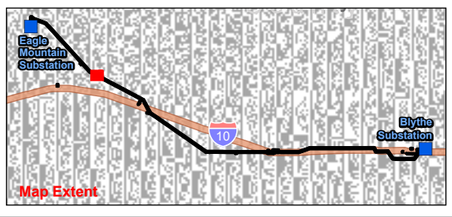


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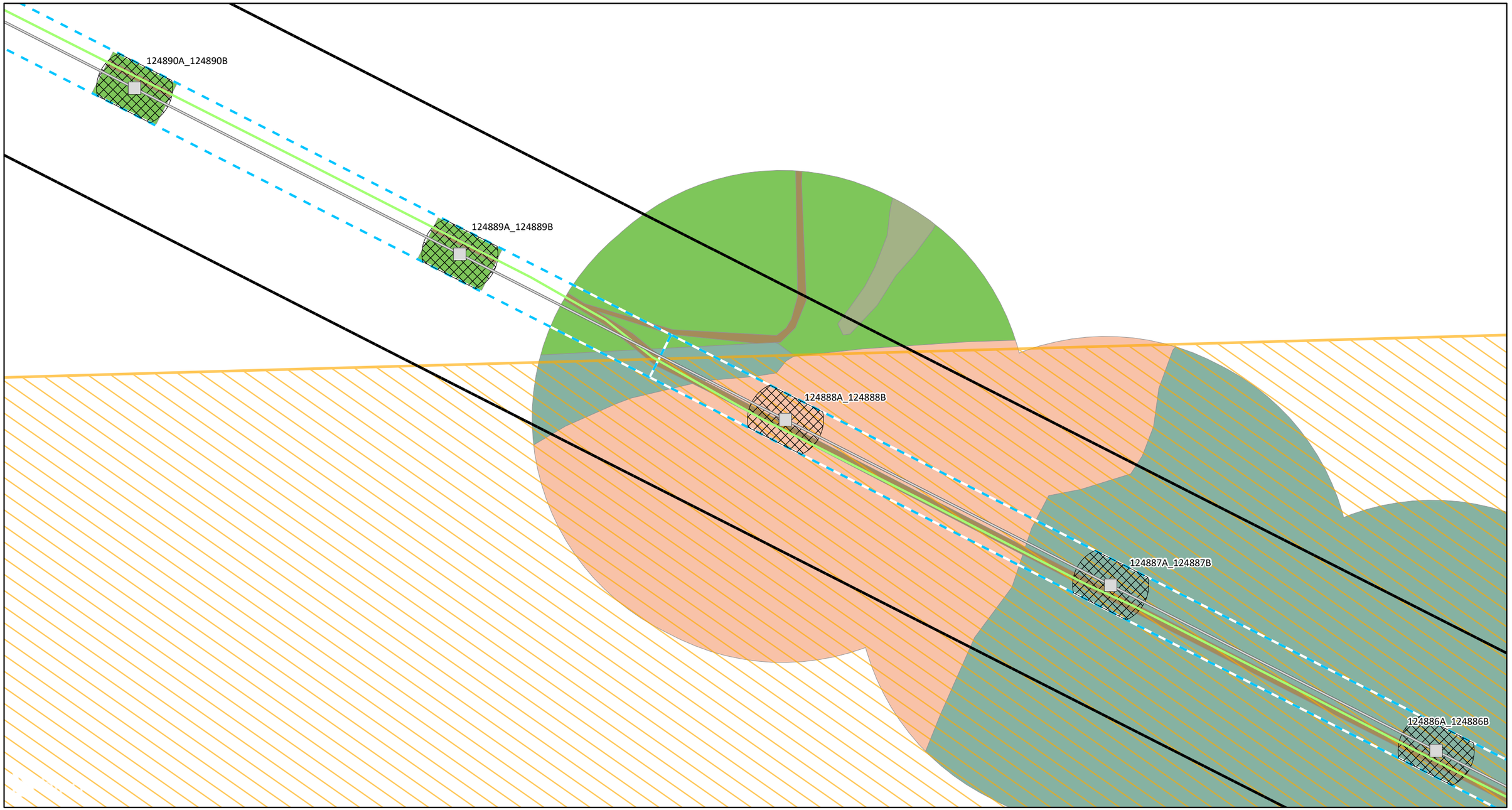
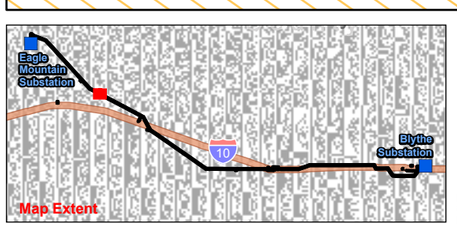
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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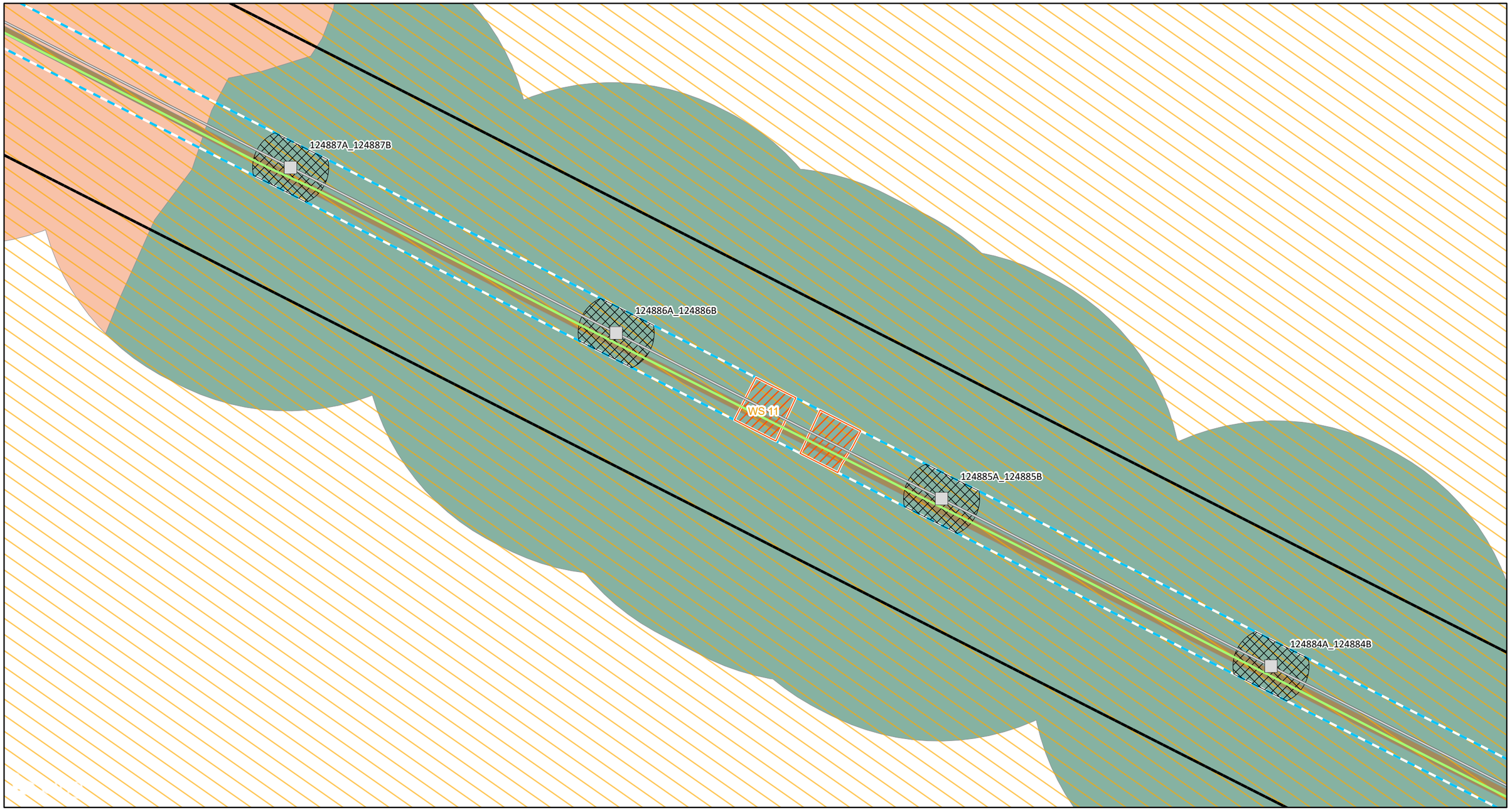
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



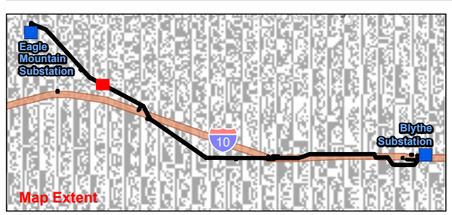


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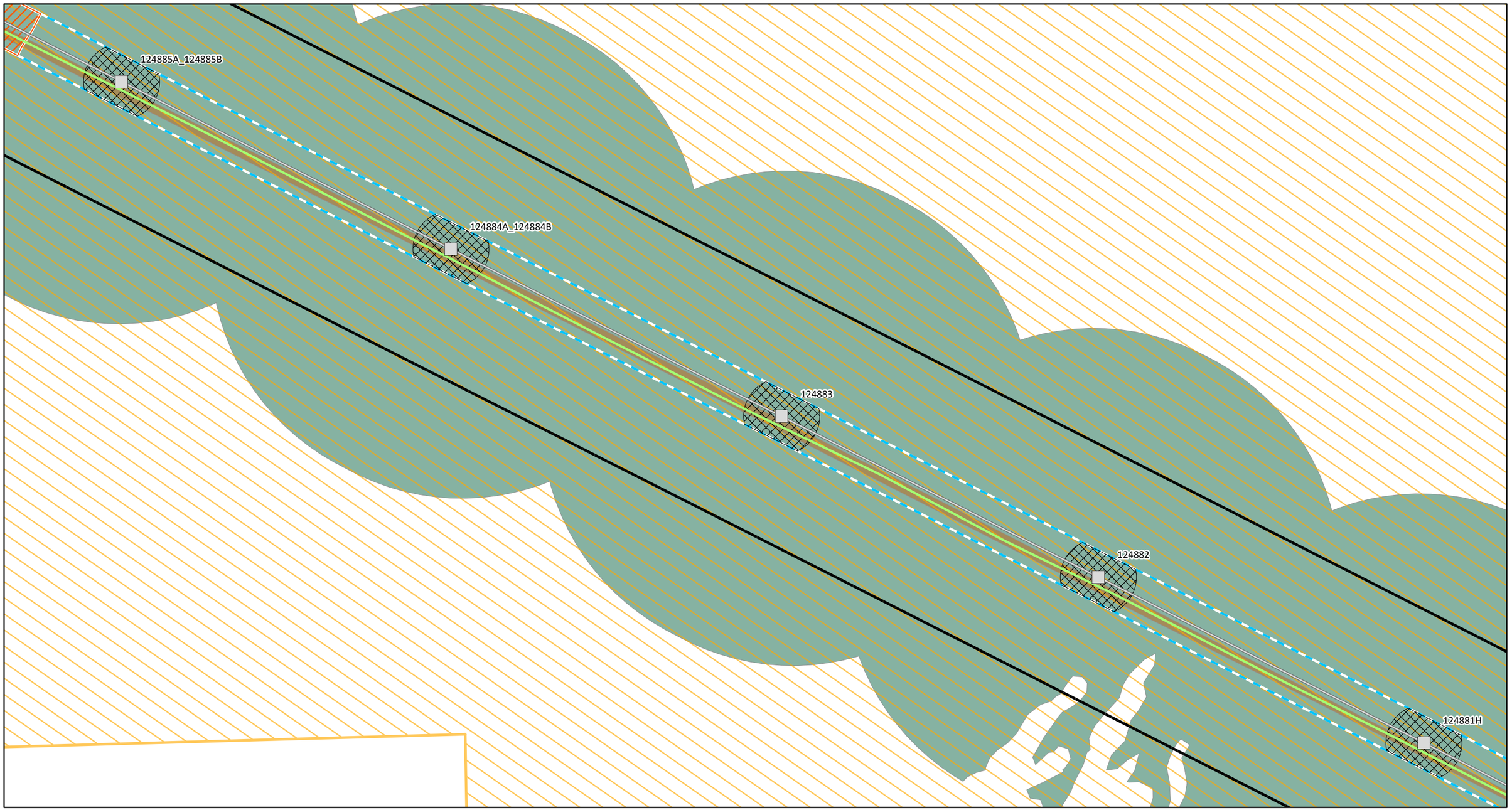
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



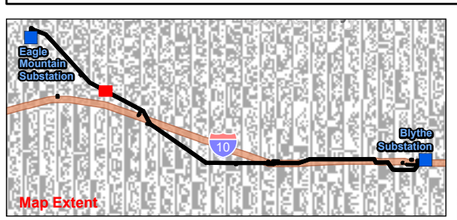


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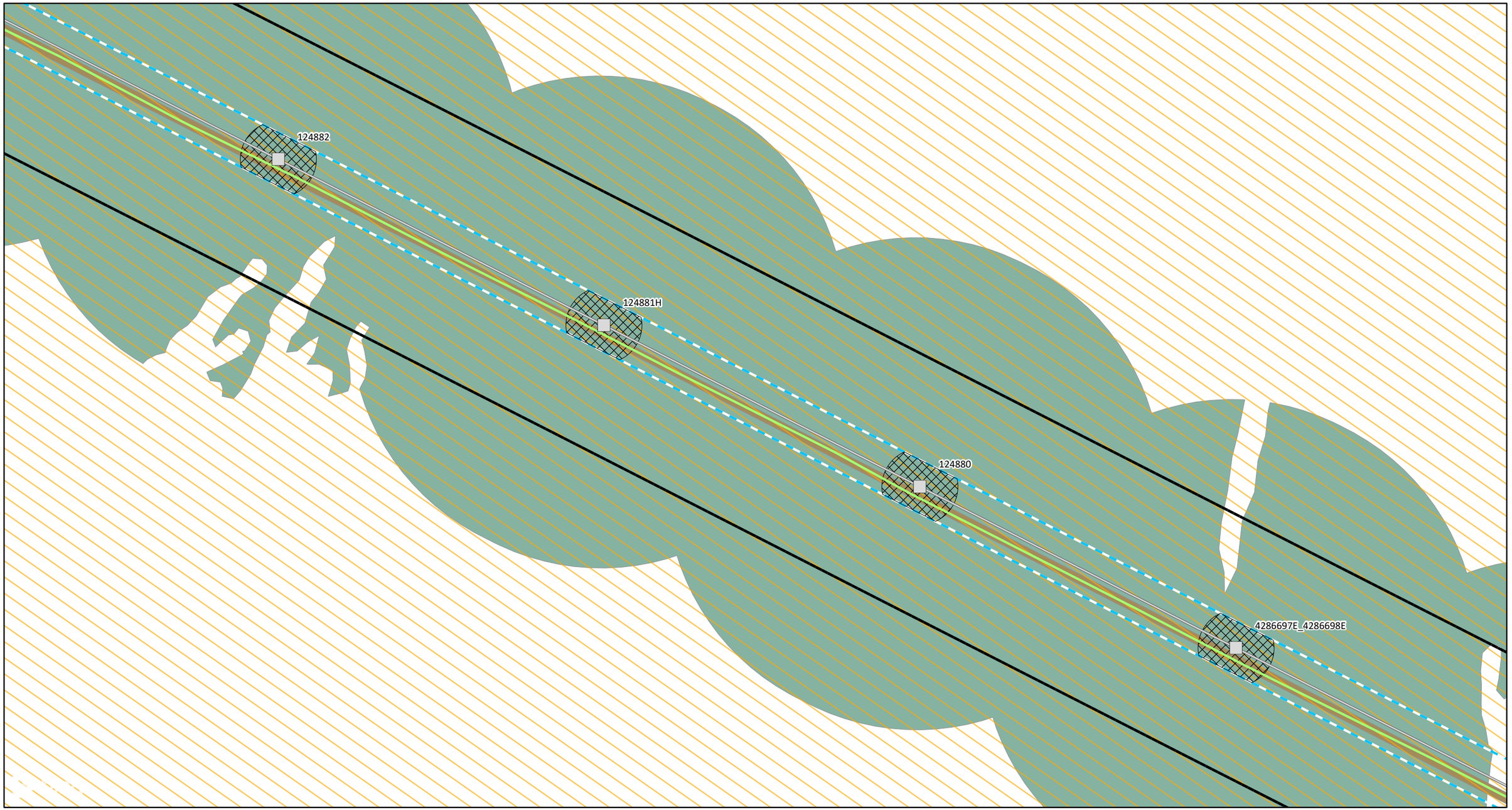
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



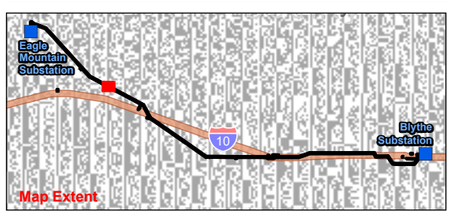


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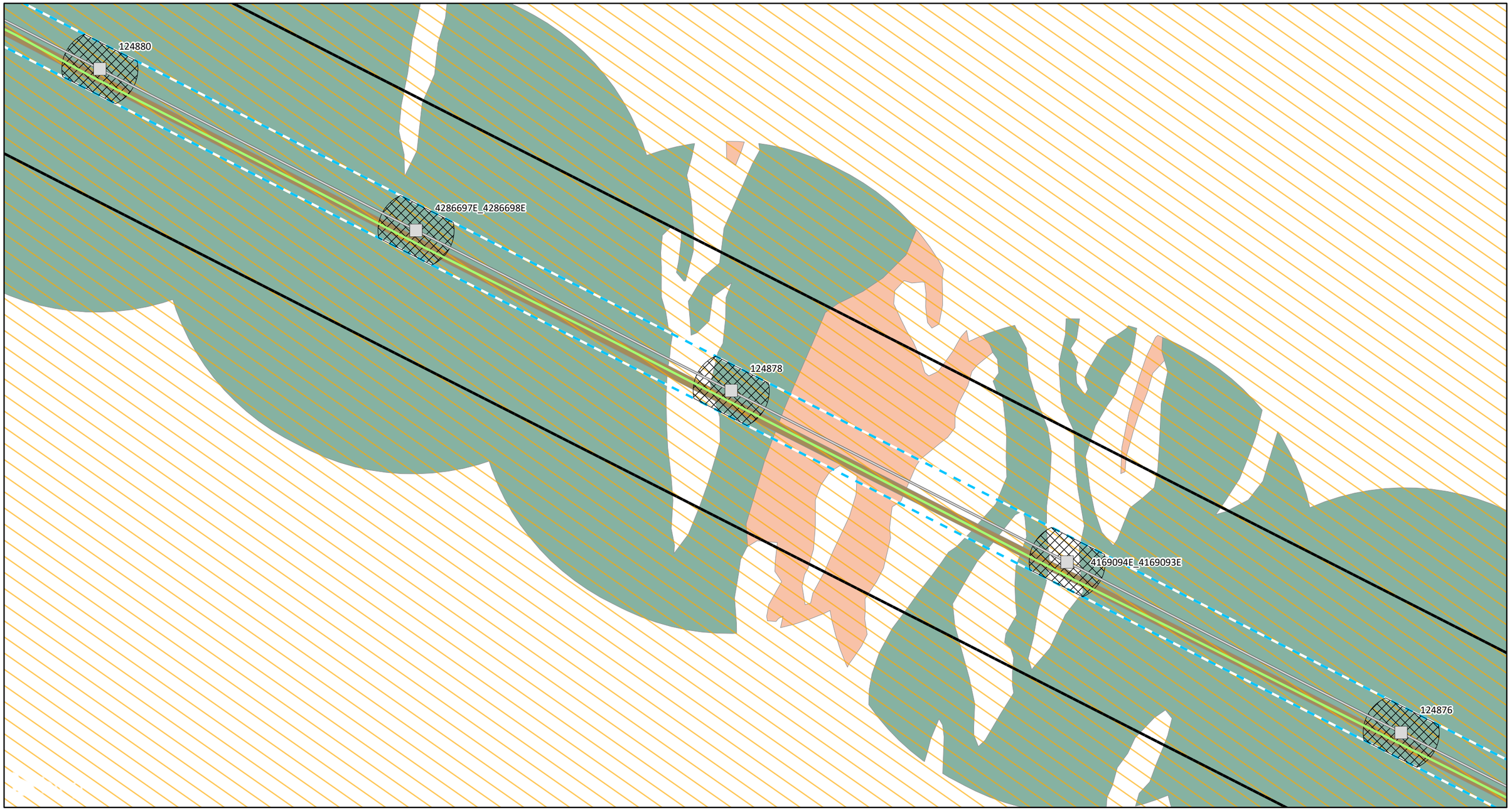
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



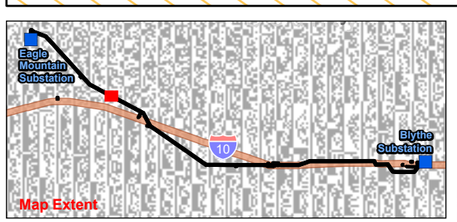


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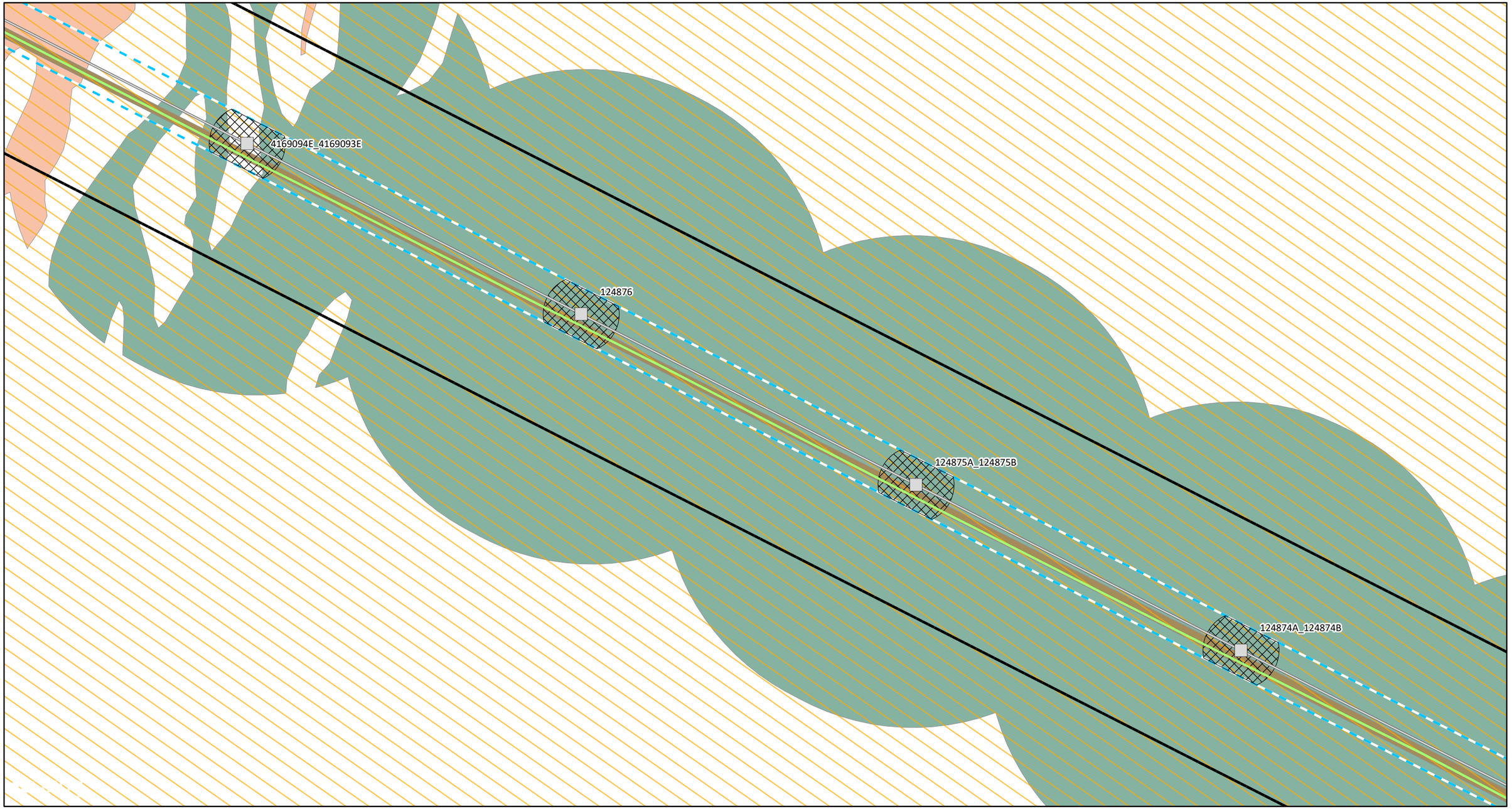
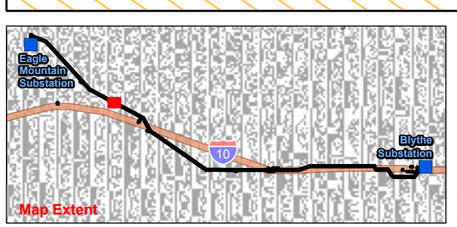
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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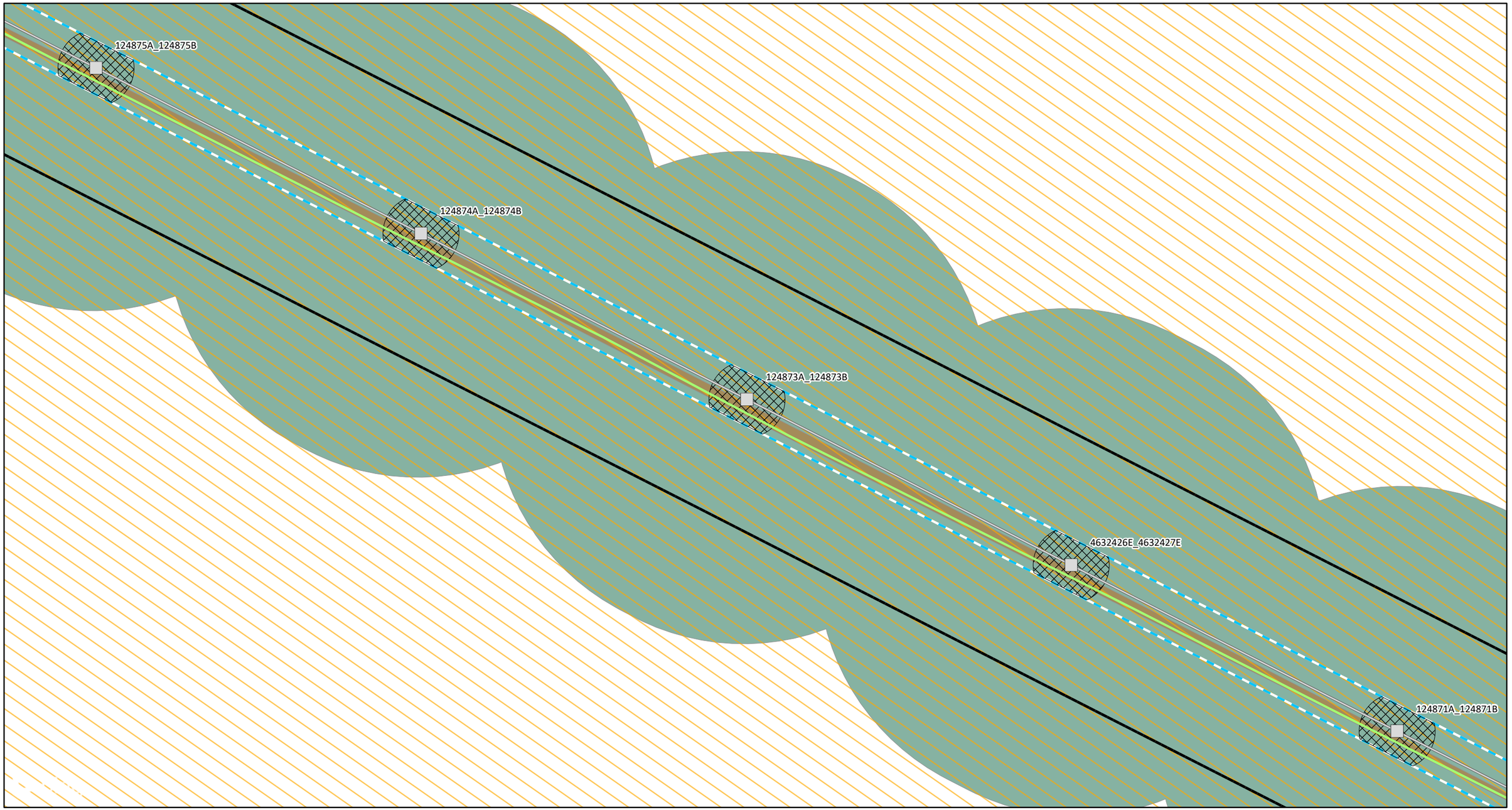
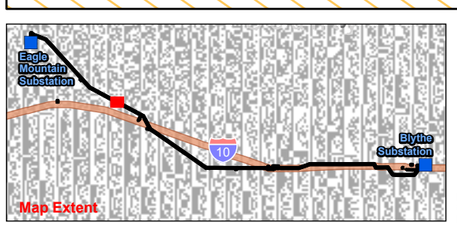
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
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- Access Road
- Study Area
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Construction Area

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Land Owner

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Land Cover Type

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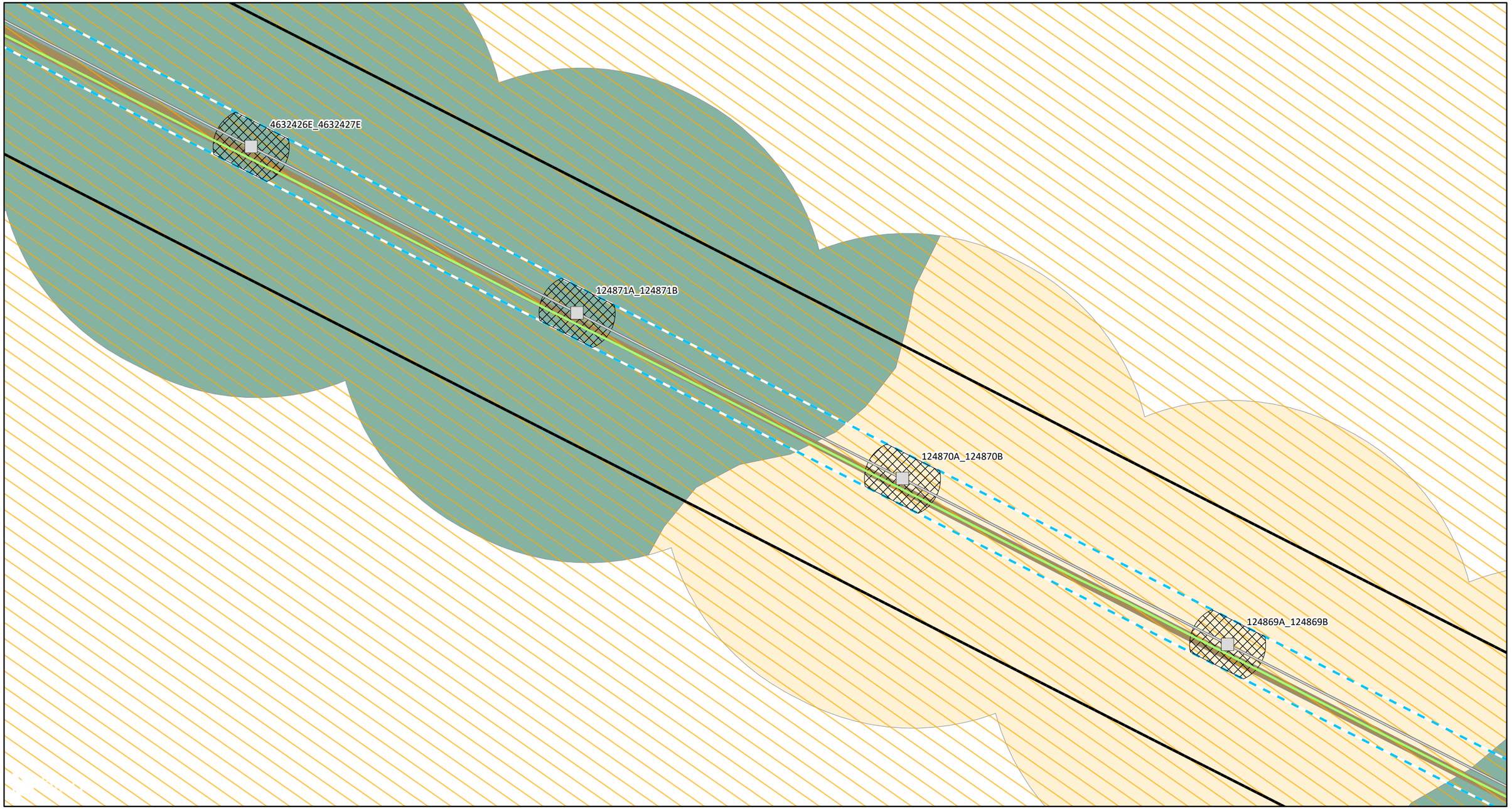
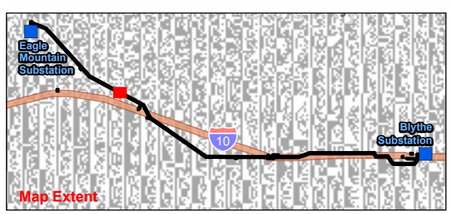
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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- Access Road
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Construction Area
- Guard Structure
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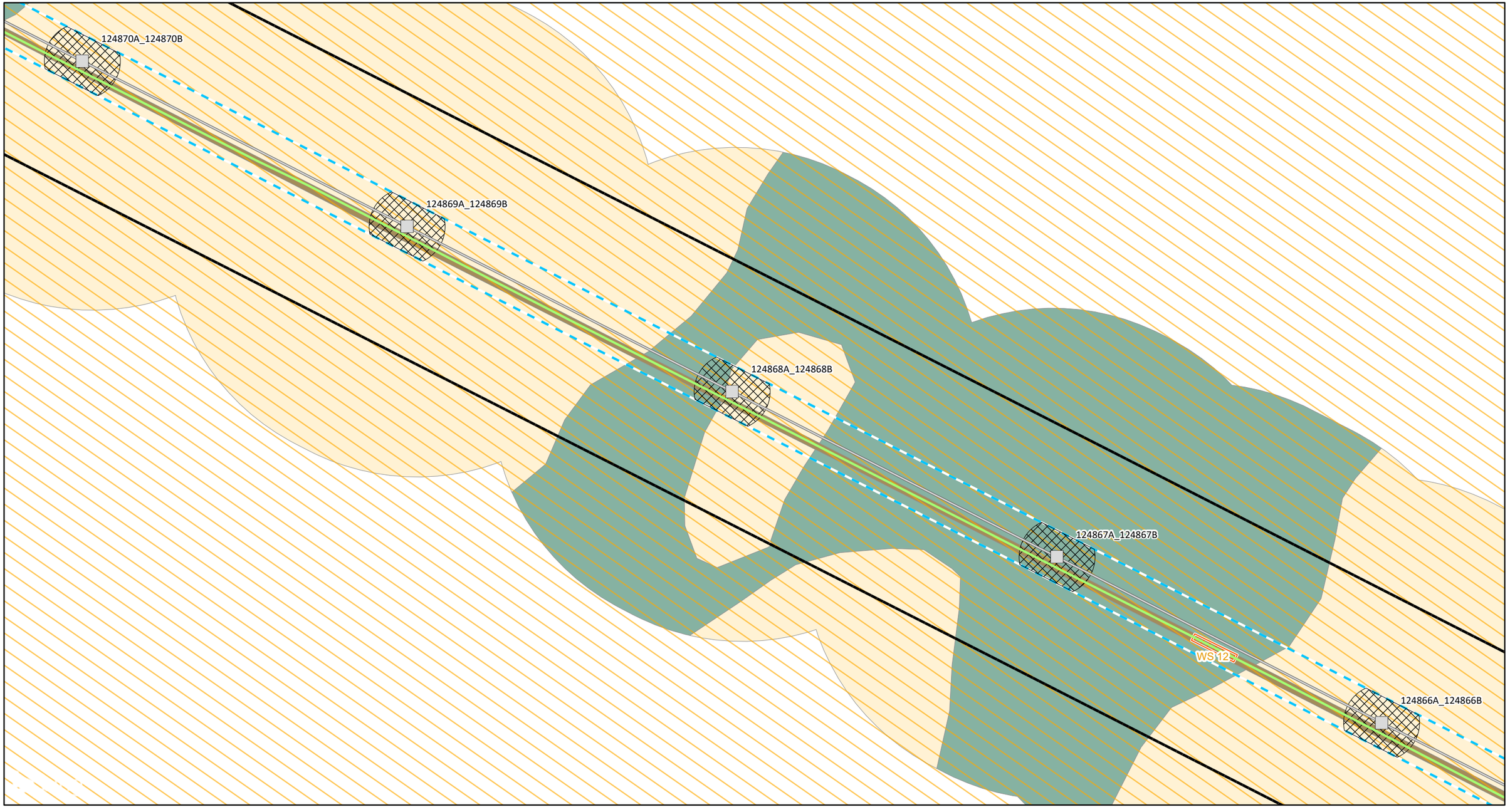
Land Owner
- BLM Land

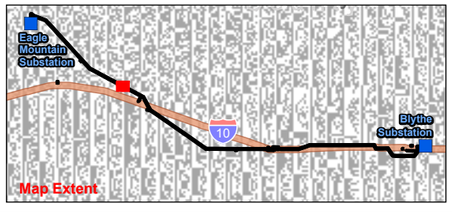
Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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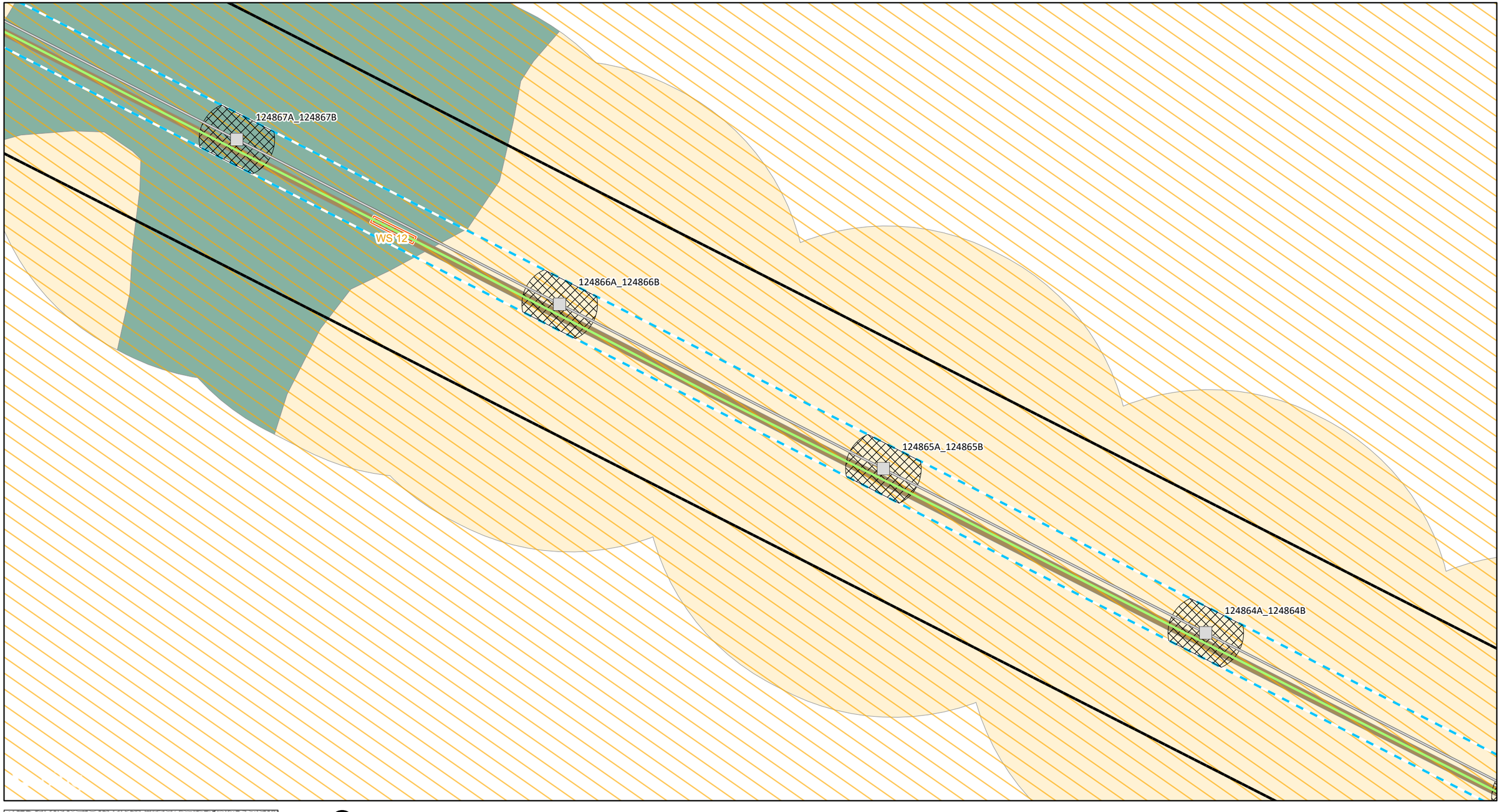
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



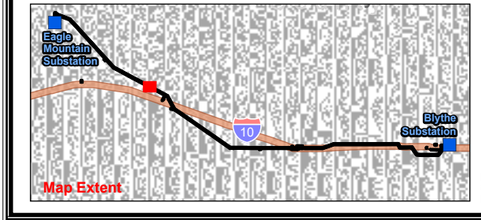


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FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

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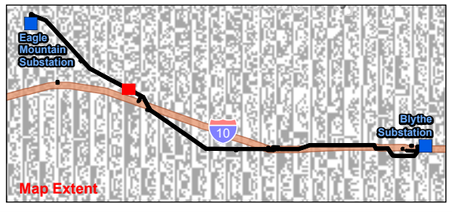
124961A_124961B



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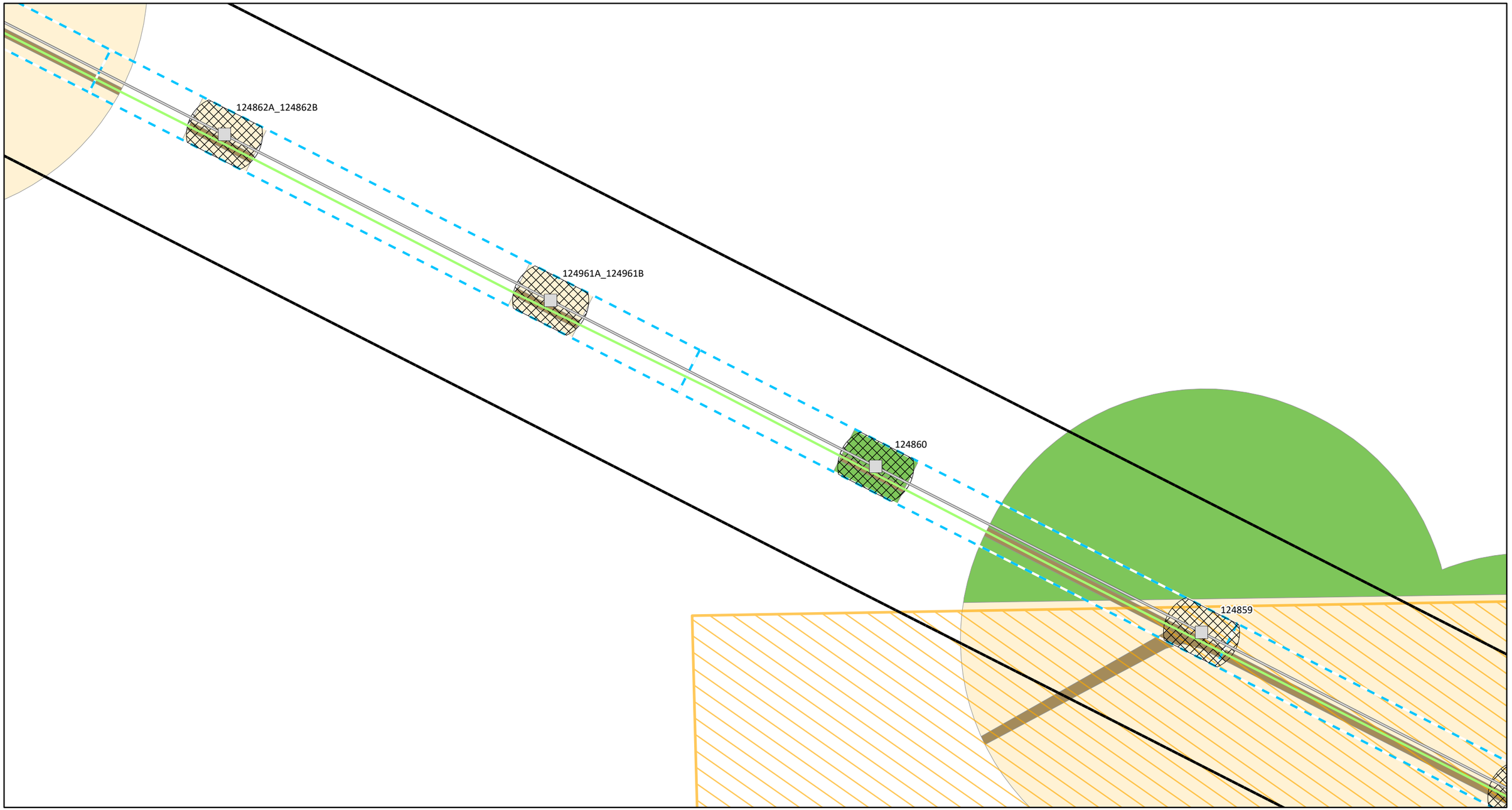

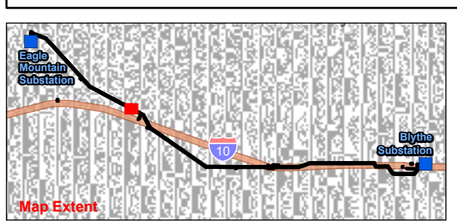

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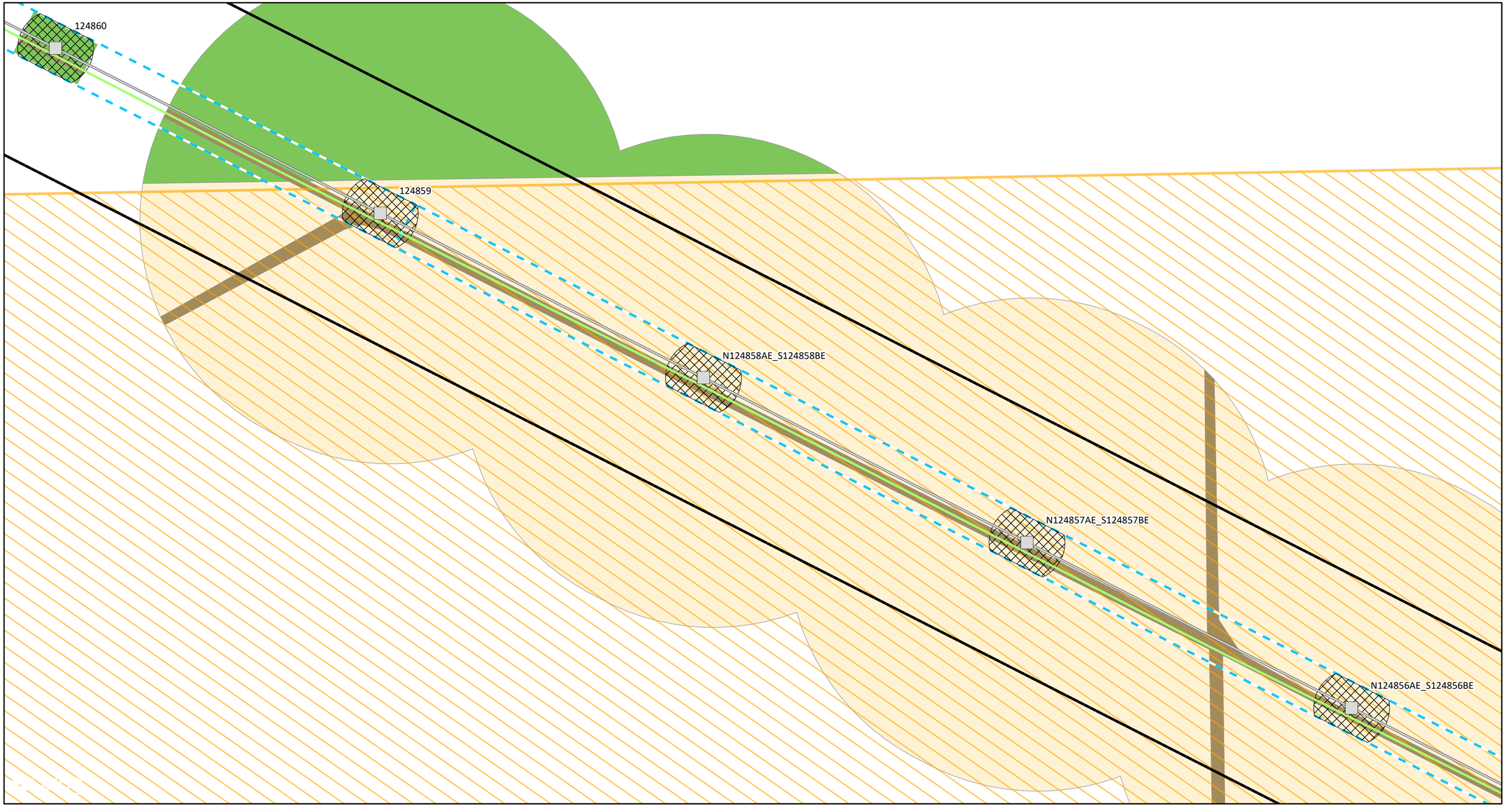
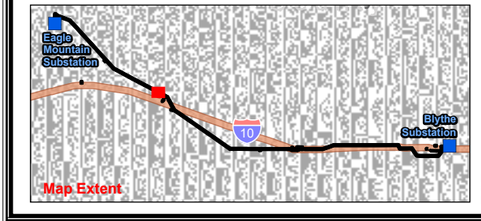
Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

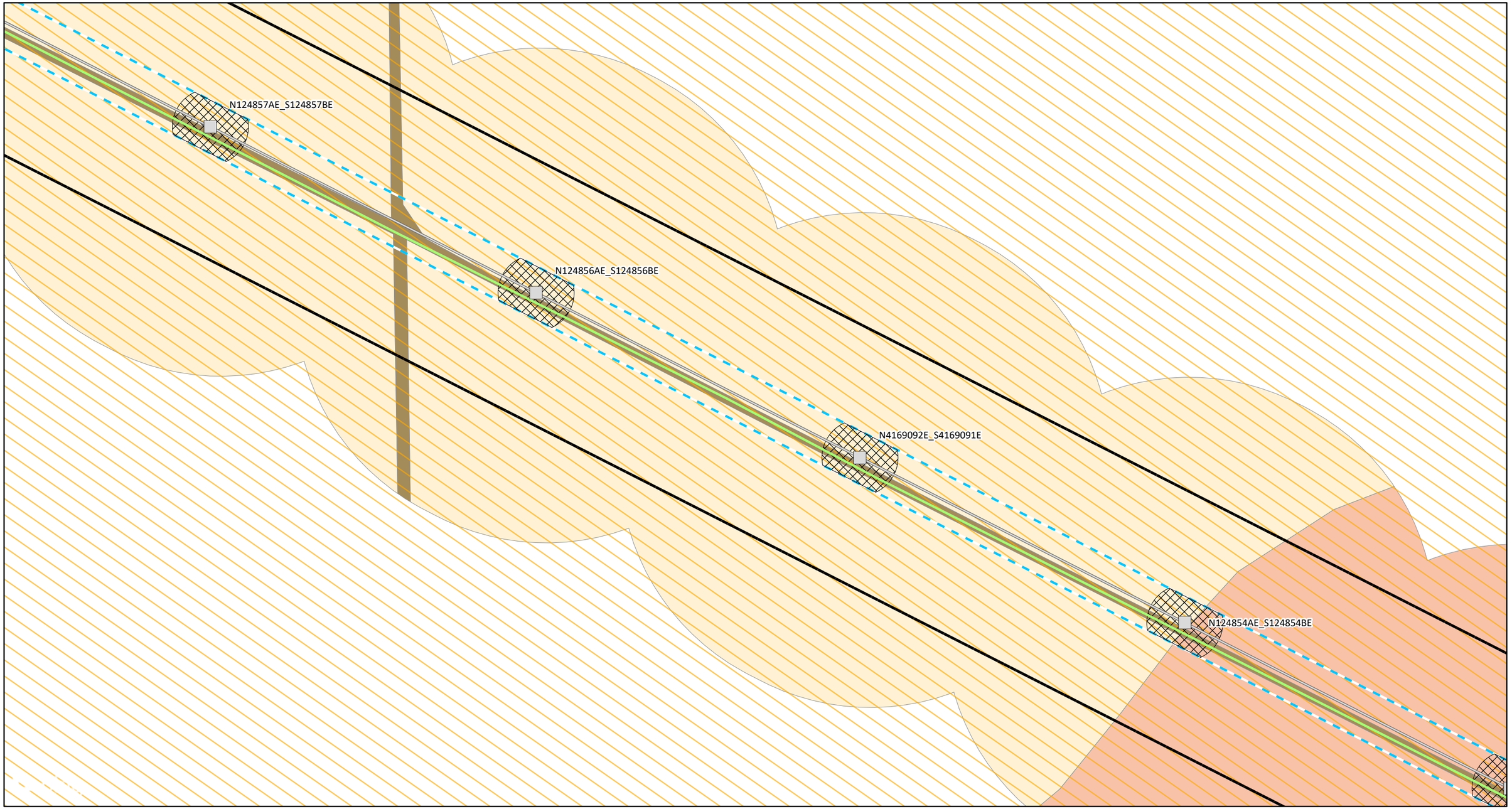
Land Owner
- BLM Land

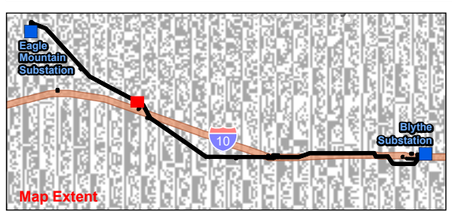
Land Cover Type
- Active Agriculture
- Creosote bush - white burr sage scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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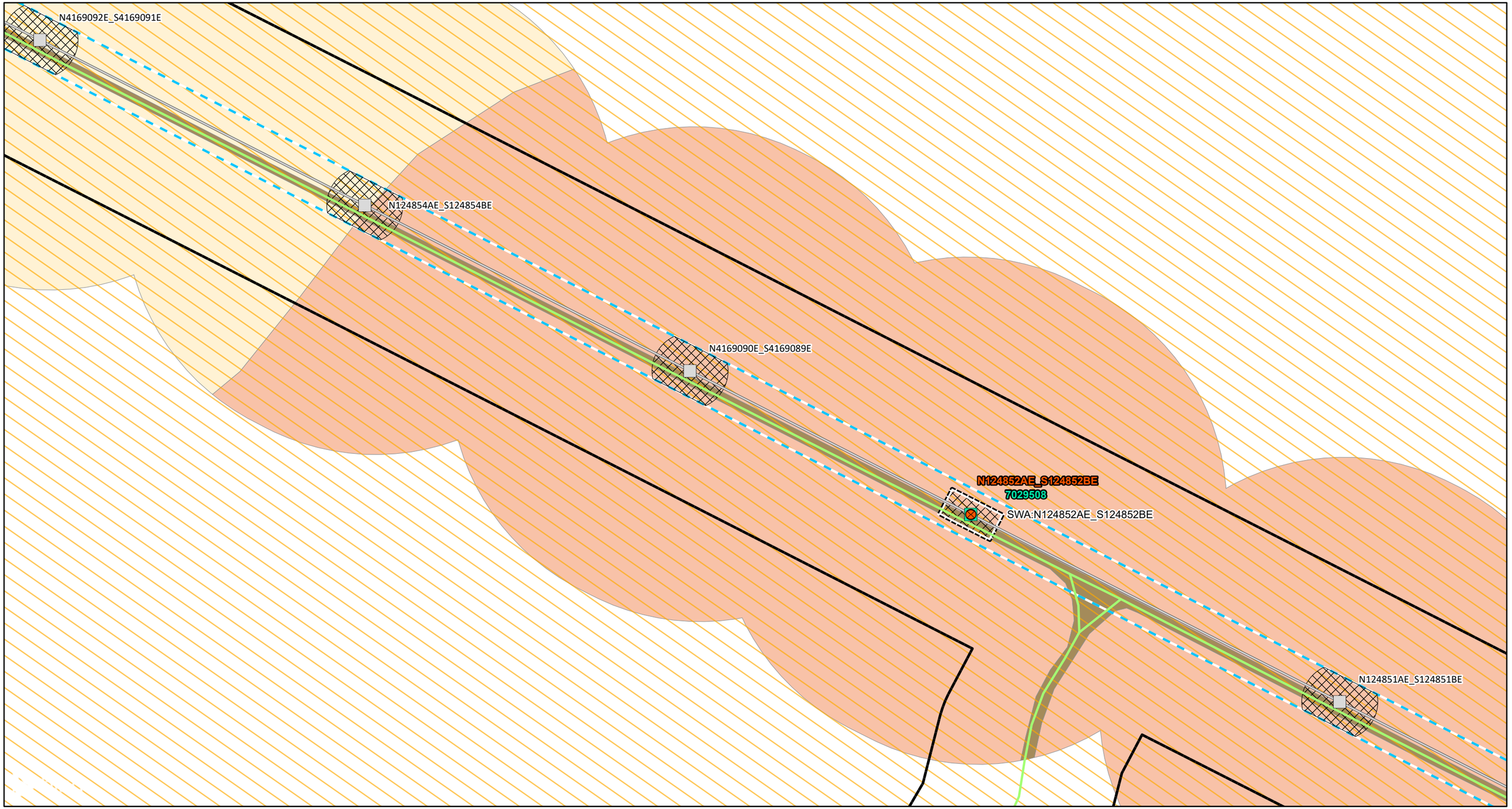
Land Owner
- BLM Land

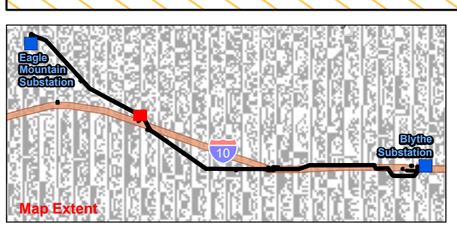
Land Cover Type
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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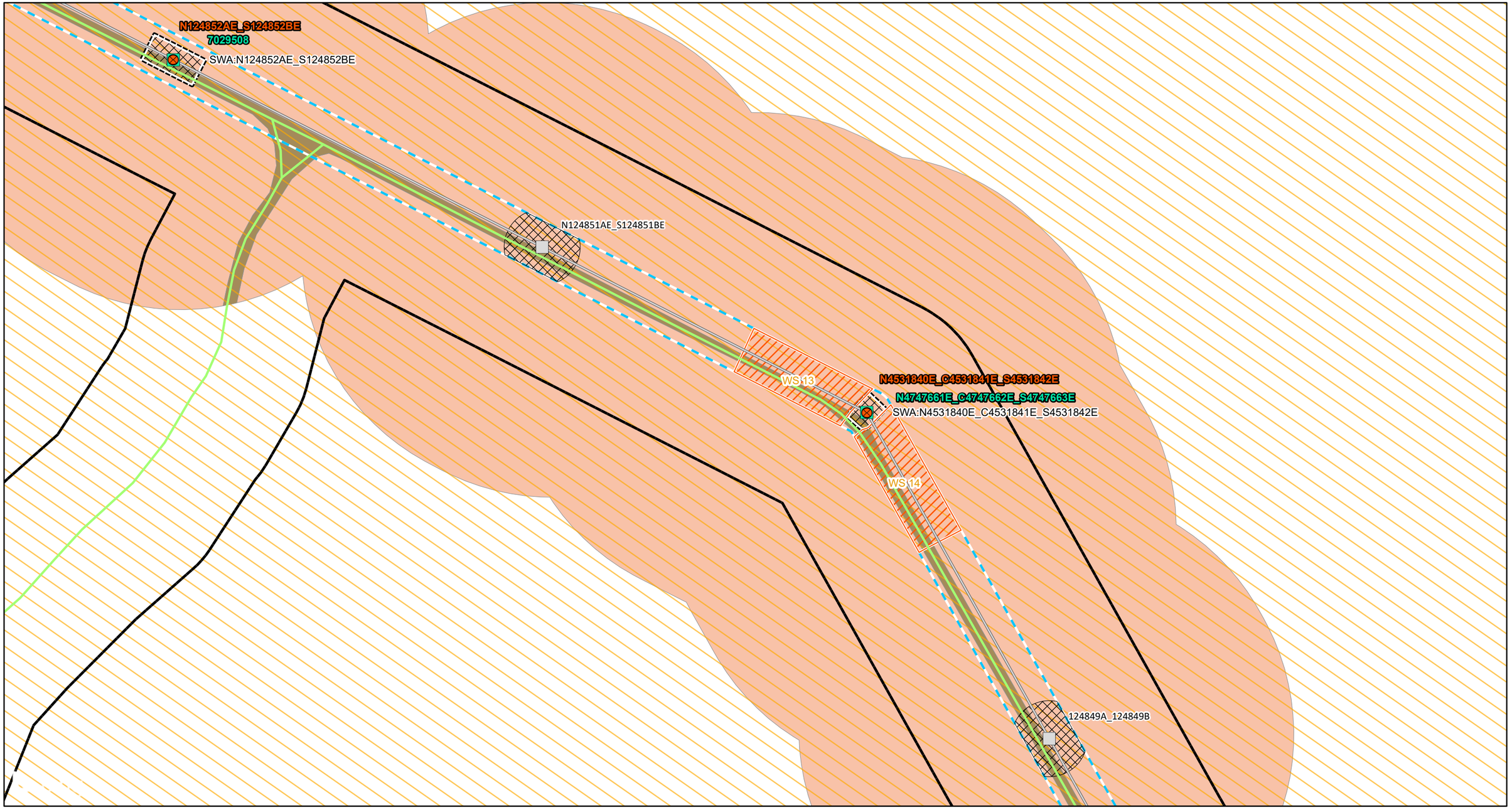
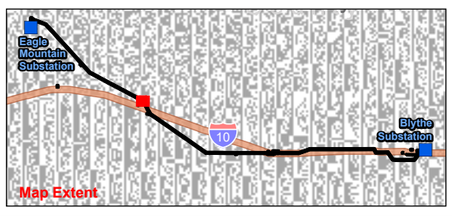
Land Owner
- BLM Land

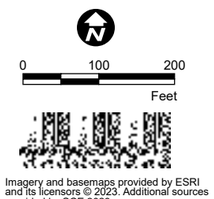
Land Cover Type
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Land Cover Type

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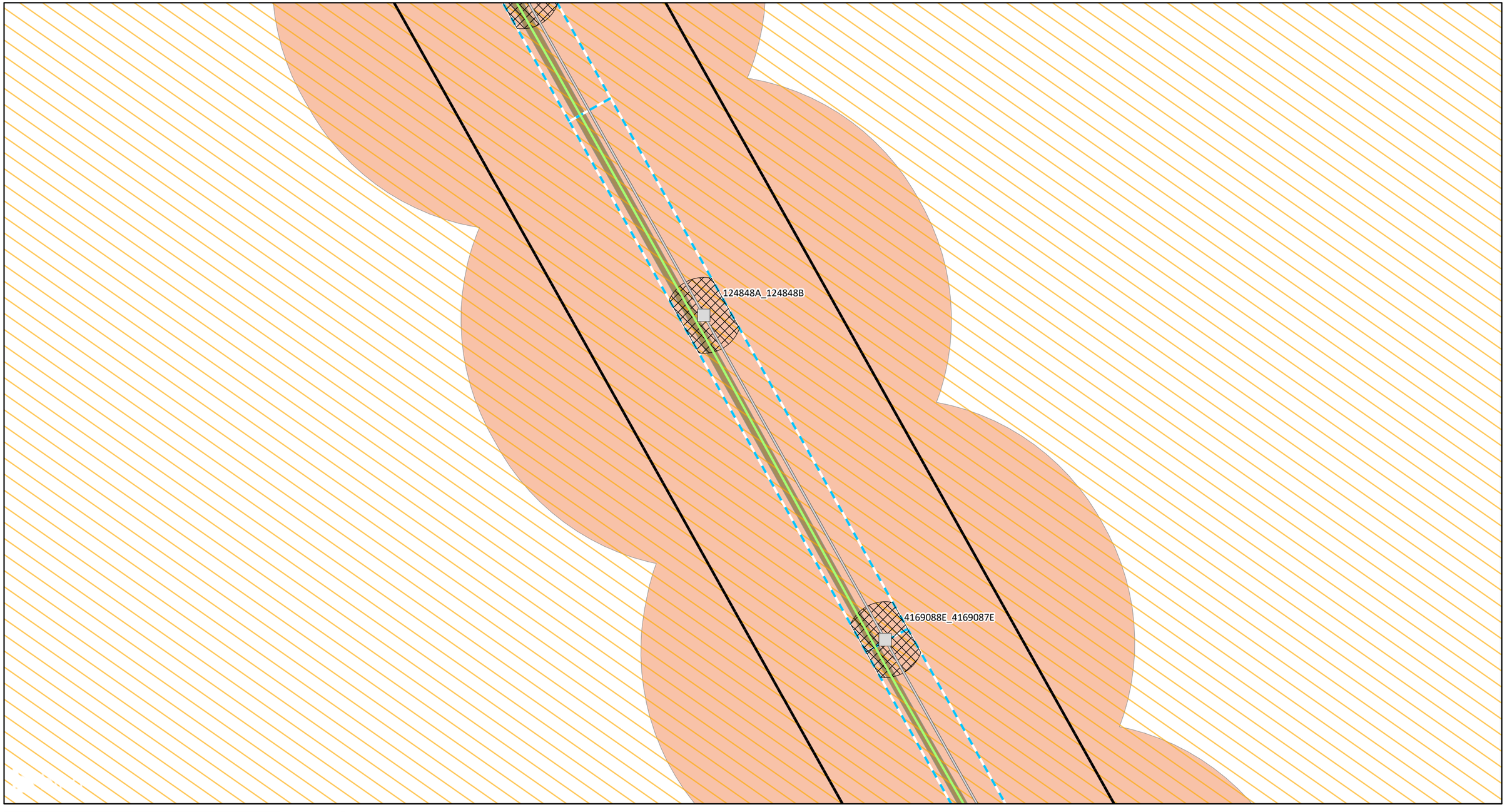
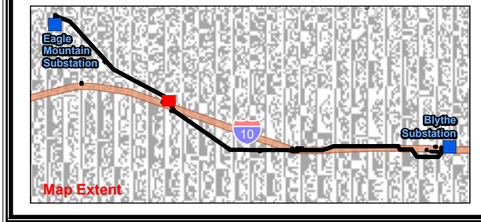
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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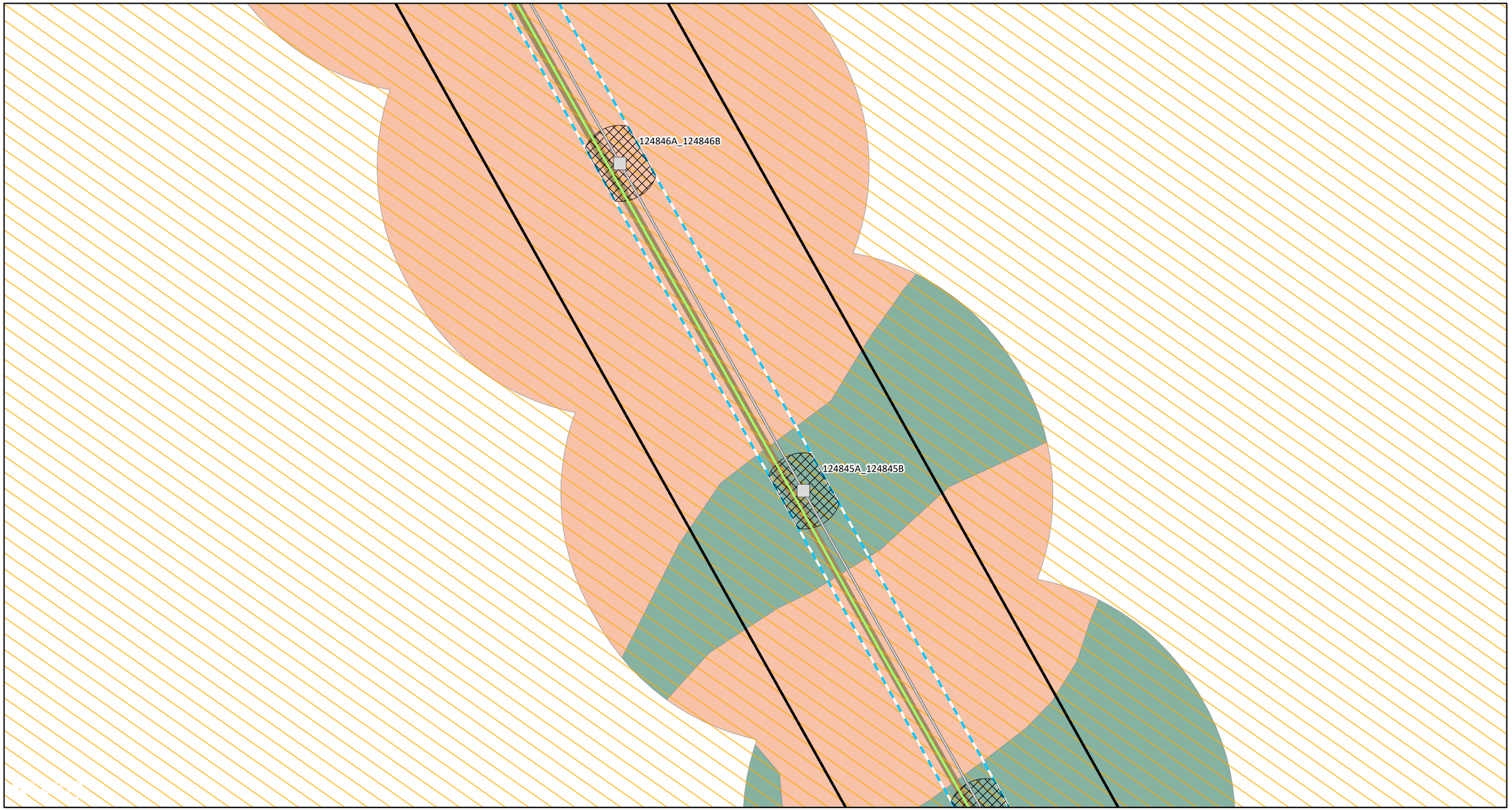
- O&M Area
- Desert Tortoise Critical Habitat

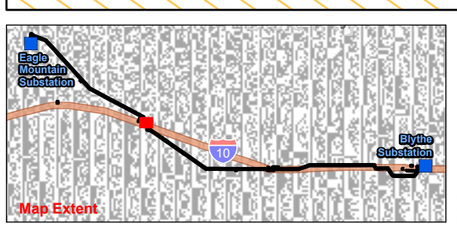
Land Owner
- BLM Land

Land Cover Type
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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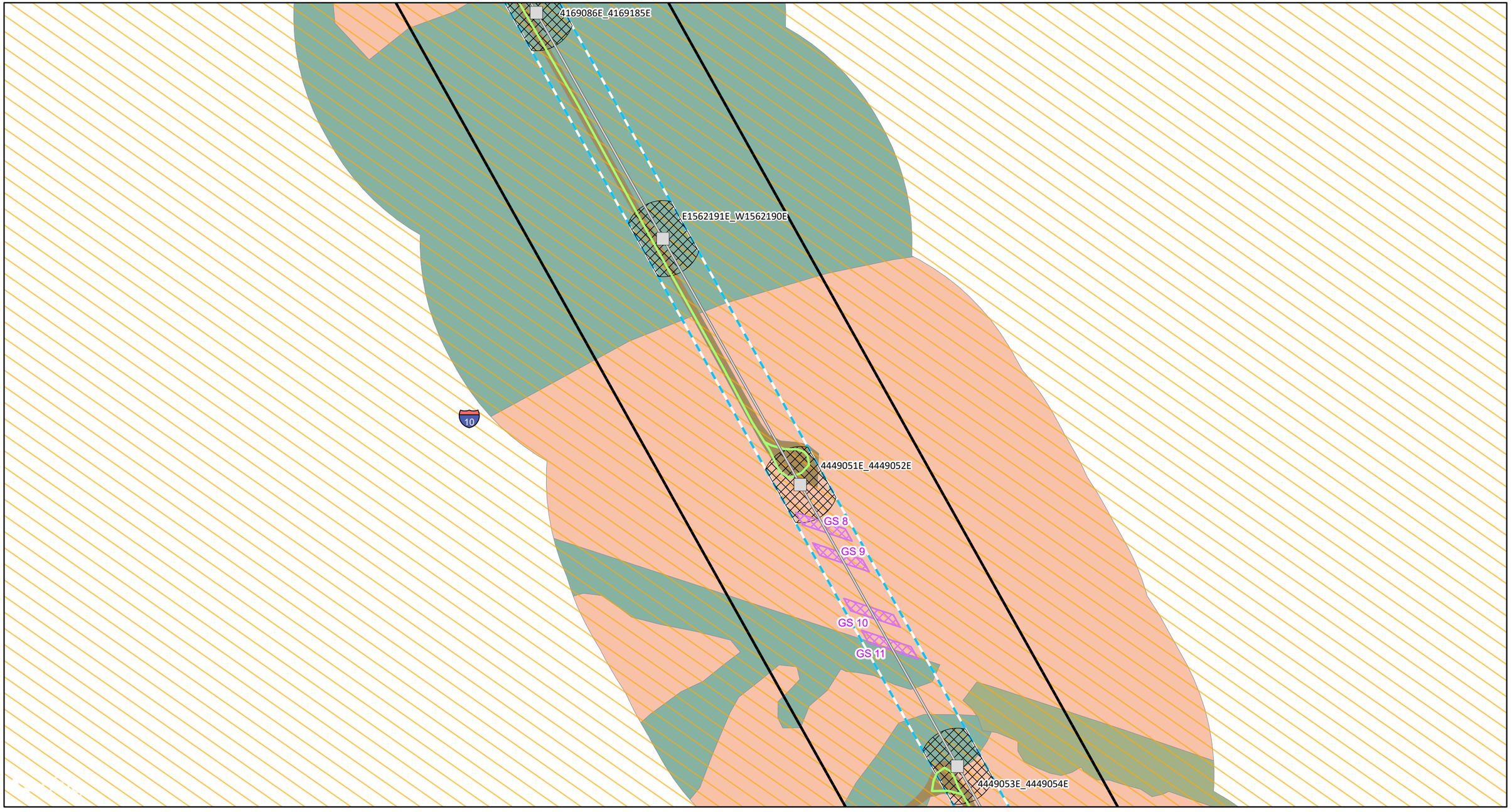
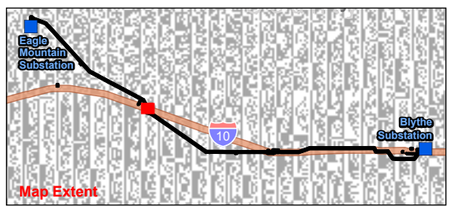
Land Owner
- BLM Land

Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- O&M Area
- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

Land Cover Type

- Blue palo verde - ironwood woodland
- Cheesebush - sweetbush scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

E124841A_W124841B

E124840A_W124840B

10

Eagle Mountain Substation

Blythe Substation

10

Map Extent

0 100 200

Feet

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- BLM Land

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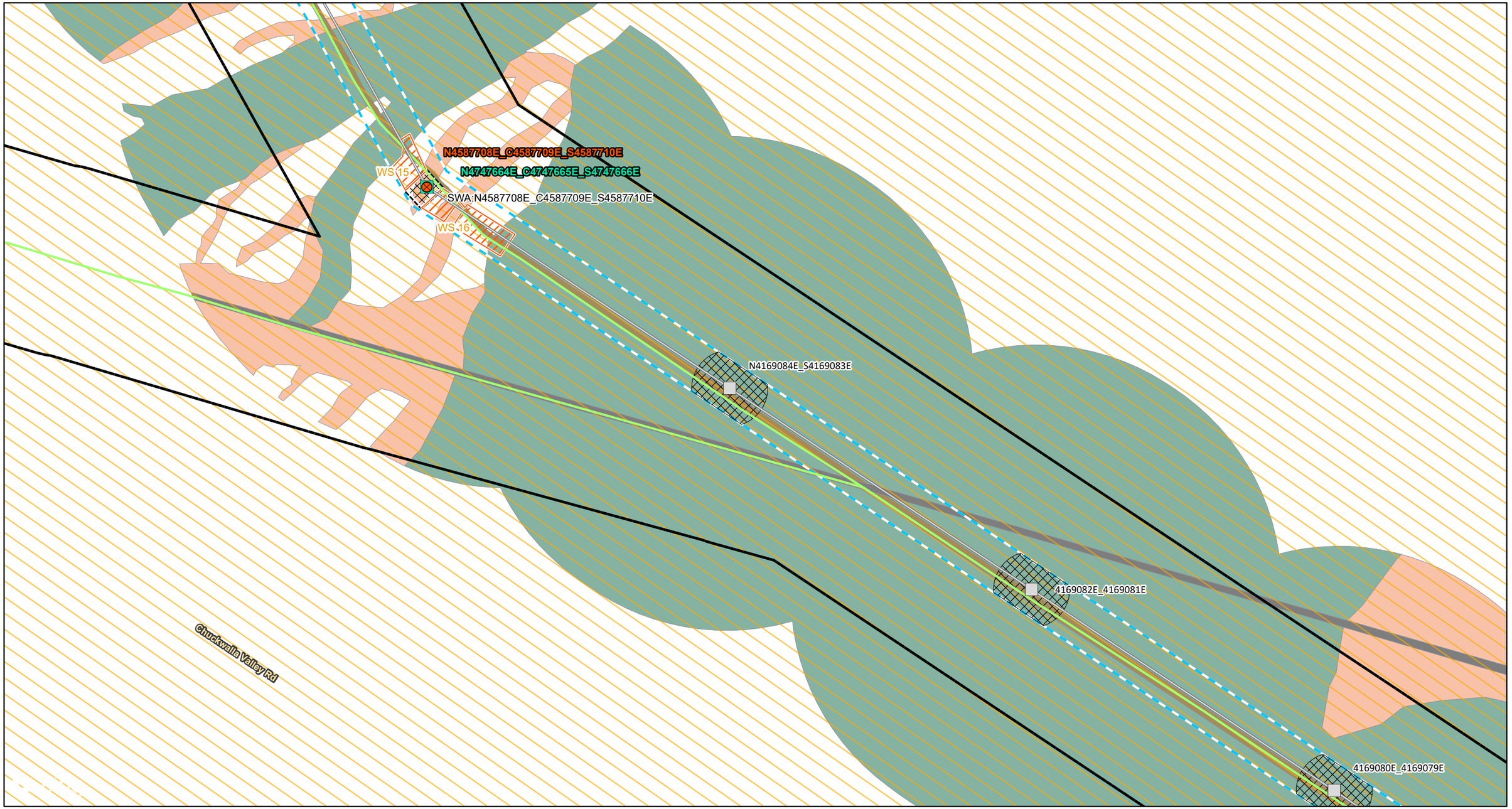
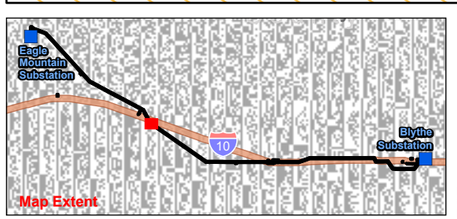
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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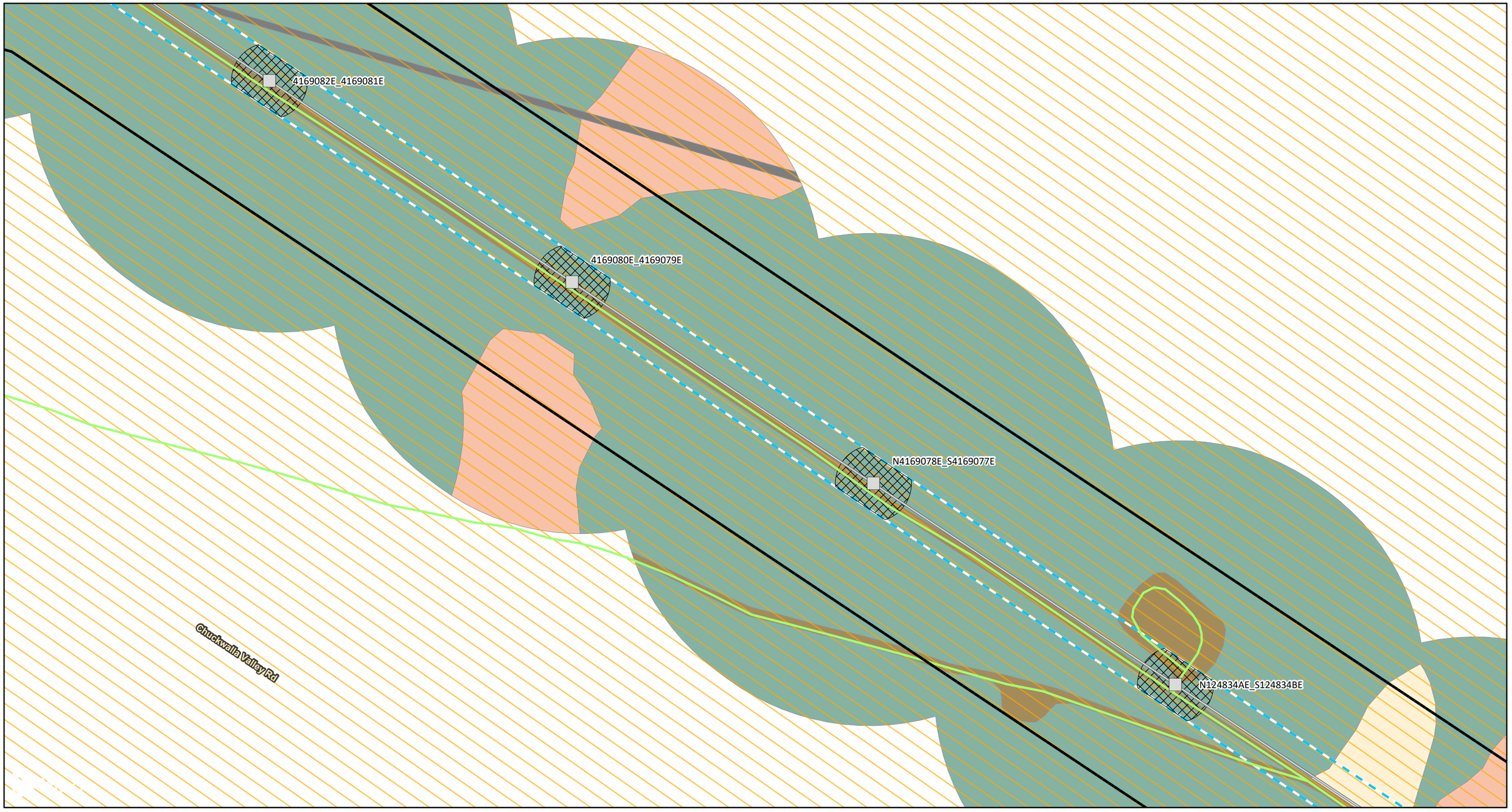
- Desert Tortoise Critical Habitat

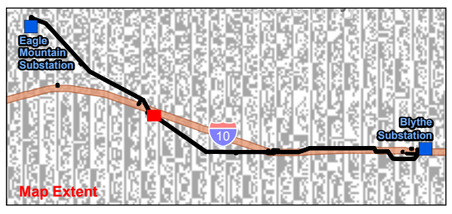
Land Owner
- BLM Land

Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush scrub
- Developed
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

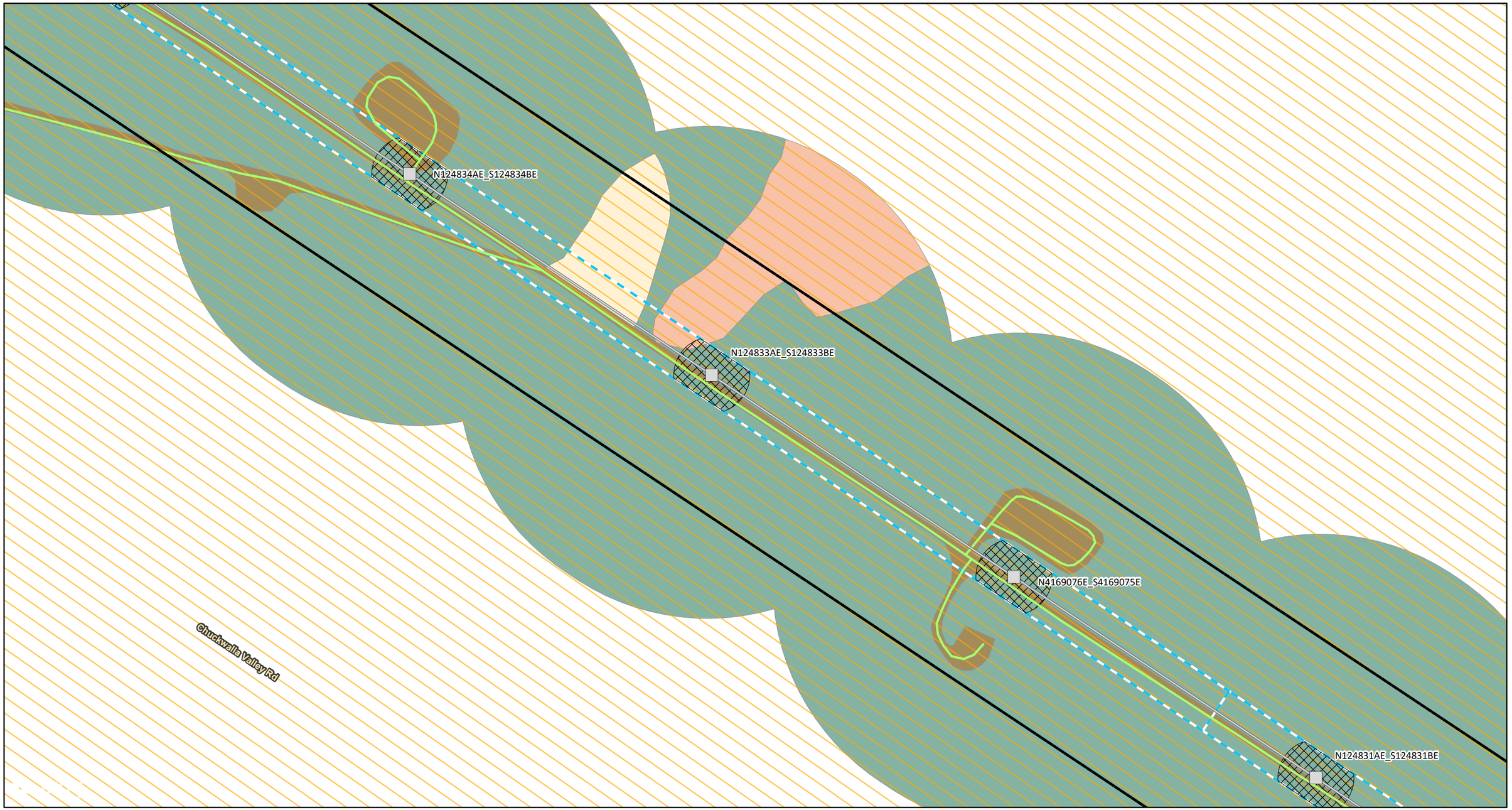
Land Cover Type

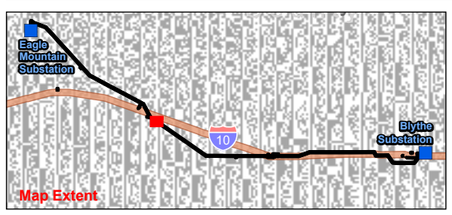
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- BLM Land

Land Cover Type

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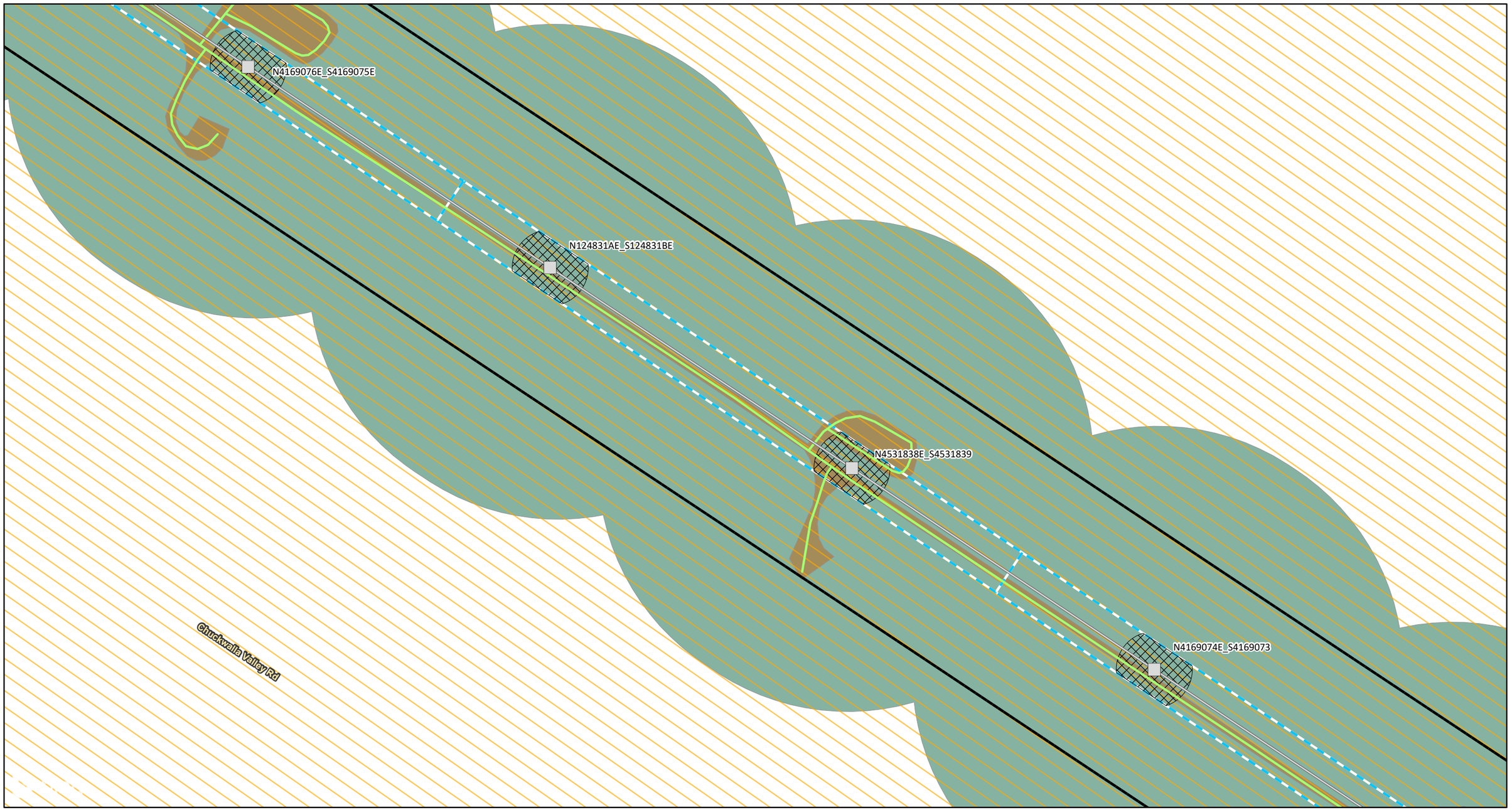
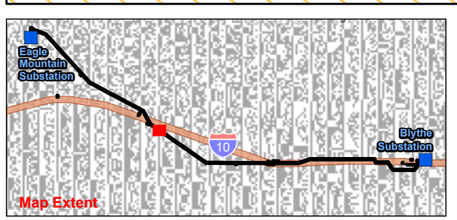
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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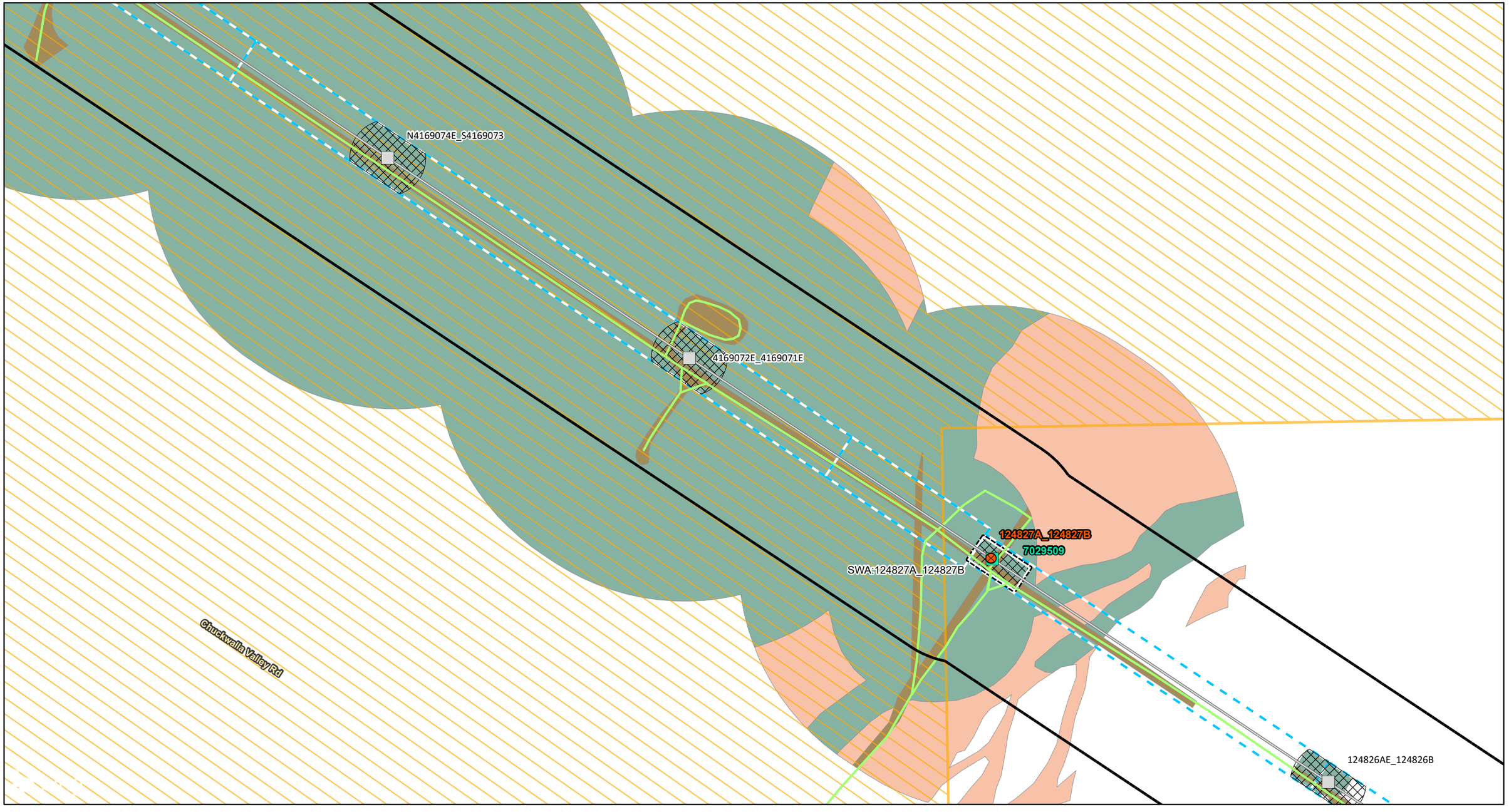
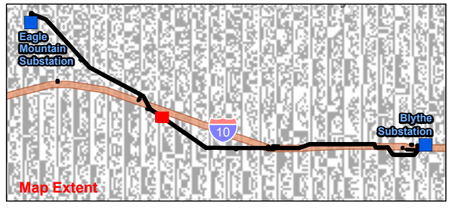
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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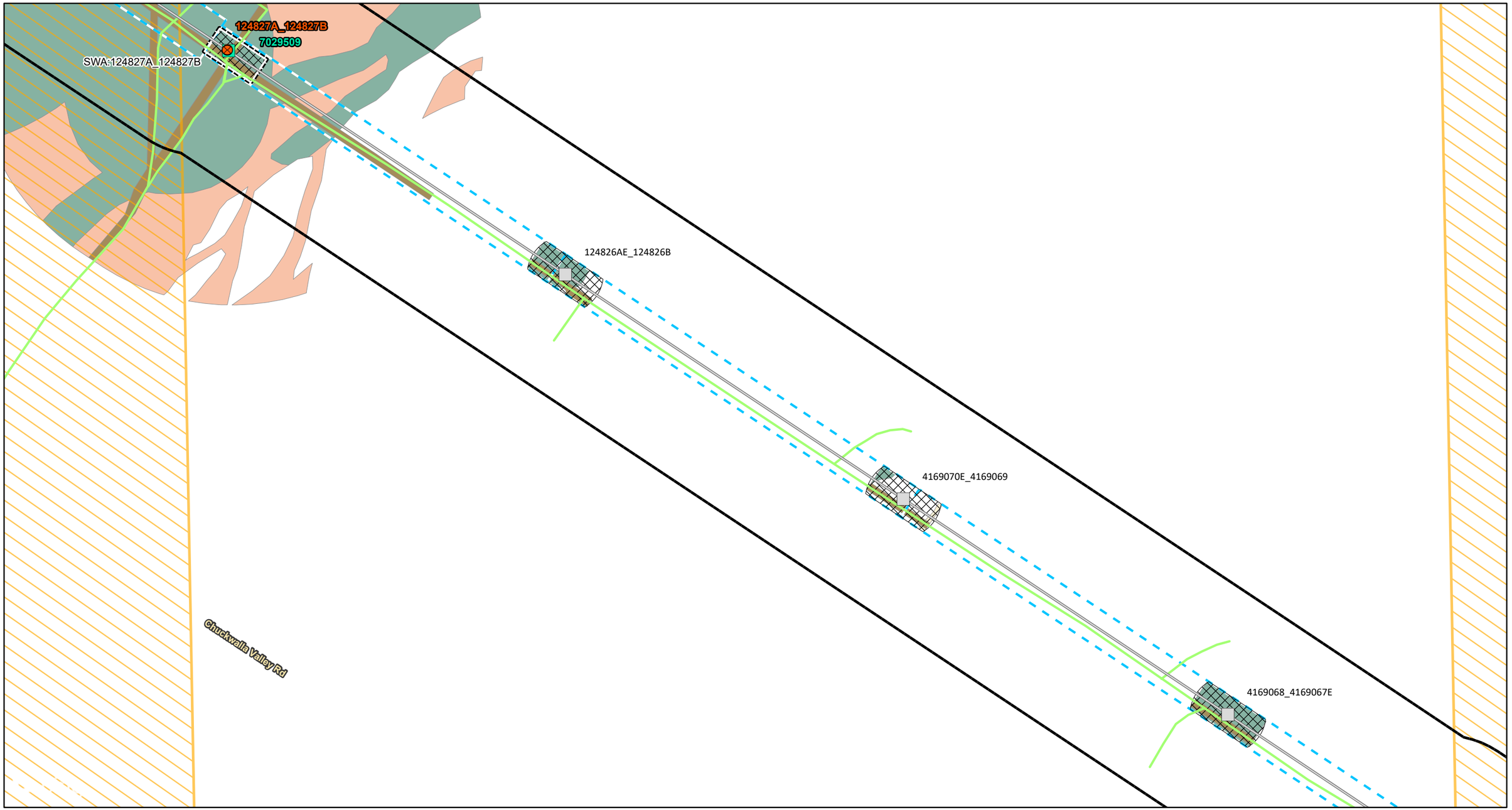
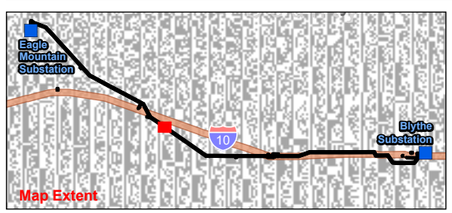
Land Owner
- BLM Land

Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Land Cover Type
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

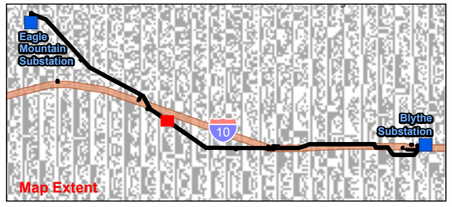
4169068_4169067E

124823A_124823B

124822A_124822B

124821A_124821B

Chuckwalla Valley Rd



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Land Cover Type

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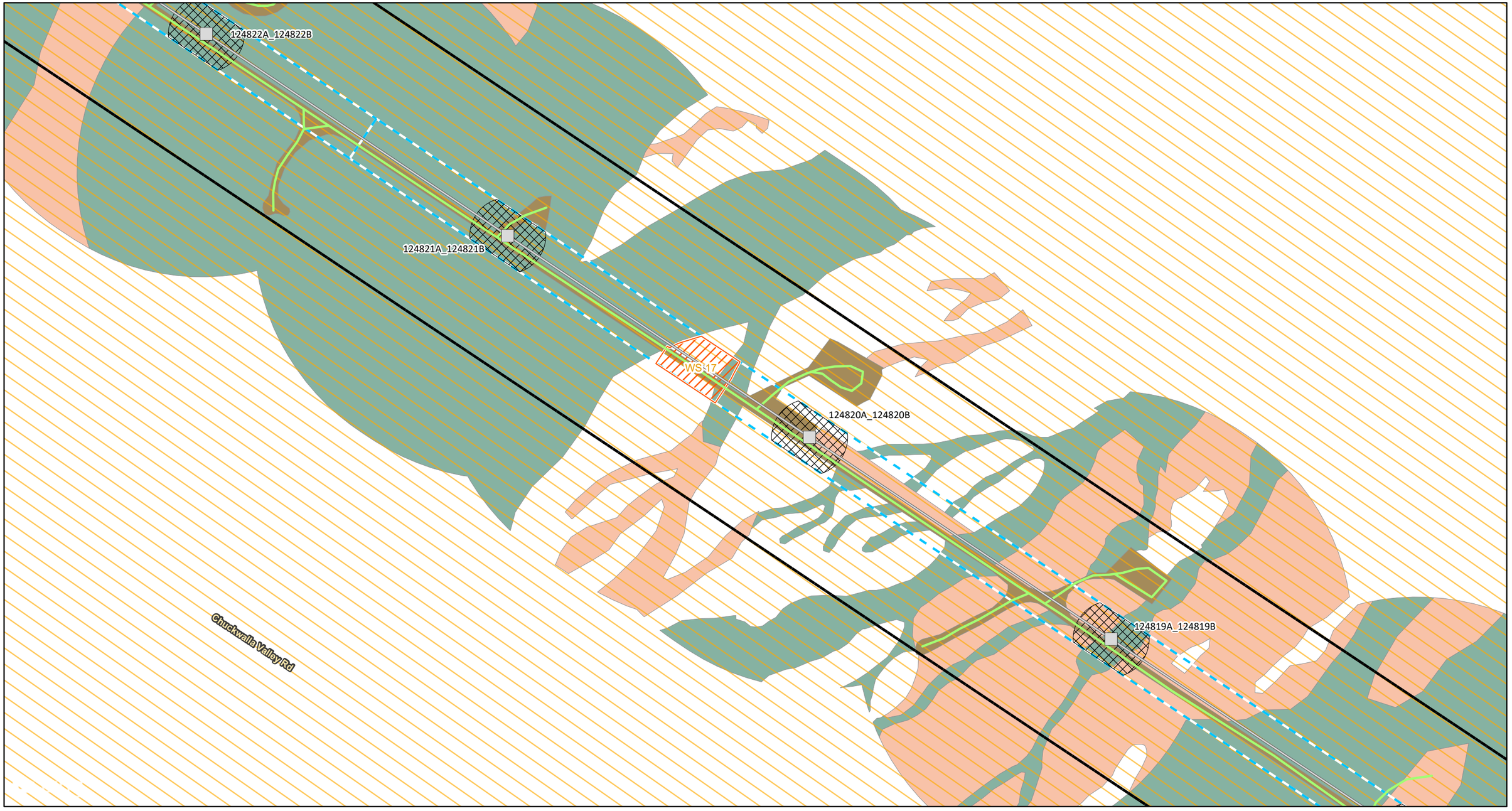
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



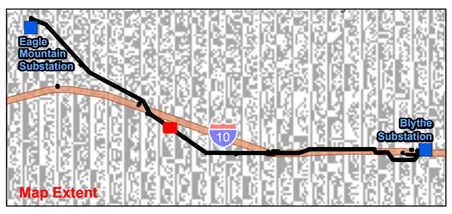


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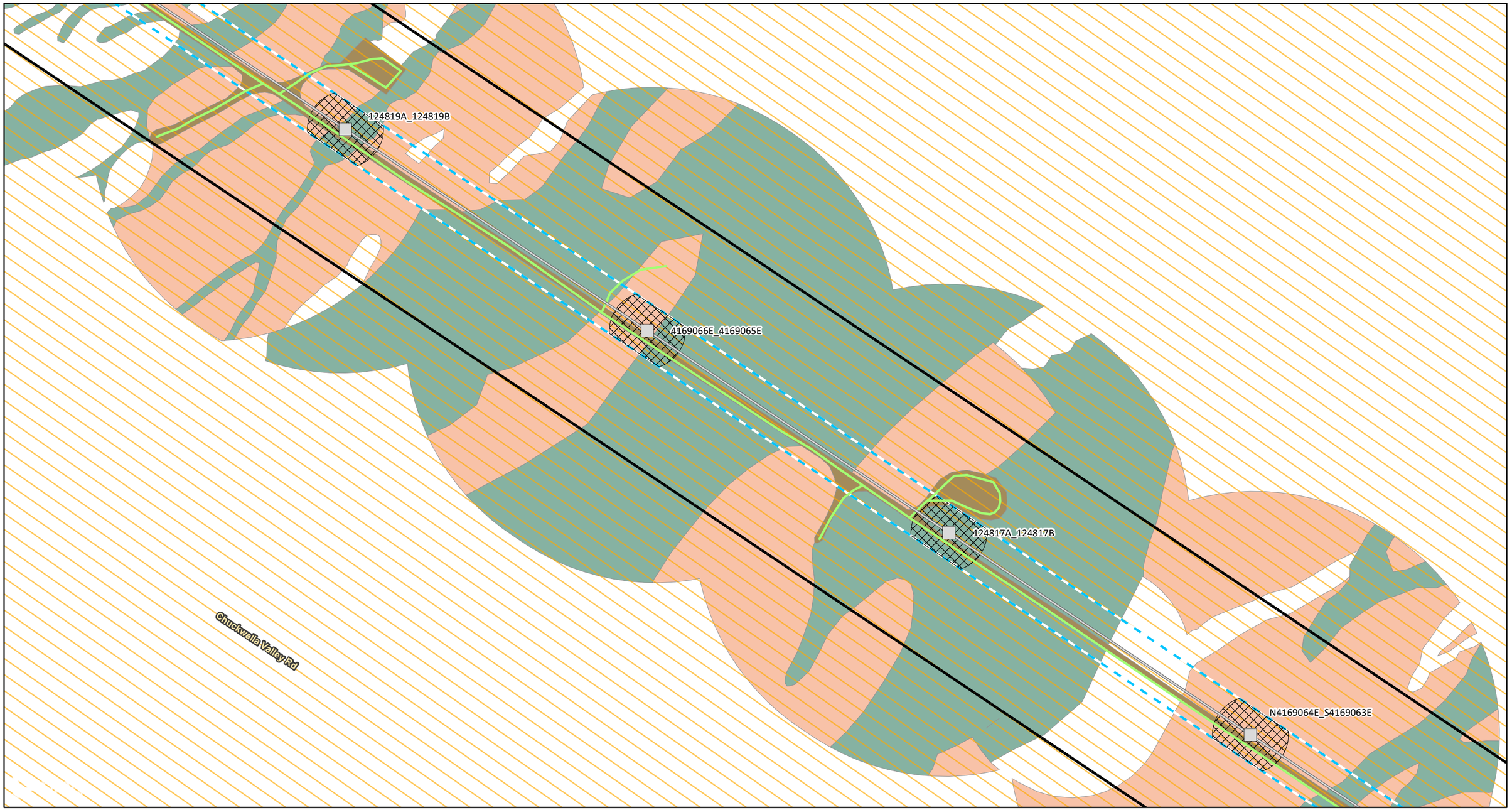
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



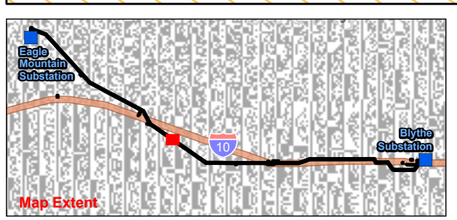


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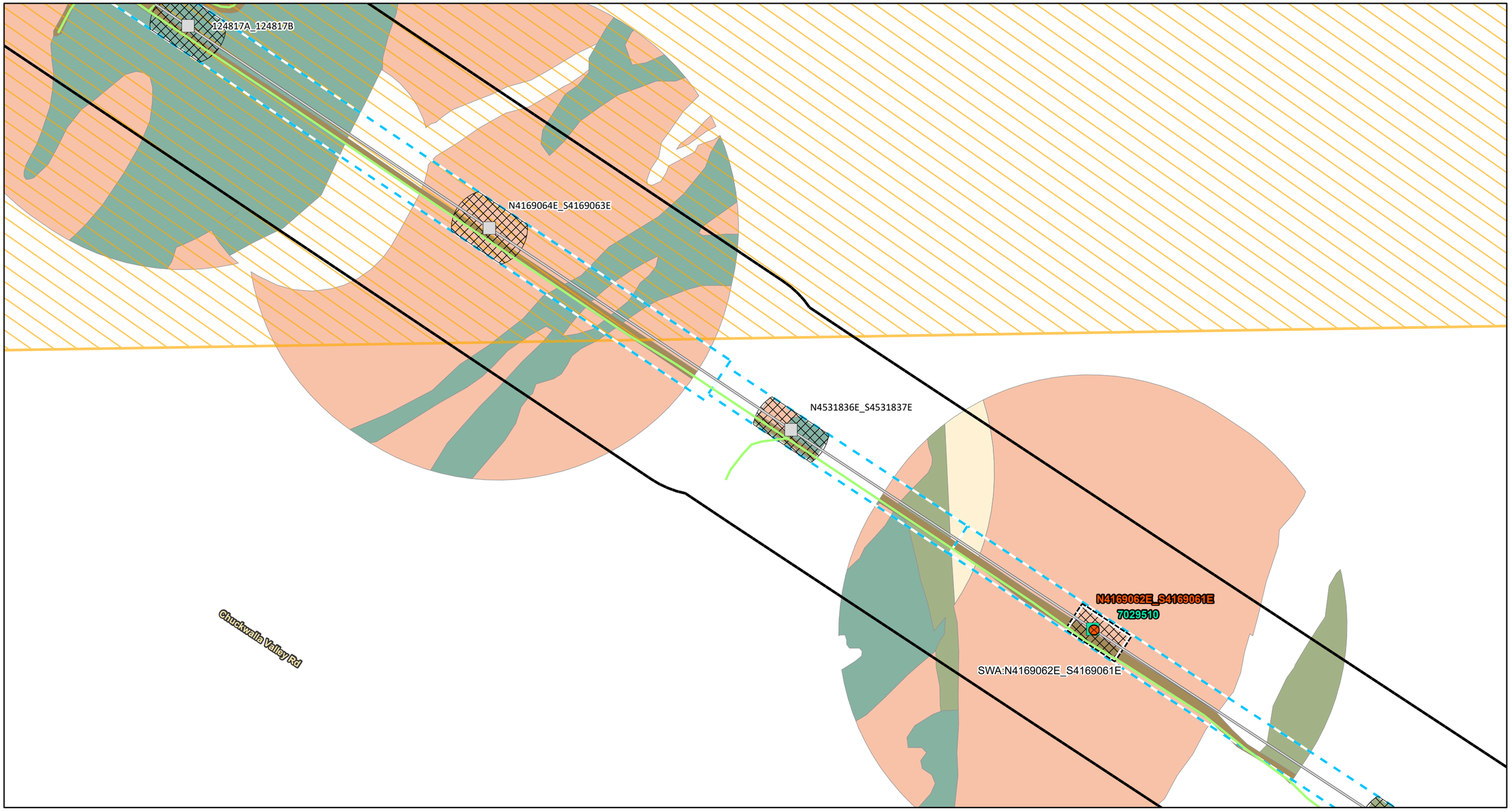
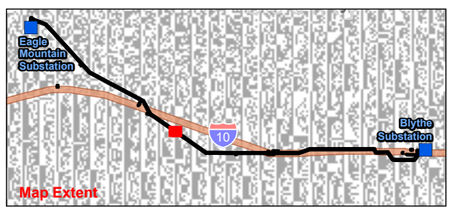
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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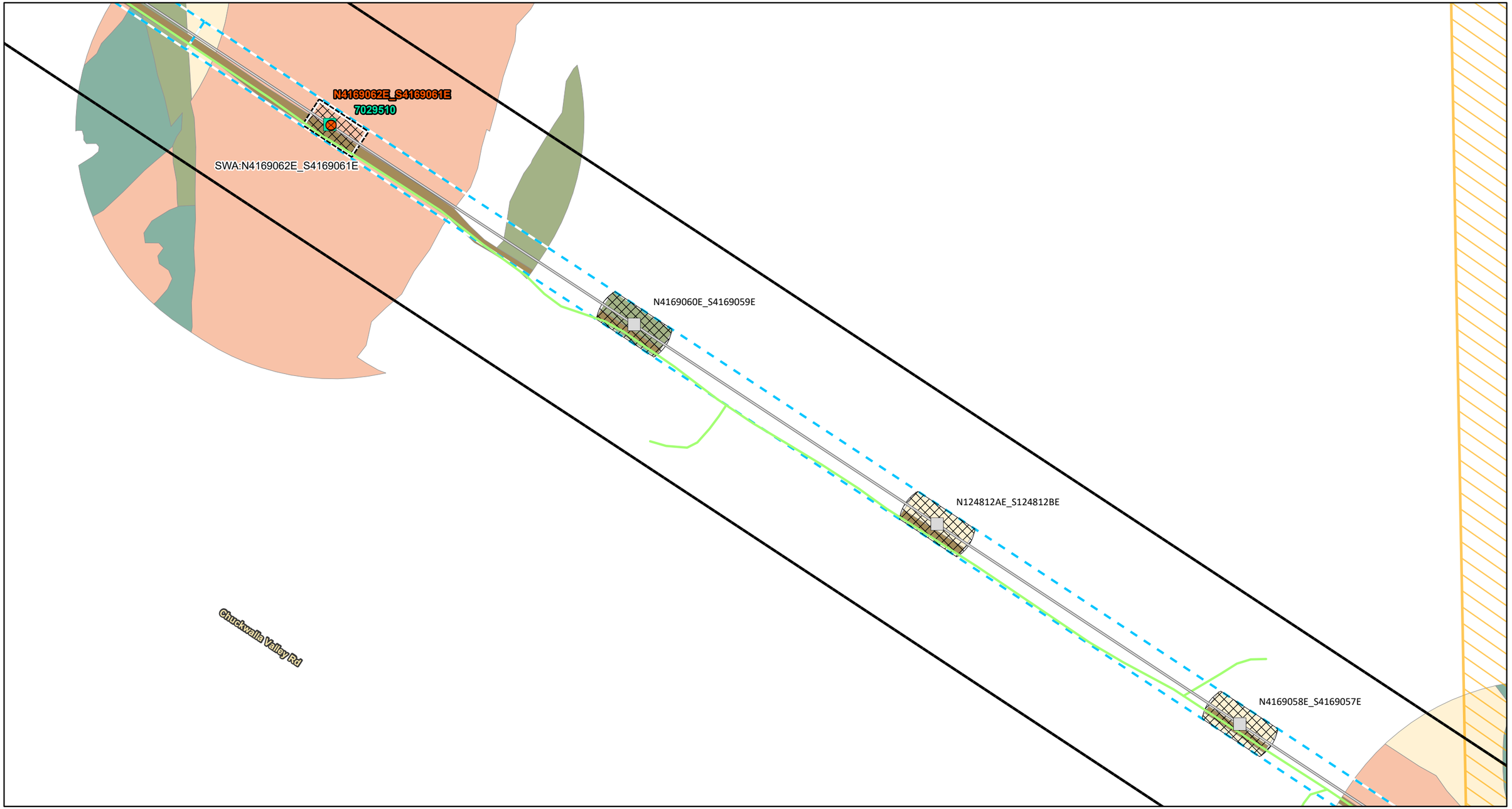
- Desert Tortoise Critical Habitat

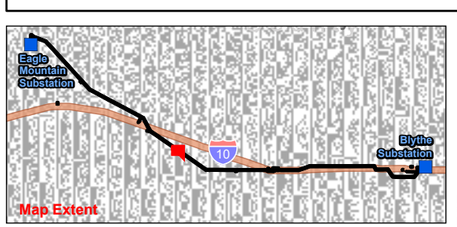
Land Owner
- BLM Land

Land Cover Type
- Blue palo verde - ironwood woodland
- Cheesebush - sweetbush scrub
- Creosote bush - white burr sage scrub
- Creosote bush scrub

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- New Structure
- Existing Structure (to be removed)
- Existing Structure (to remain)
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Construction Area
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- Desert Tortoise Critical Habitat

Land Owner
- BLM Land

Land Cover Type
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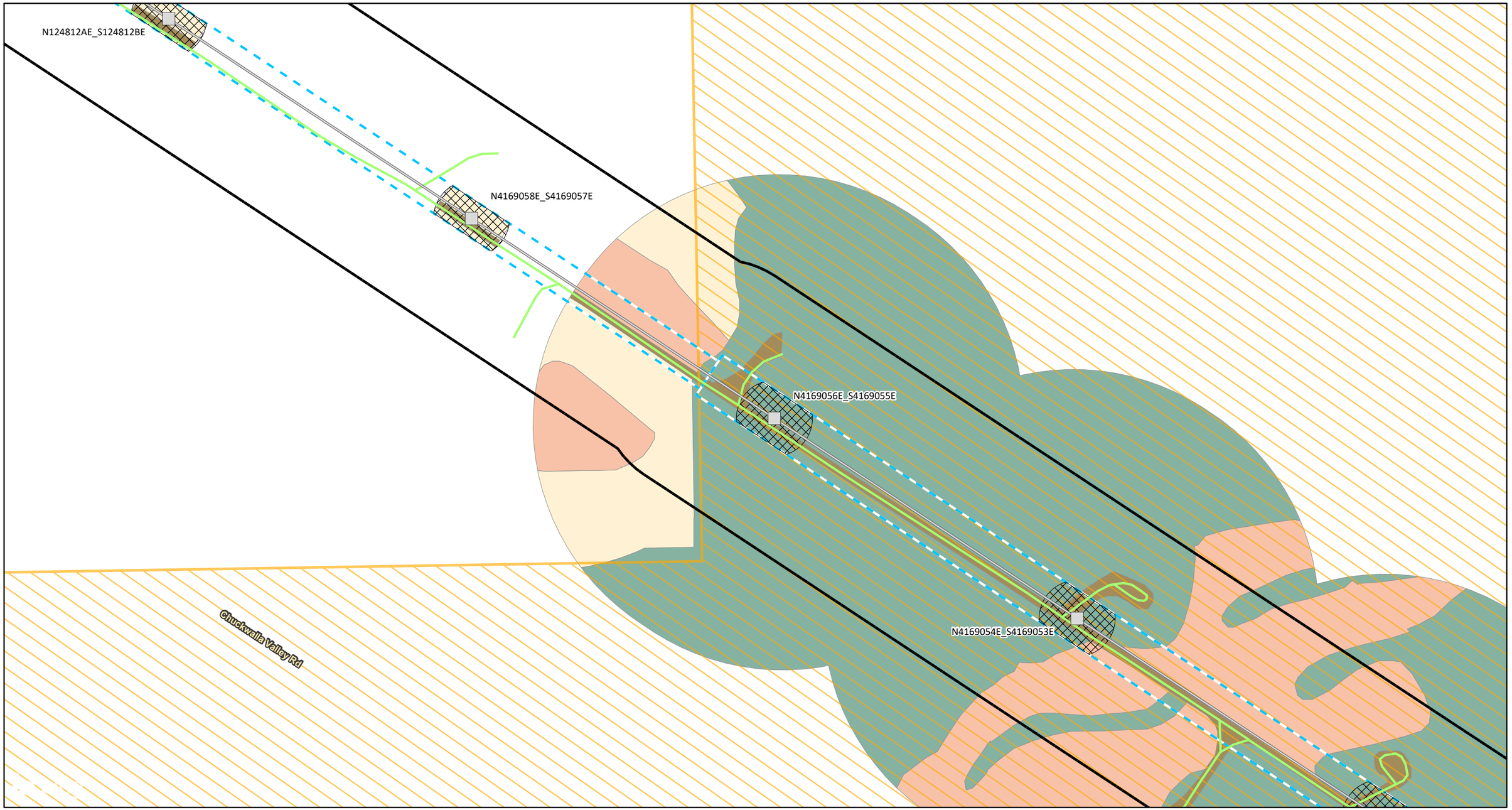
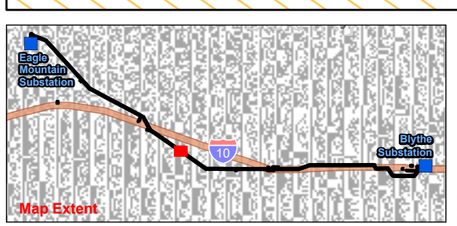
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

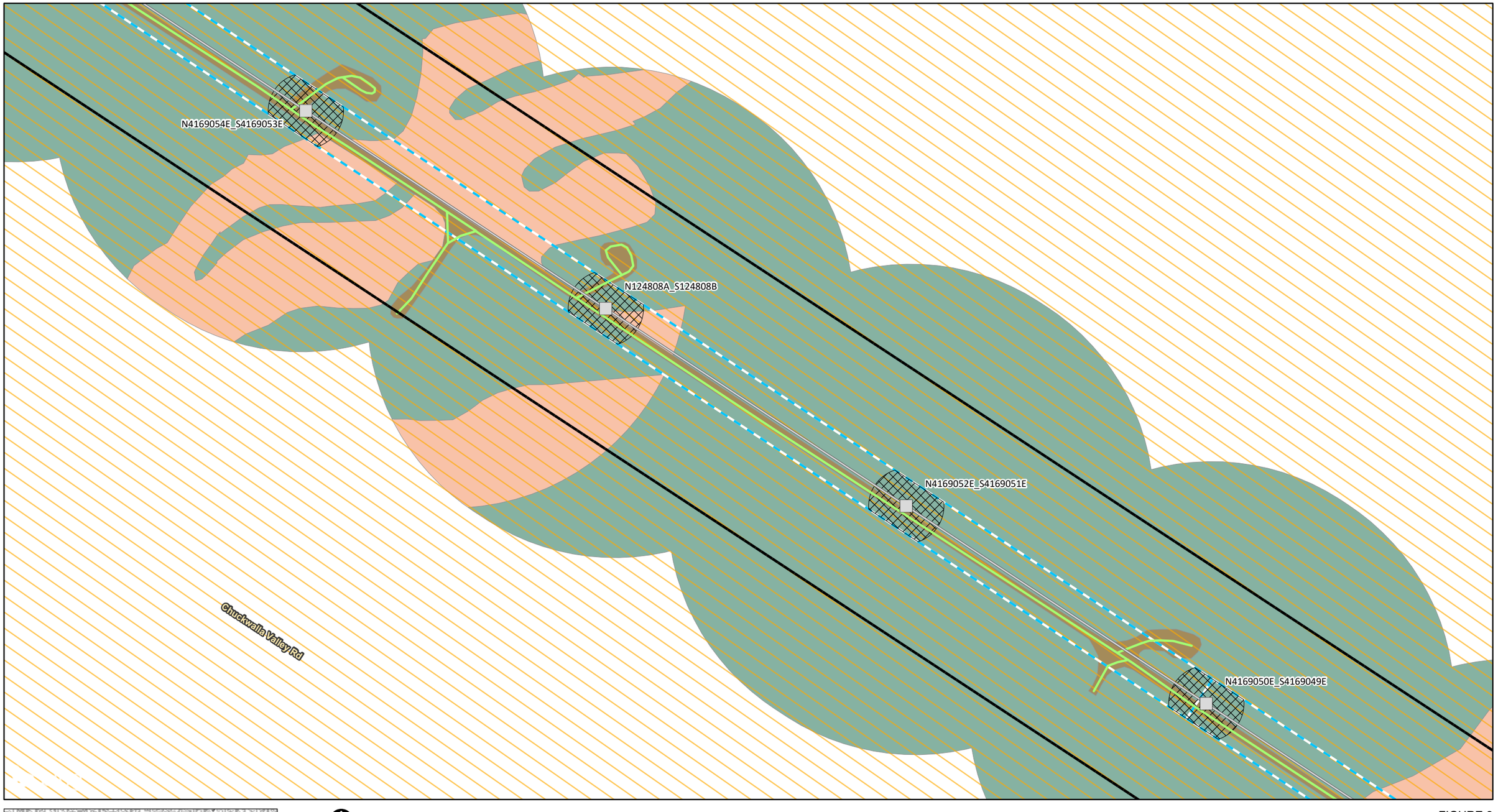
Land Cover Type

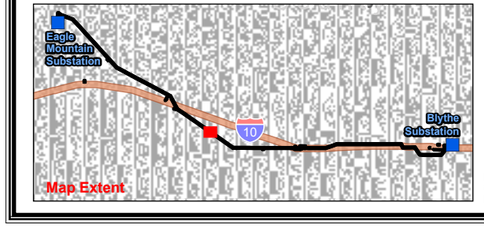
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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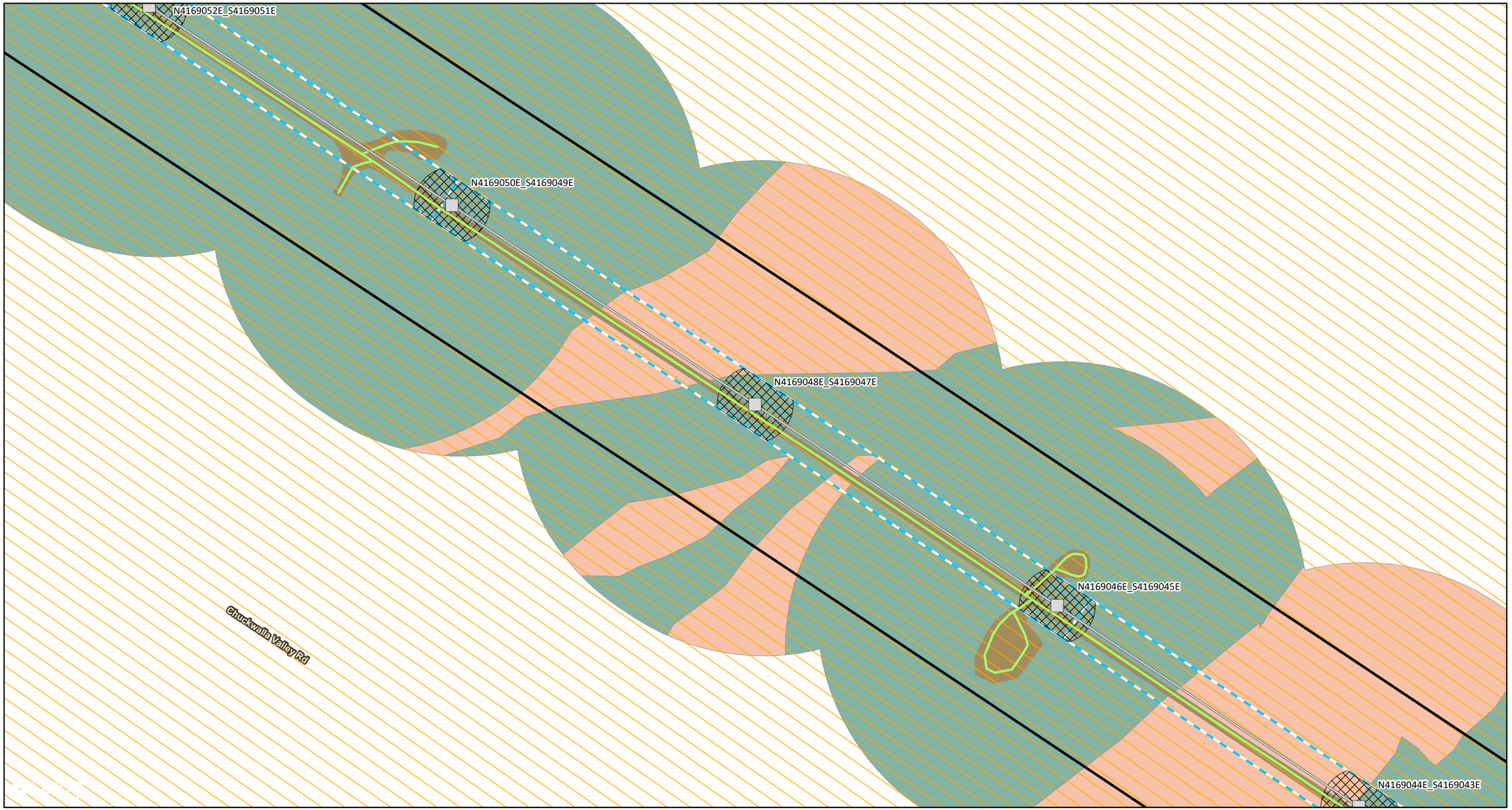
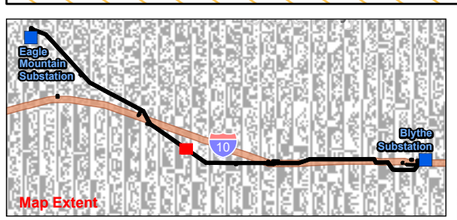
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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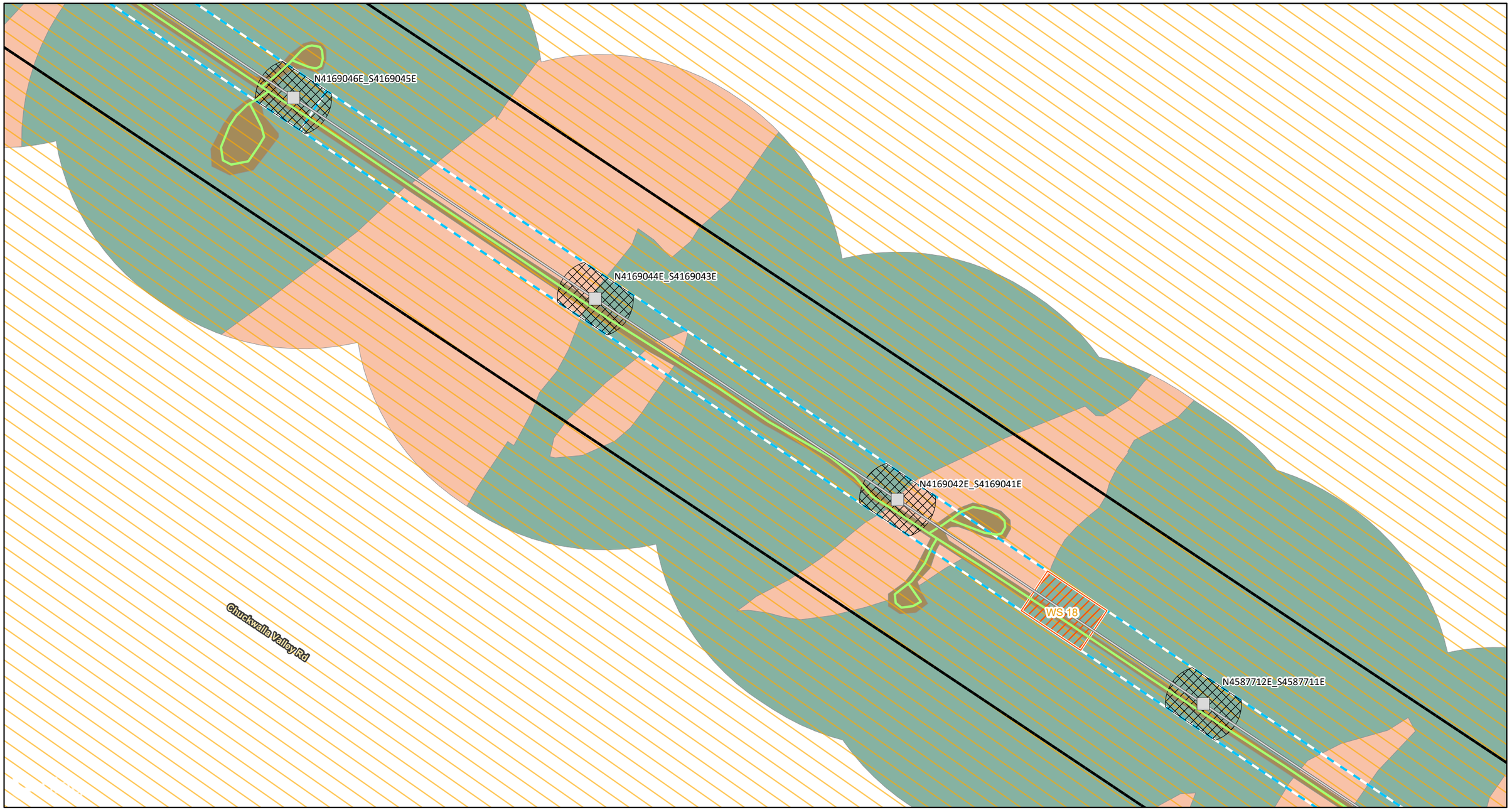
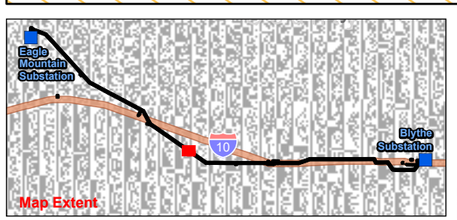
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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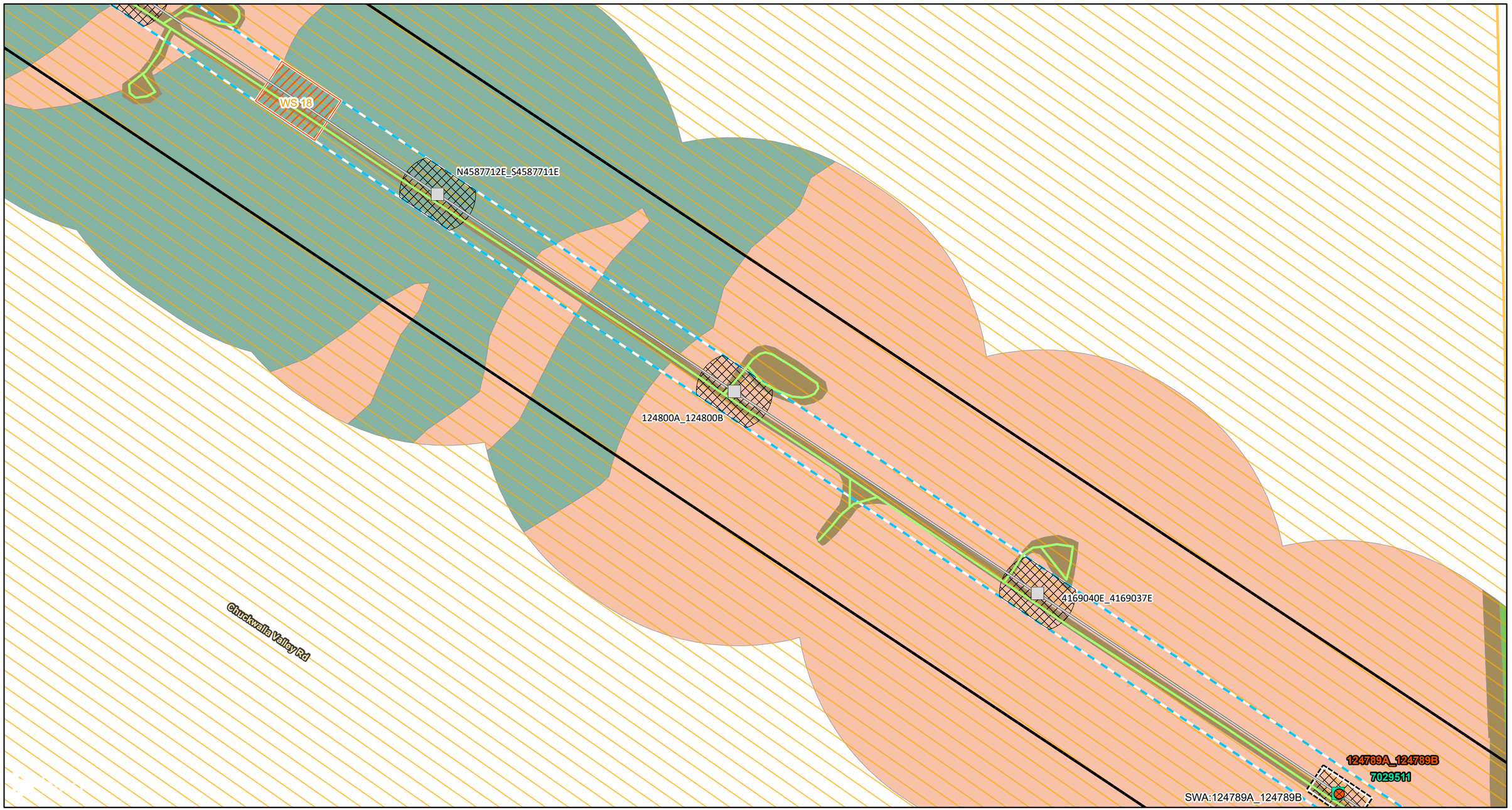
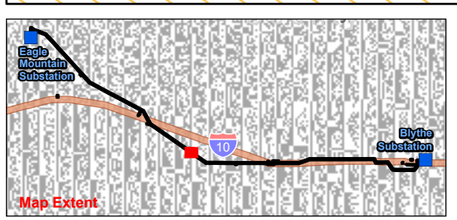
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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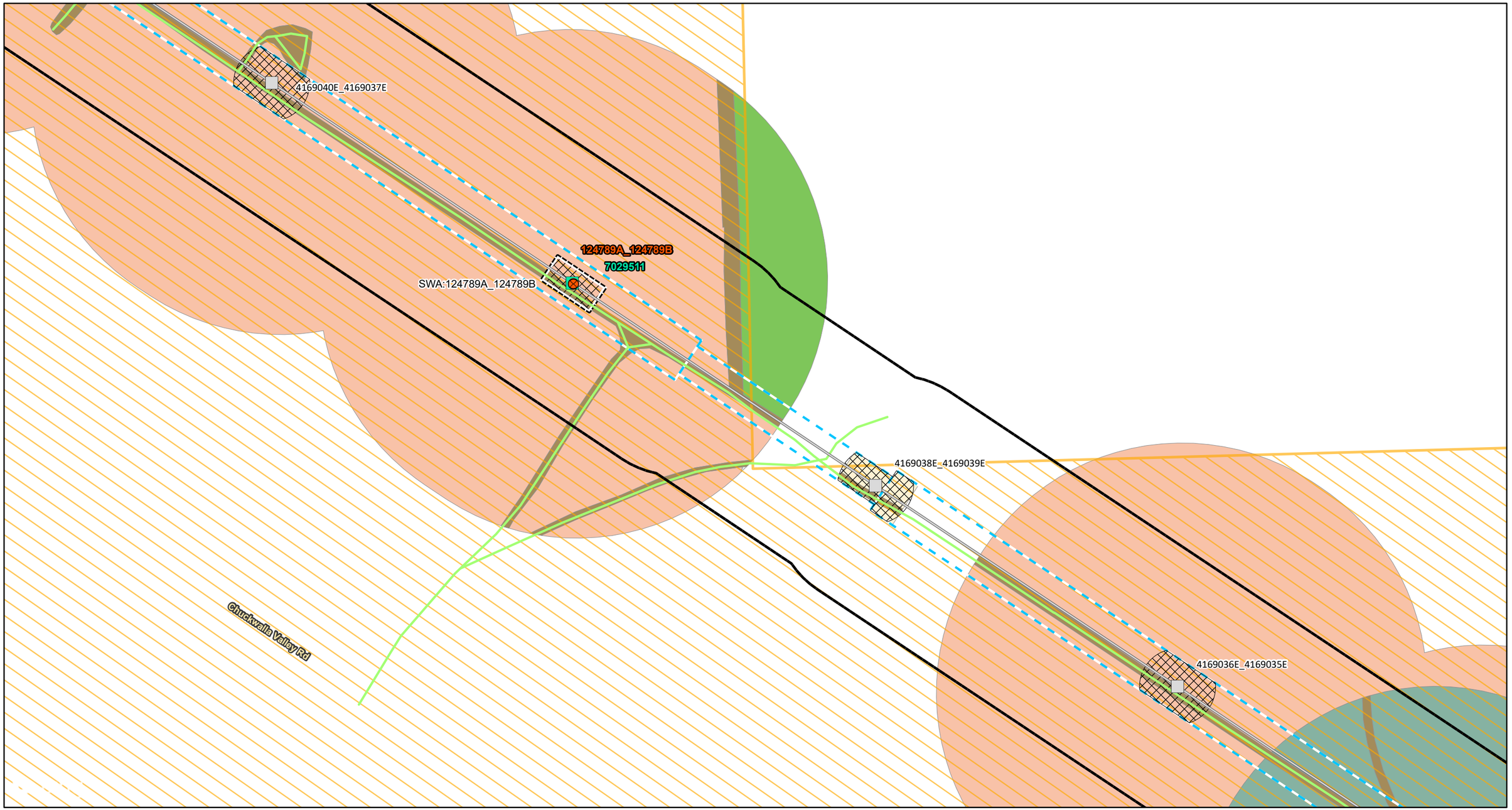
- Structure Work Area
- O&M Area
- Desert Tortoise Critical Habitat

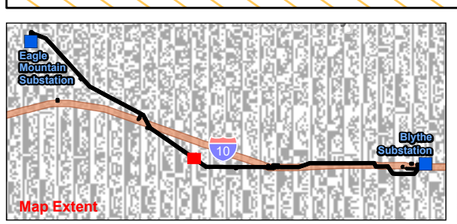
Land Owner
- BLM Land

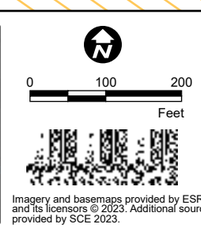
Land Cover Type
- Active Agriculture
- Blue palo verde - ironwood woodland
- Creosote bush scrub
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Land Owner

- BLM Land

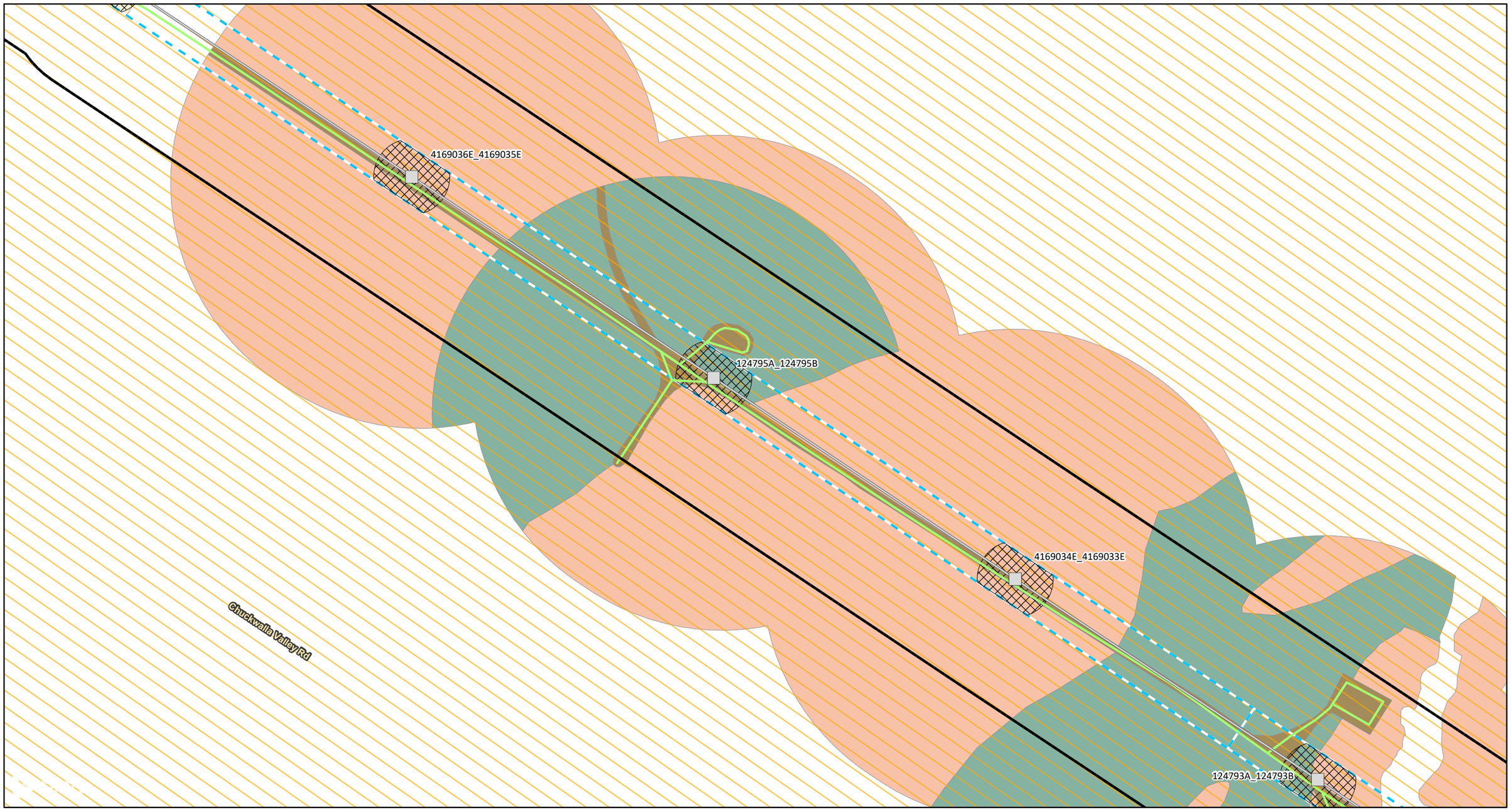
Land Cover Type

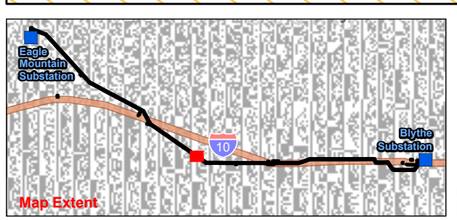
- Active Agriculture
- Blue palo verde - ironwood woodland
- Desert Tortoise Critical Habitat
- Creosote bush - white burr sage
- Creosote bush scrub
- Disturbed
- White bursage scrub

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





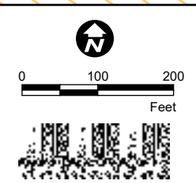


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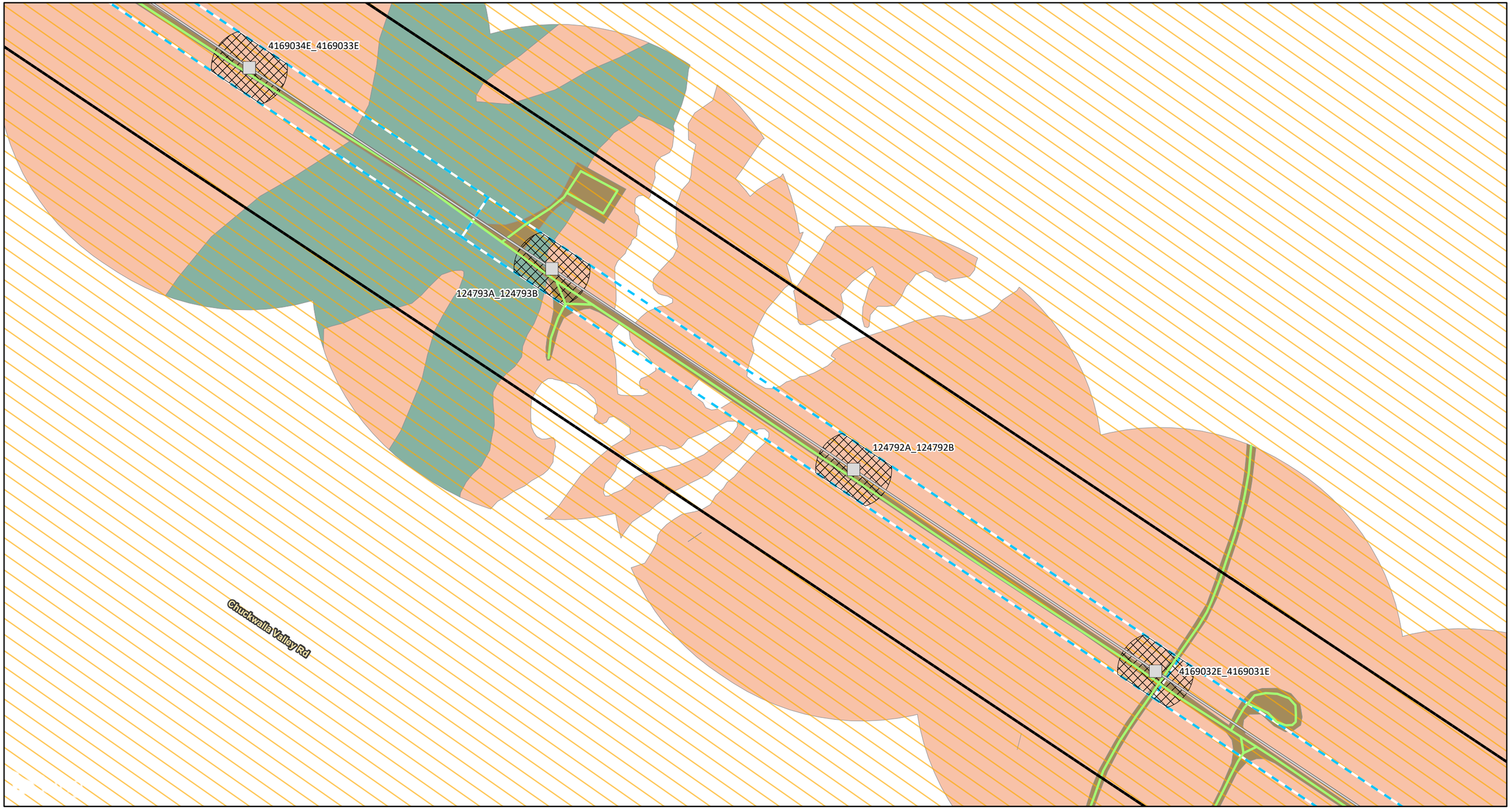
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



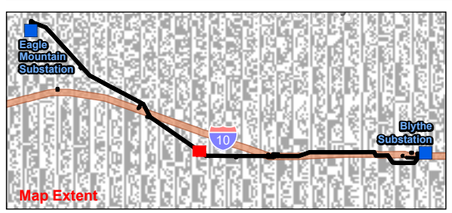


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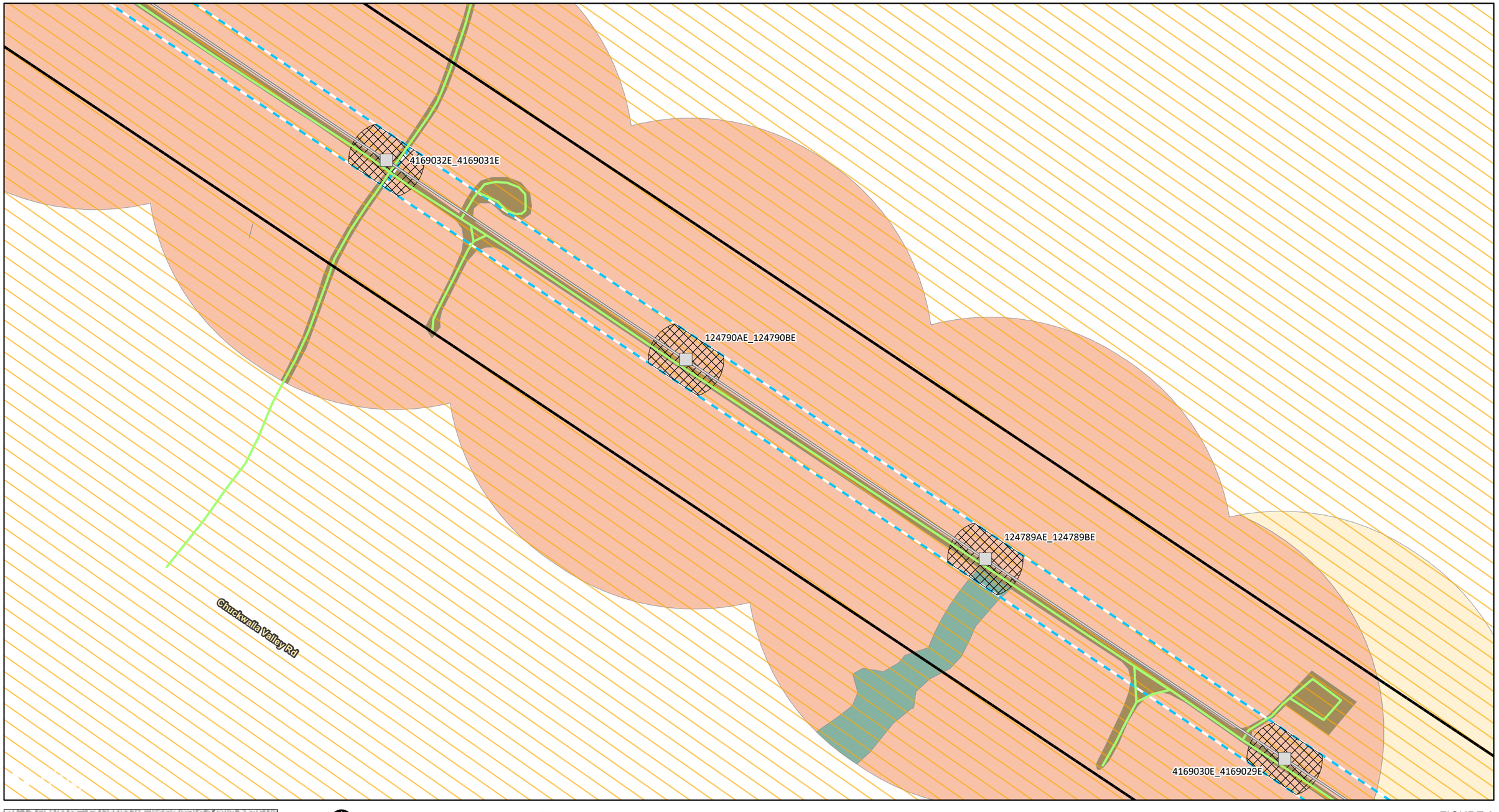
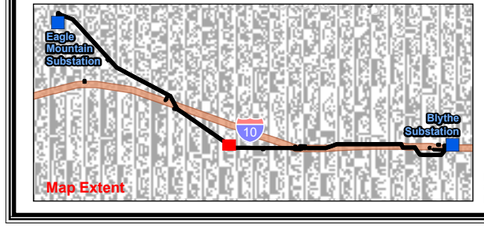
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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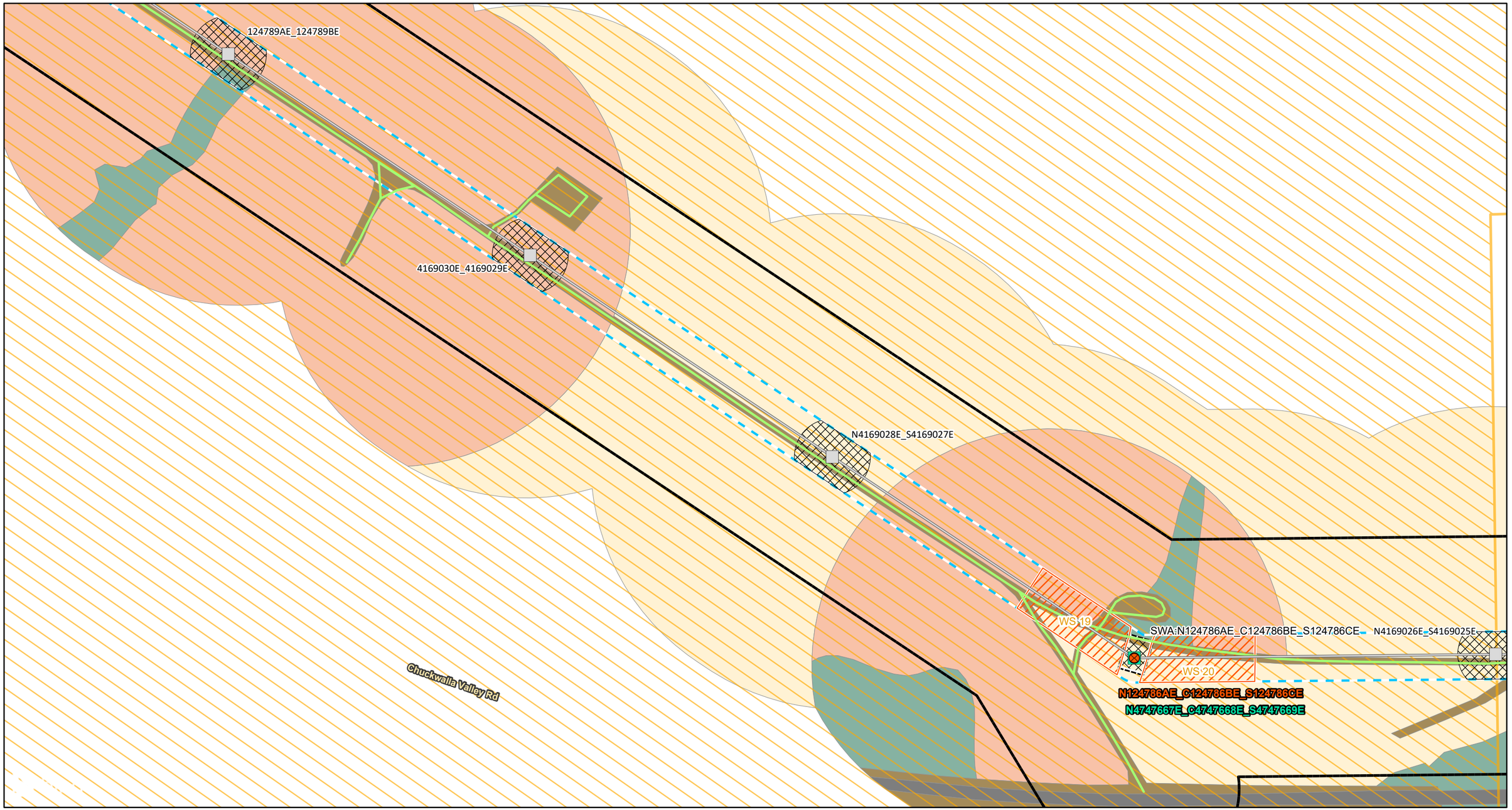
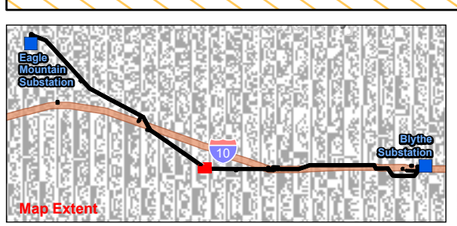
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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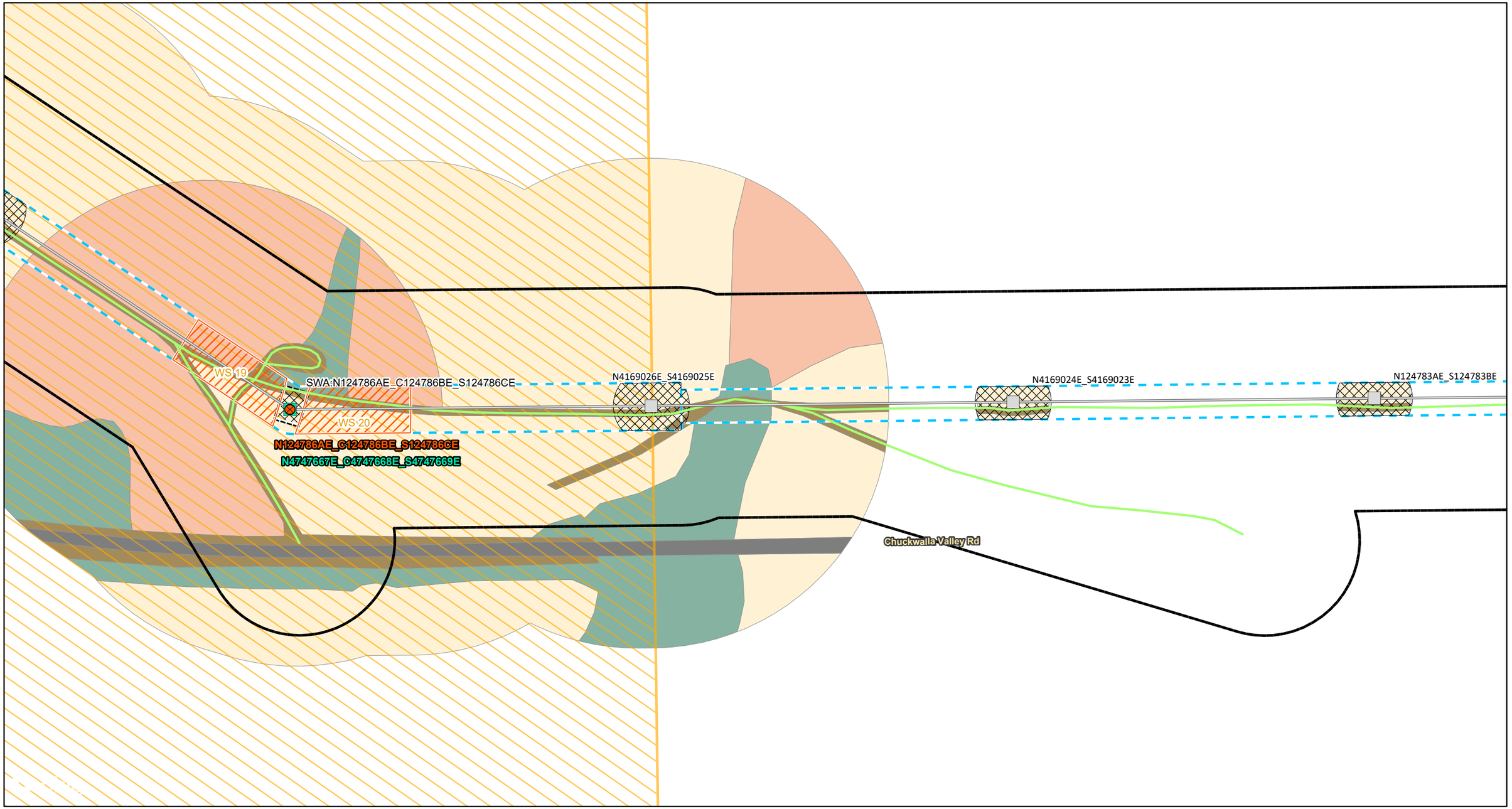
- Creosote bush scrub
- Developed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



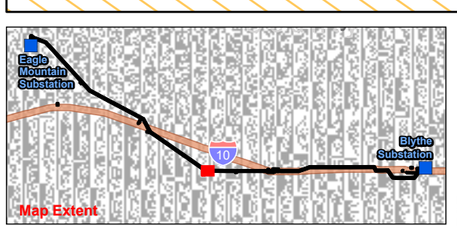


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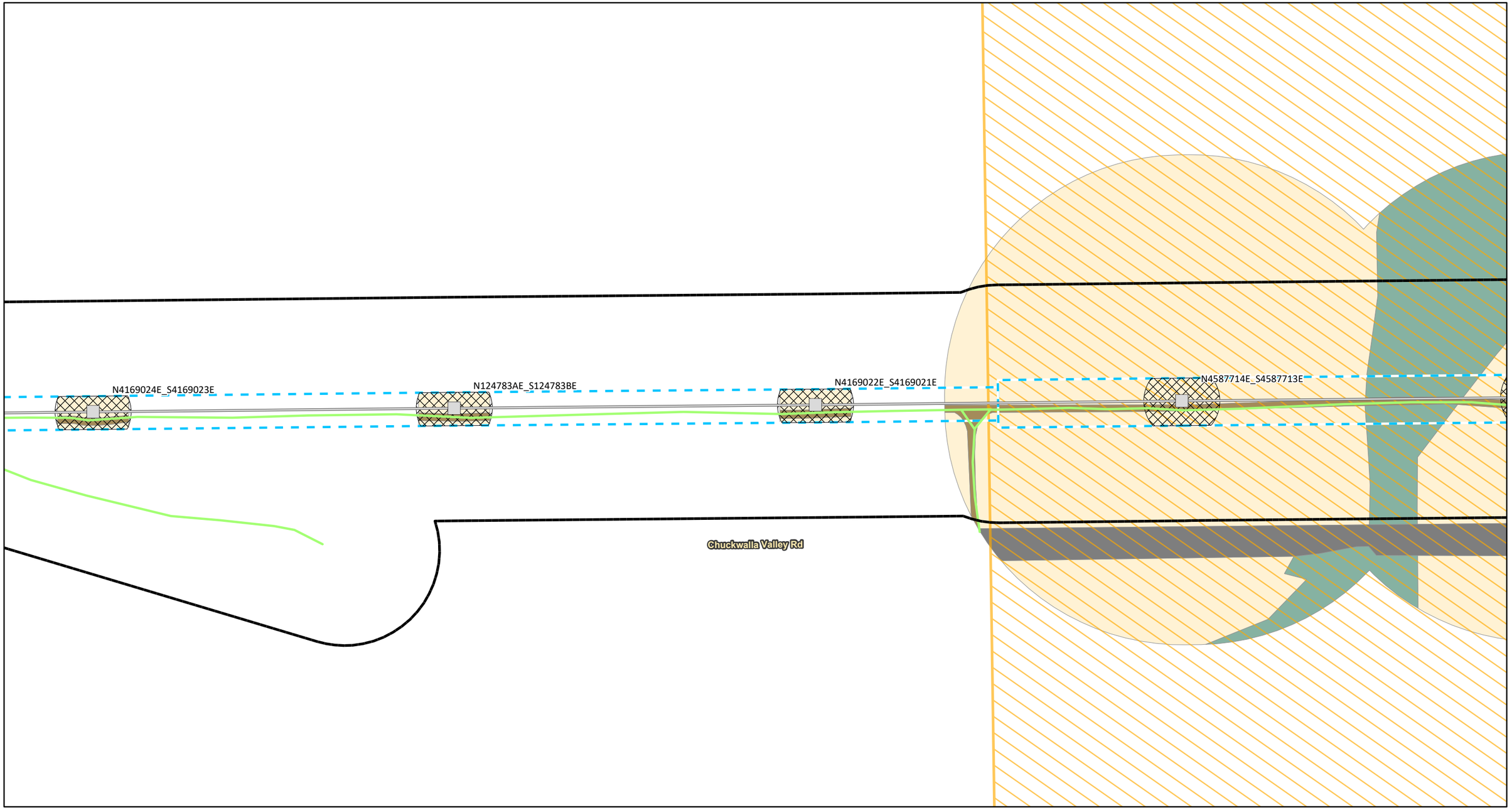
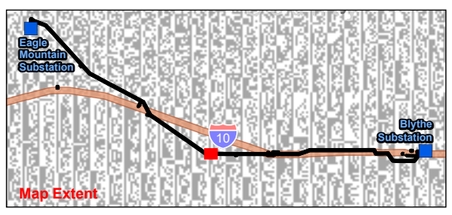
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type

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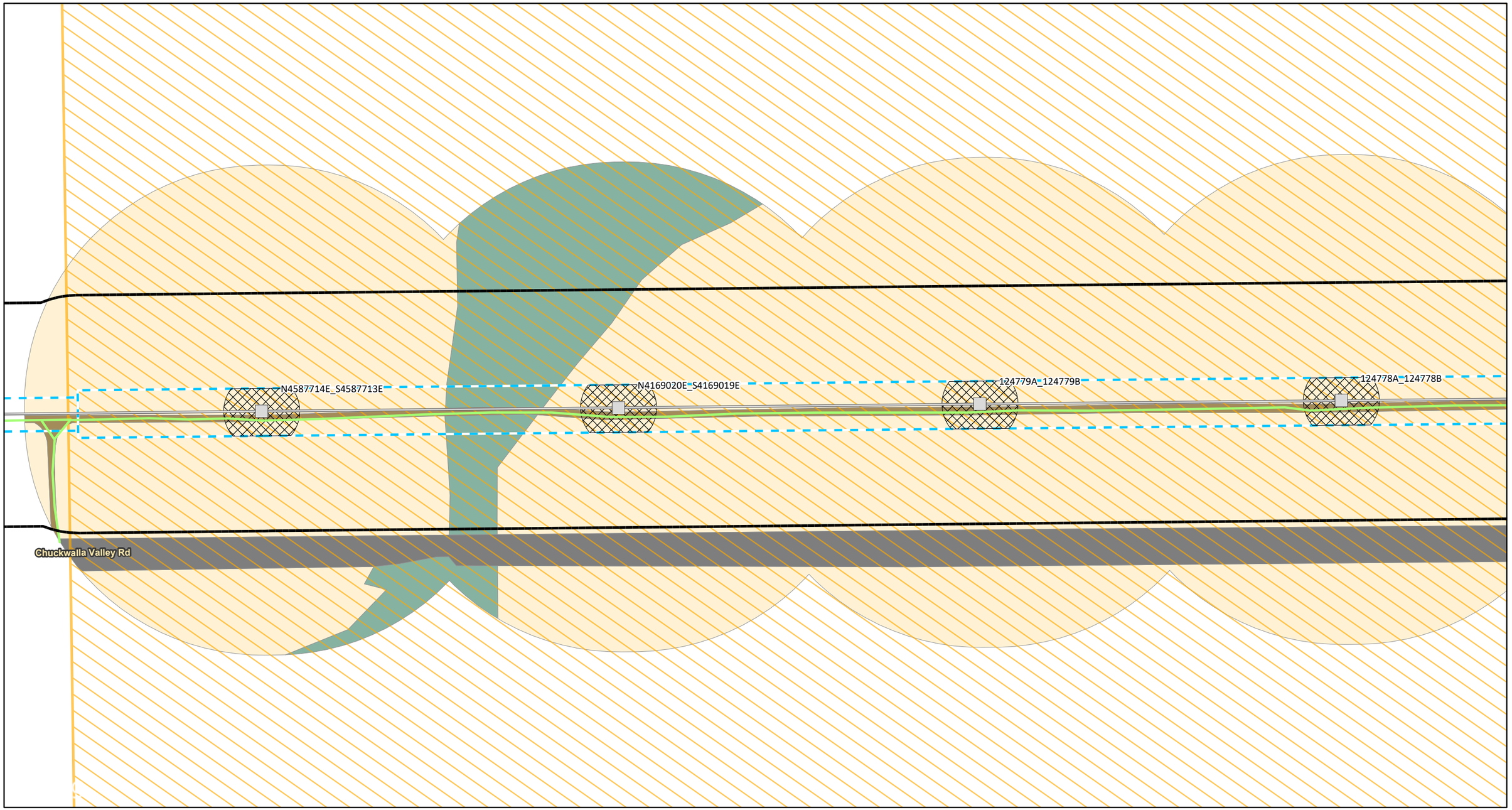
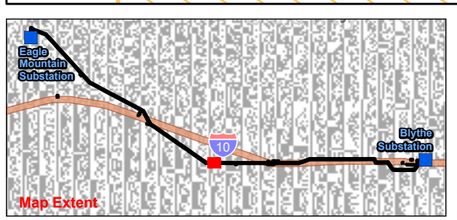
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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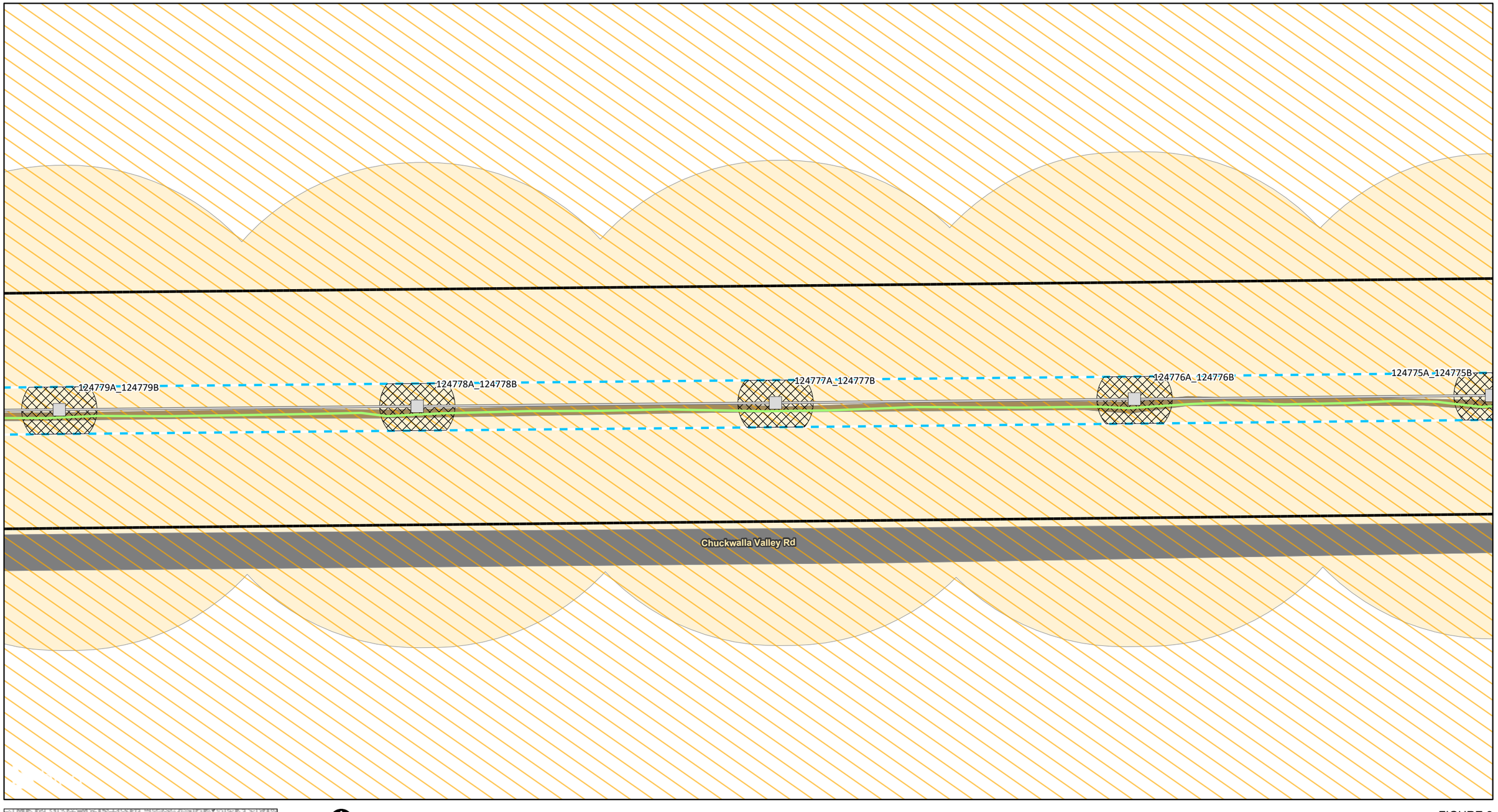

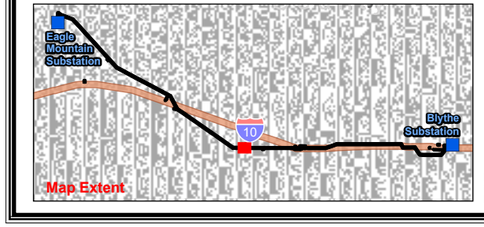

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Land Cover Type
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- Developed
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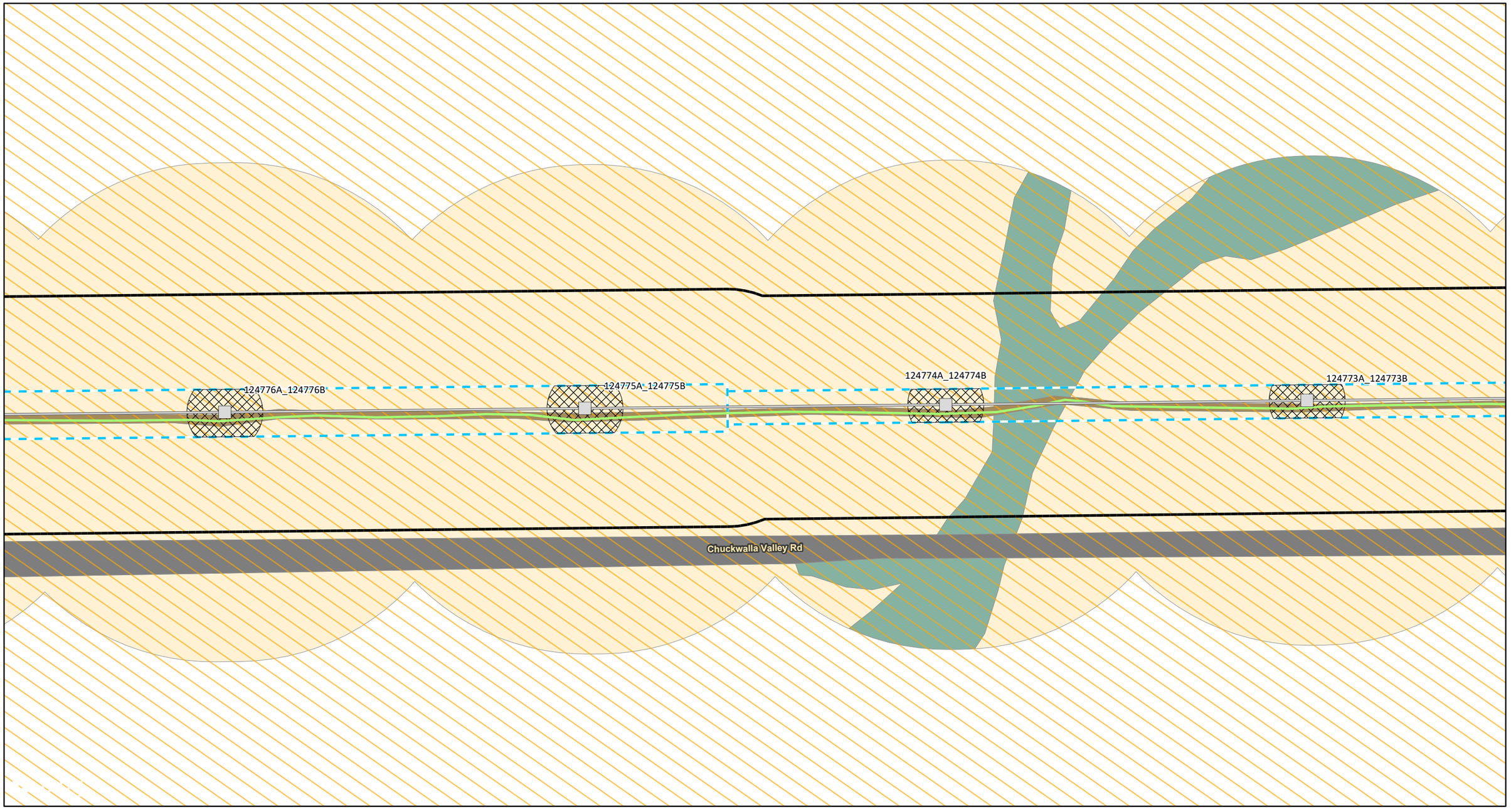
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



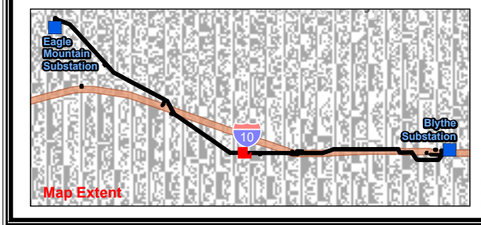


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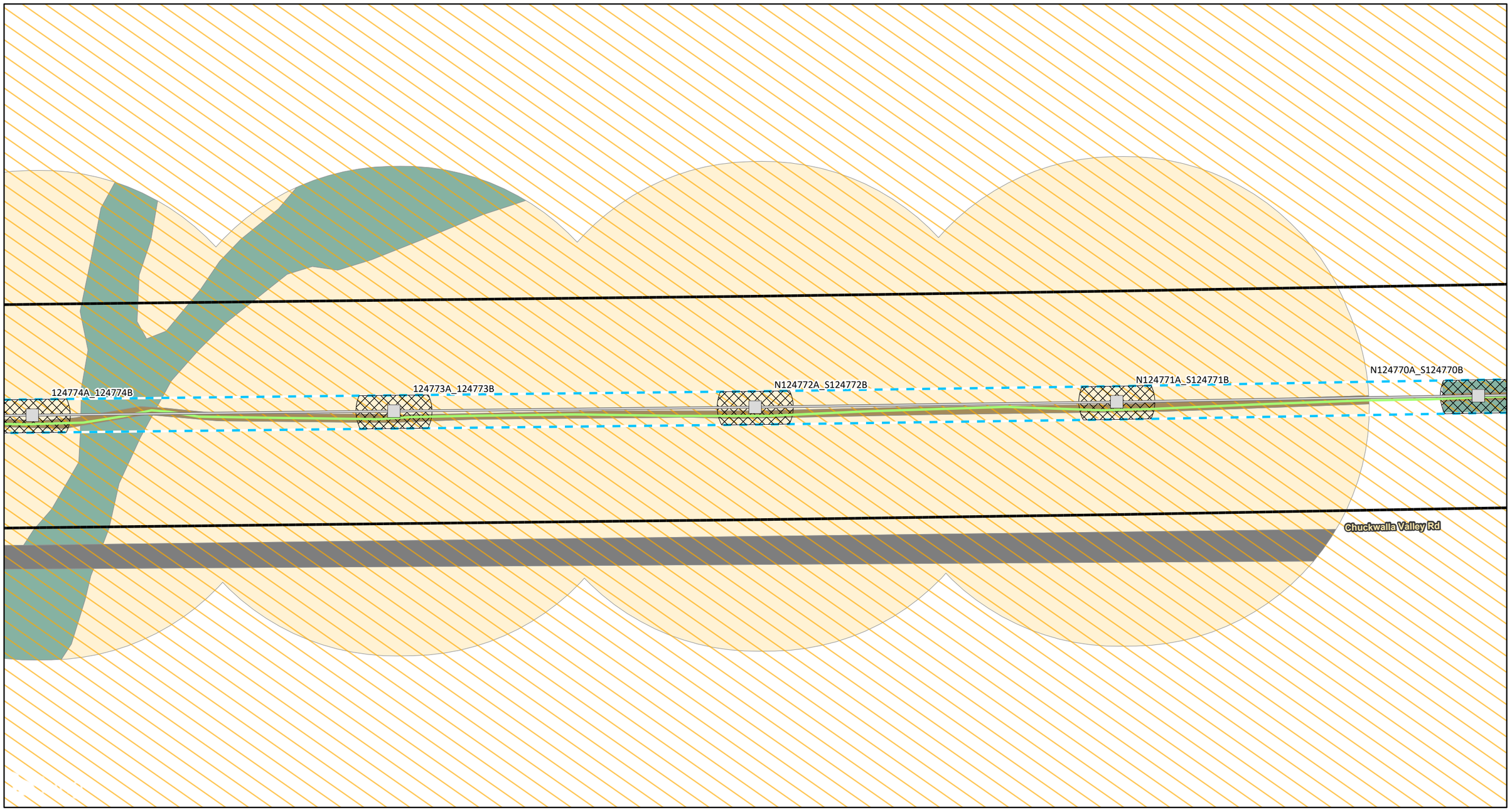
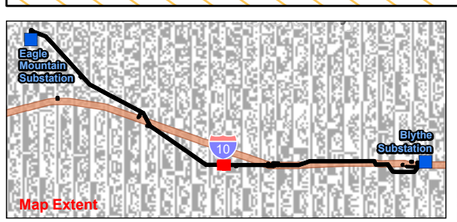
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area
- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

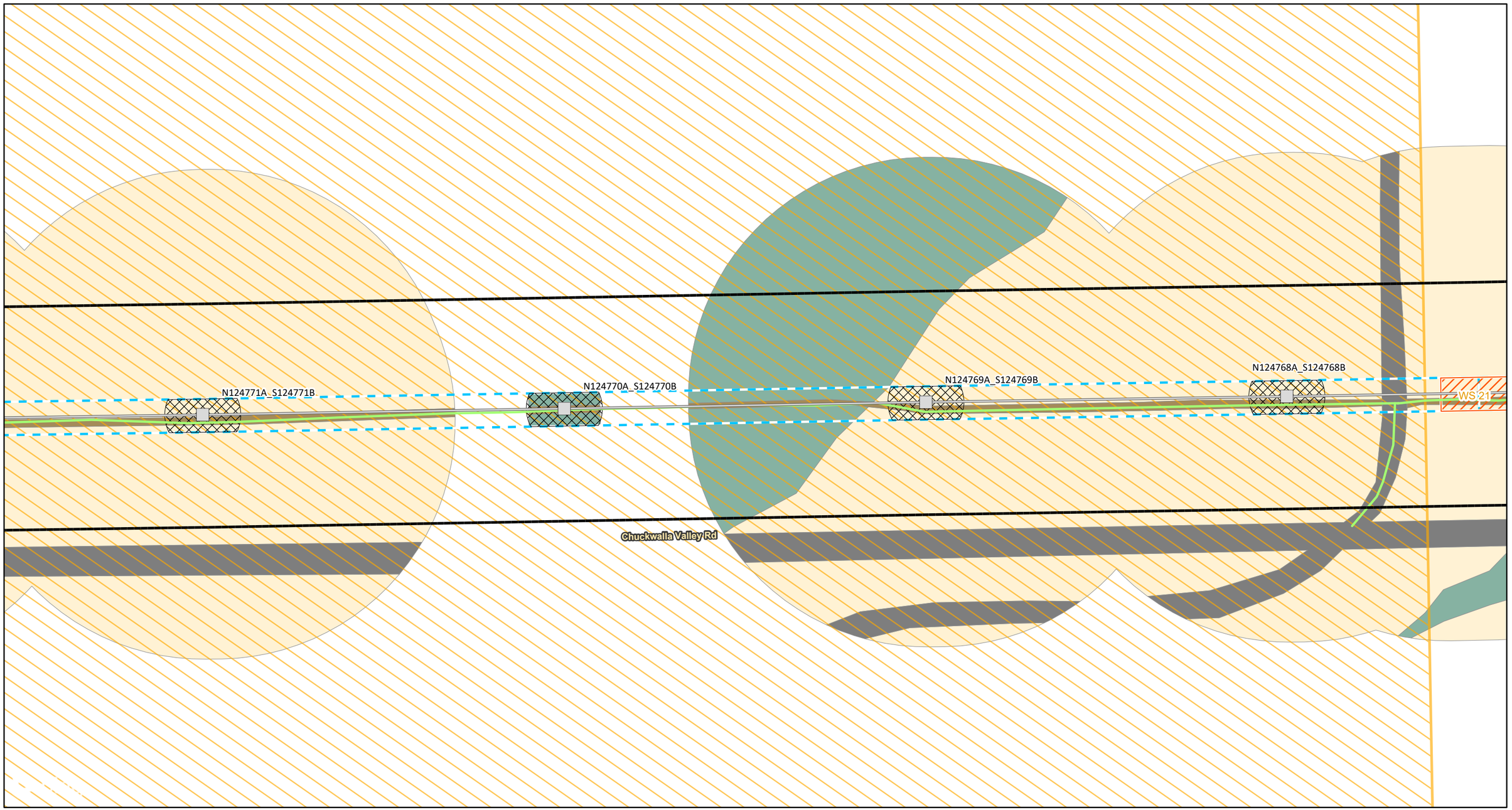
Land Cover Type

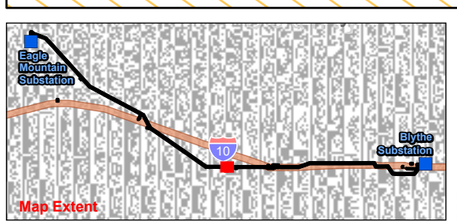
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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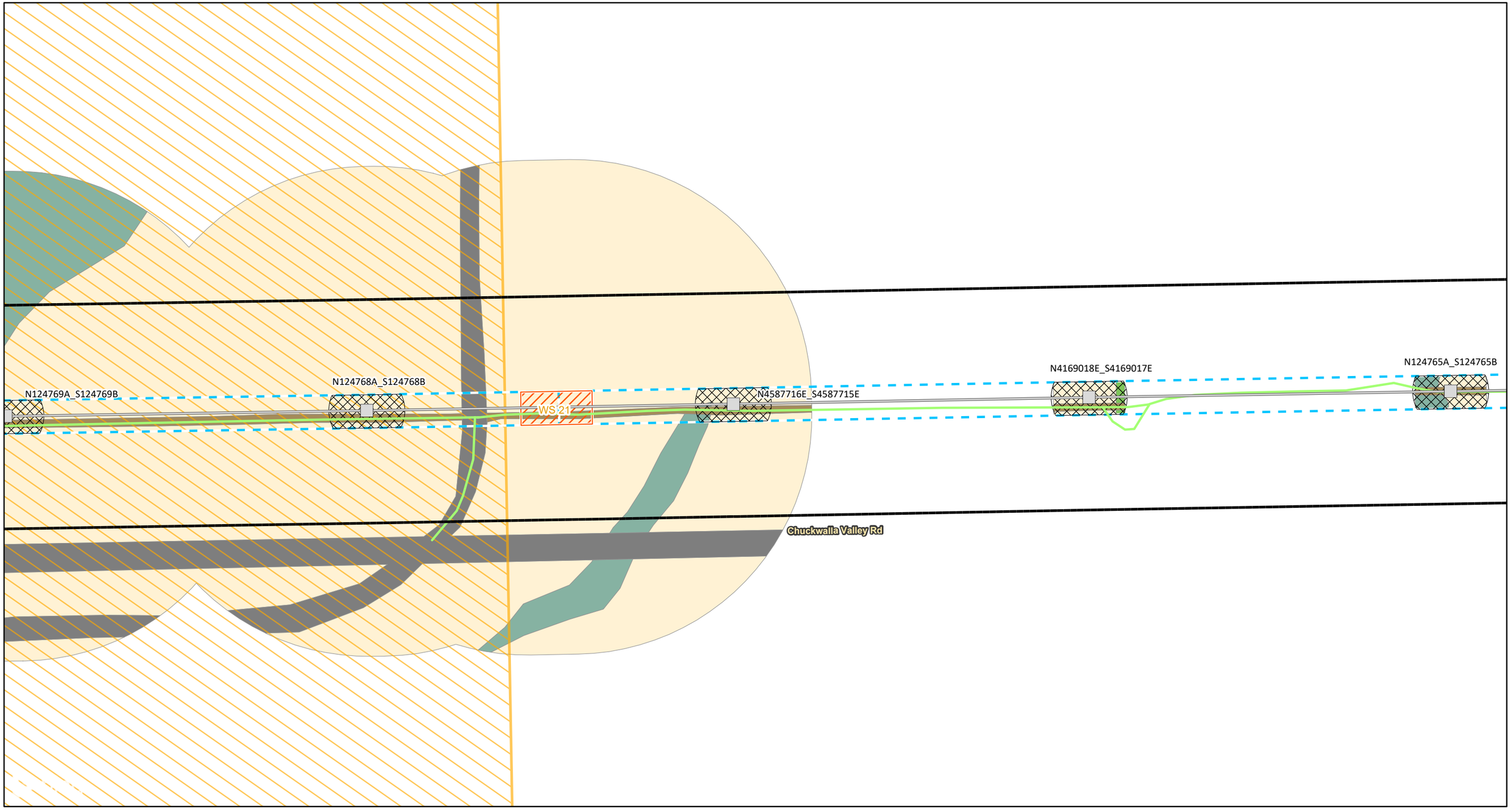
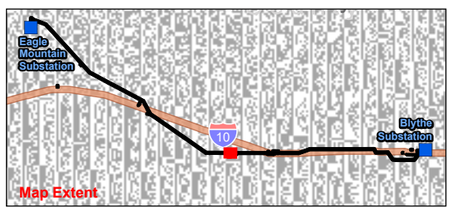
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type

- Active Agriculture
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- Developed
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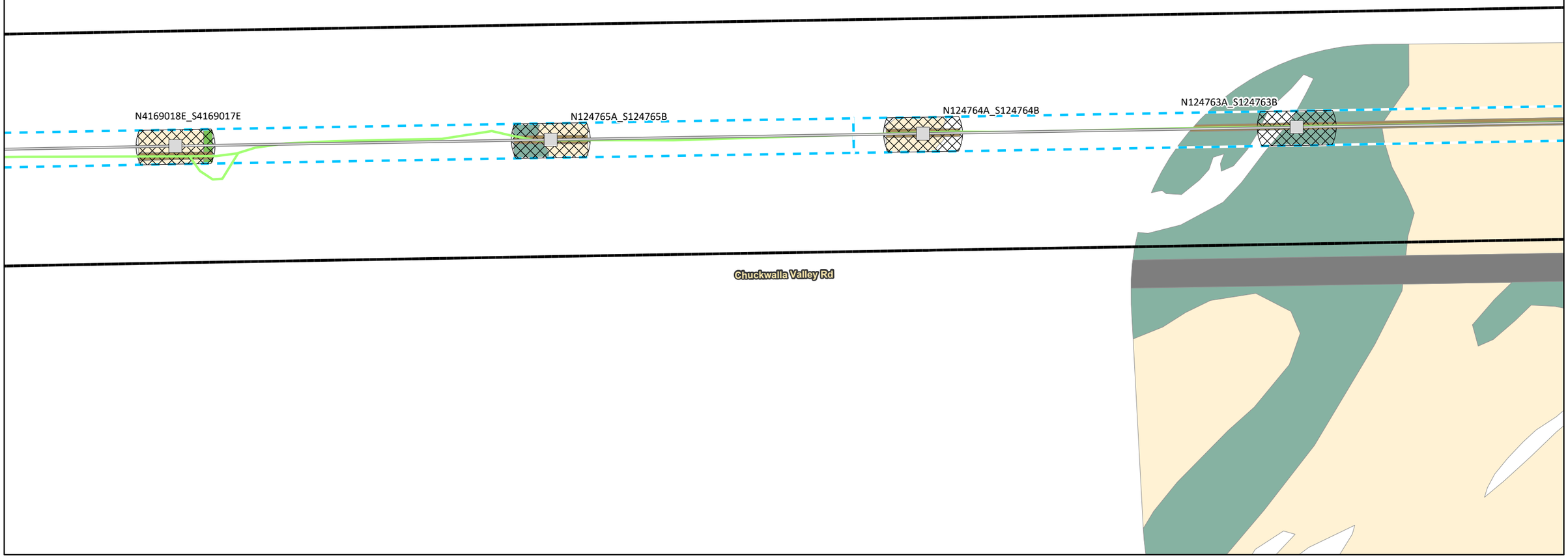
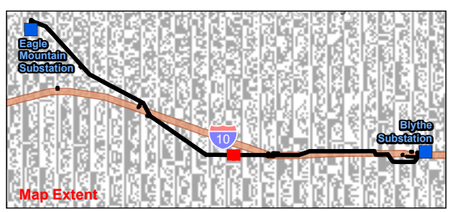
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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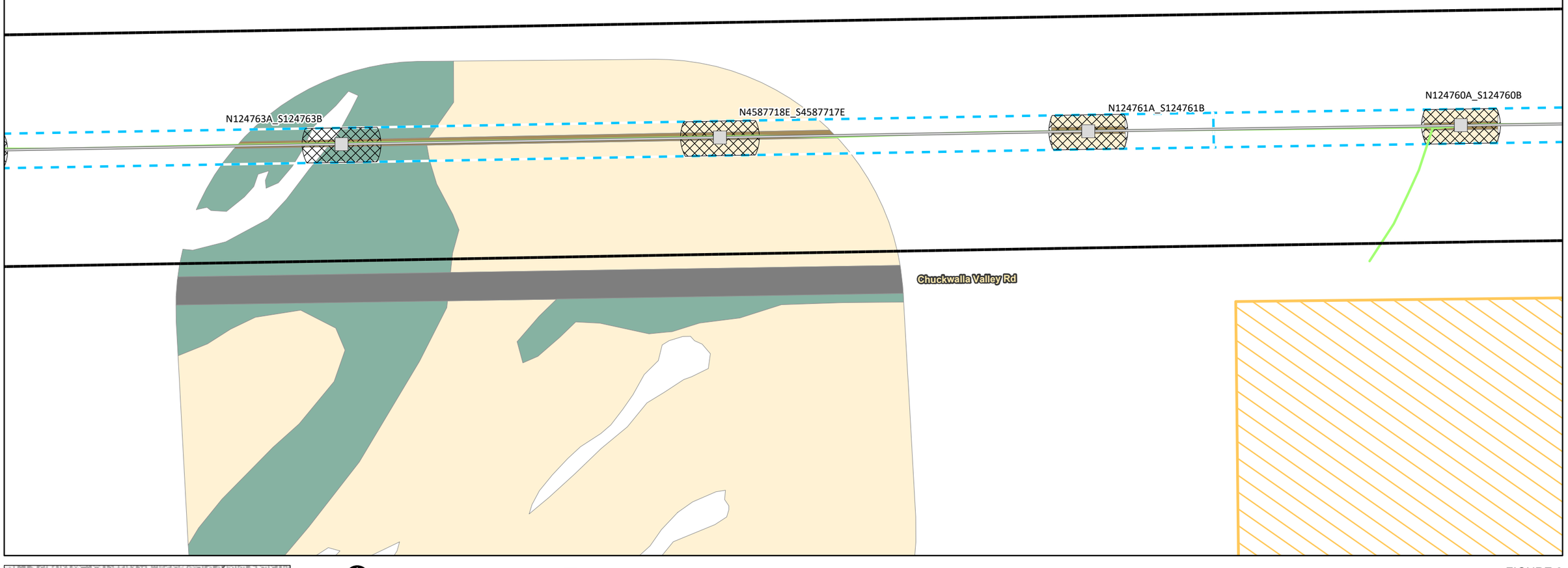
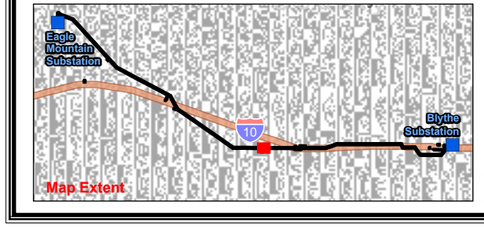
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Southern California Edison
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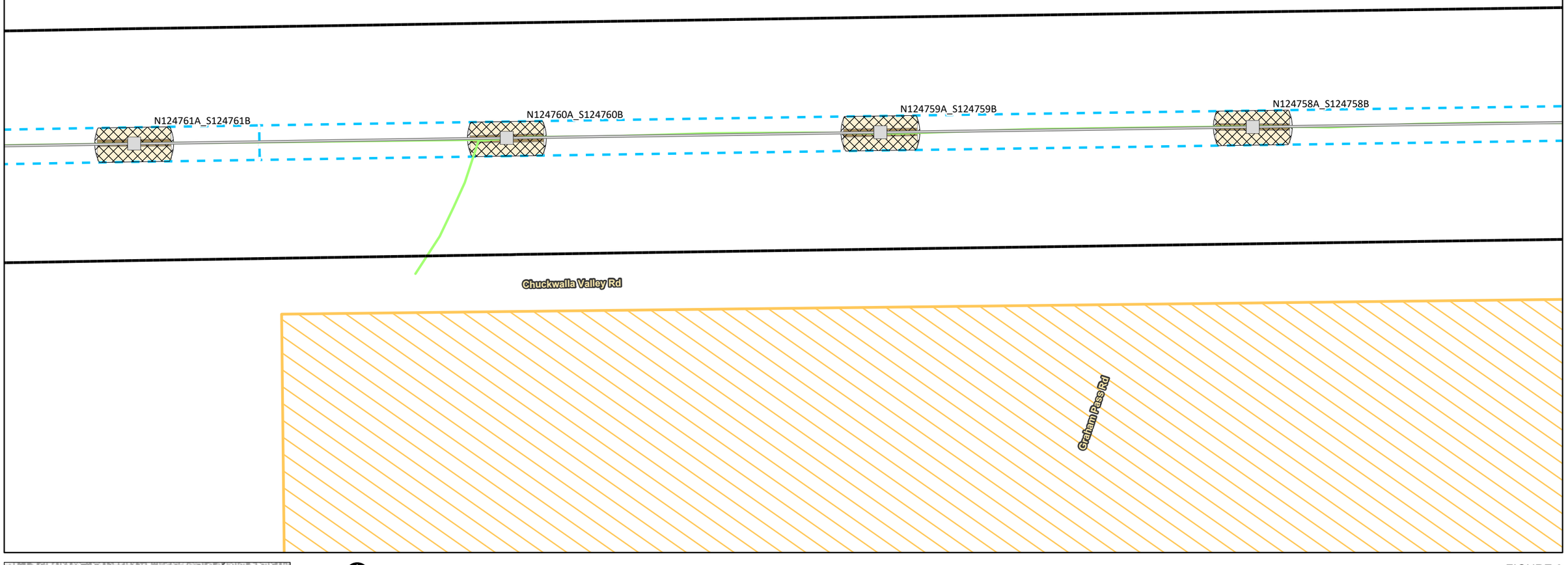

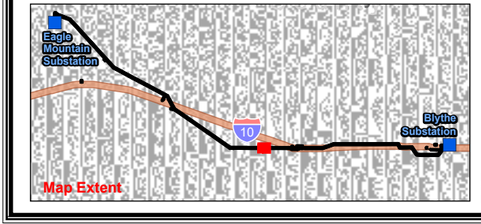

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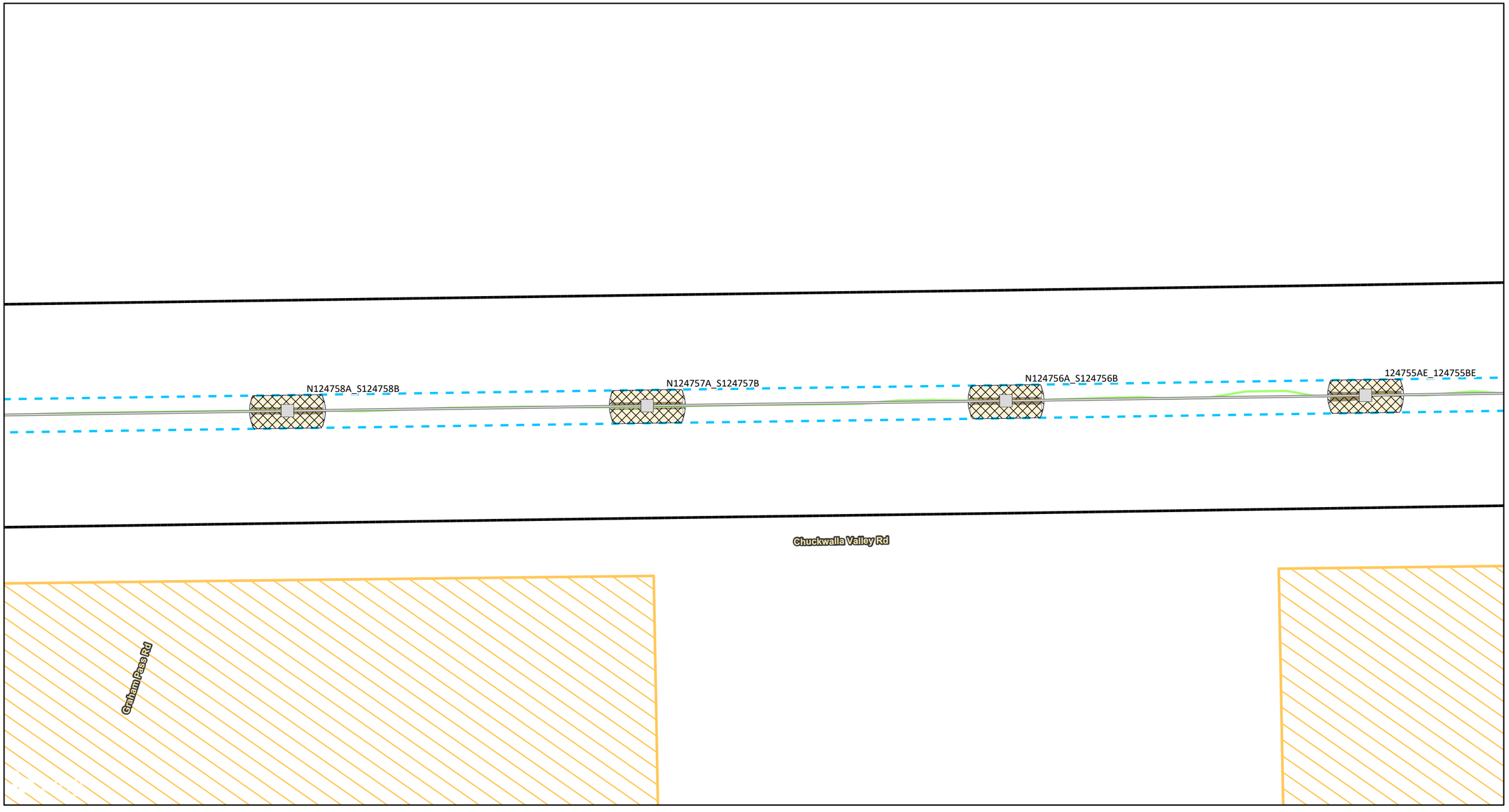
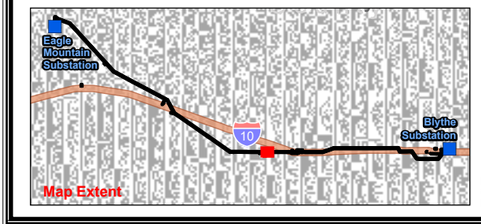
Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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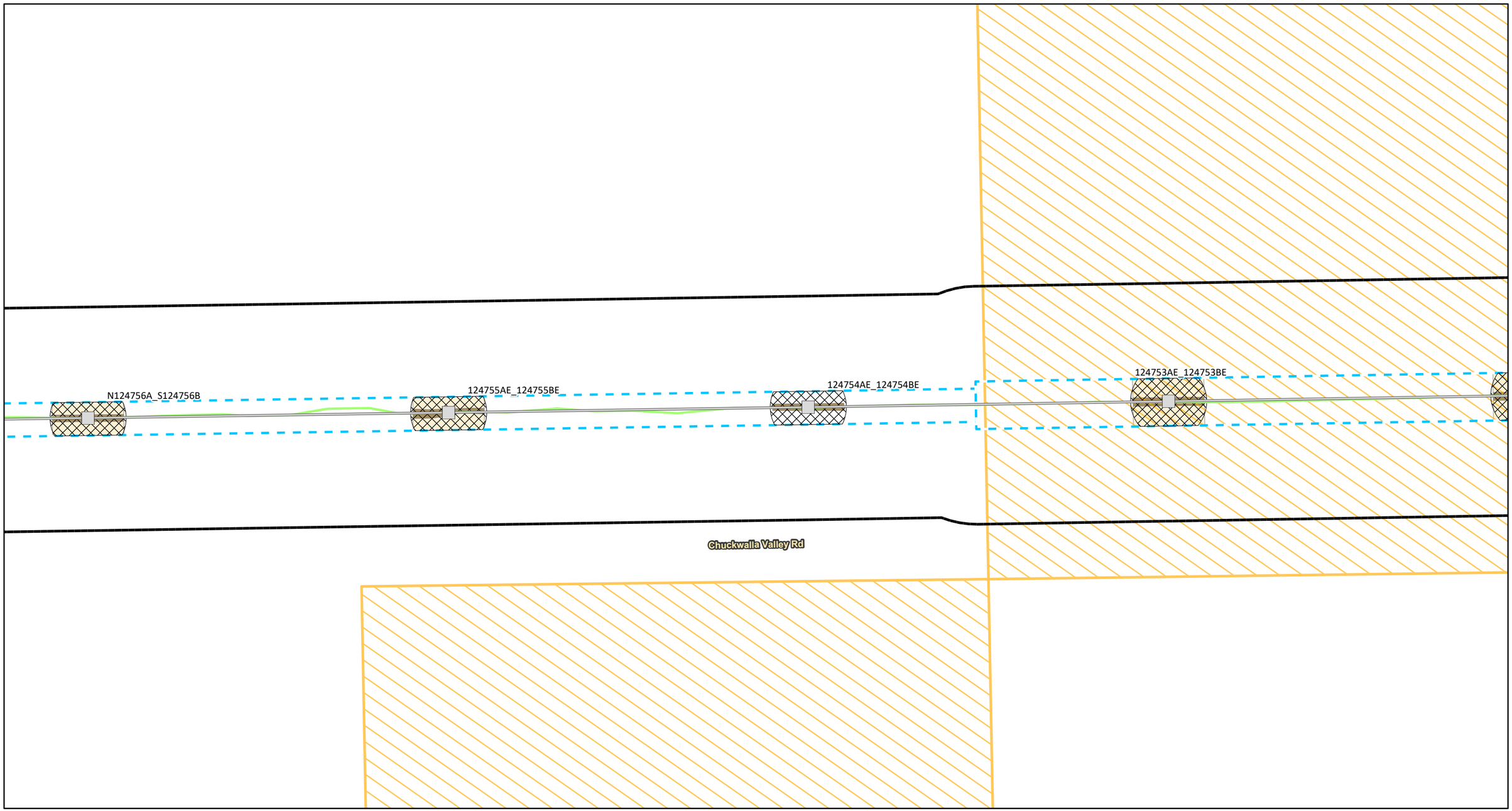

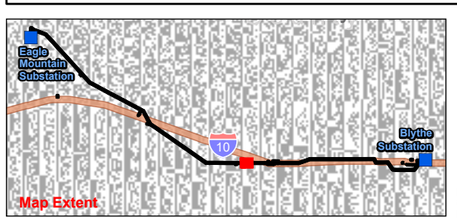

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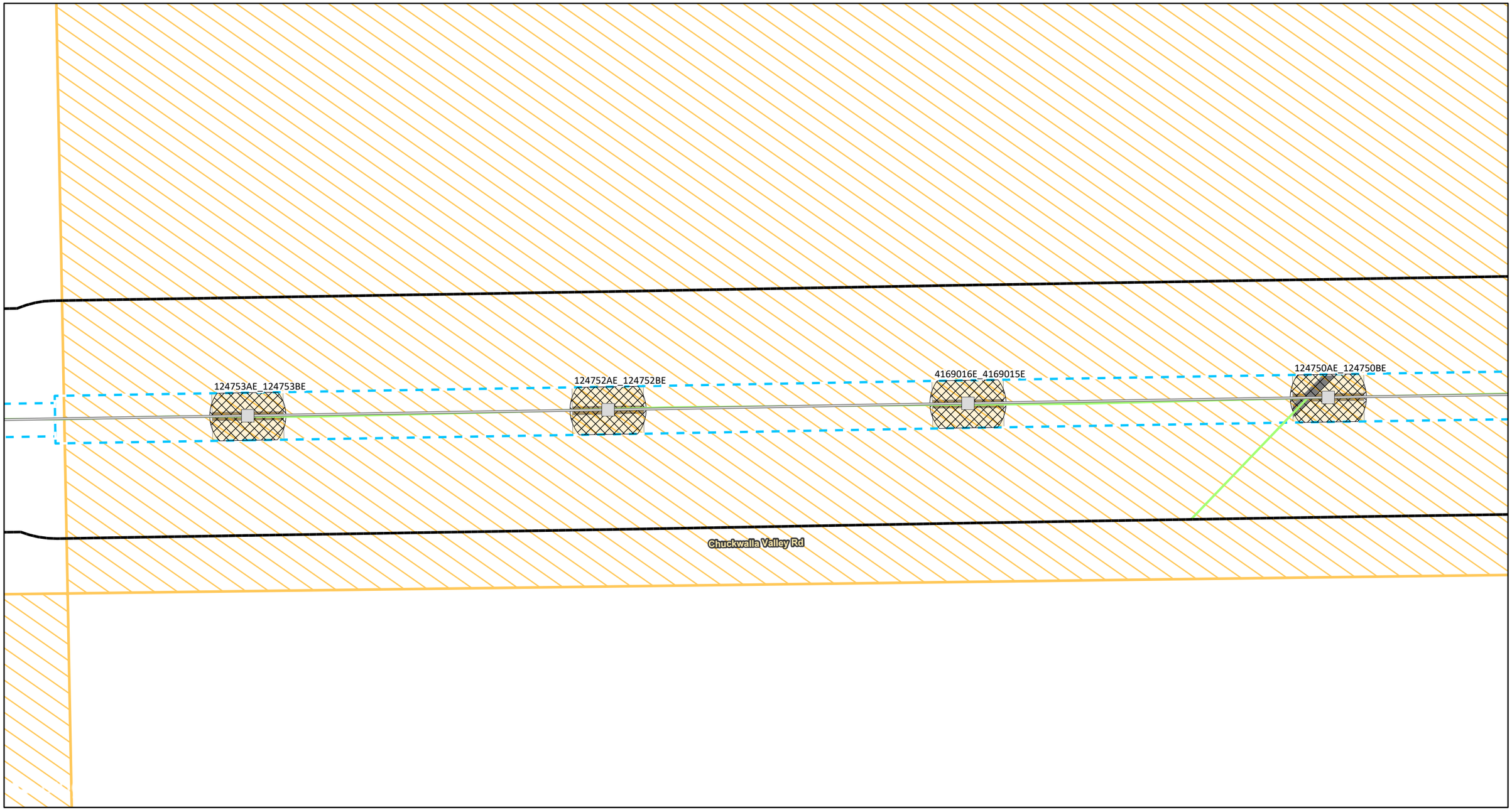

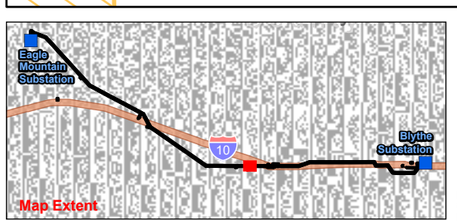

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Southern California Edison
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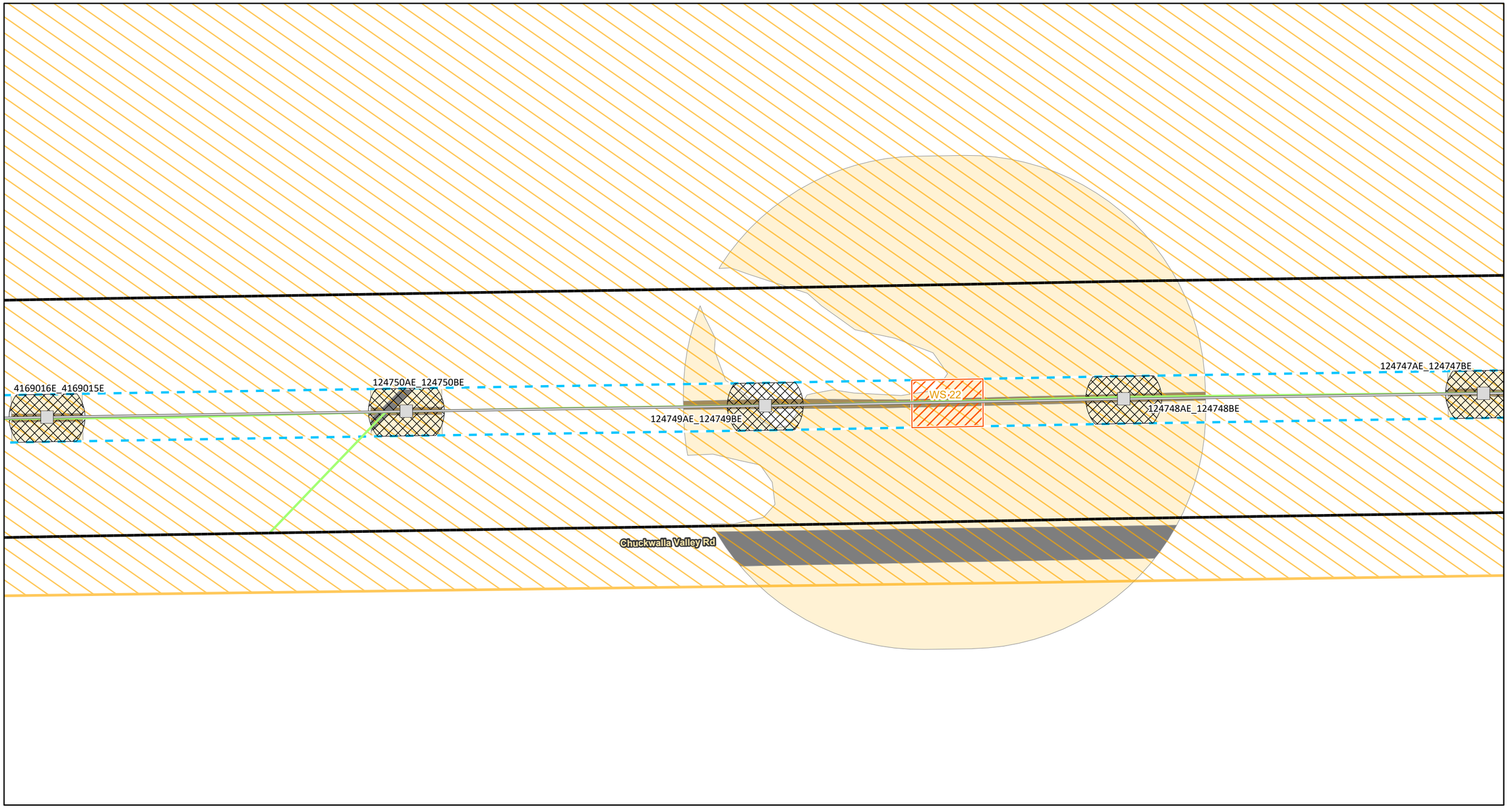

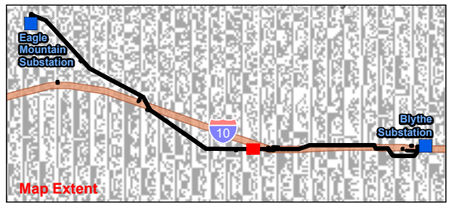

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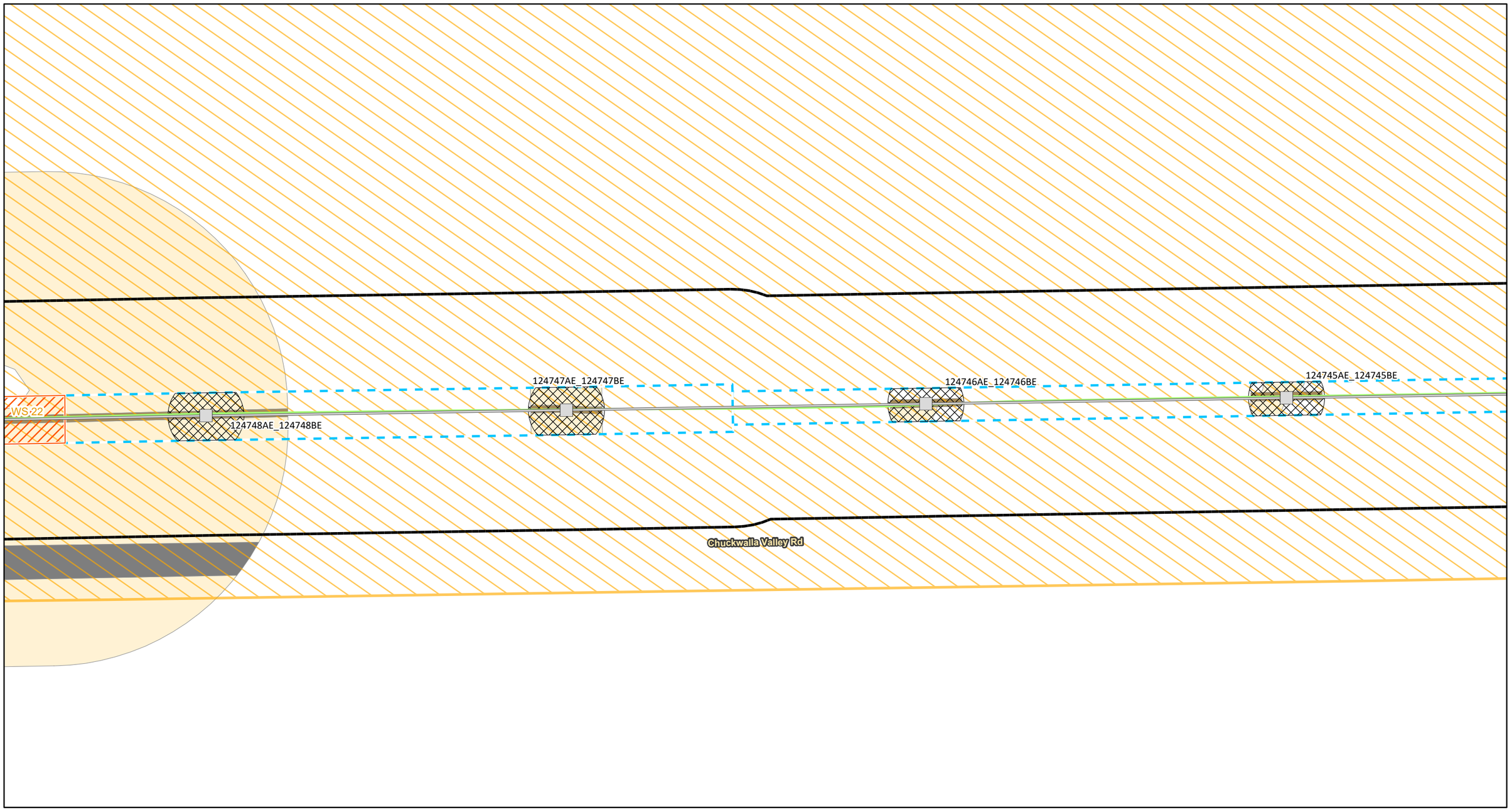
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



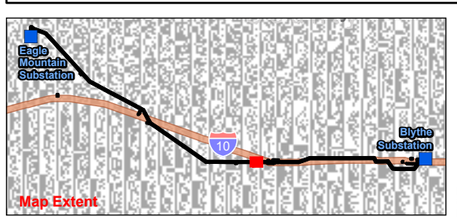


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FIGURE 2
Vegetation Communities

Southern California Edison
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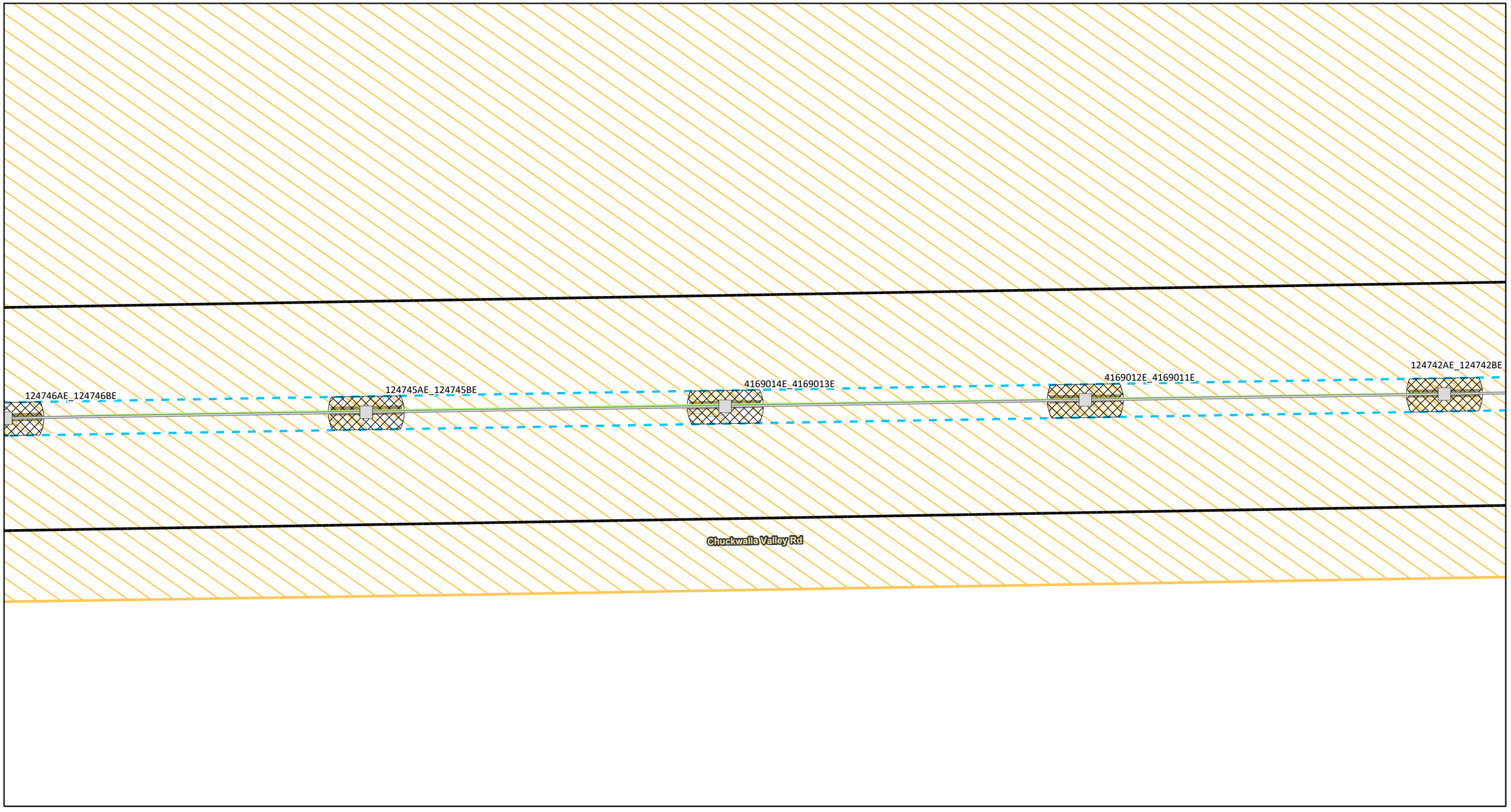

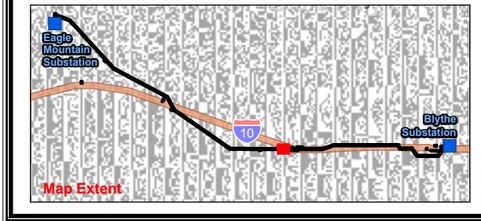

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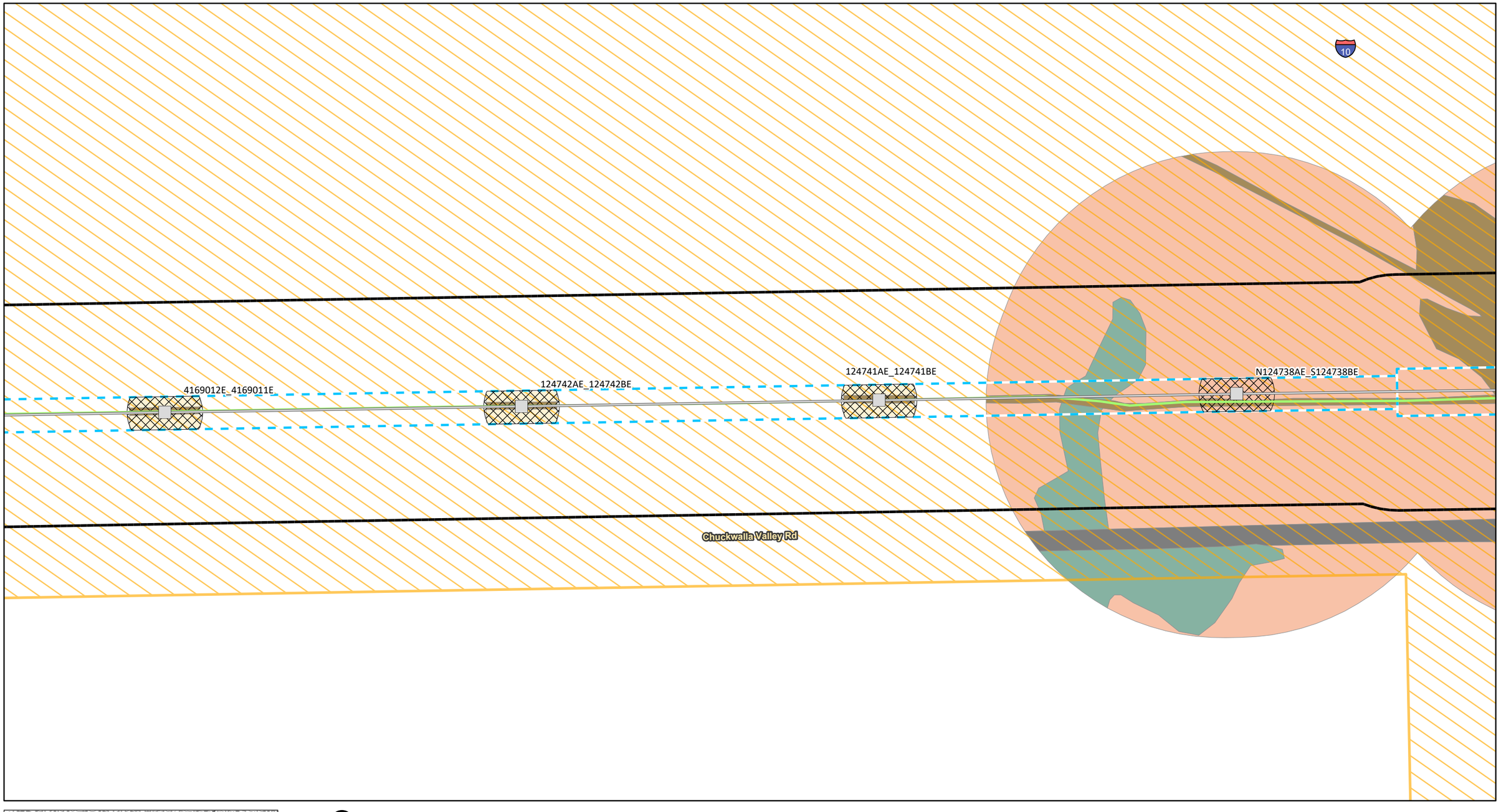

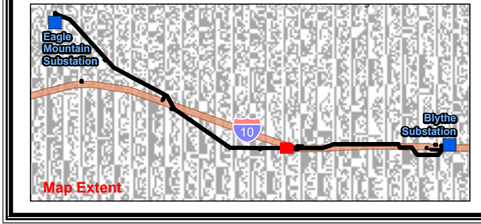

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Land Cover Type

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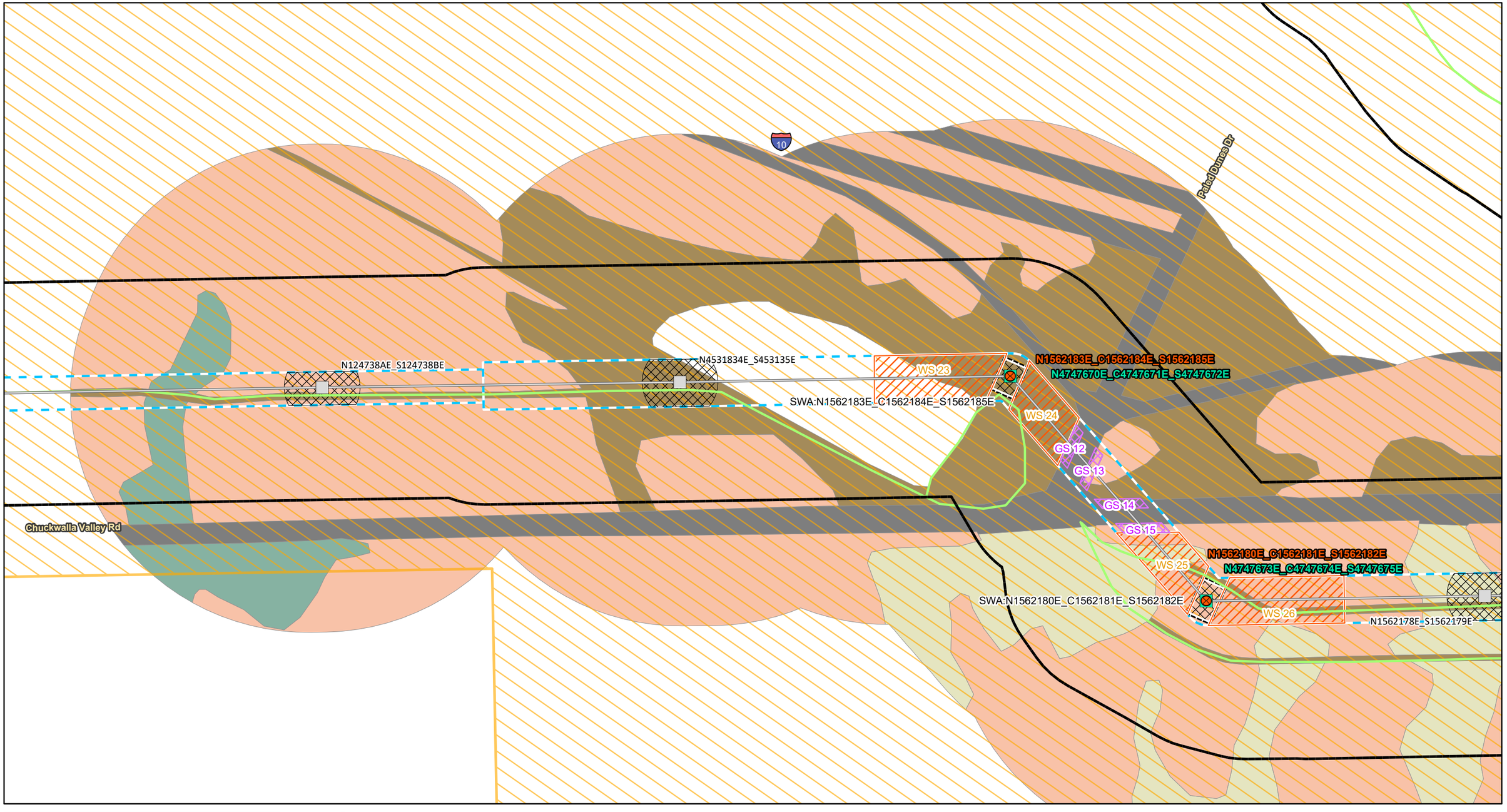
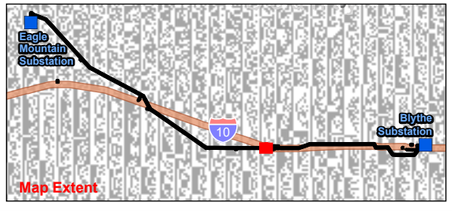
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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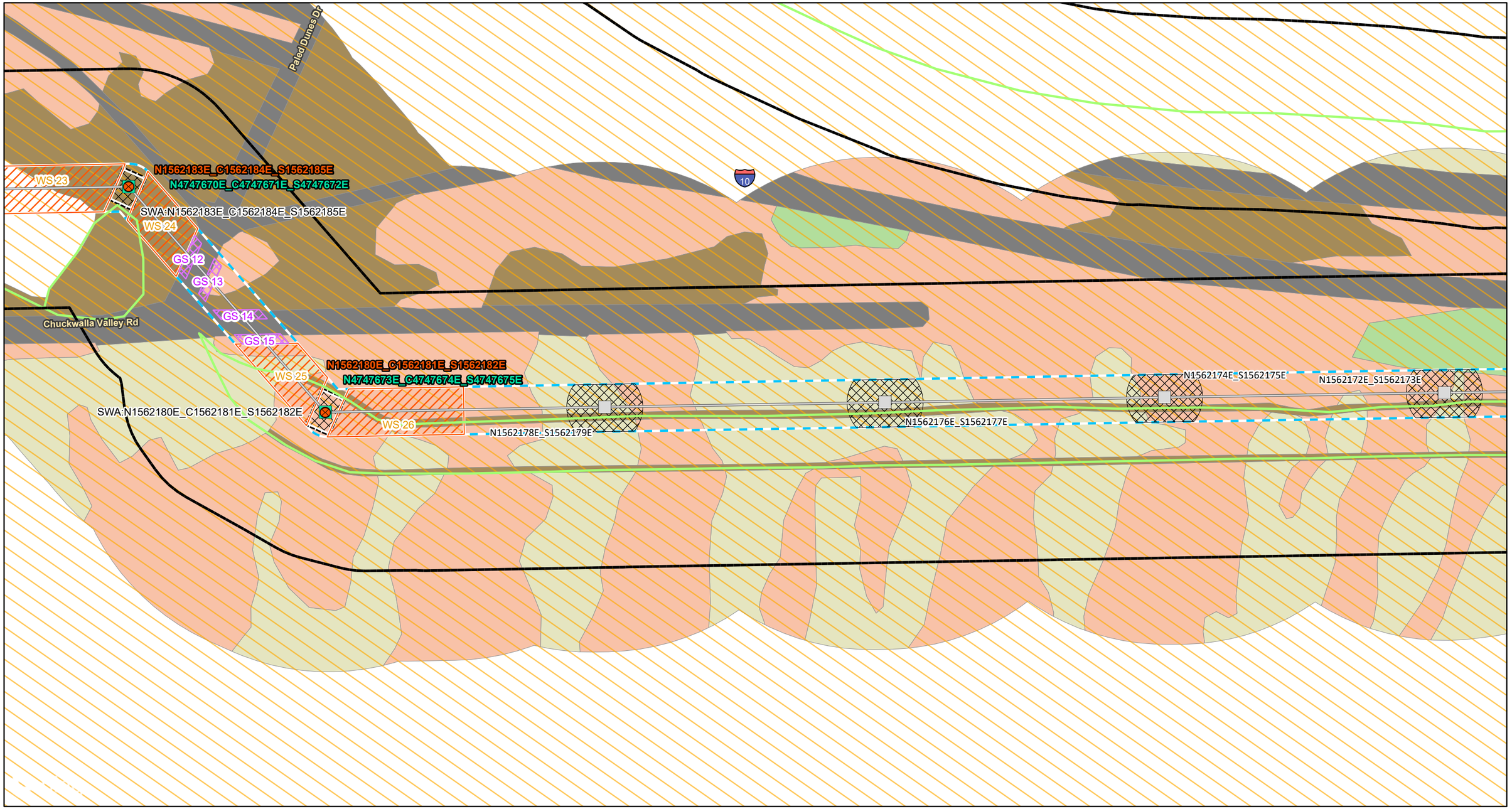
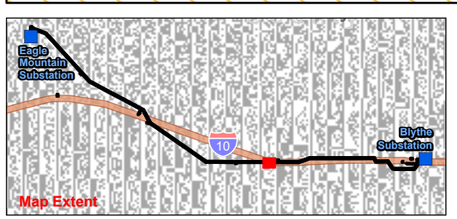
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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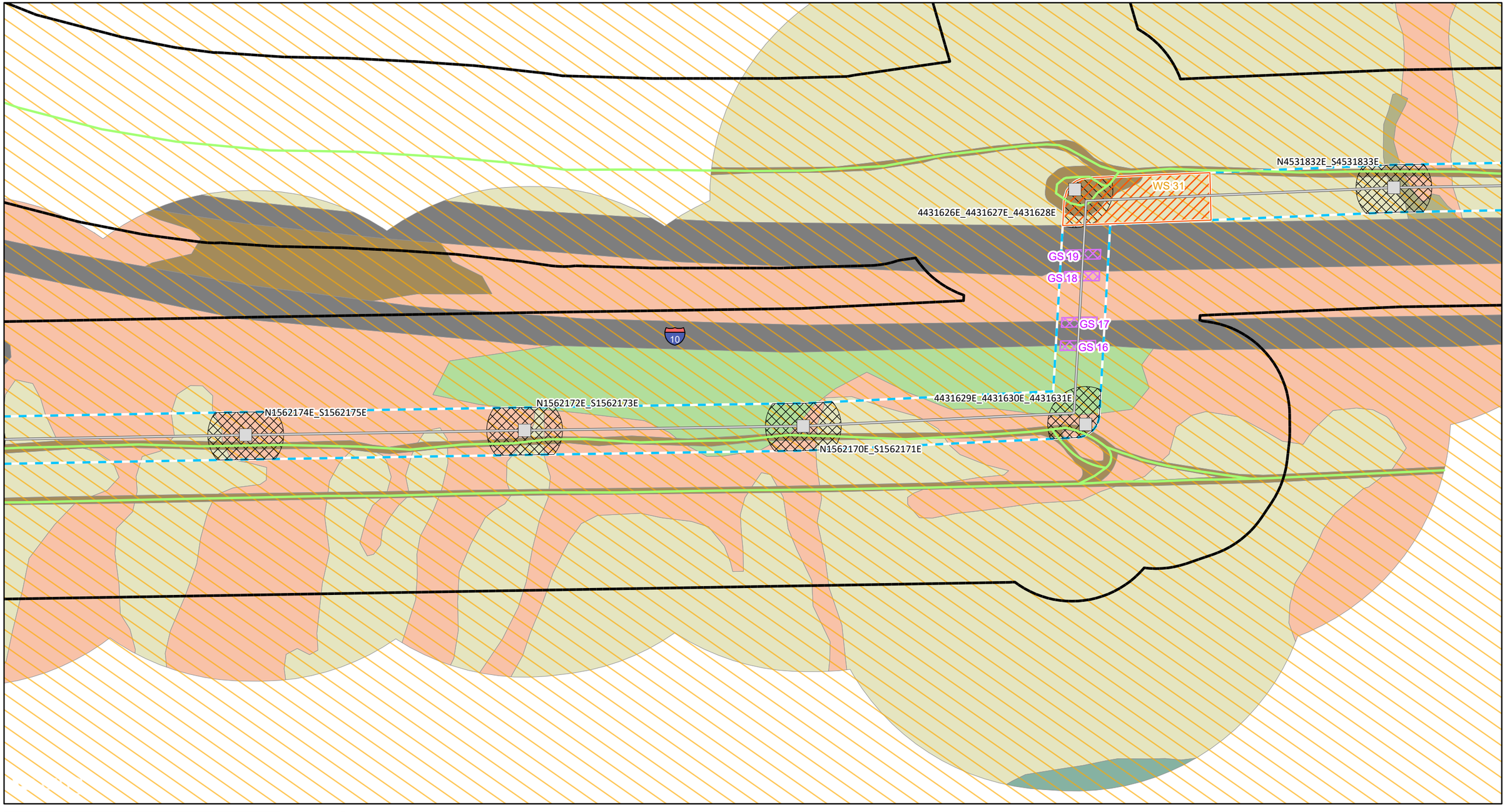

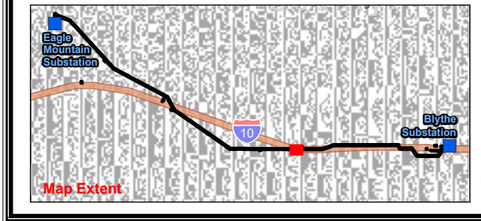

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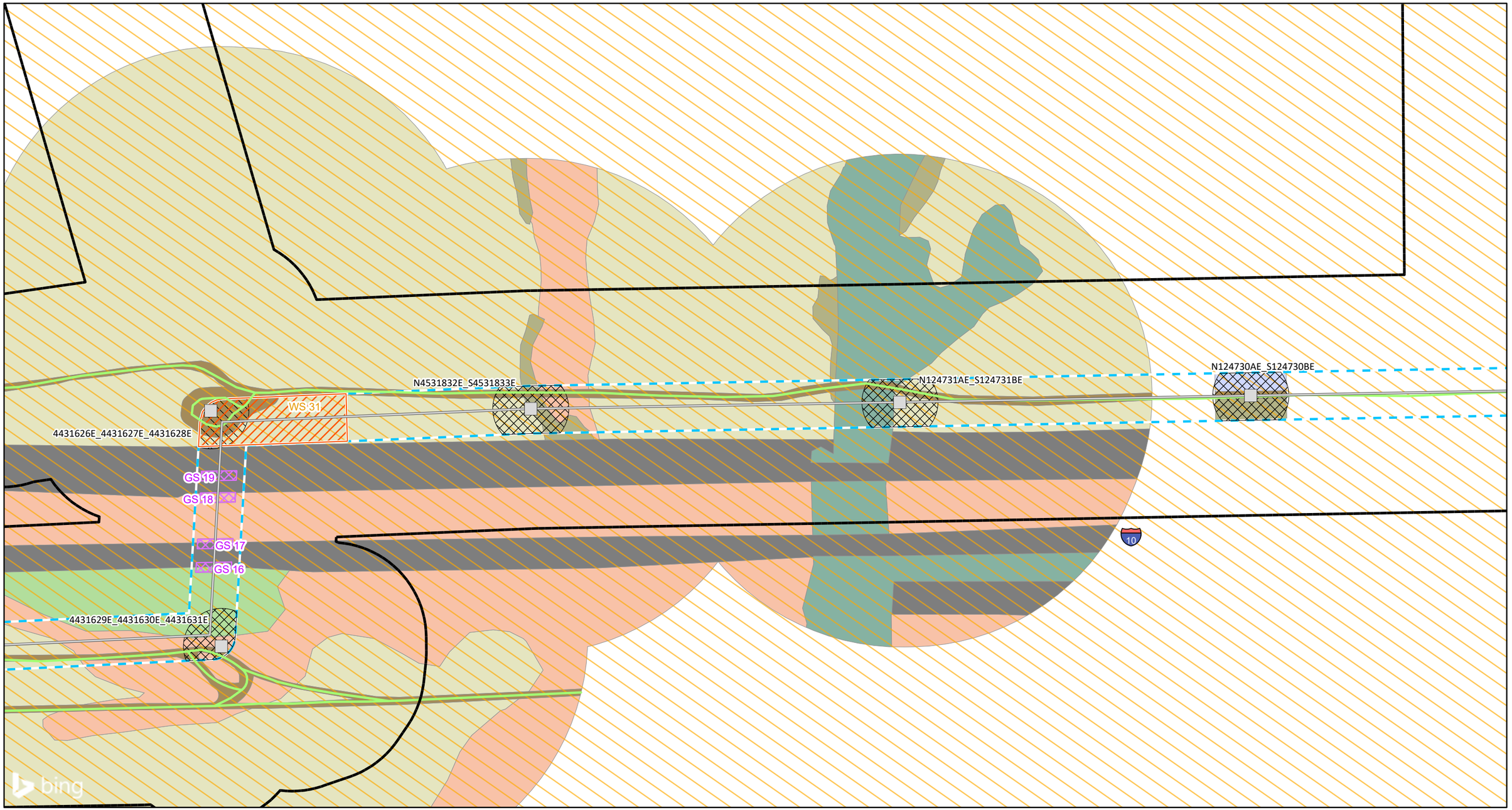

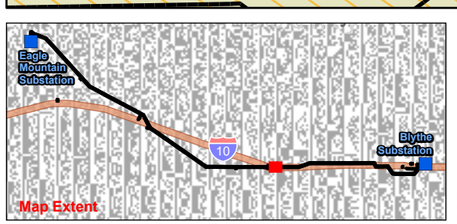

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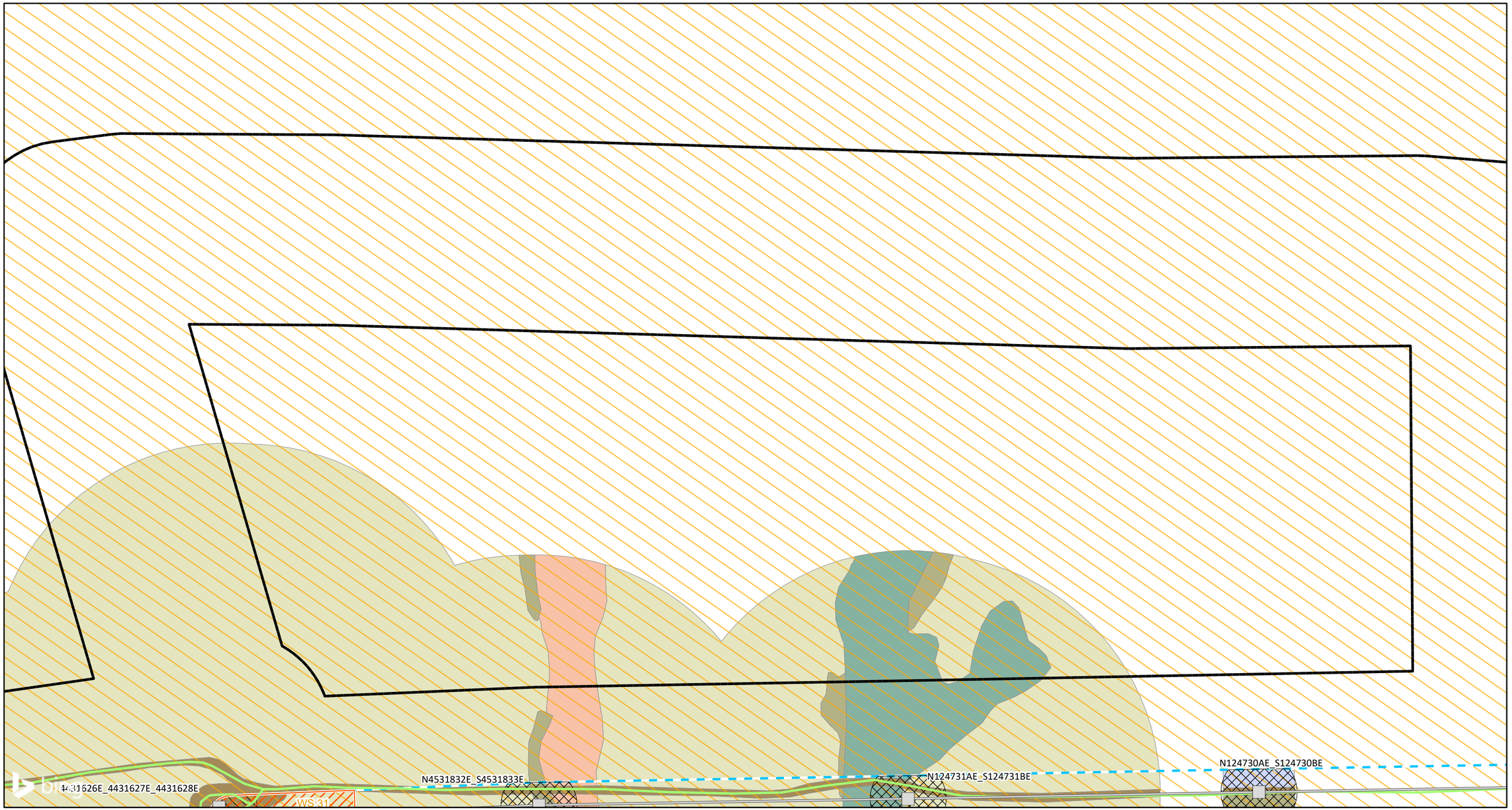
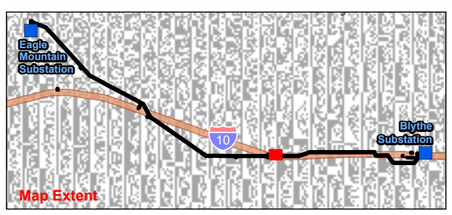
Eagle Mountain-Blythe 161-kV Project





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Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area
- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

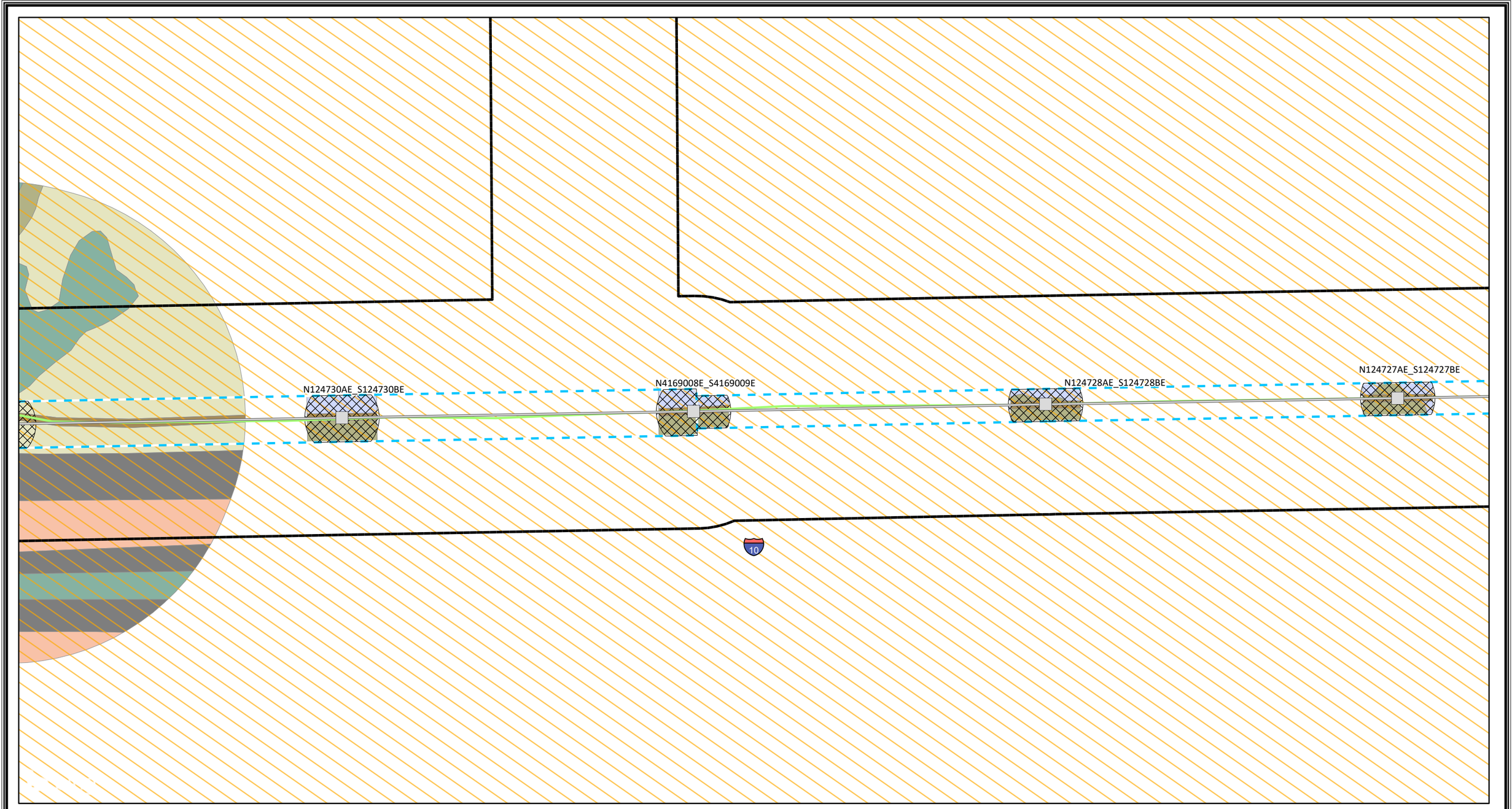
Land Cover Type

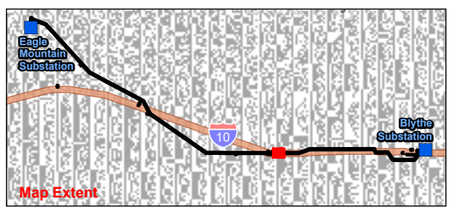
- Alkali weed - Salt grass playas and sinks
- Allscale scrub
- Blue palo verde - ironwood woodland
- Creosote bush scrub
- Disturbed
- Rigid spineflower - hairy desert sunflower

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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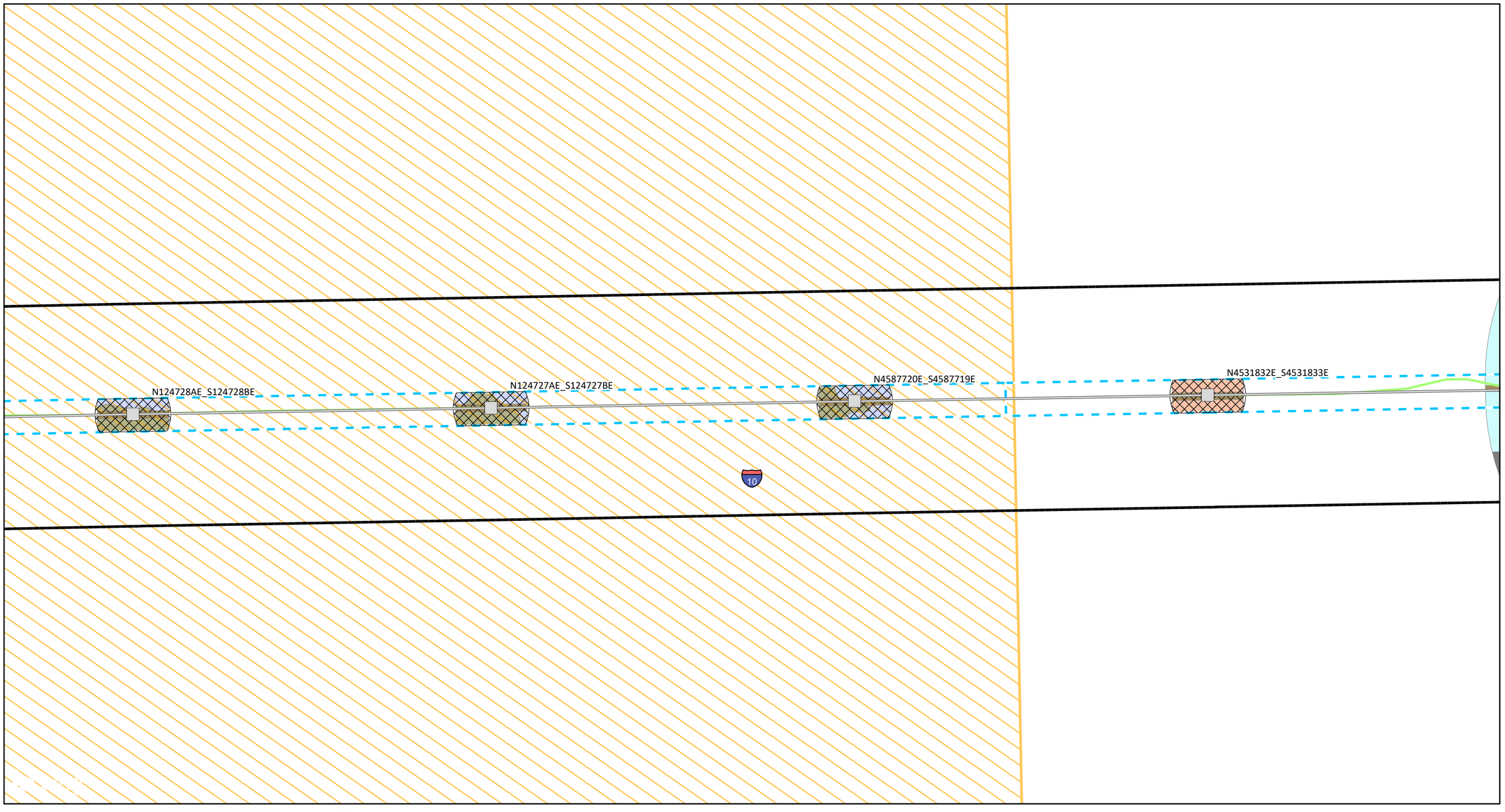
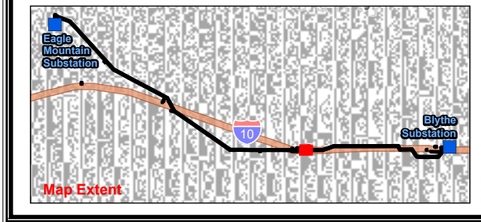
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

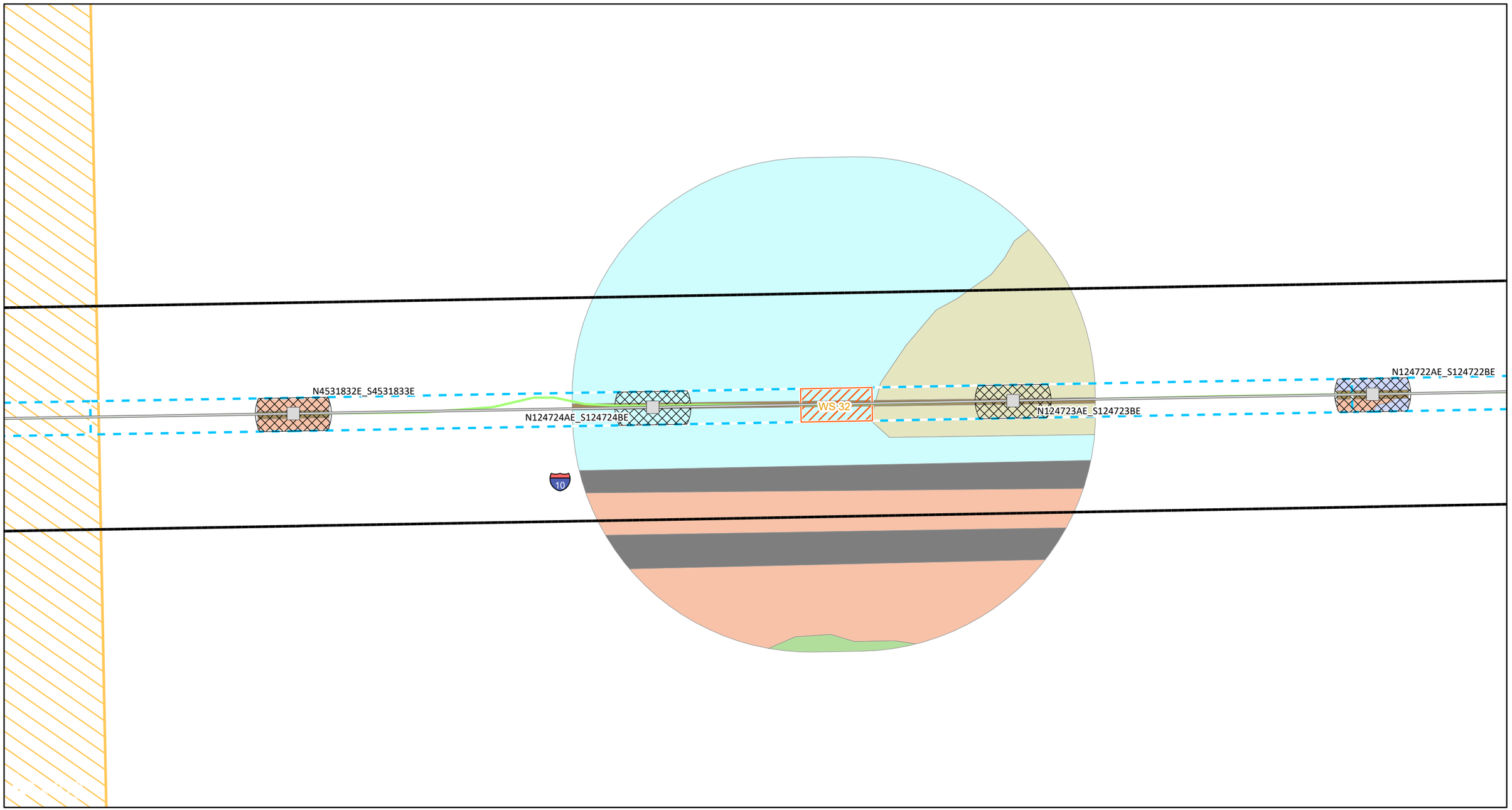
Land Cover Type

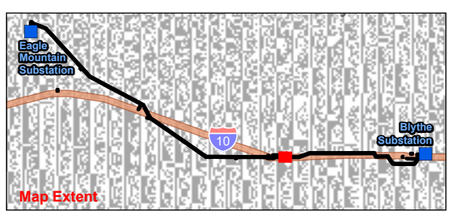
- Allscale scrub
- Creosote bush scrub
- Developed
- Disturbed
- Mojave-Sonoran desert dunes
- Rigid spineflower - hairy desert sunflower

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner

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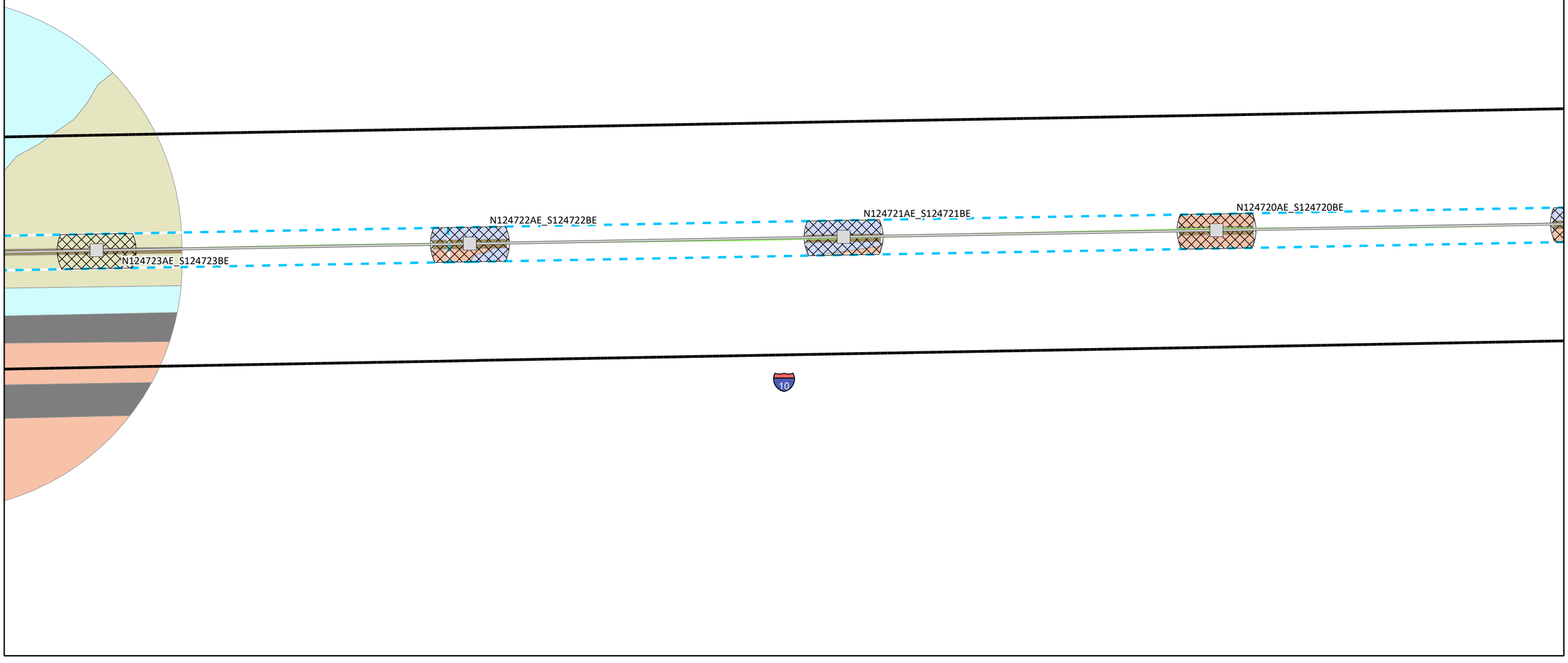
Land Cover Type

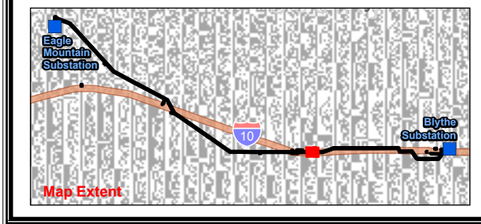
- Alkali weed - Salt grass playas and sinks
- Creosote bush scrub
- Developed
- Disturbed
- Mesquite thickets
- Mojave-Sonoran desert dunes

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type

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- Disturbed
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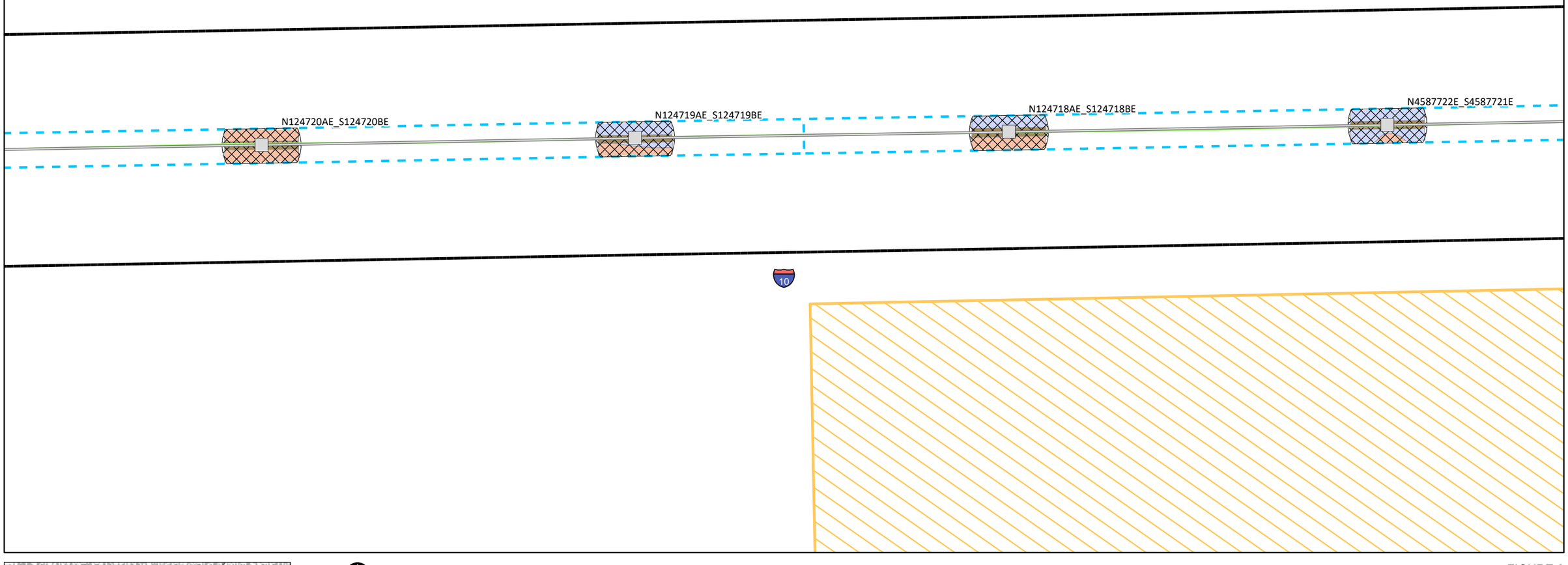
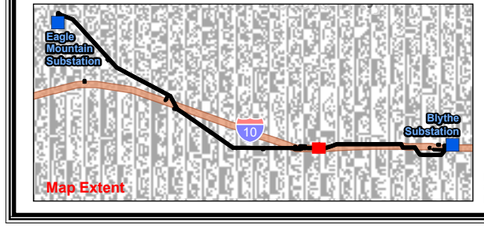
- Rigid spineflower - hairy desert sunflower

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Land Cover Type
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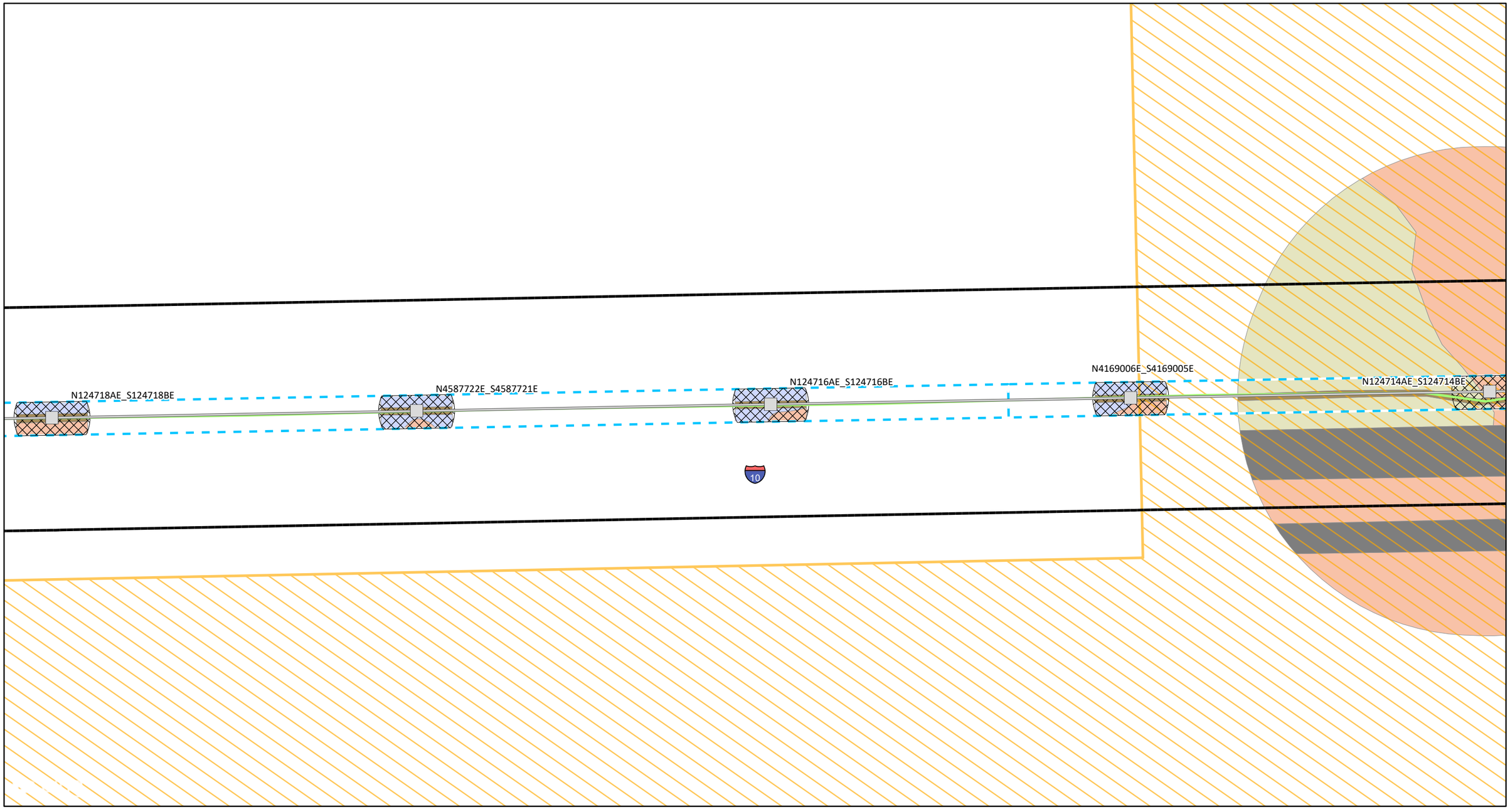
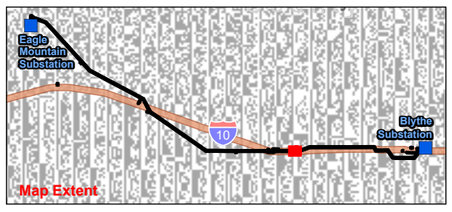
- Disturbed
- Rigid spineflower - hairy desert sunflower

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type

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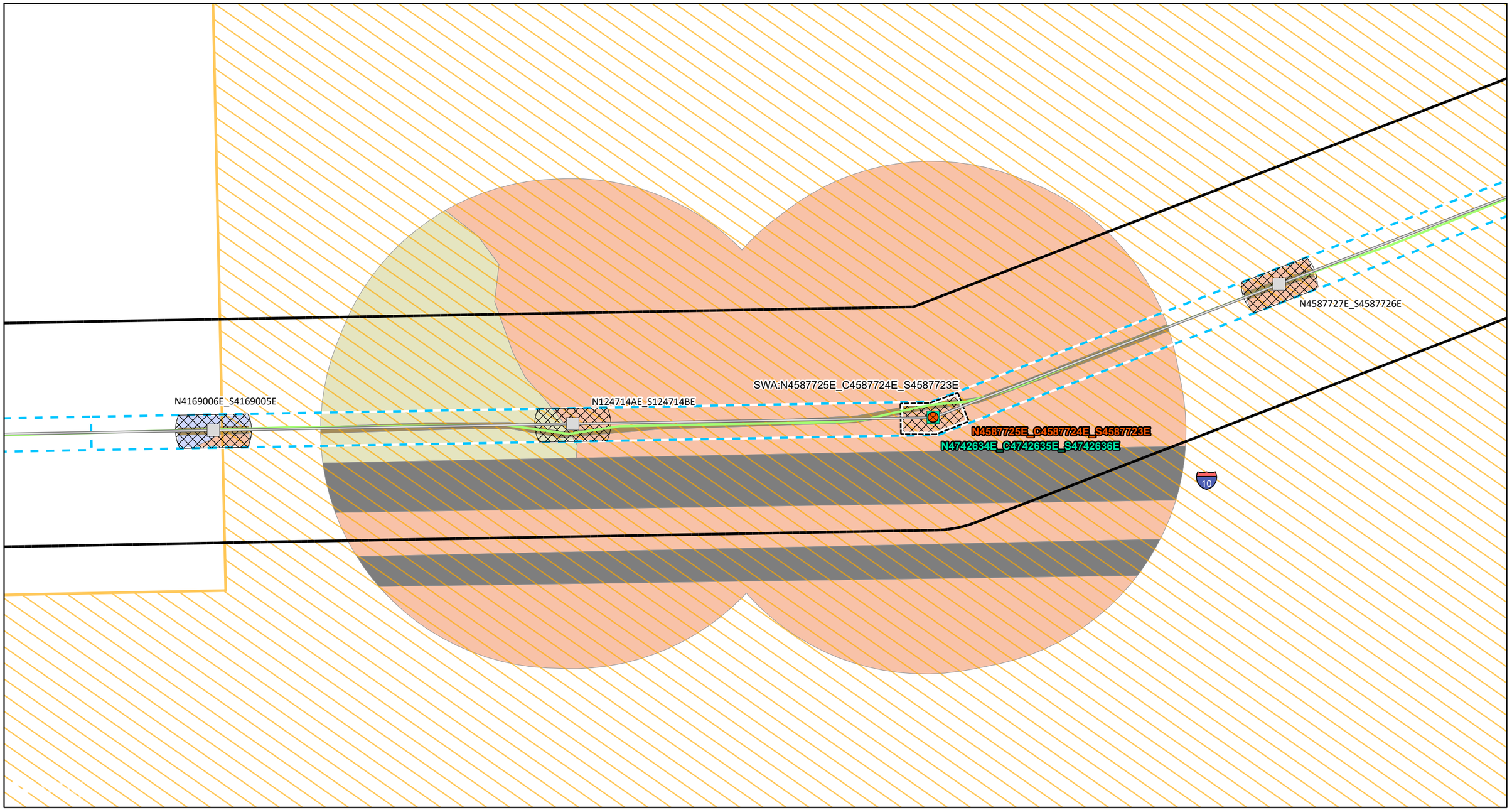
- Developed
- Disturbed
- Rigid spineflower - hairy desert sunflower

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



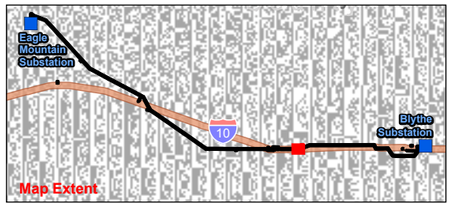


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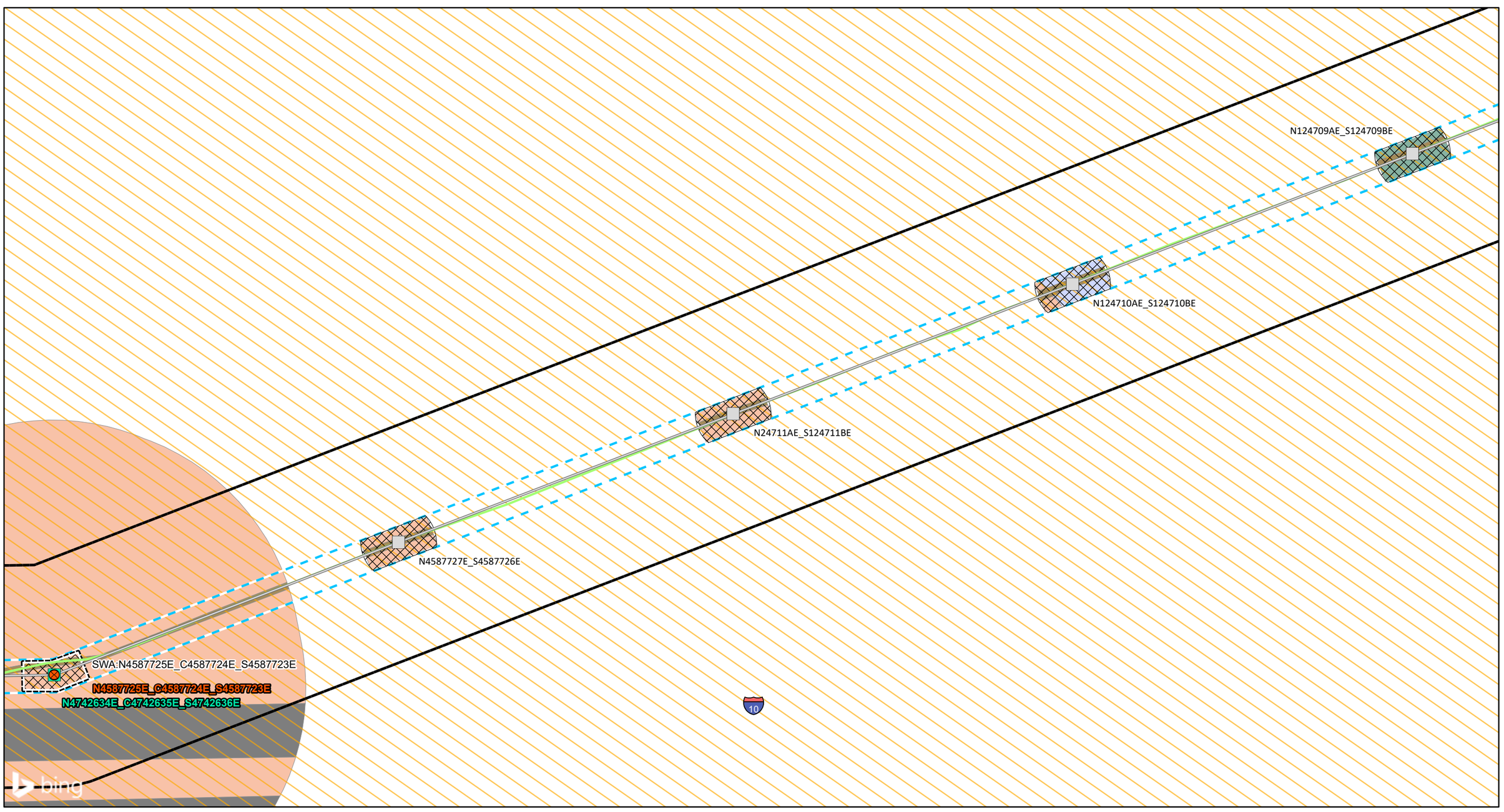
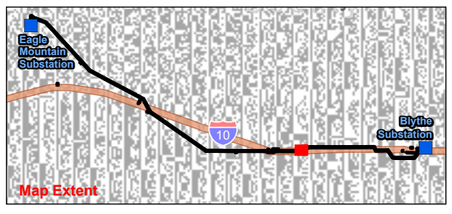
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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- Developed
- Disturbed

FIGURE 2

Vegetation Communities

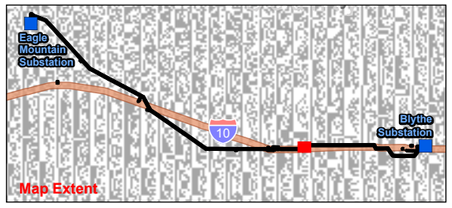
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

N124707AE_S124707BE

N4587729E_S4587728E

N124709AE_S124709BE

N124710AE_S124710BE



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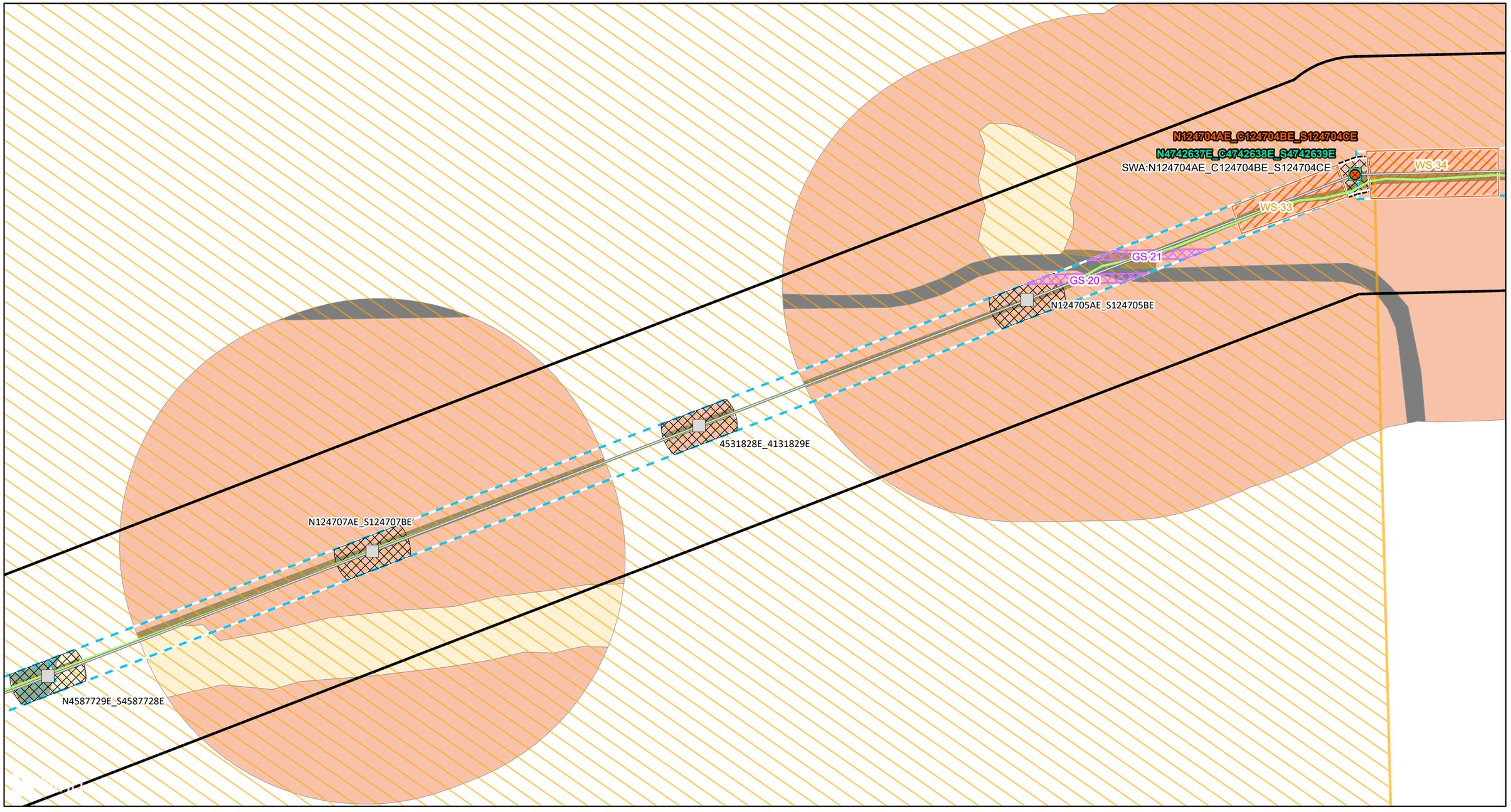
Land Cover Type

- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed
- Rigid spineflower - hairy desert sunflower

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



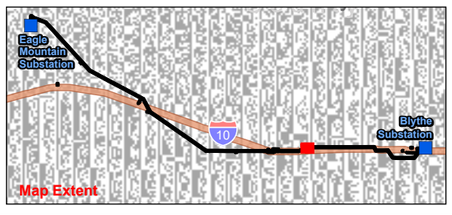


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FIGURE 2
Vegetation Communities

Southern California Edison
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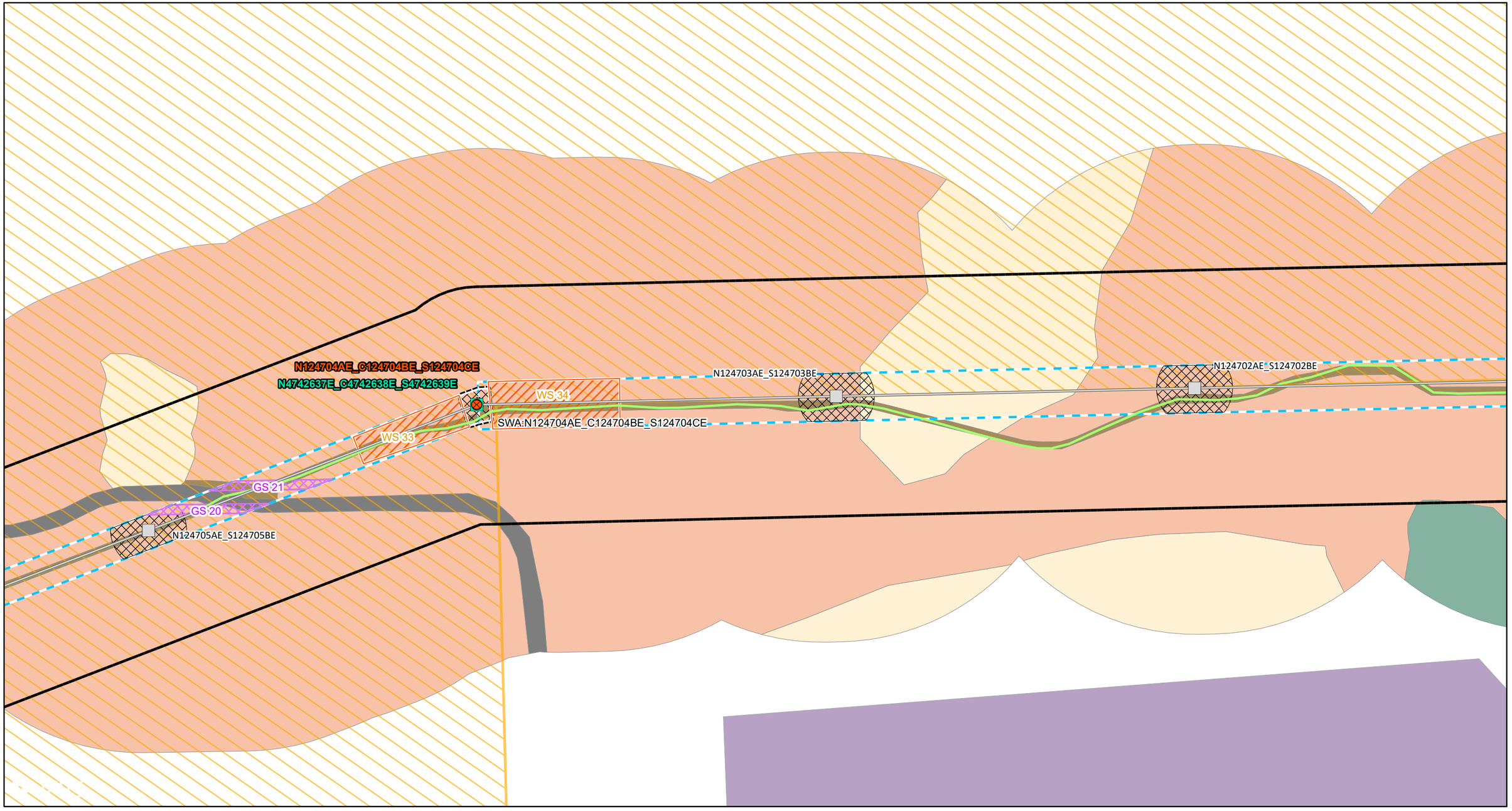

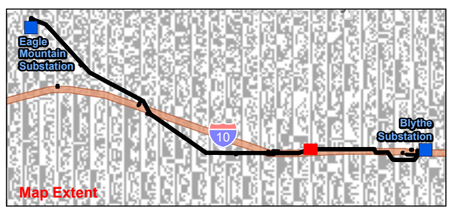

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- State Land

Land Cover Type
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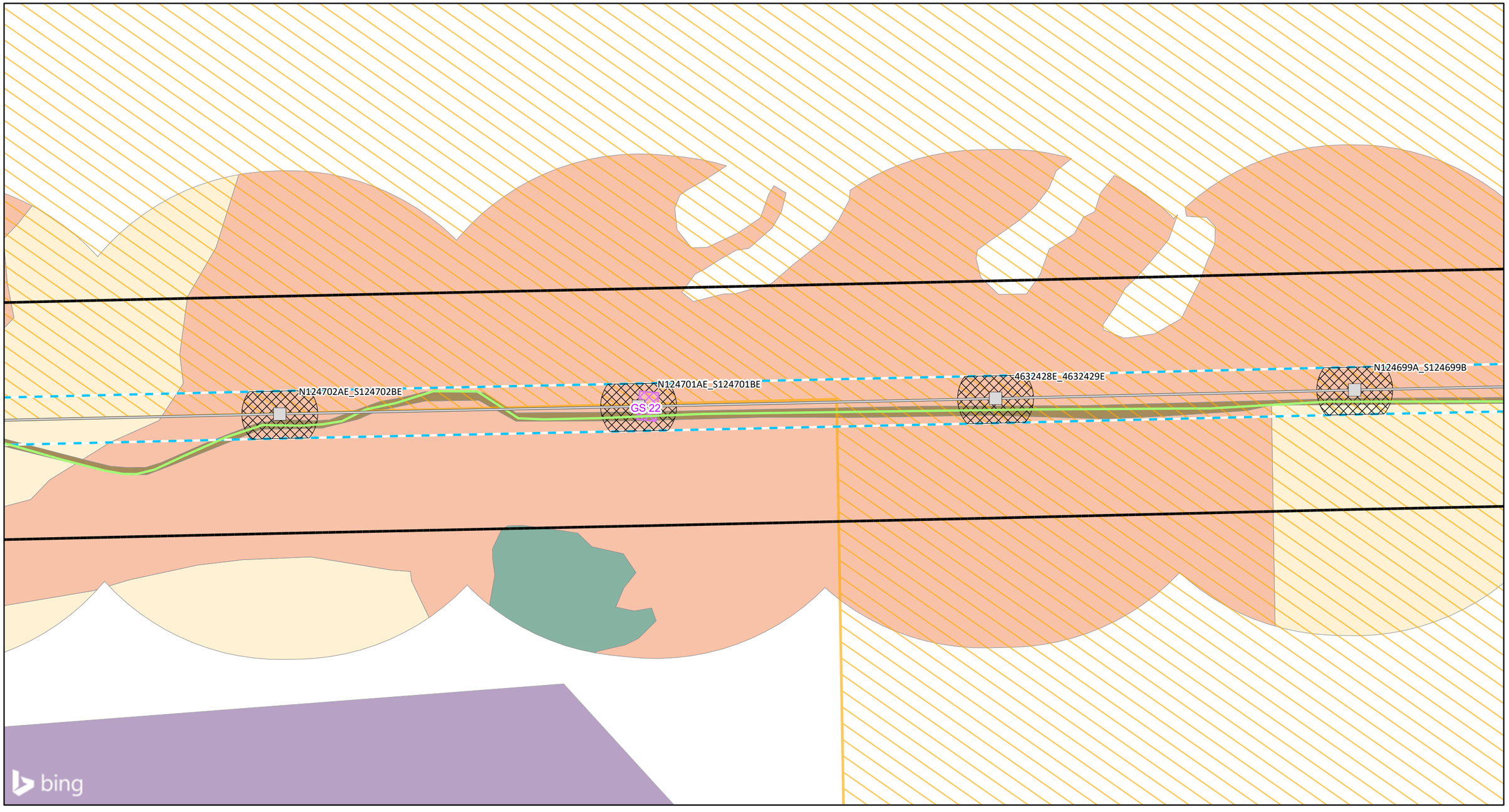
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



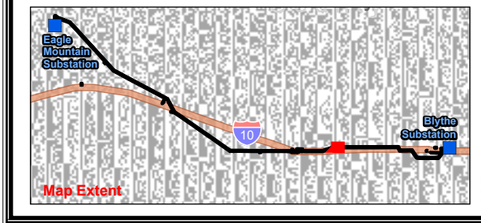


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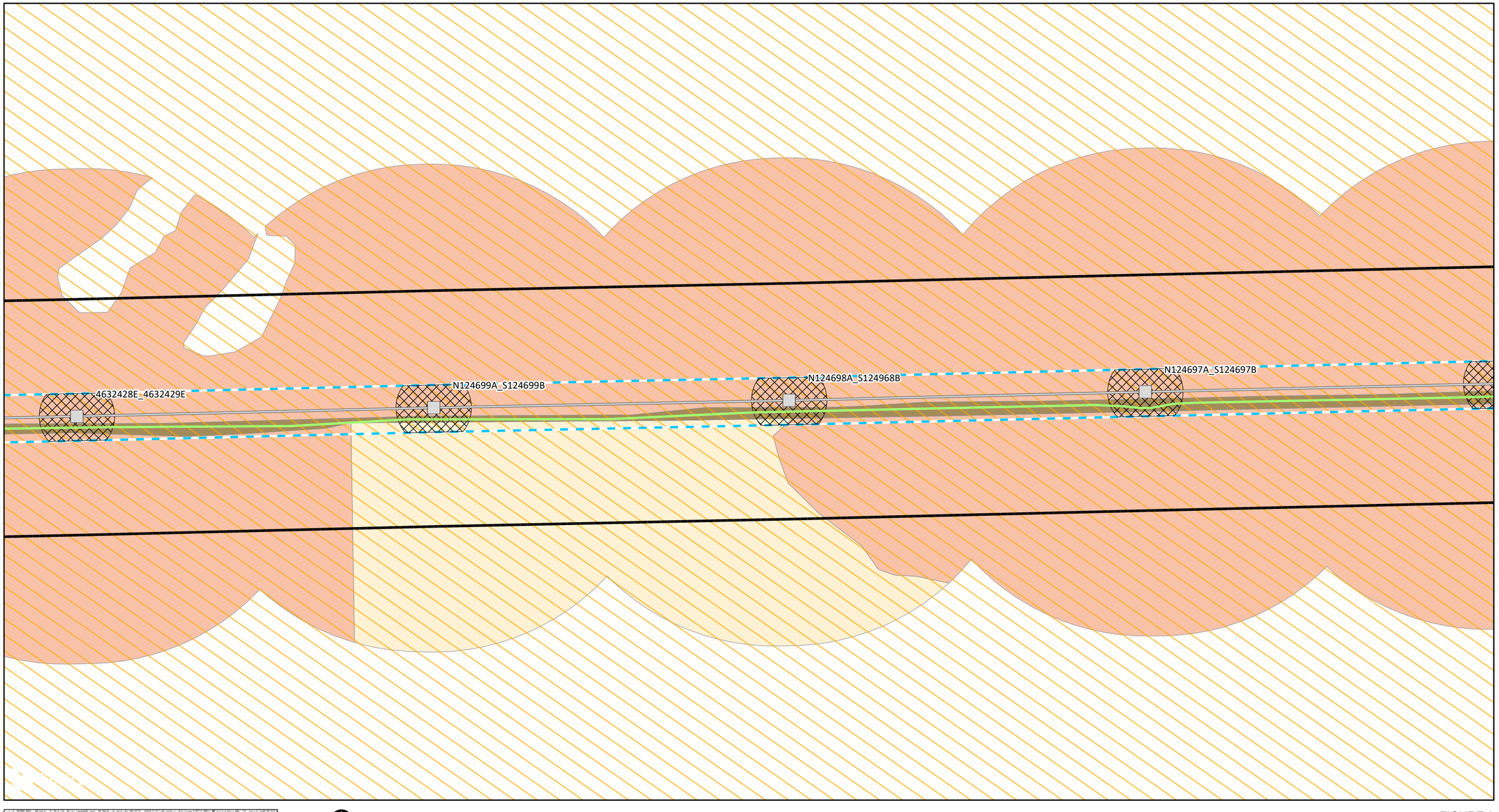
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



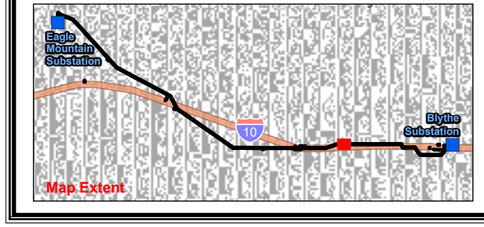


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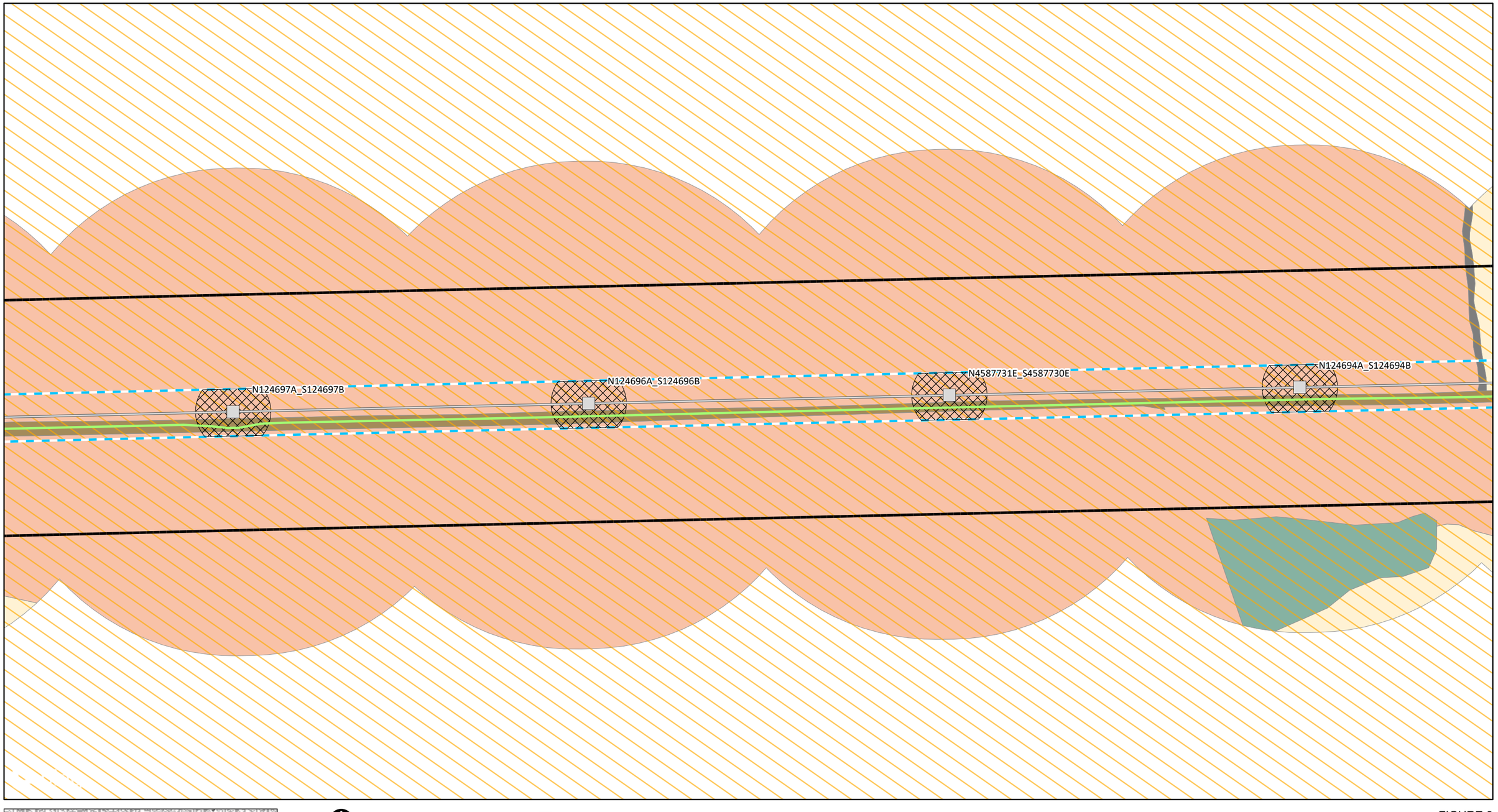
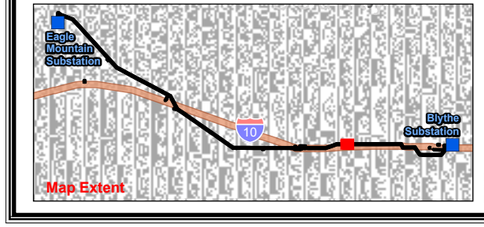
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type

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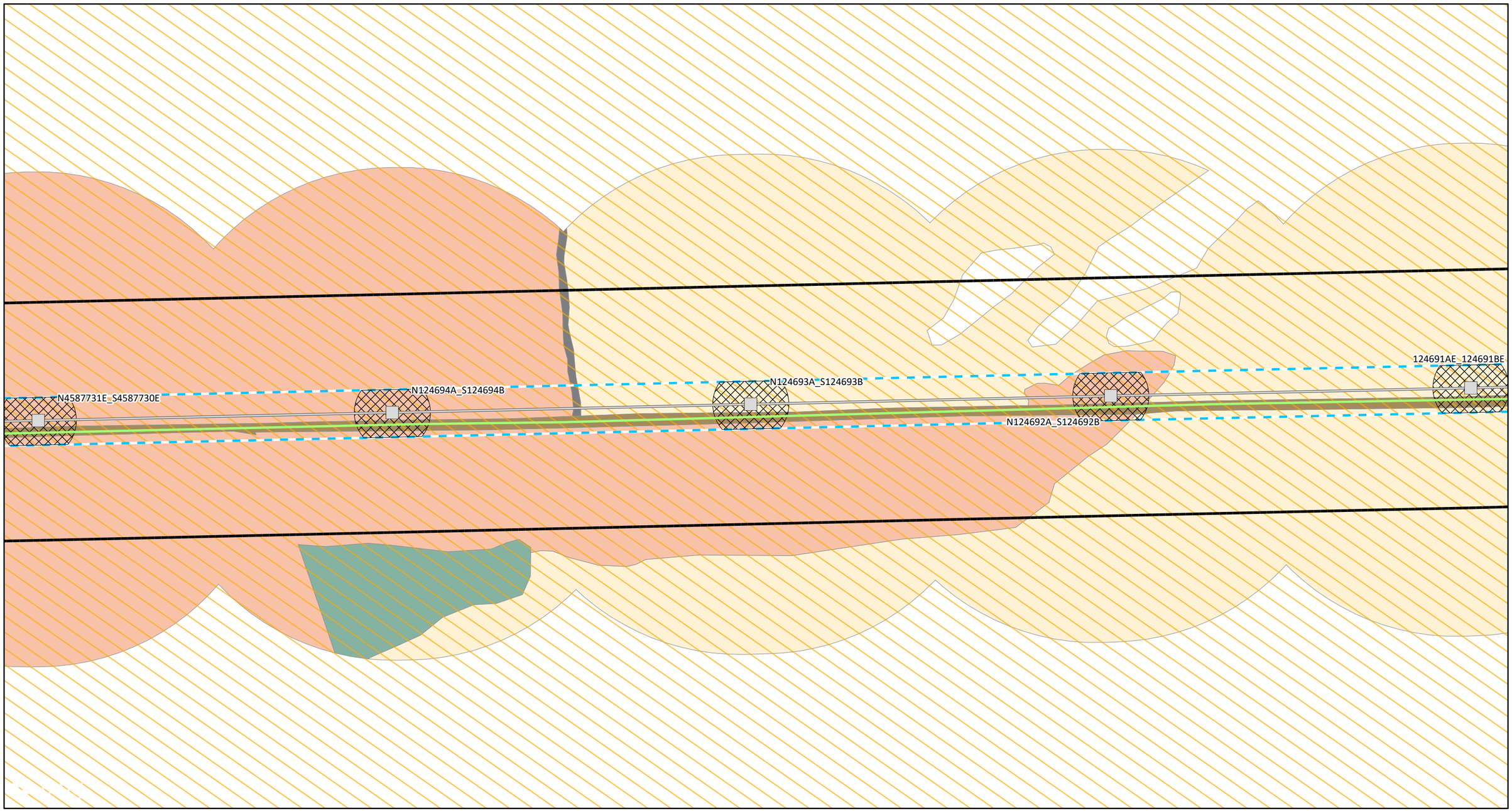
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



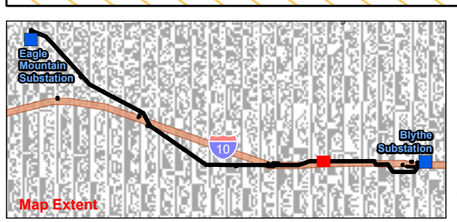


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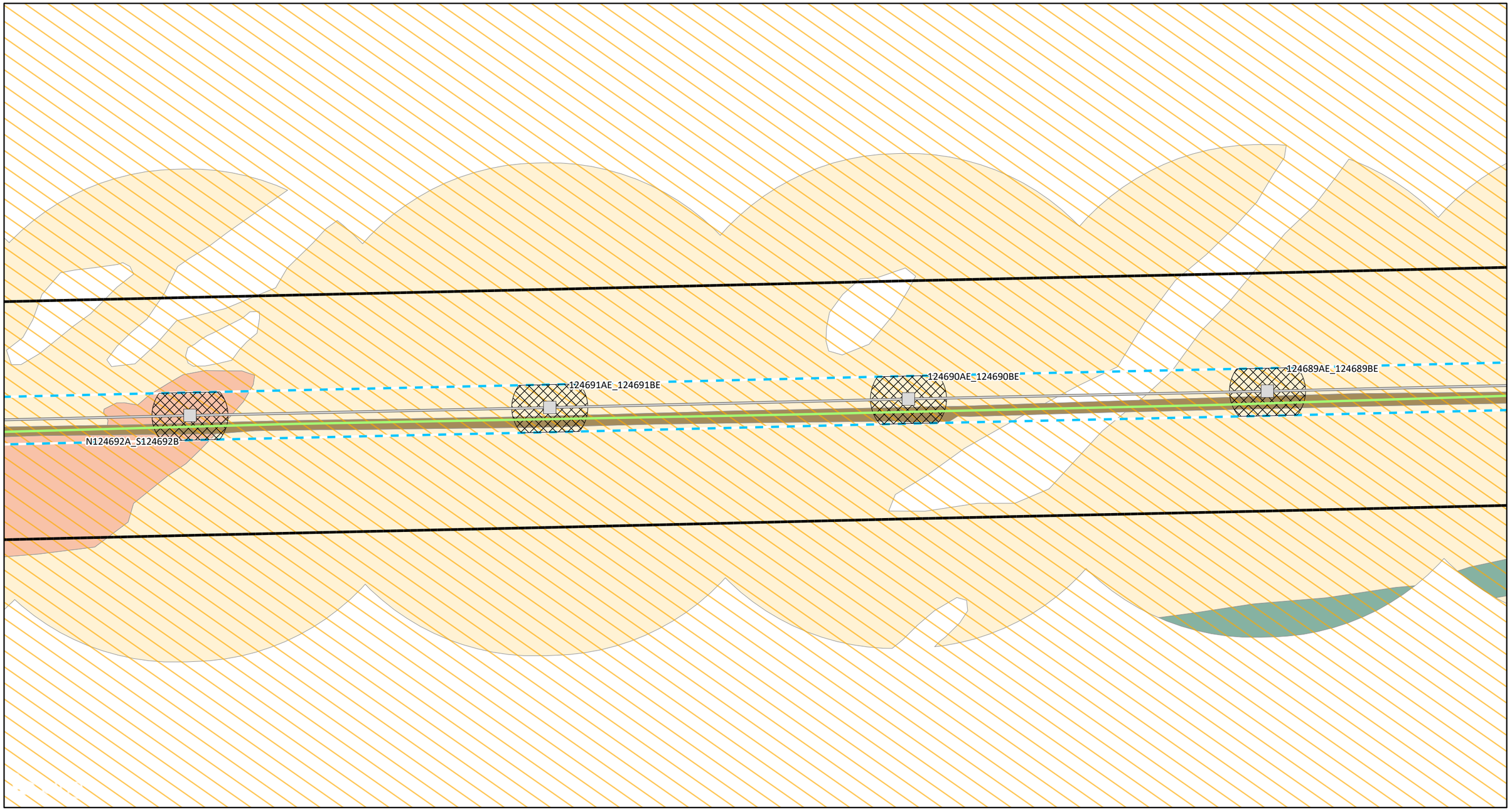
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



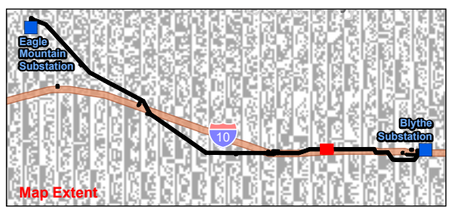


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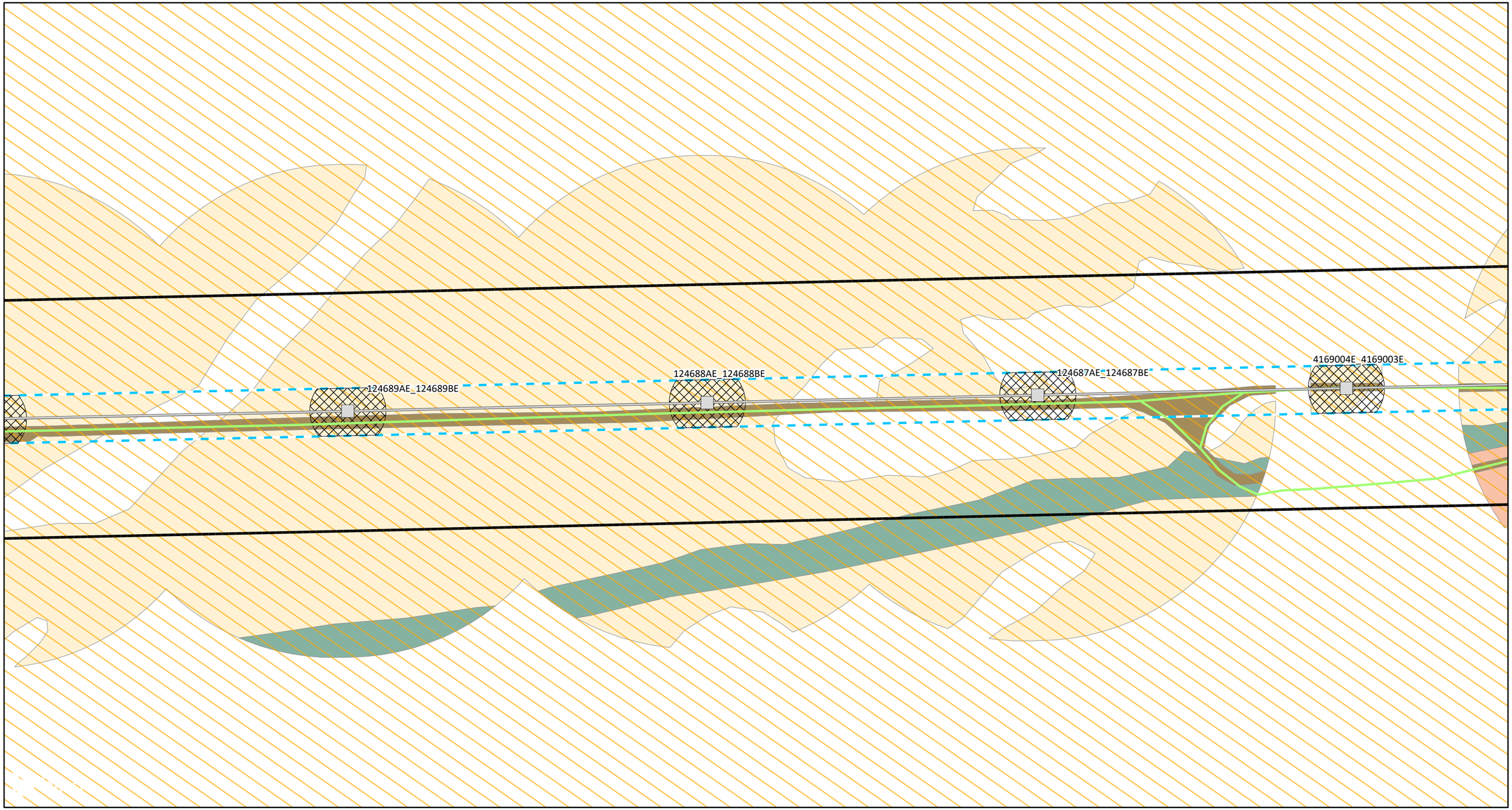
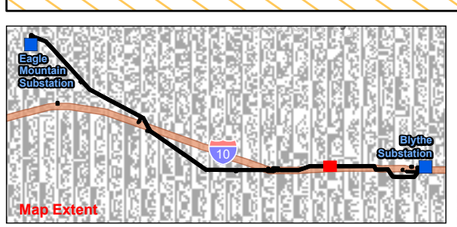
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area
- Desert Tortoise Critical Habitat

Land Owner

- BLM Land

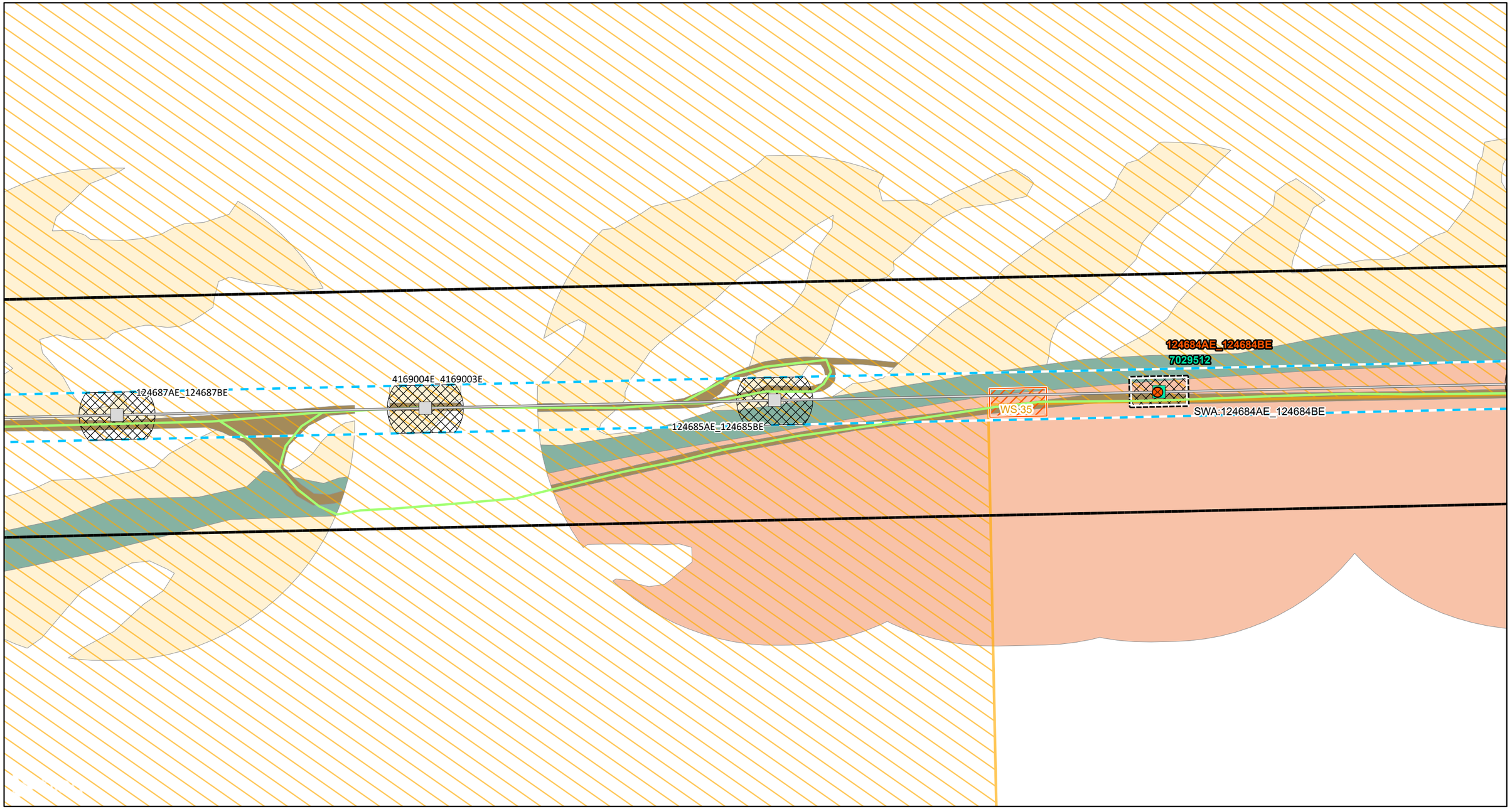
Land Cover Type

- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



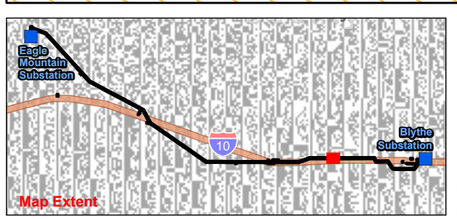


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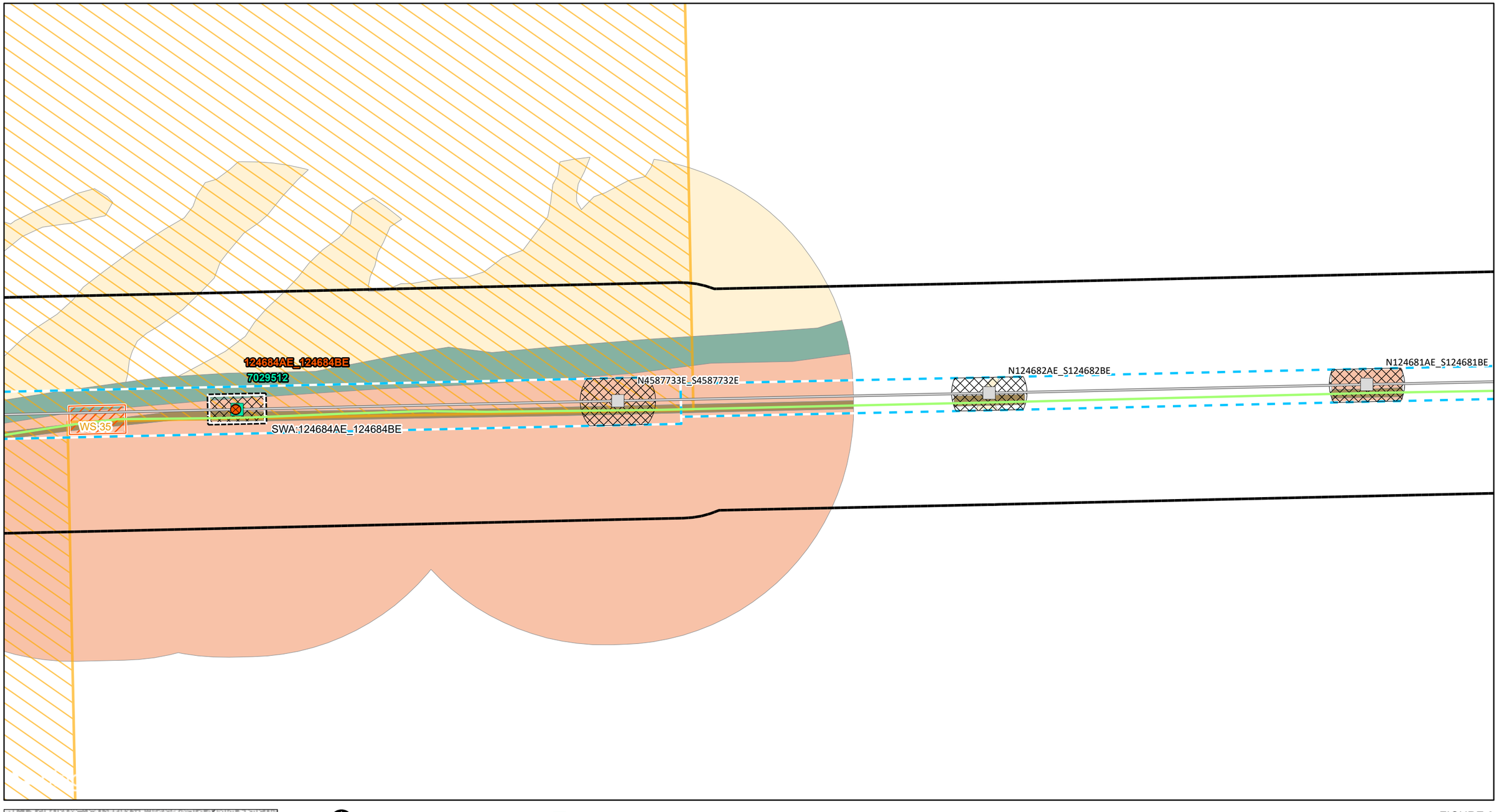
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



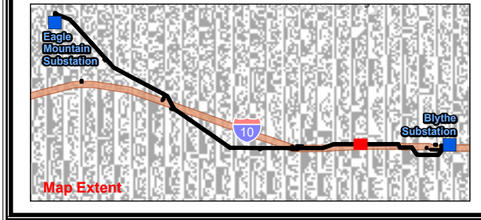


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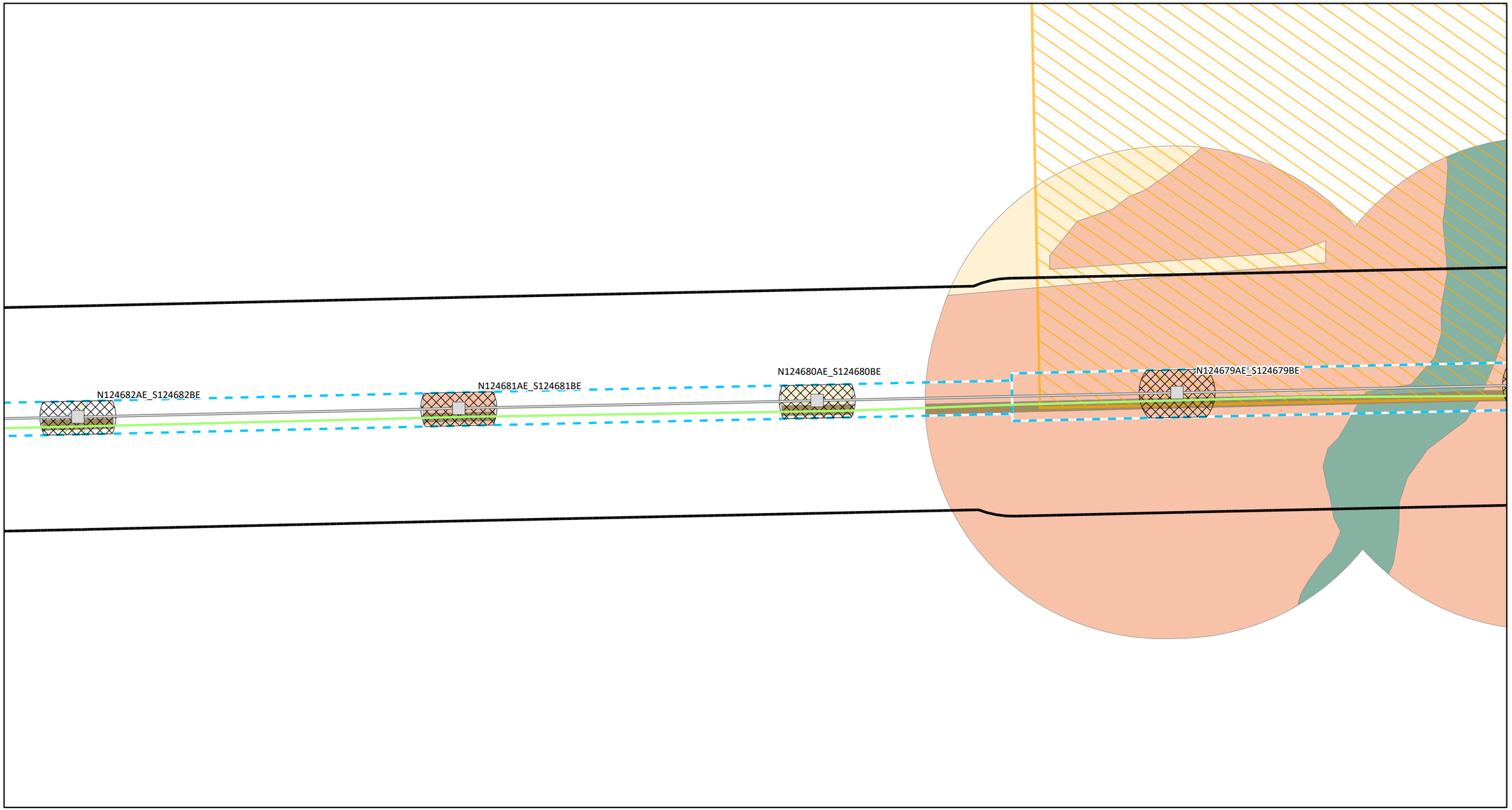
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



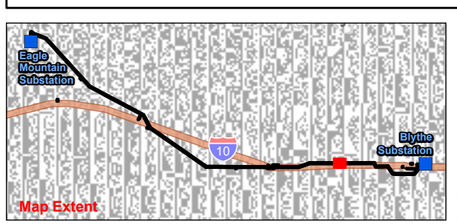


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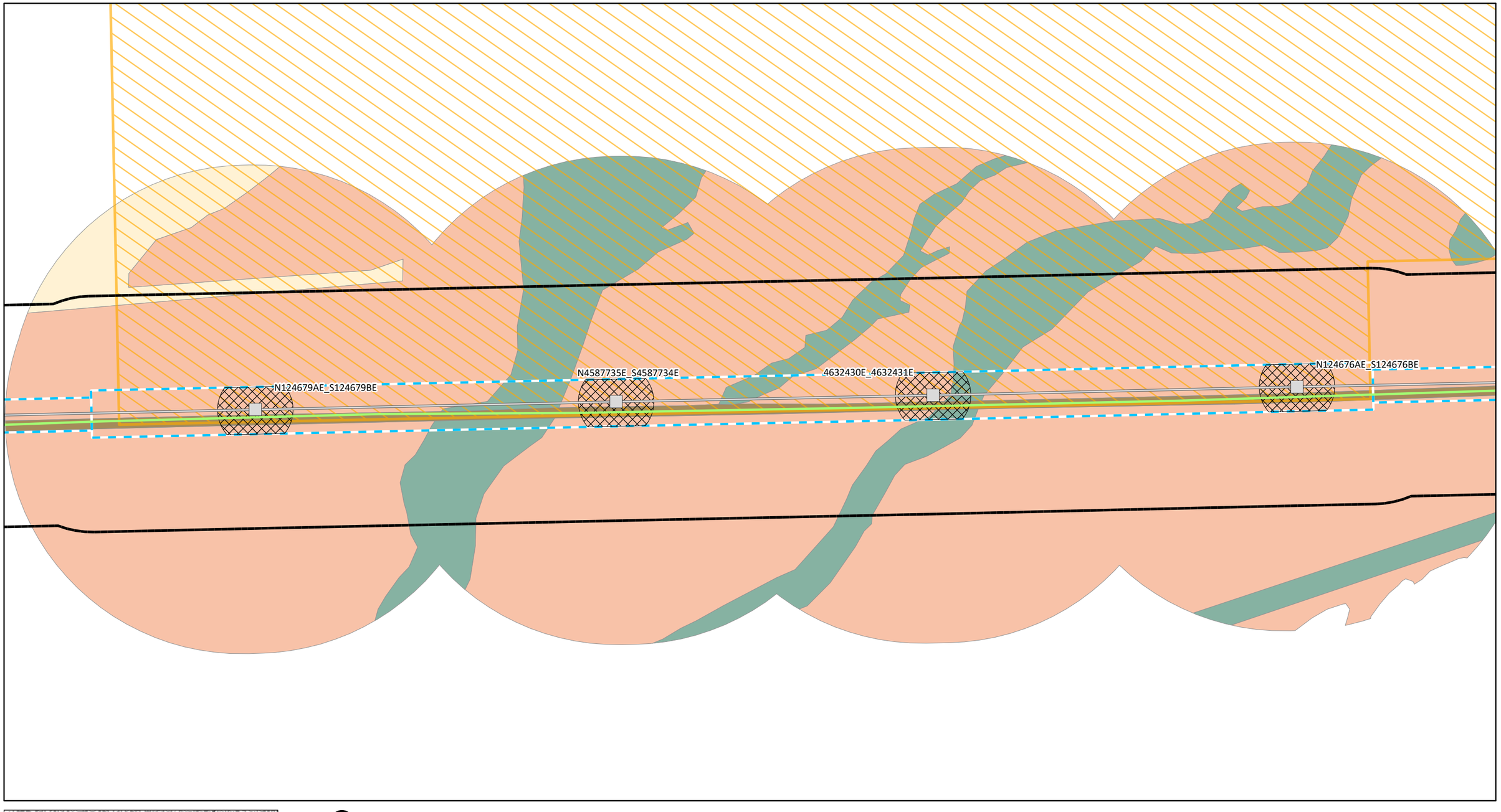
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



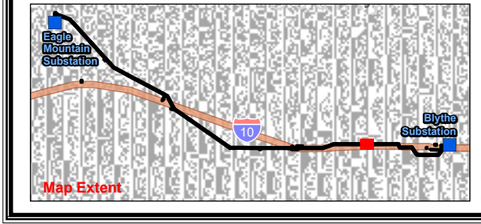


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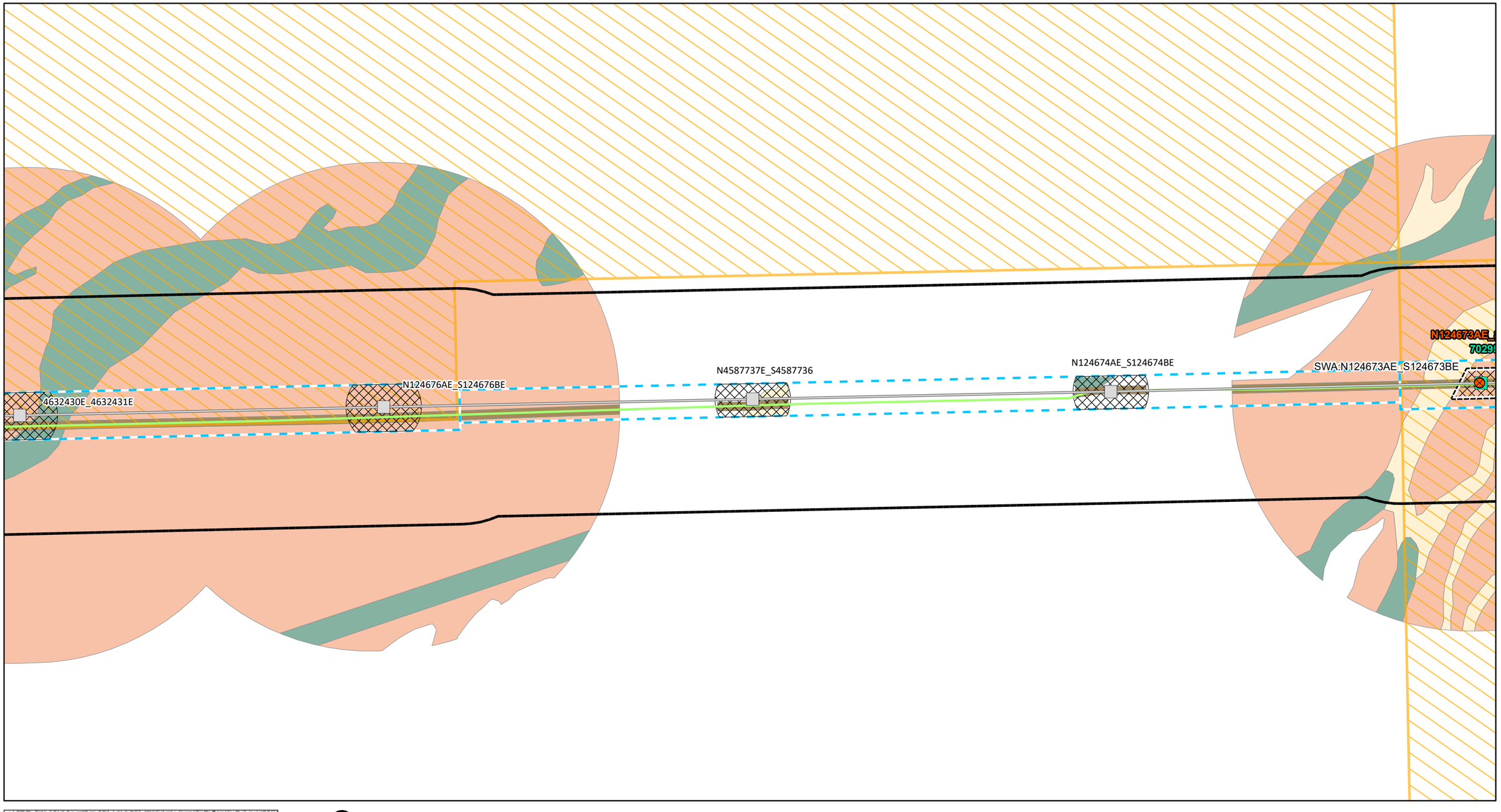
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



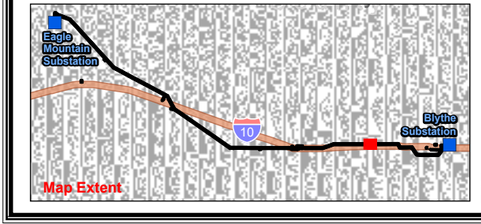


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FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

N124673AE_S124673BE
7029513
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N4587739E_S4587738E
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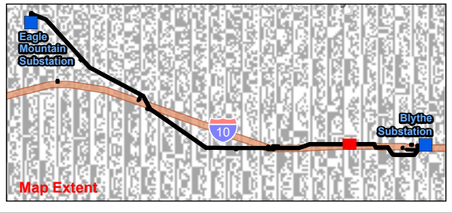

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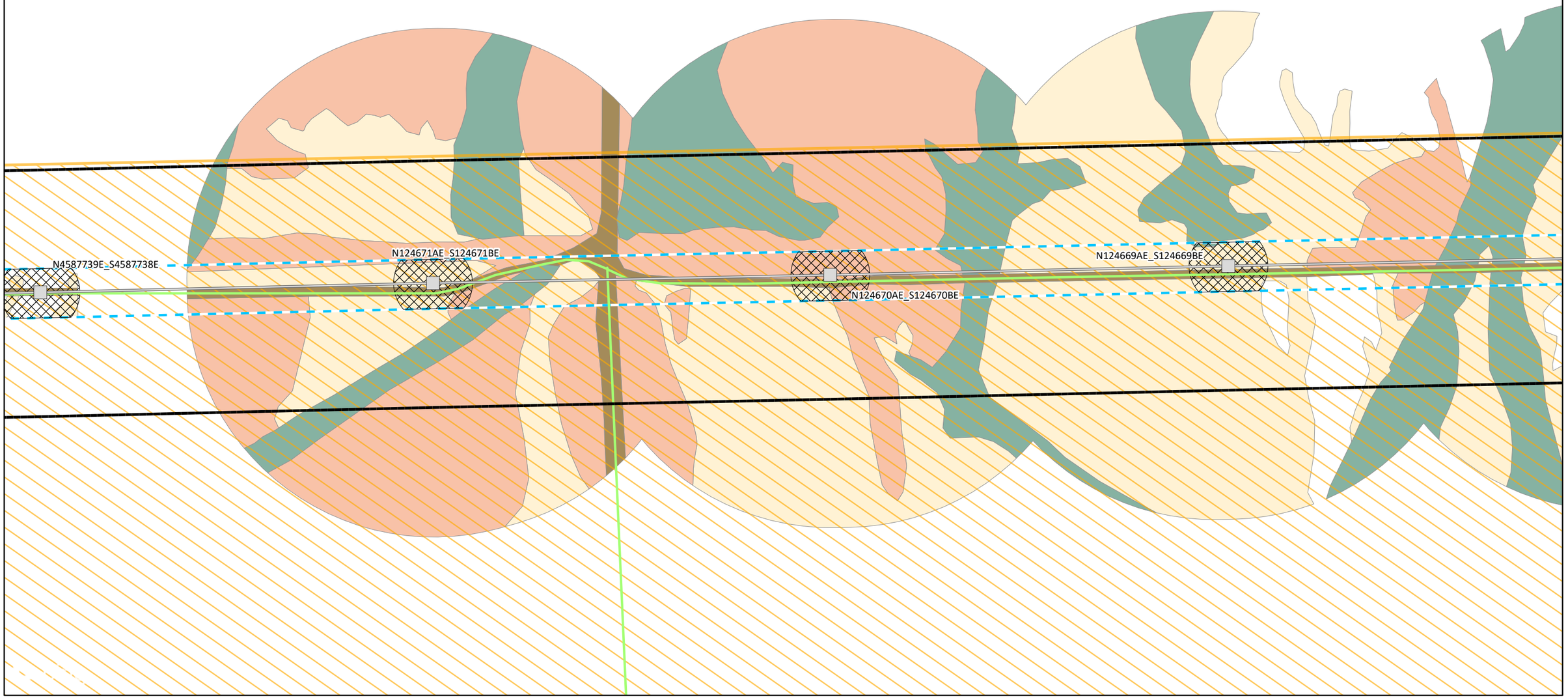
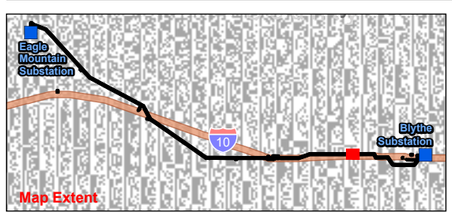
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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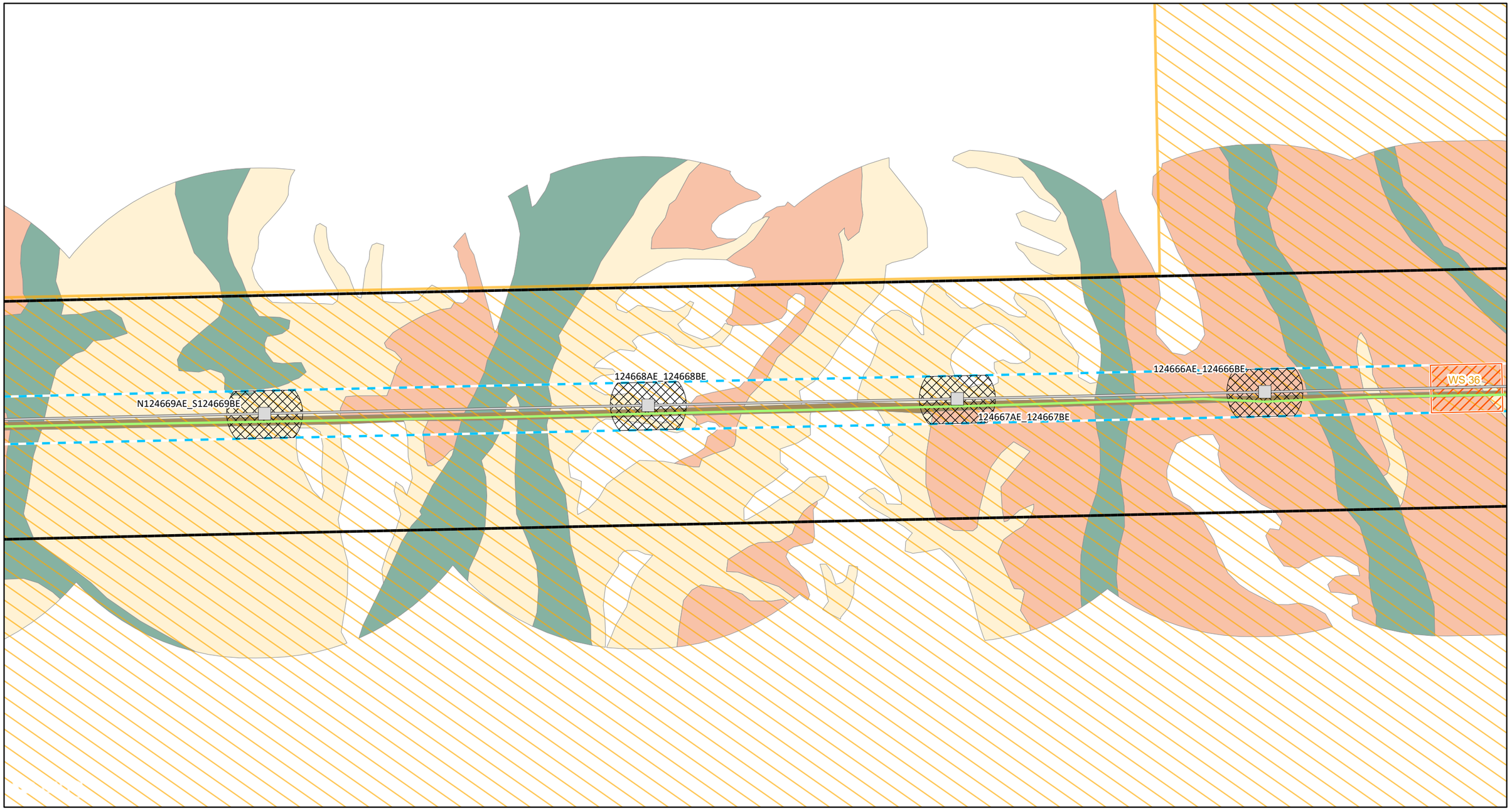
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



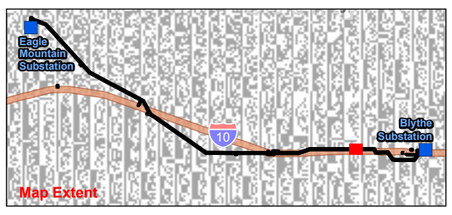


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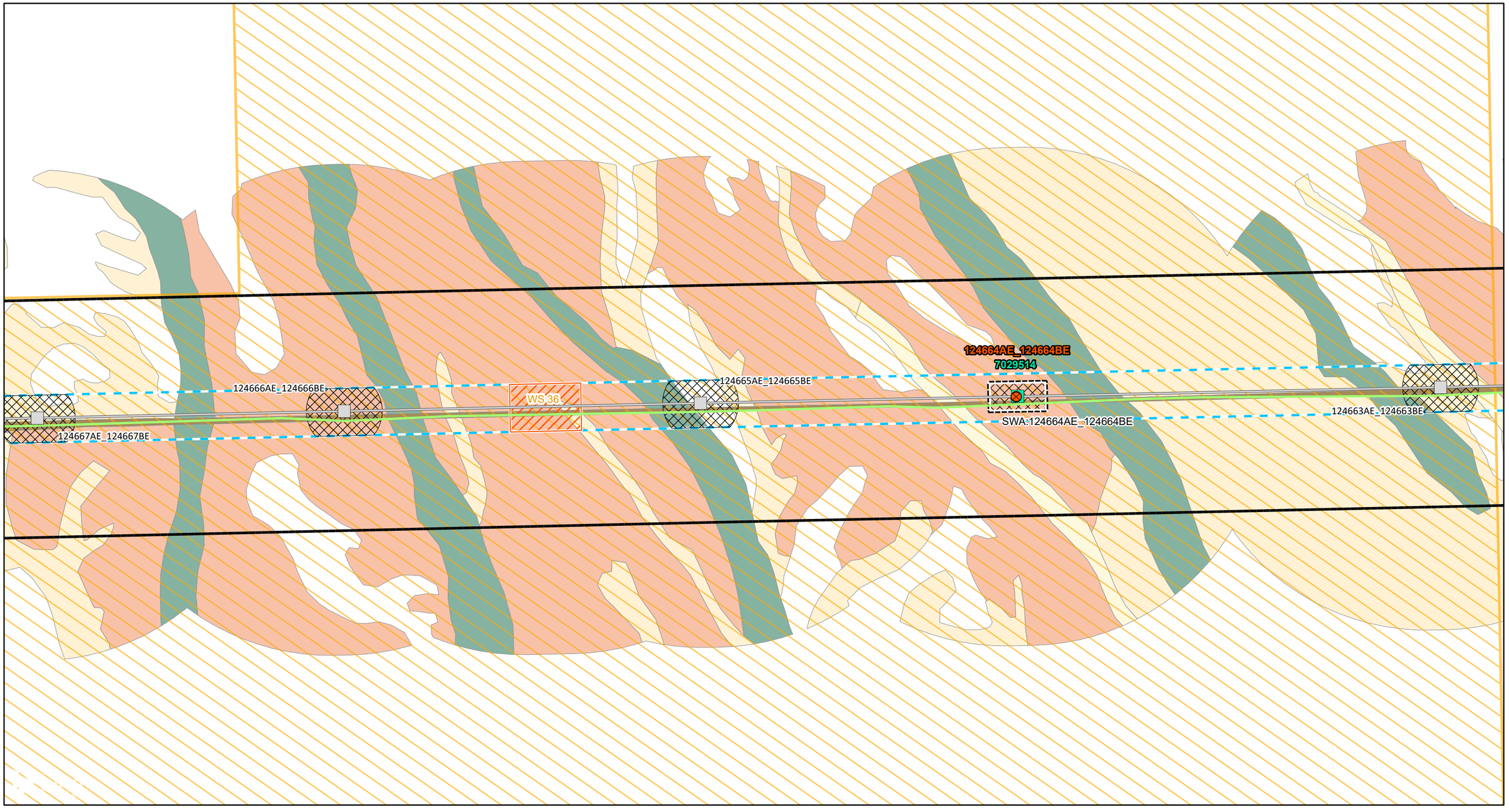
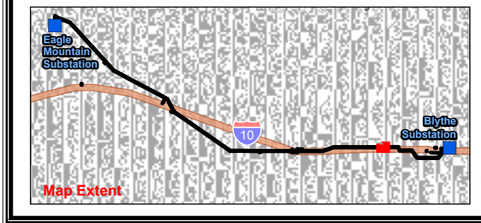
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
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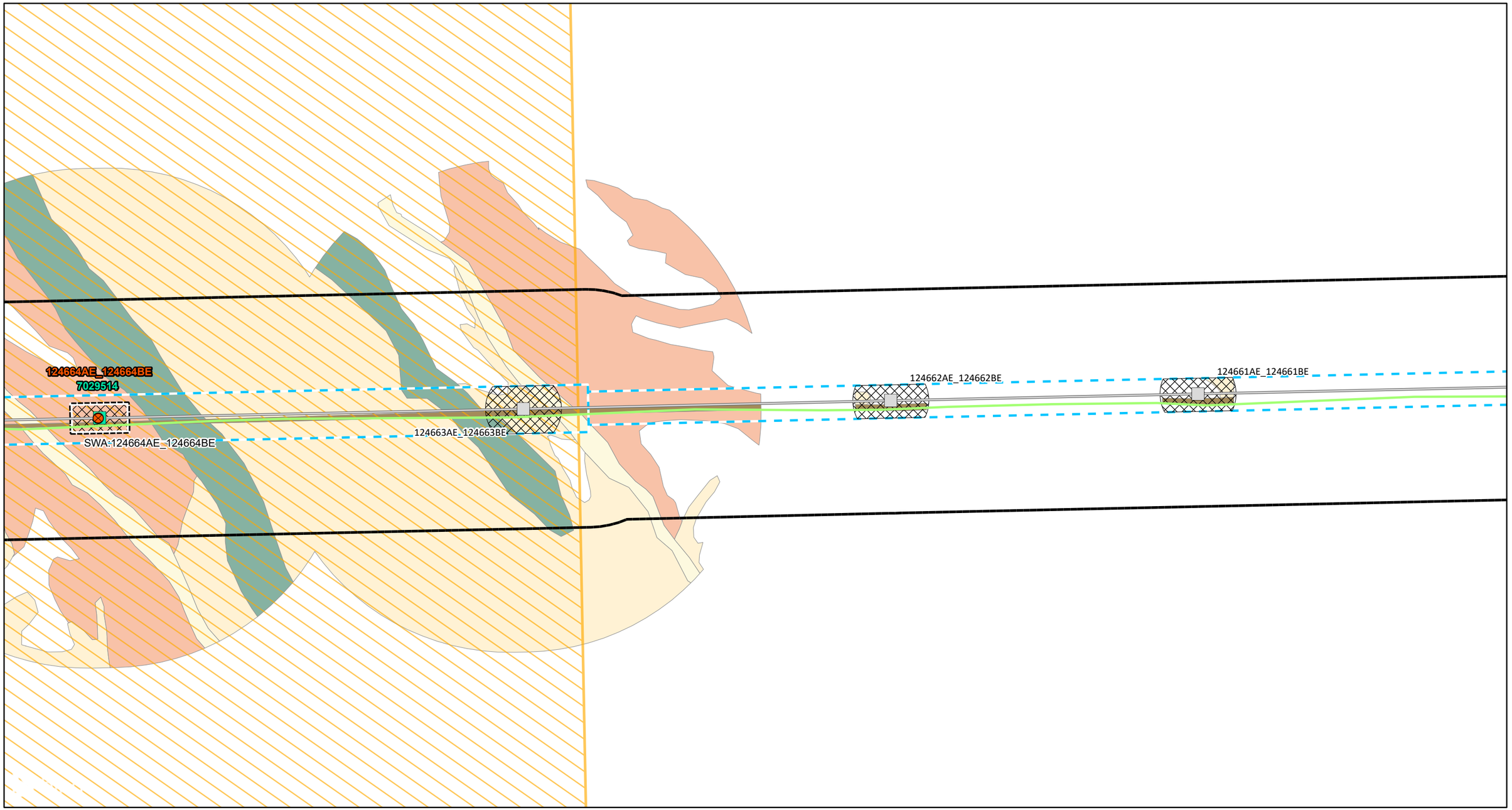
Land Cover Type
- Big galleta shrub-steppe
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



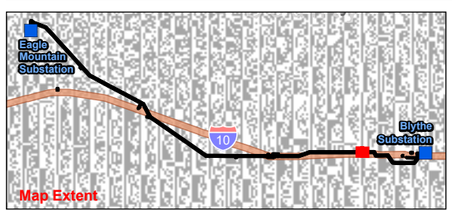


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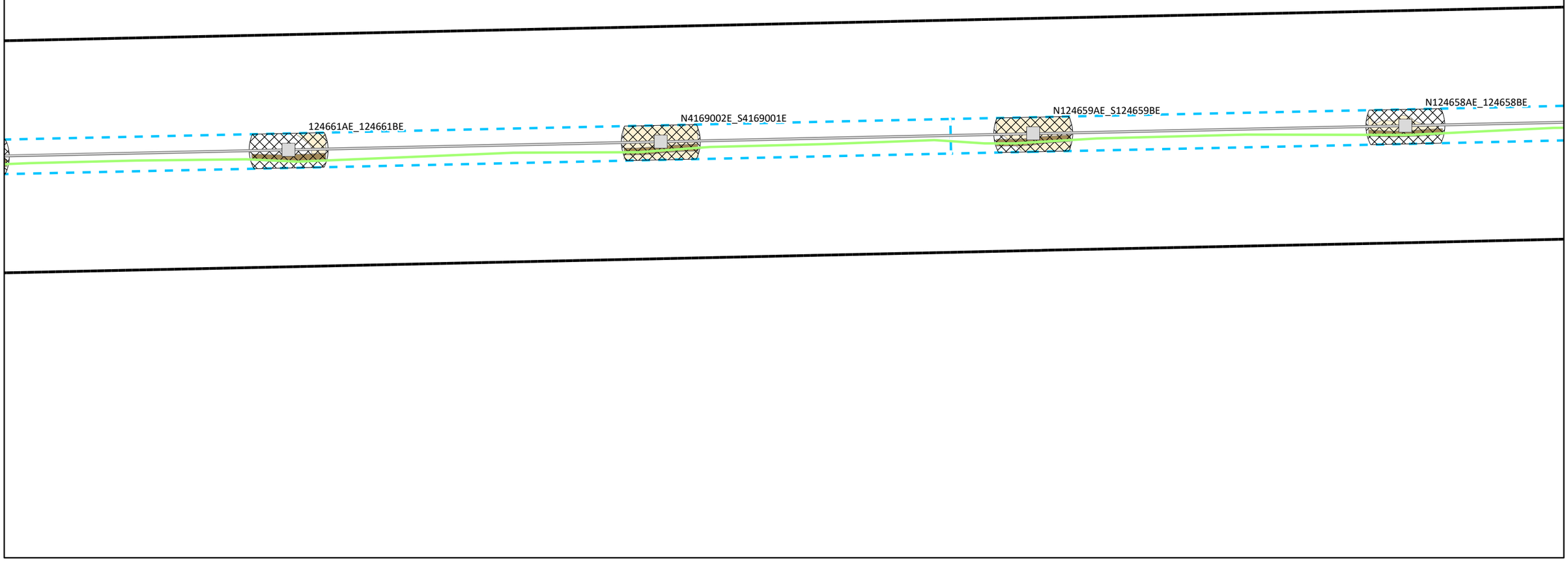
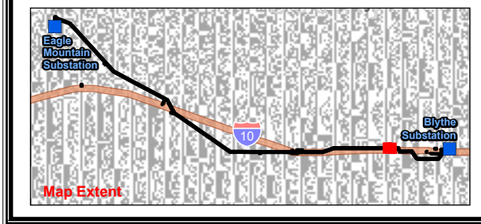
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Cover Type
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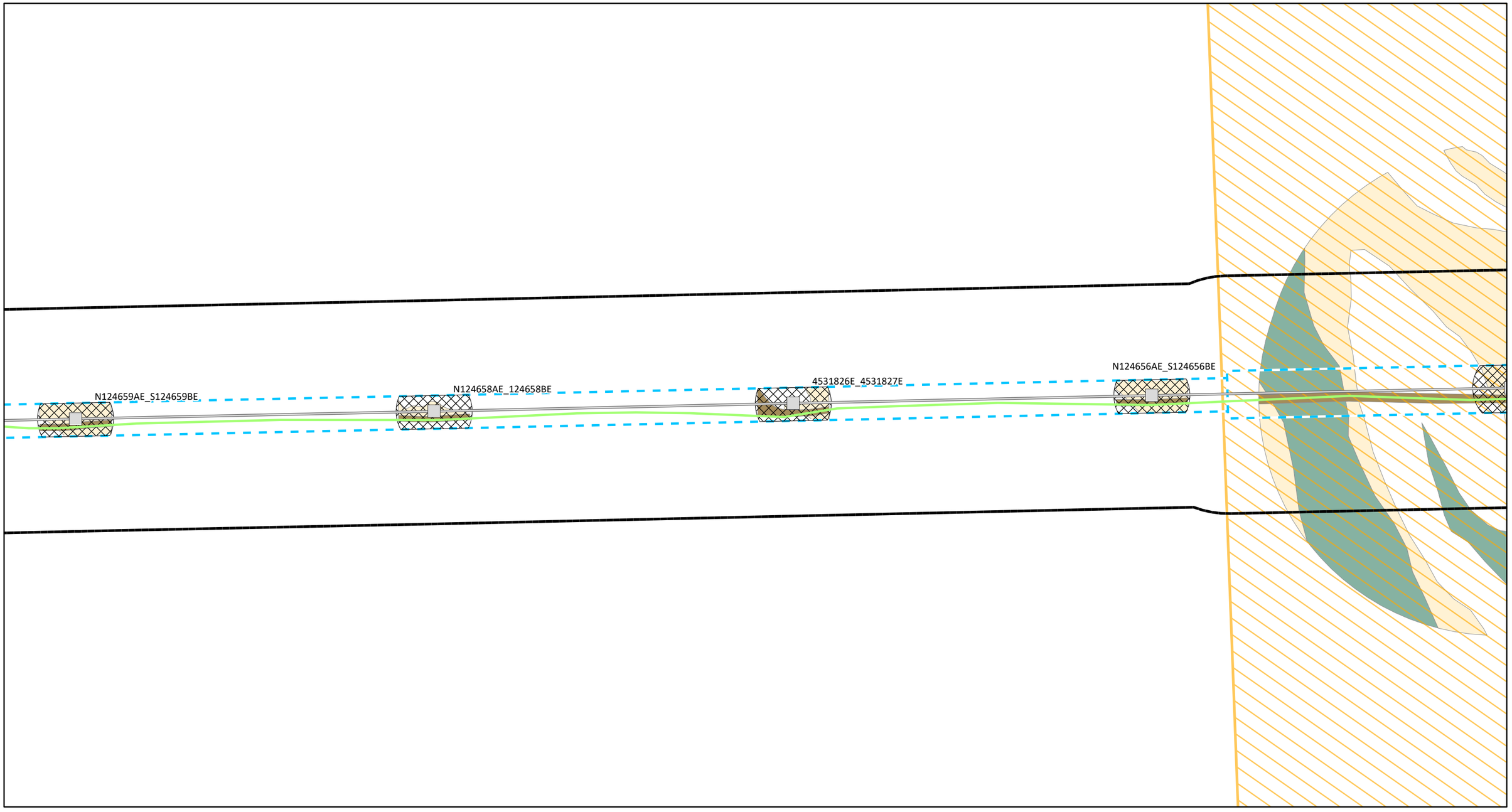
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



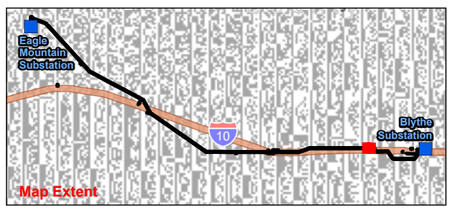


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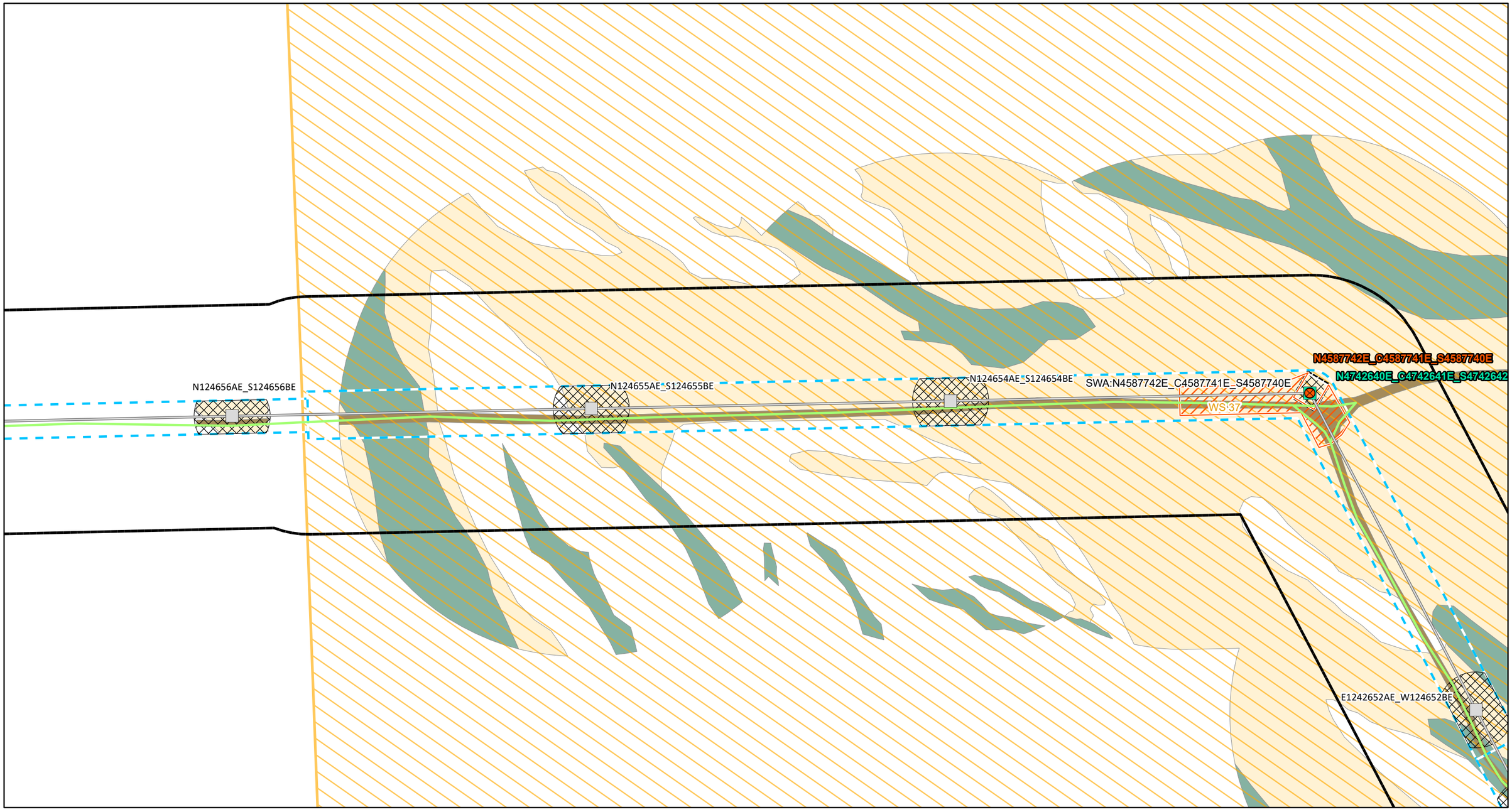
FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



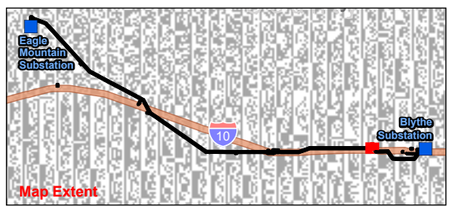


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FIGURE 2

Vegetation Communities

Southern California Edison
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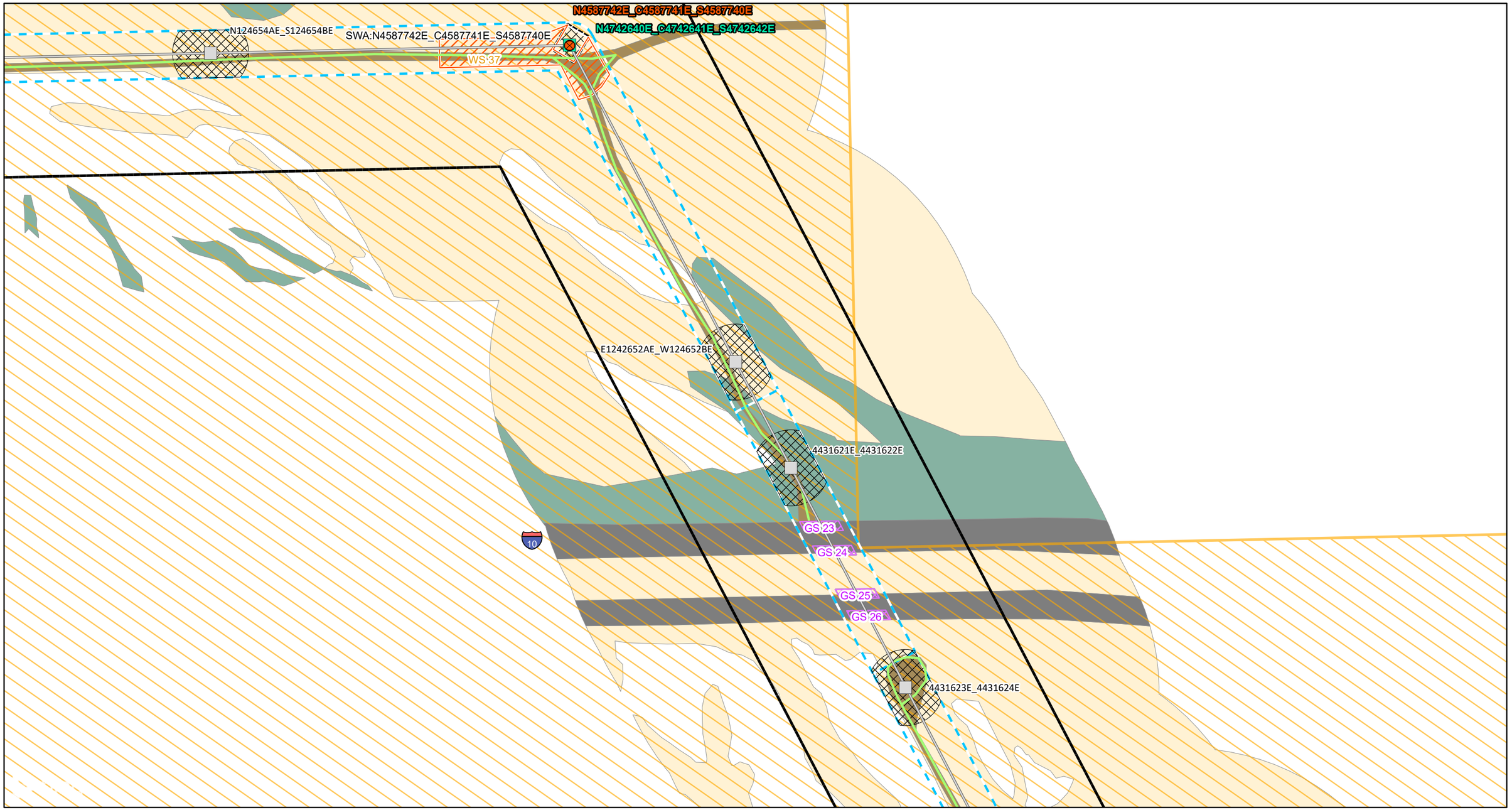

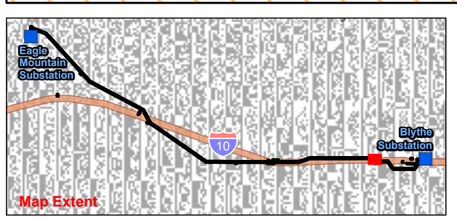

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Land Cover Type
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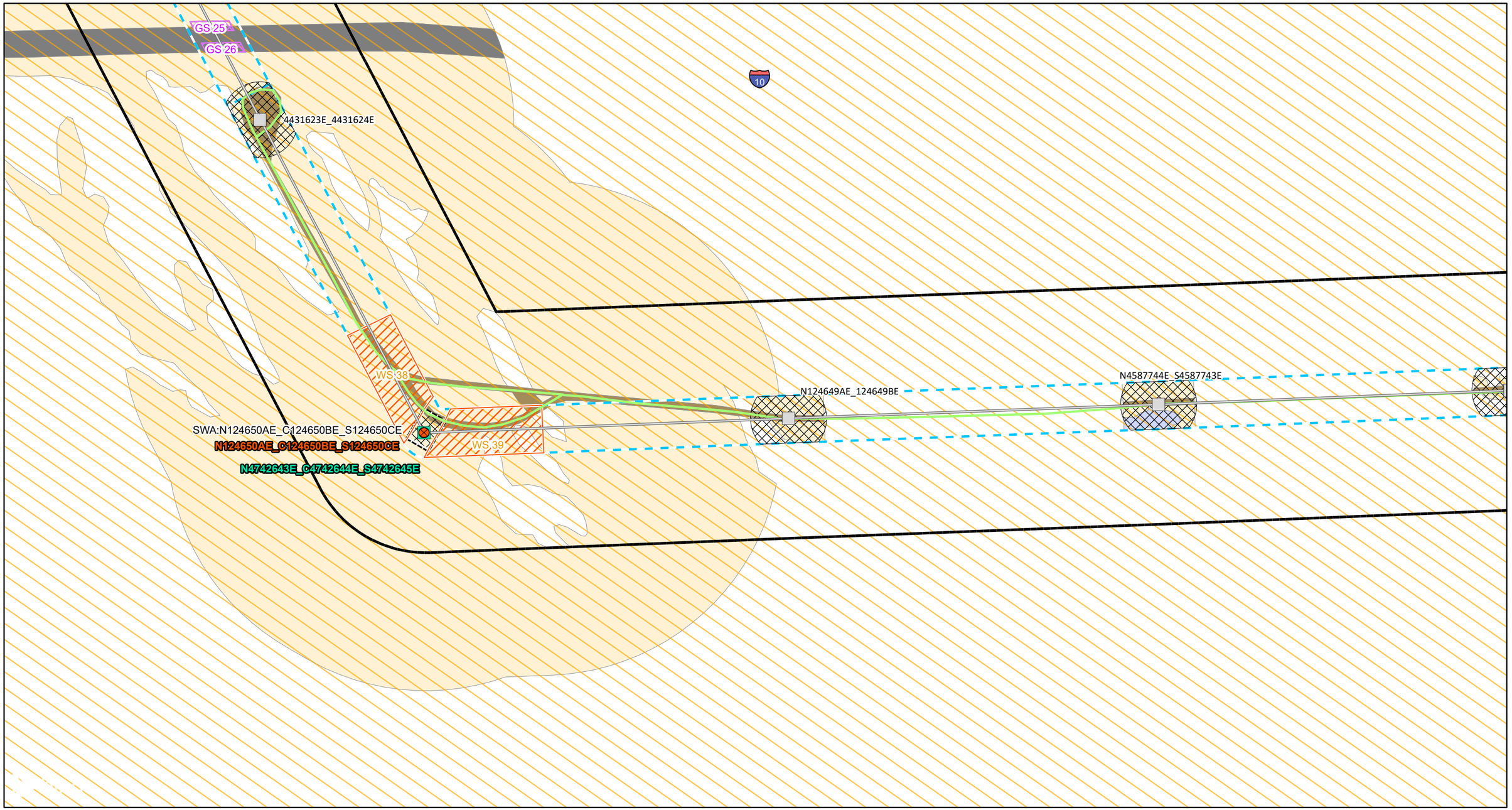
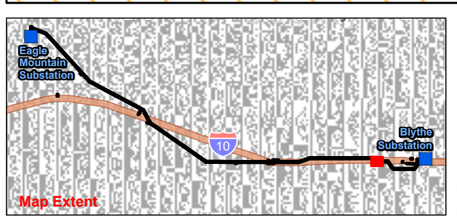
- Developed
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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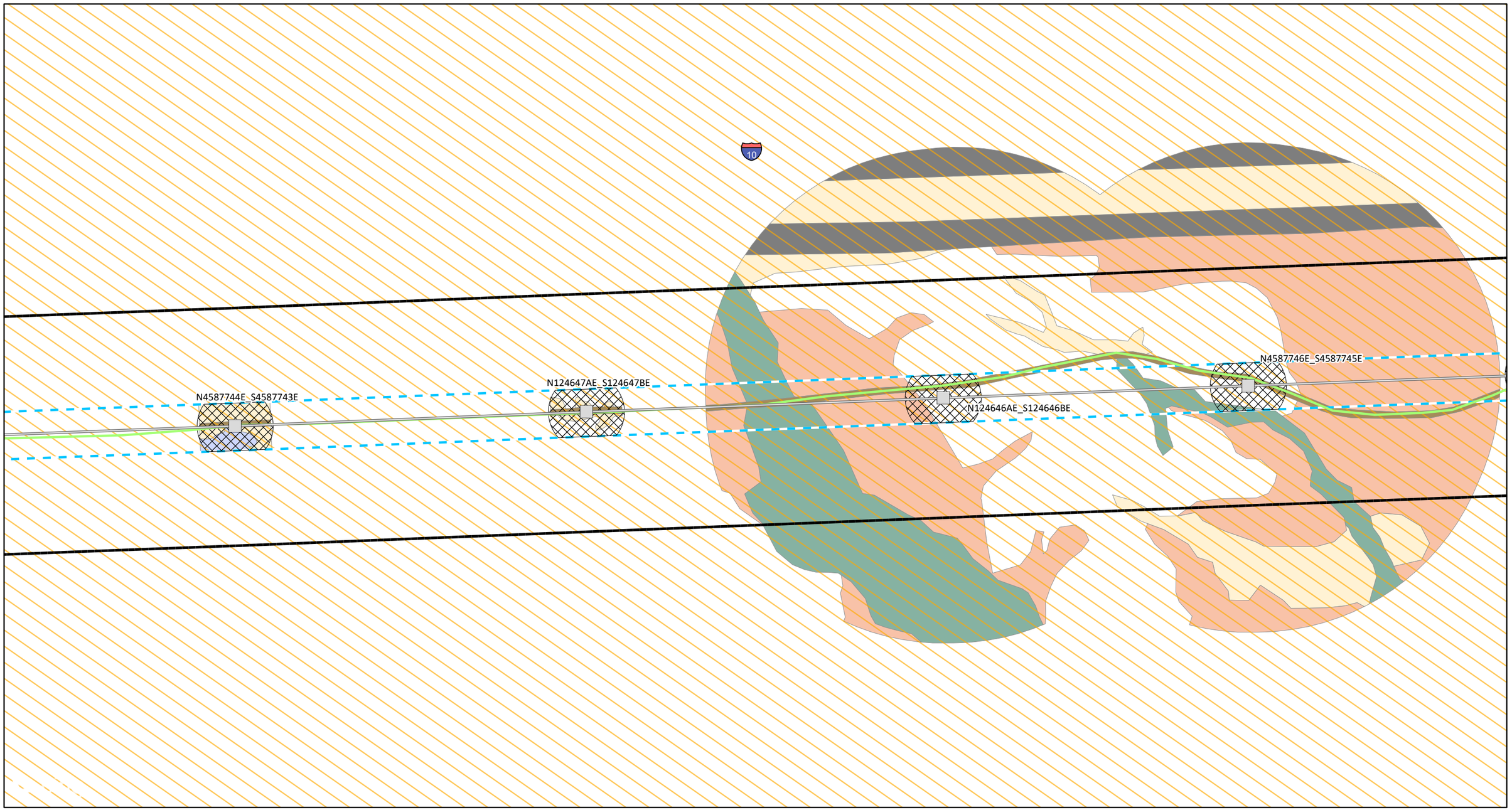
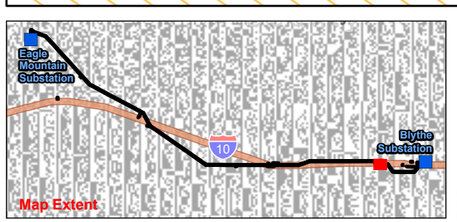
Land Owner
- BLM Land

Land Cover Type
- Creosote bush - white burr sage scrub
- Developed
- Disturbed
- Rigid spineflower - hairy desert sunflower

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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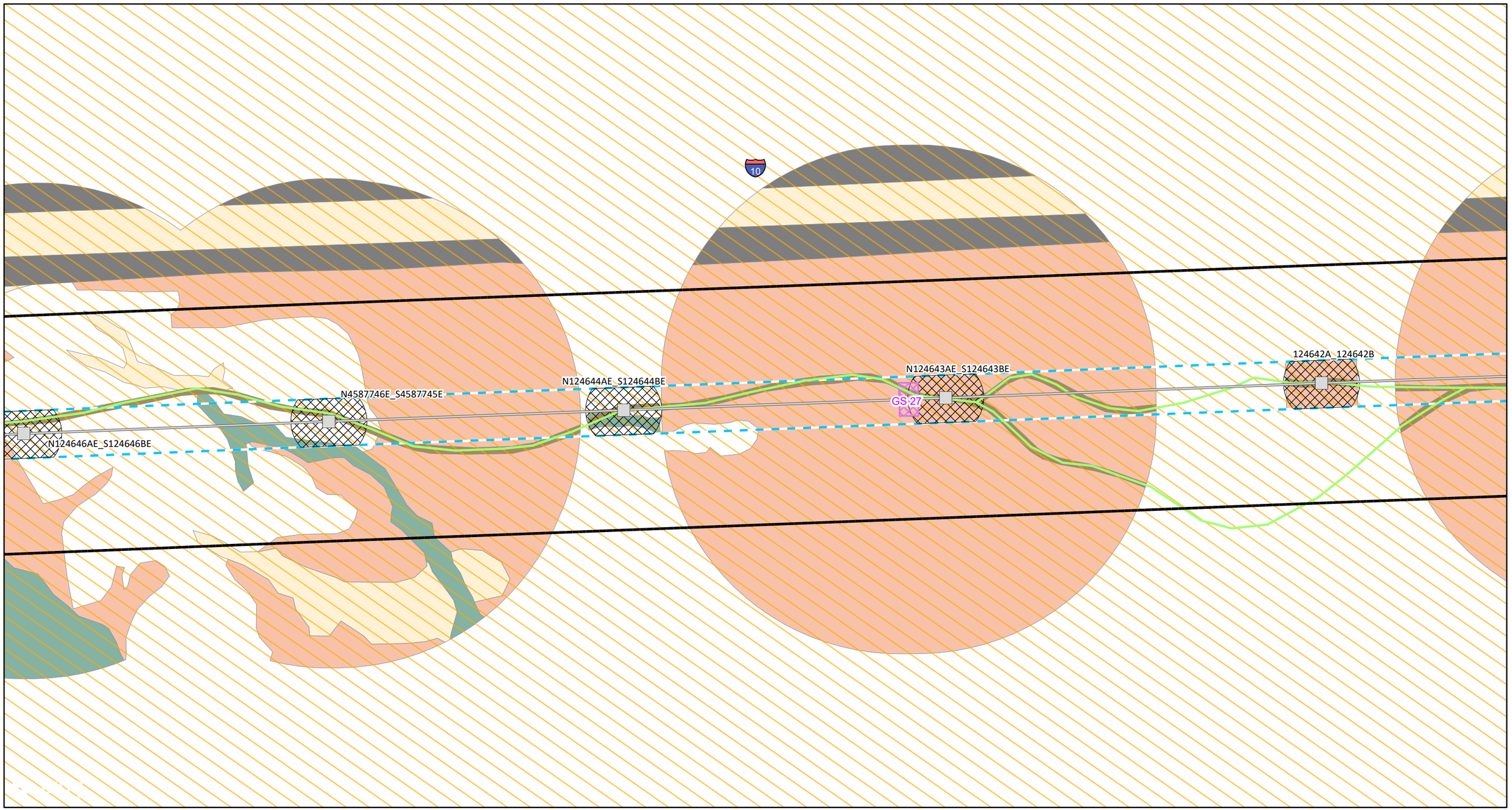
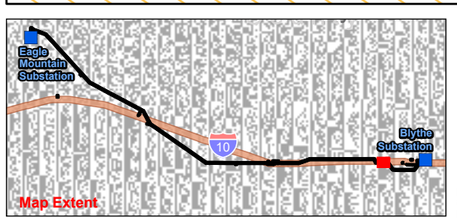
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner

- BLM Land

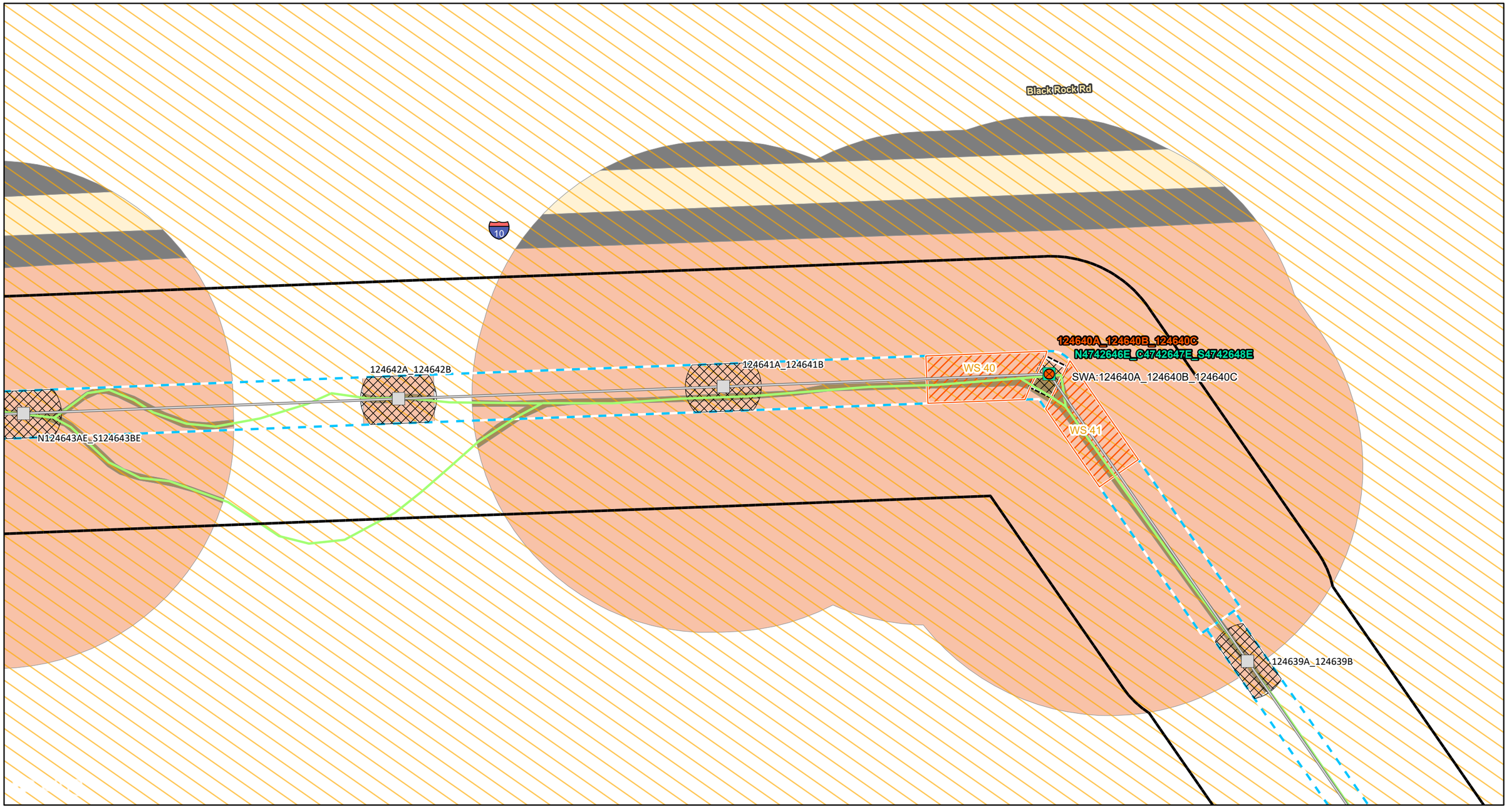
Land Cover Type

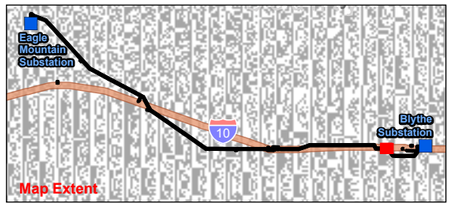
- Blue palo verde - ironwood woodland
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- New Structure
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Construction Area
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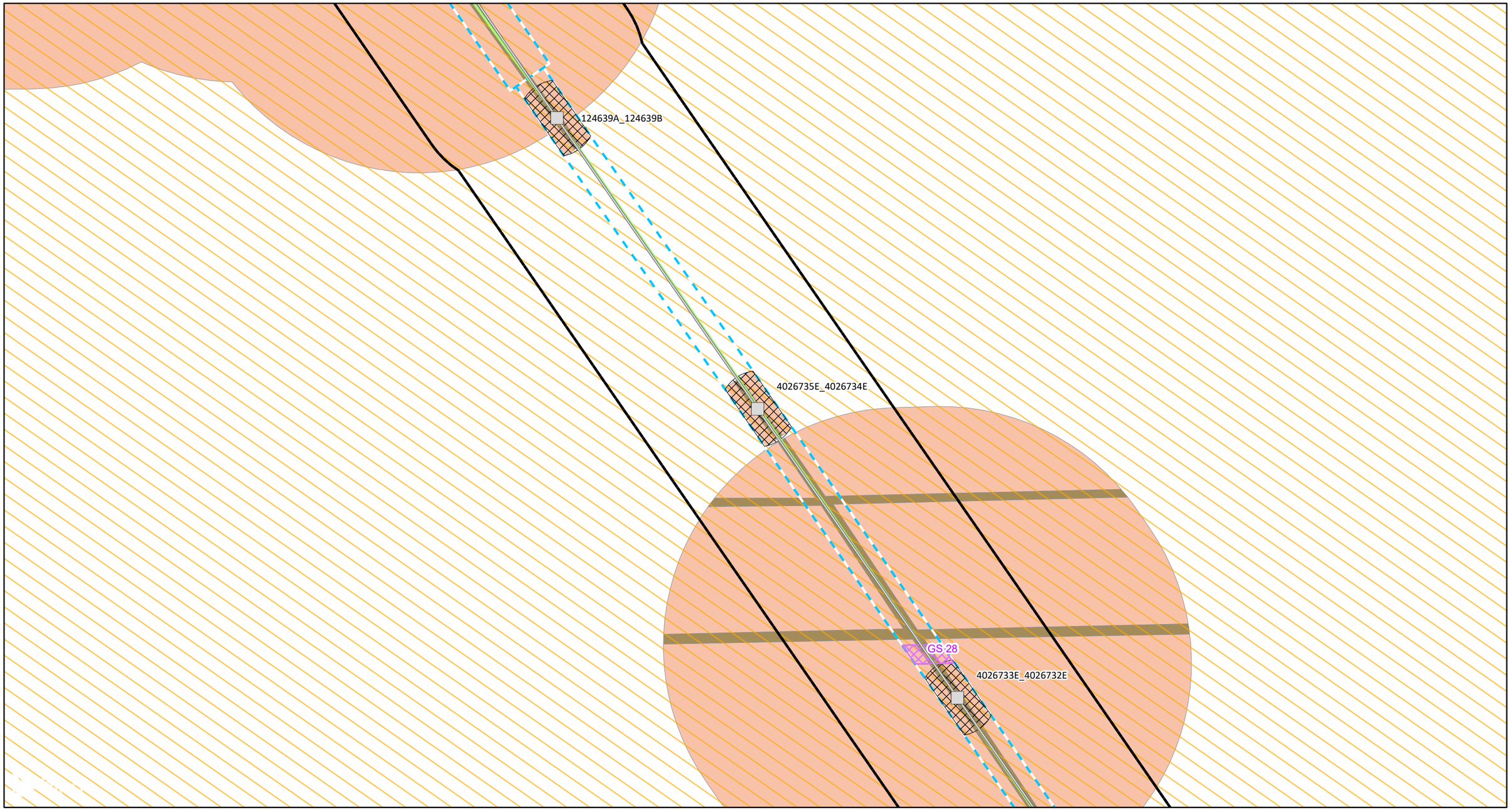
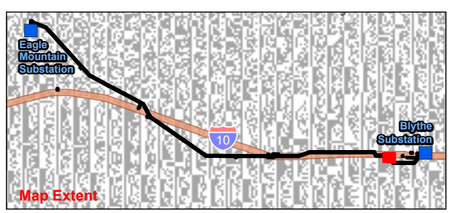
Land Owner
- BLM Land

Land Cover Type
- Creosote bush - white burr sage scrub
- Creosote bush scrub
- Developed
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
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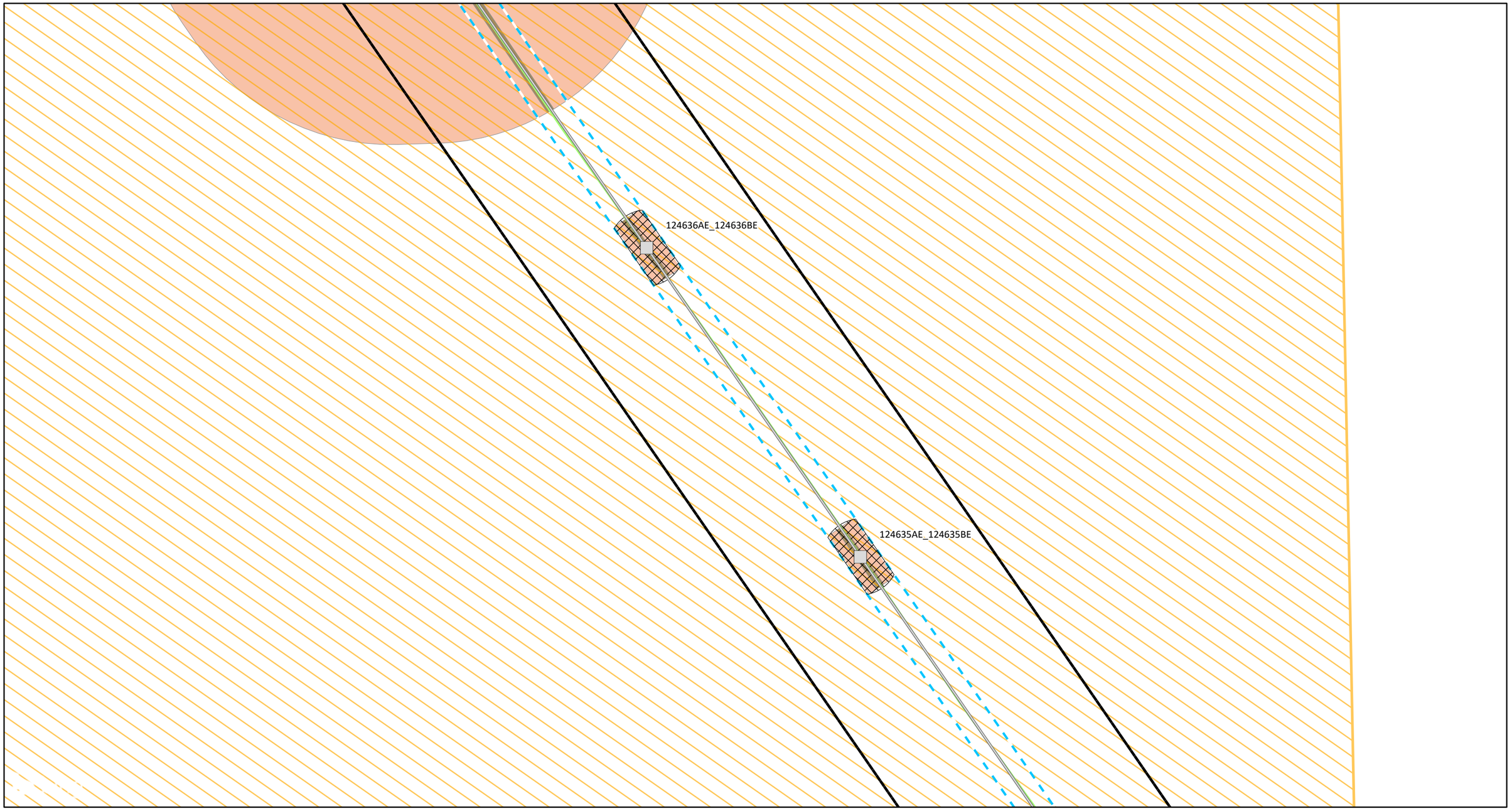
Land Owner
- BLM Land

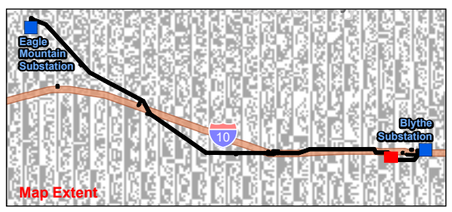
Land Cover Type
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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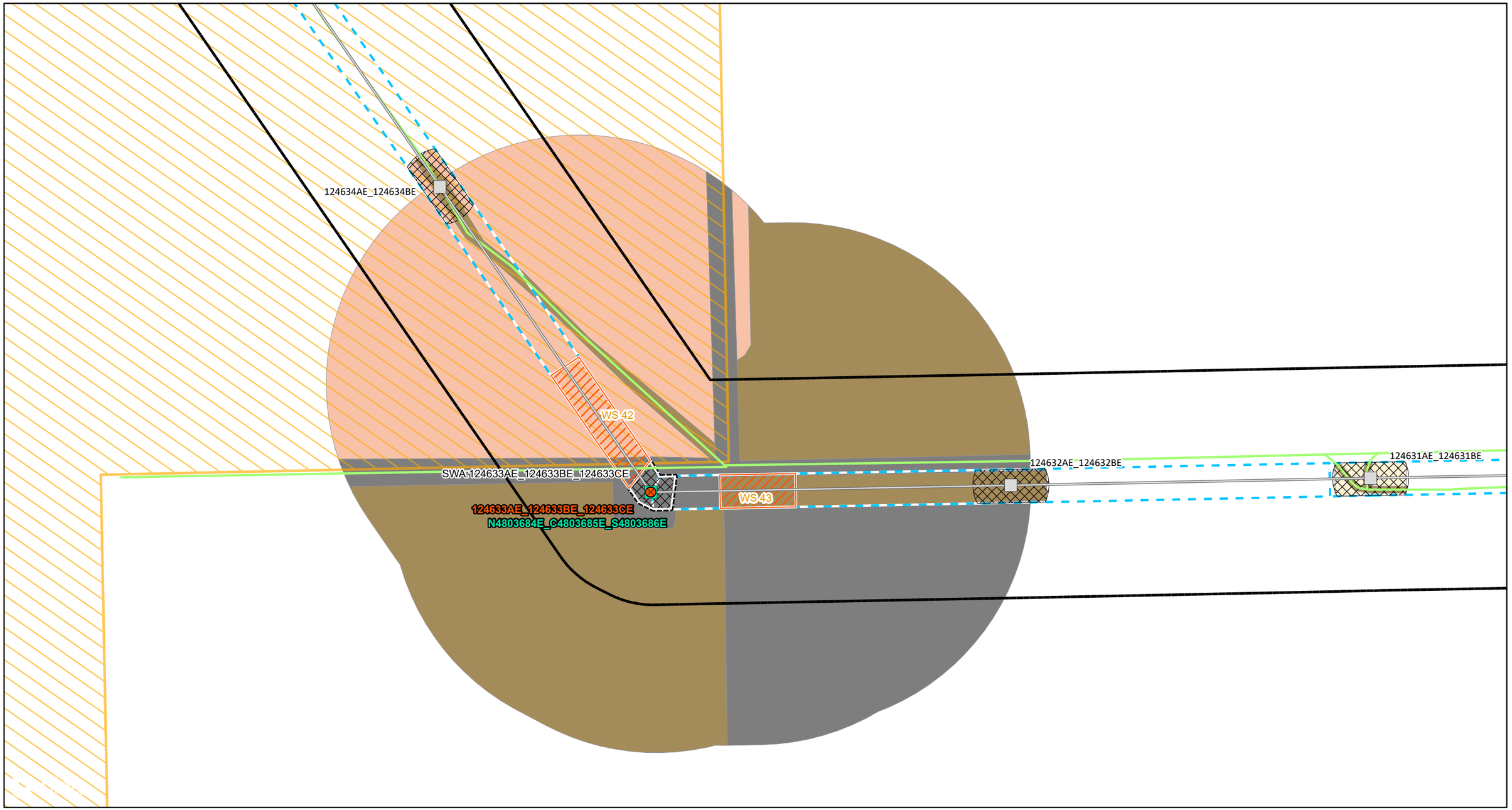
- BLM Land

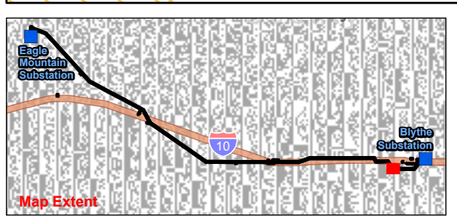
Land Cover Type
- Creosote bush scrub
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Land Owner
- BLM Land

Land Cover Type
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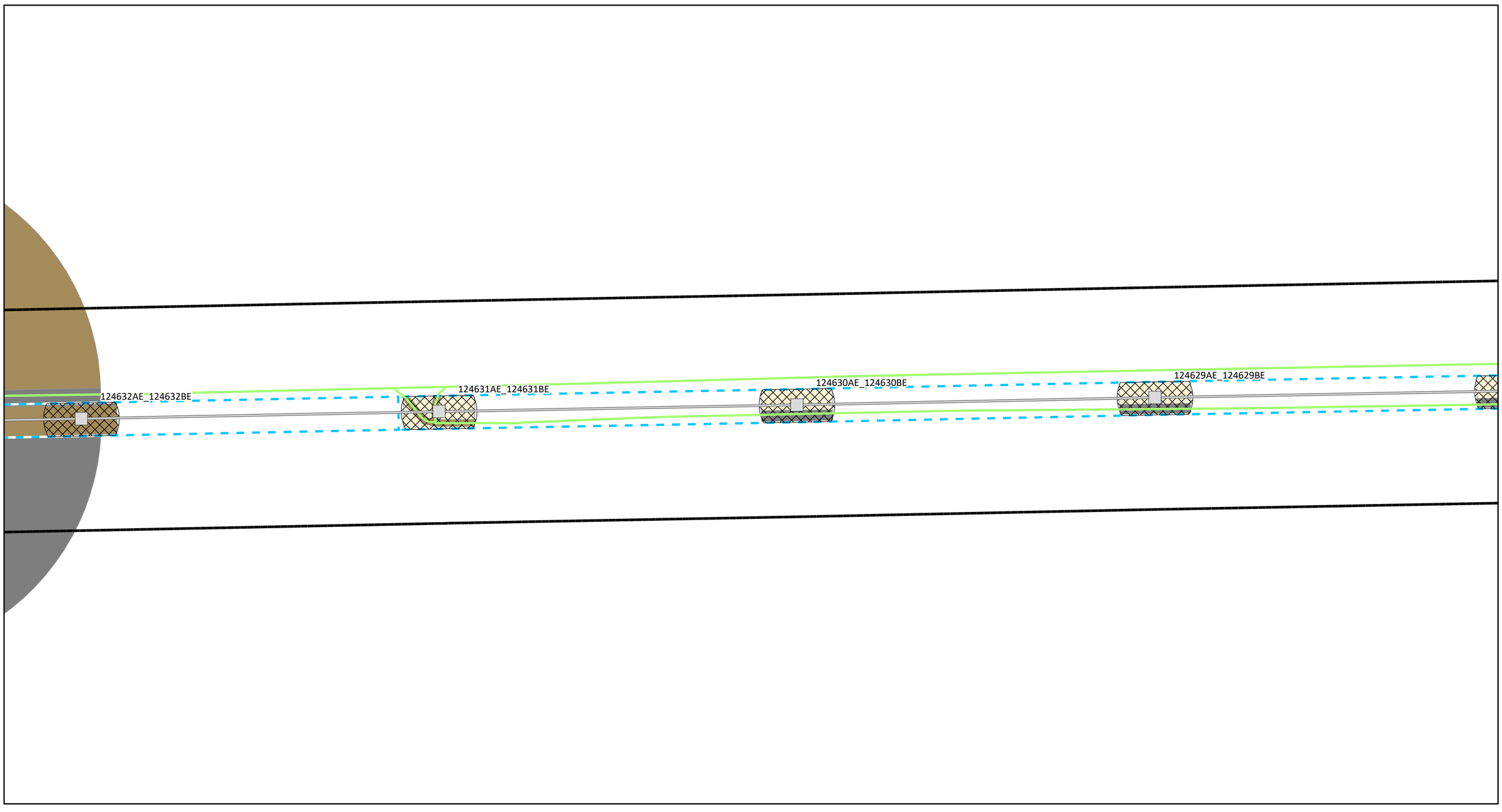
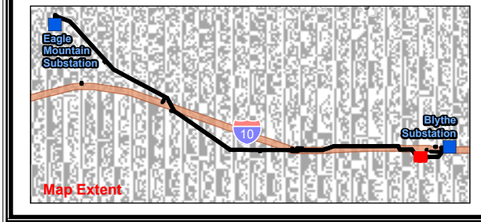
- Creosote bush scrub
- Developed
- Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Construction Area
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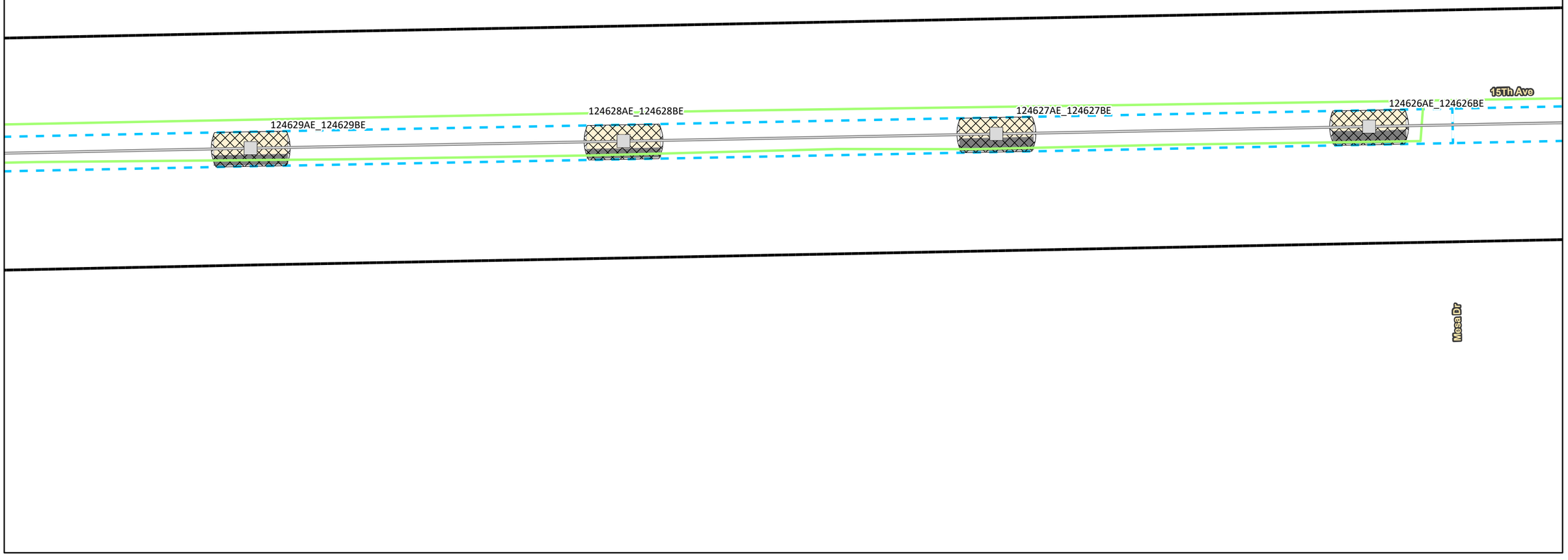
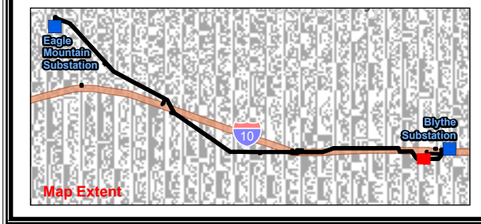
Land Cover Type
- Creosote bush - white burr sage scrub
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Construction Area
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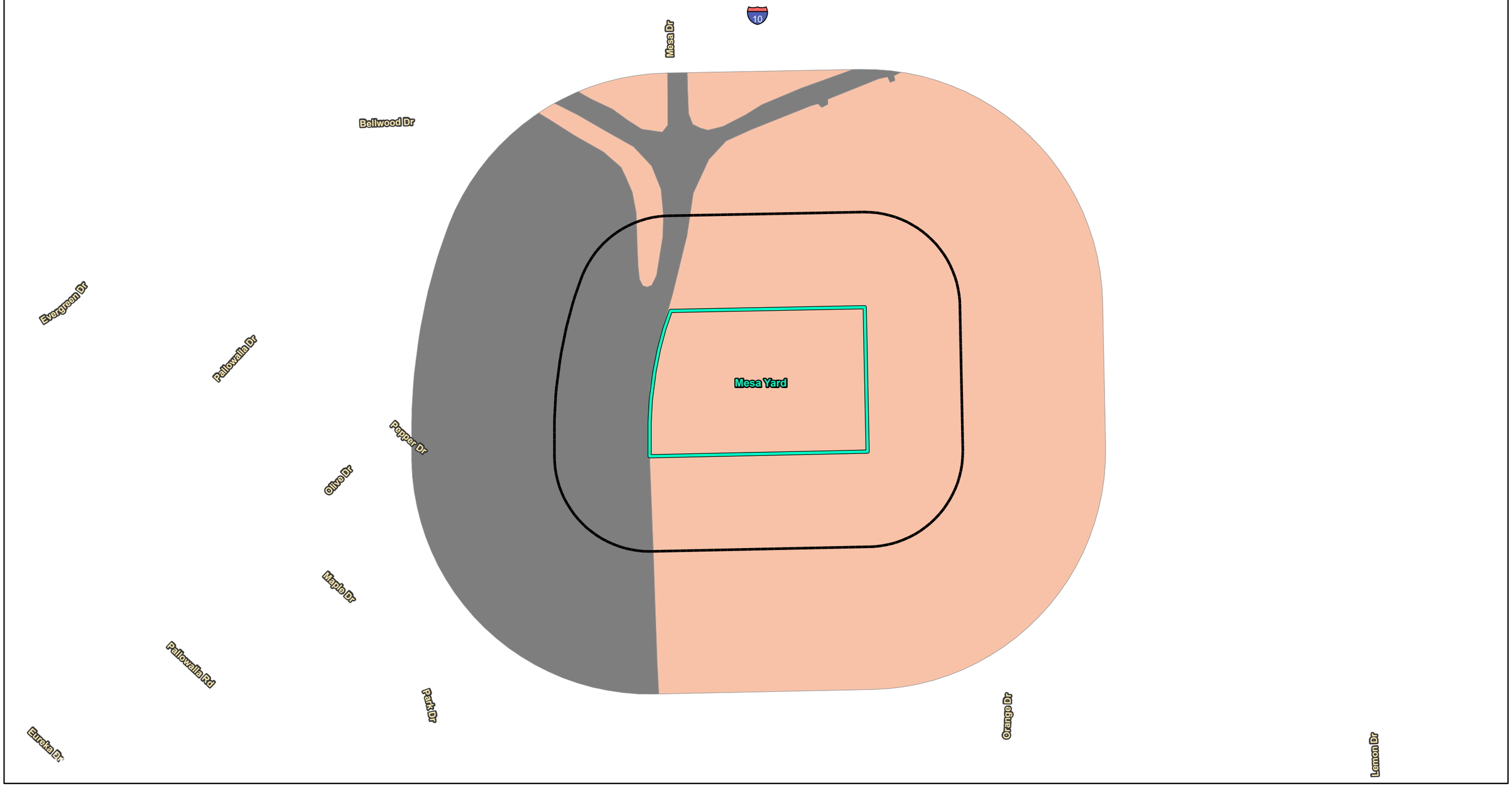
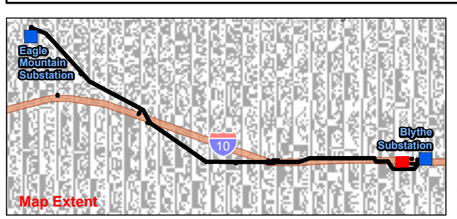
Land Cover Type
- Creosote bush - white burr sage scrub
- Developed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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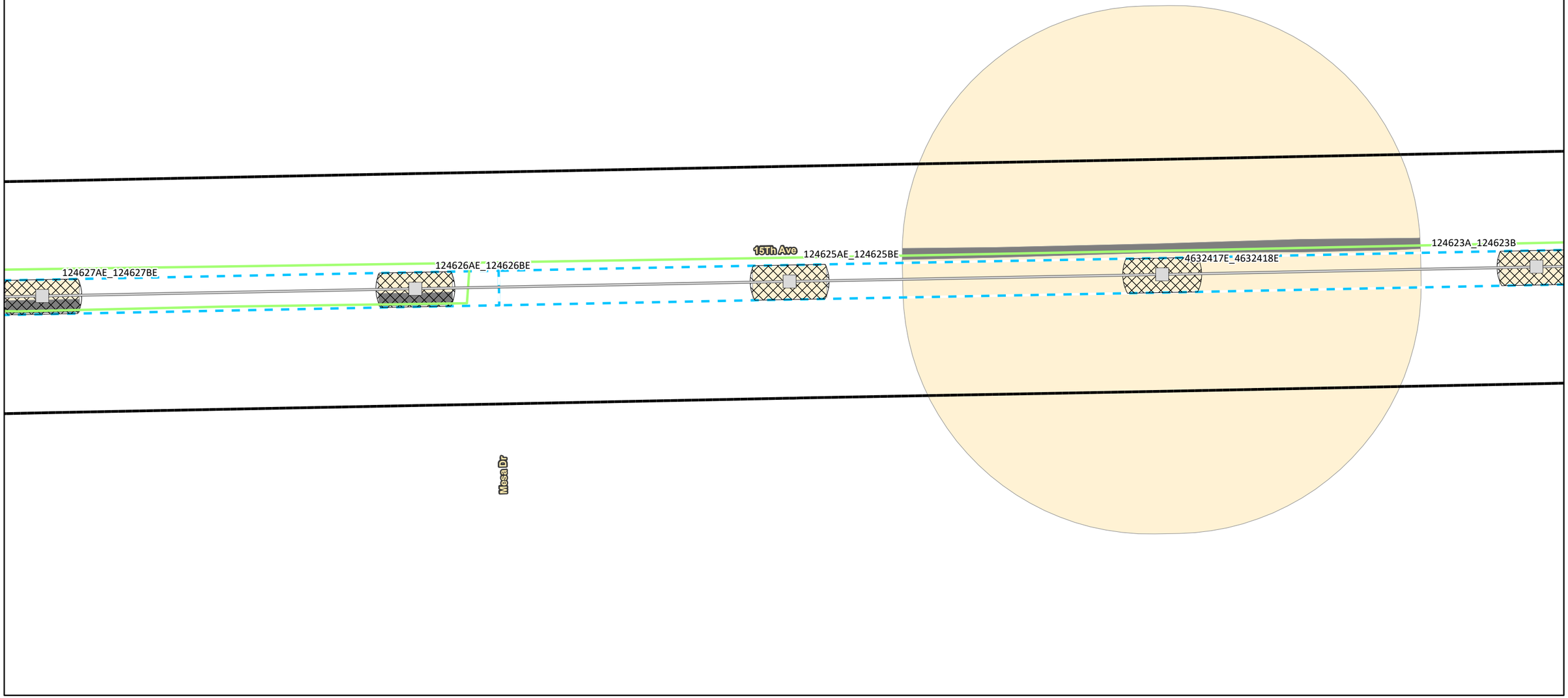
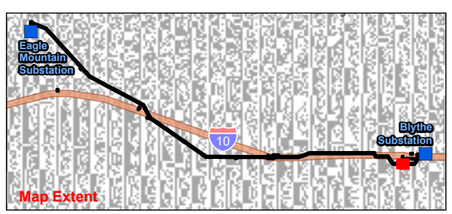
Study Area
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area

Land Cover Type
Creosote bush scrub
Developed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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Construction Area
- Guard Structure
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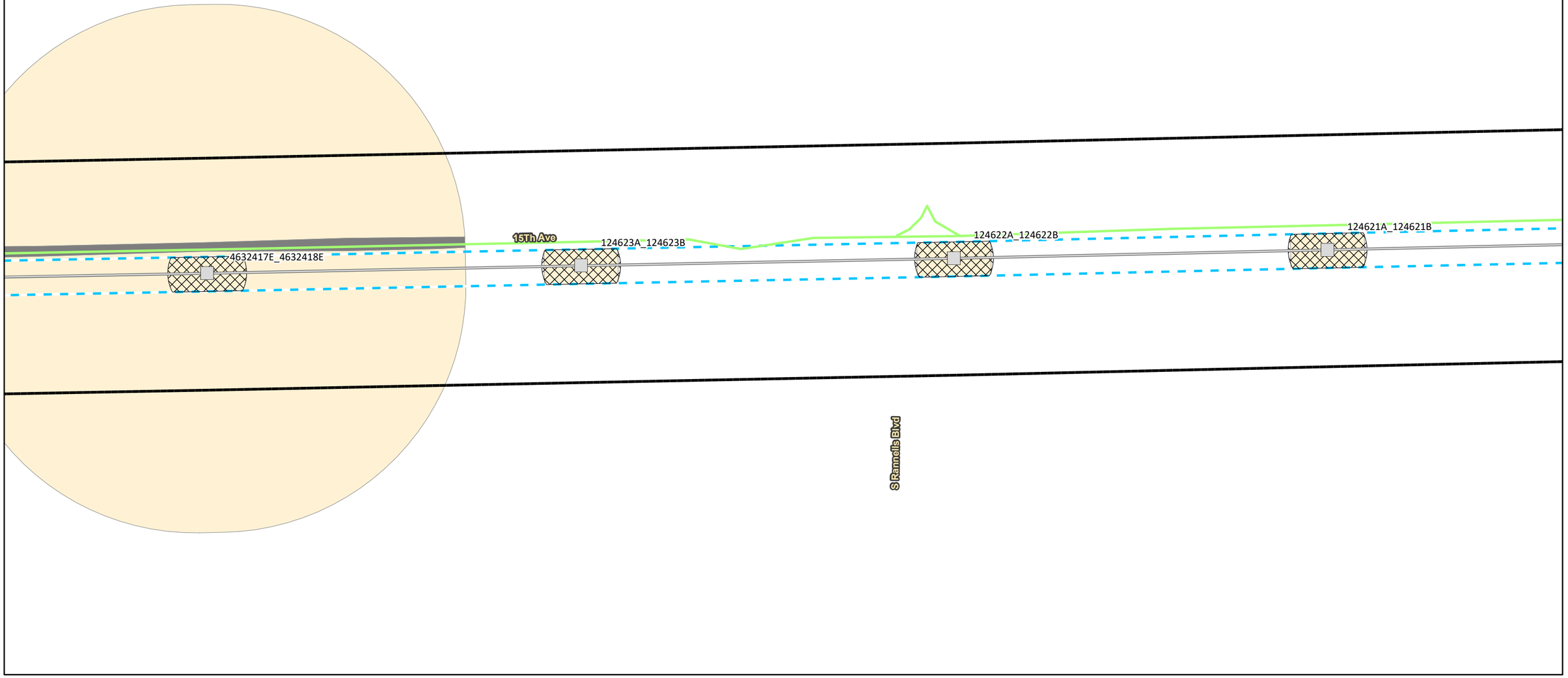
- O&M Area

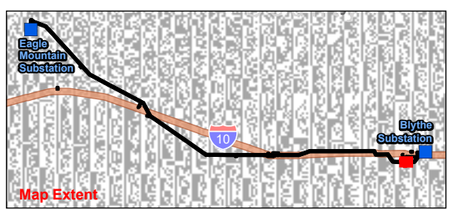
Land Cover Type
- Creosote bush - white burr sage scrub
- Developed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Construction Area
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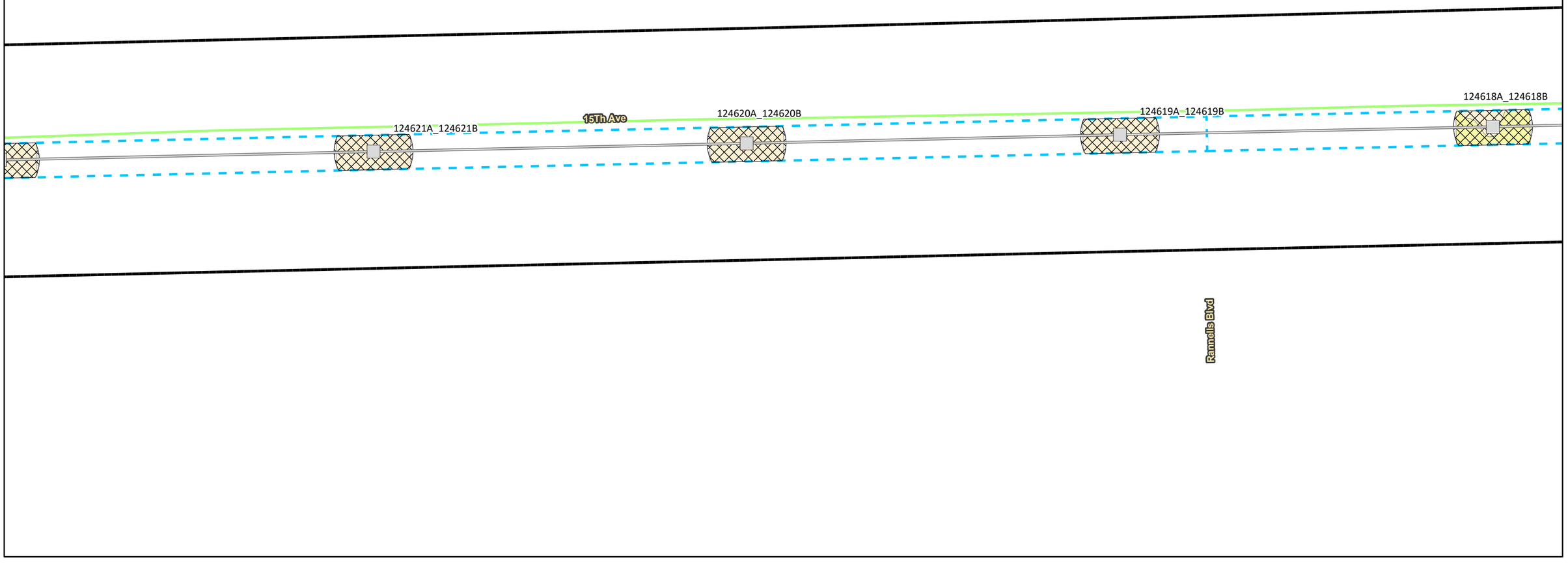
- O&M Area

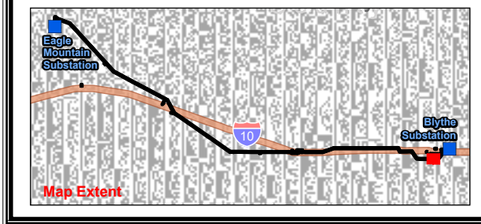
Land Cover Type
- Creosote bush - white burr sage scrub
- Developed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

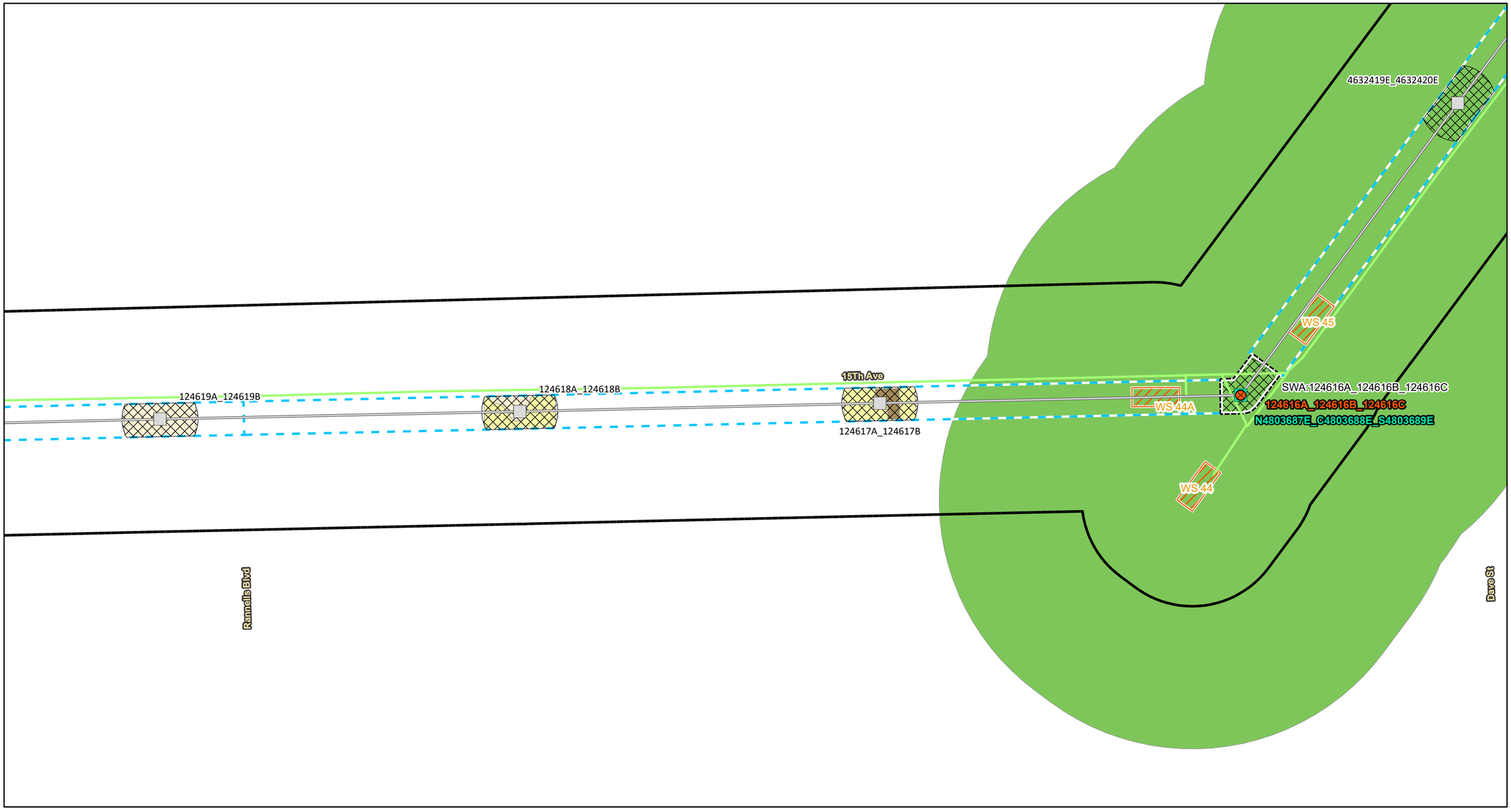
Land Cover Type

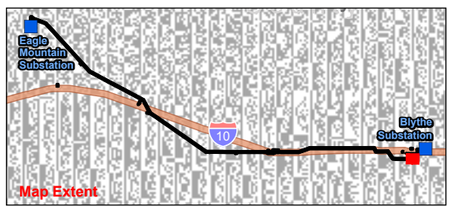
- Creosote bush - white burr sage scrub
- Tournefort's mustard and other ruderal forb patches

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to be removed)
- Existing Structure (to remain)
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- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Cover Type

- Active Agriculture
- Creosote bush - white burr sage scrub
- Disturbed
- Tournefort's mustard and other ruderal forb patches

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

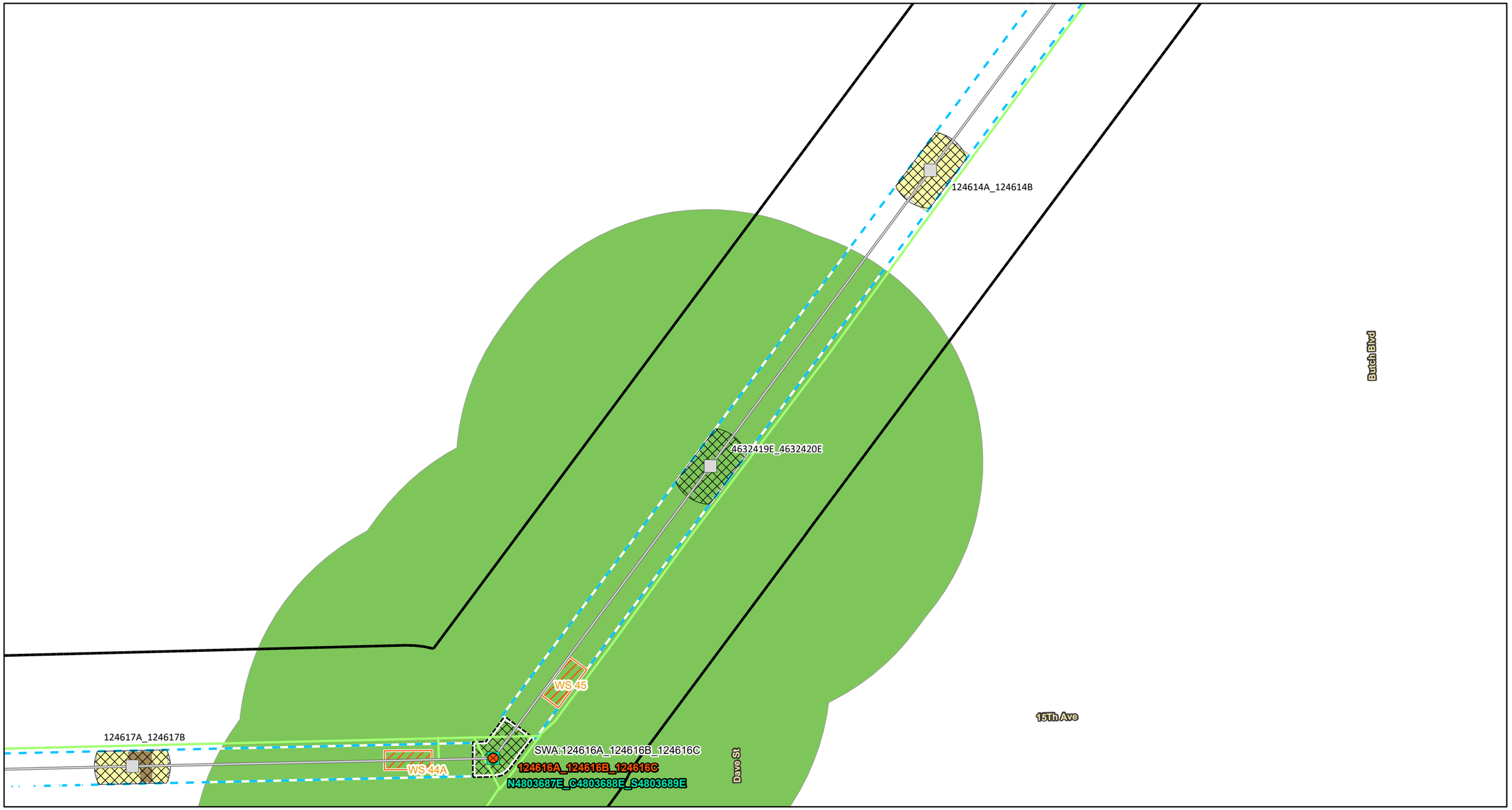
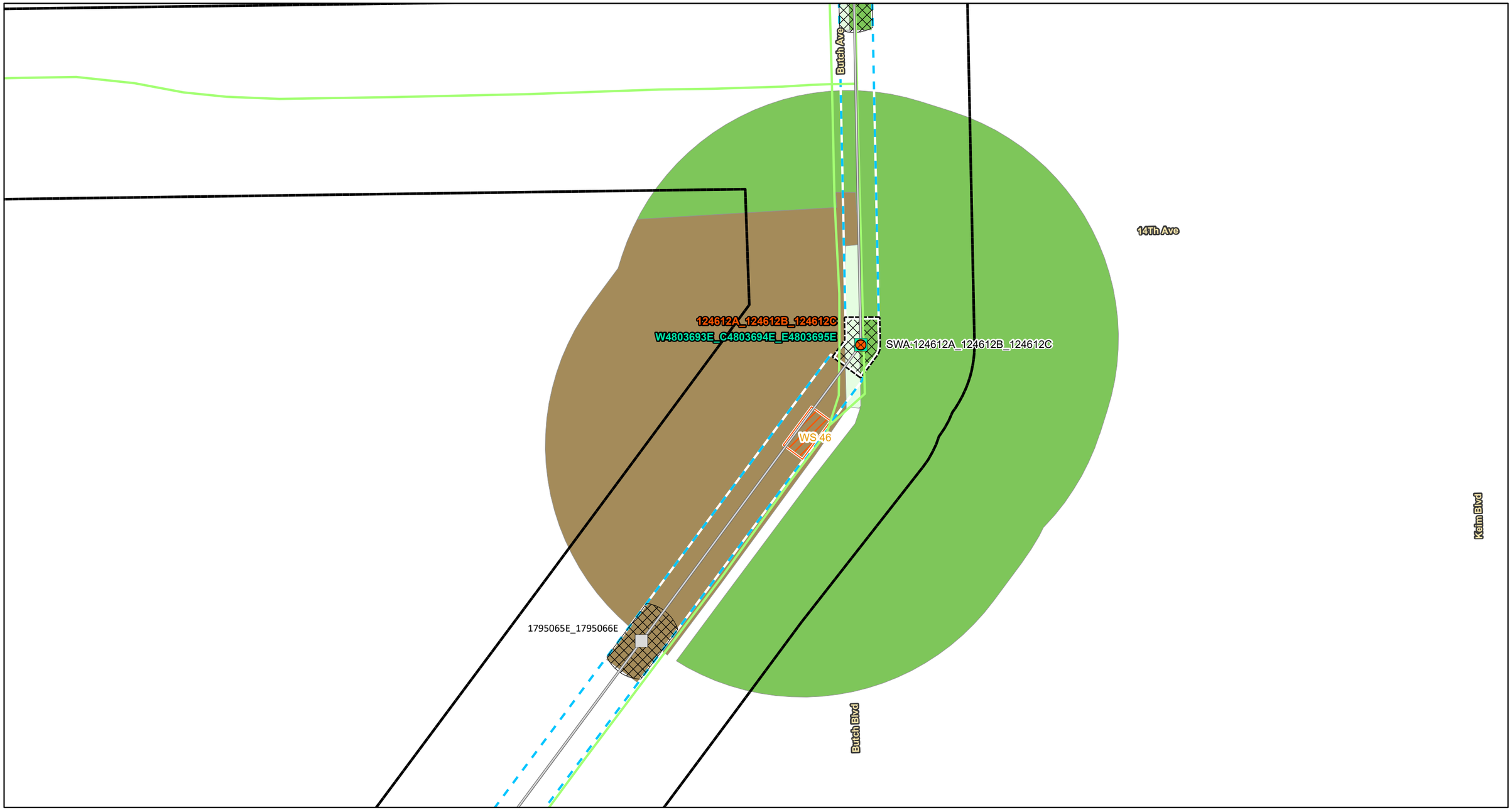
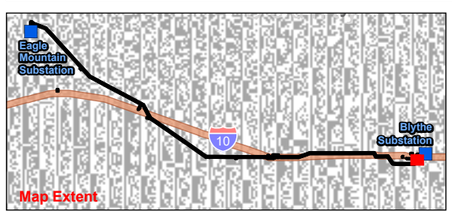


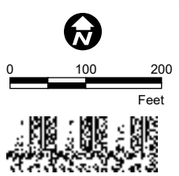
FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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- Access Road
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Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

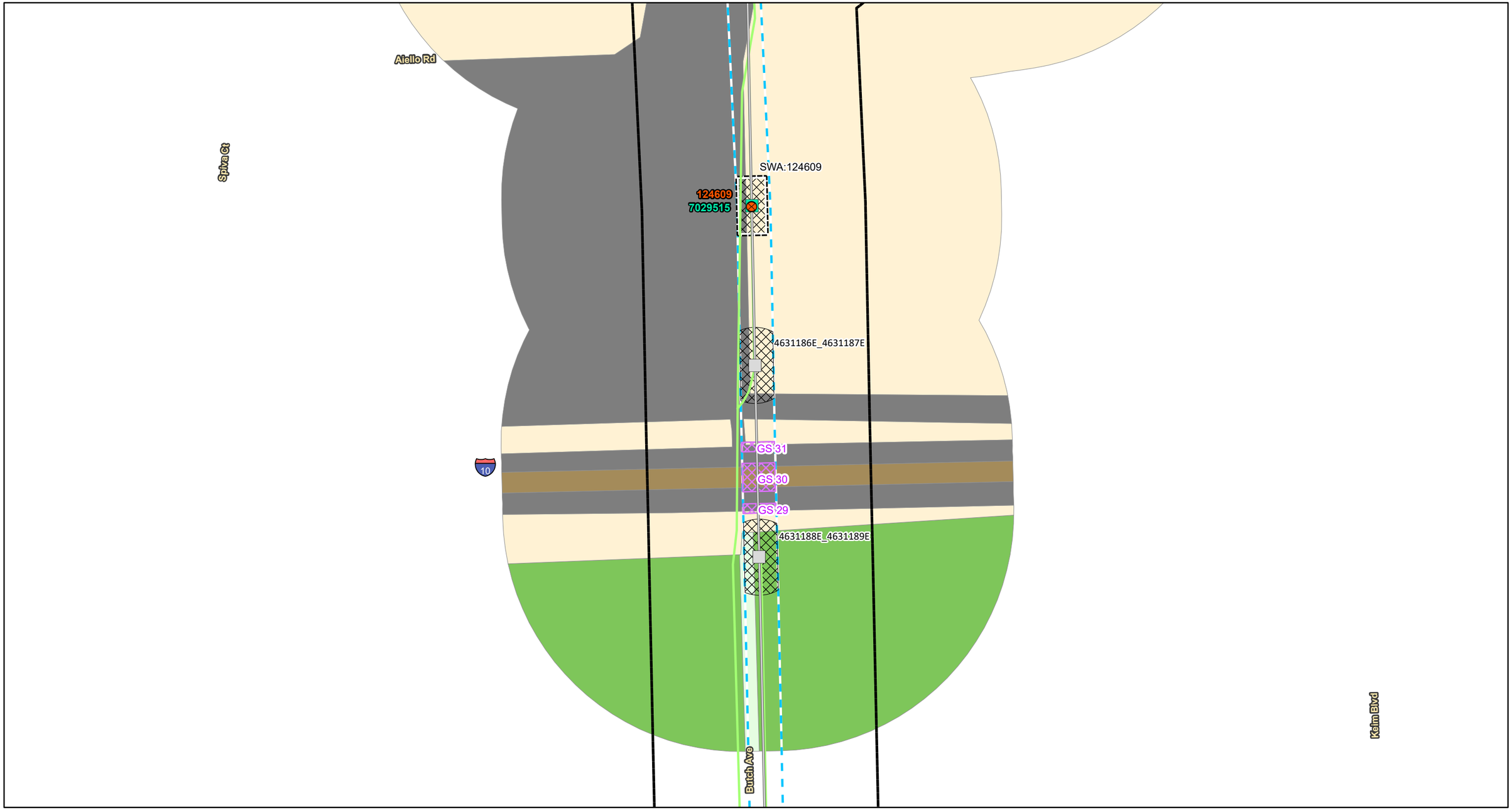
Land Cover Type

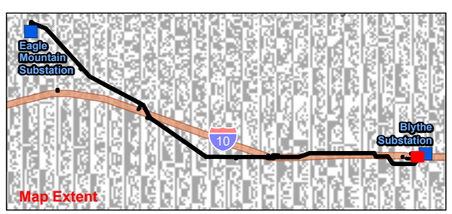
- Active Agriculture
- Disturbed
- Tamarisk thickets

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Access Road
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- Existing EM-B Right of Way

Construction Area

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- Wire Setup
- Structure Work Area
- O&M Area

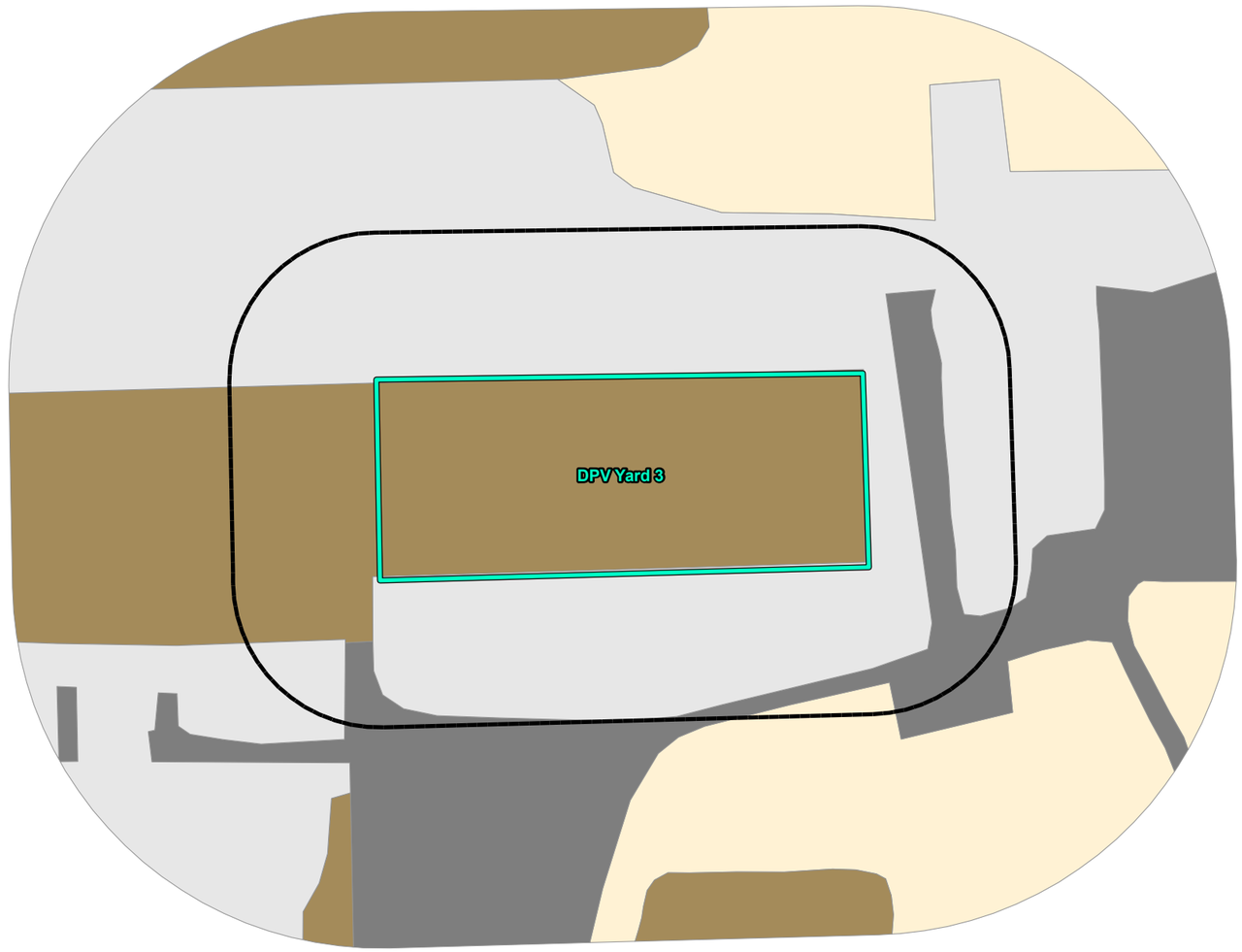
Land Cover Type

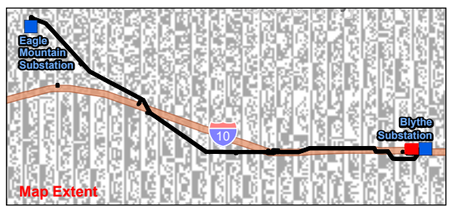
- Active Agriculture
- Creosote bush - white burr sage scrub
- Developed
- Disturbed
- Tamarisk thickets

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Study Area
Proposed Laydown Yard

Construction Area
Guard Structure
Wire Setup

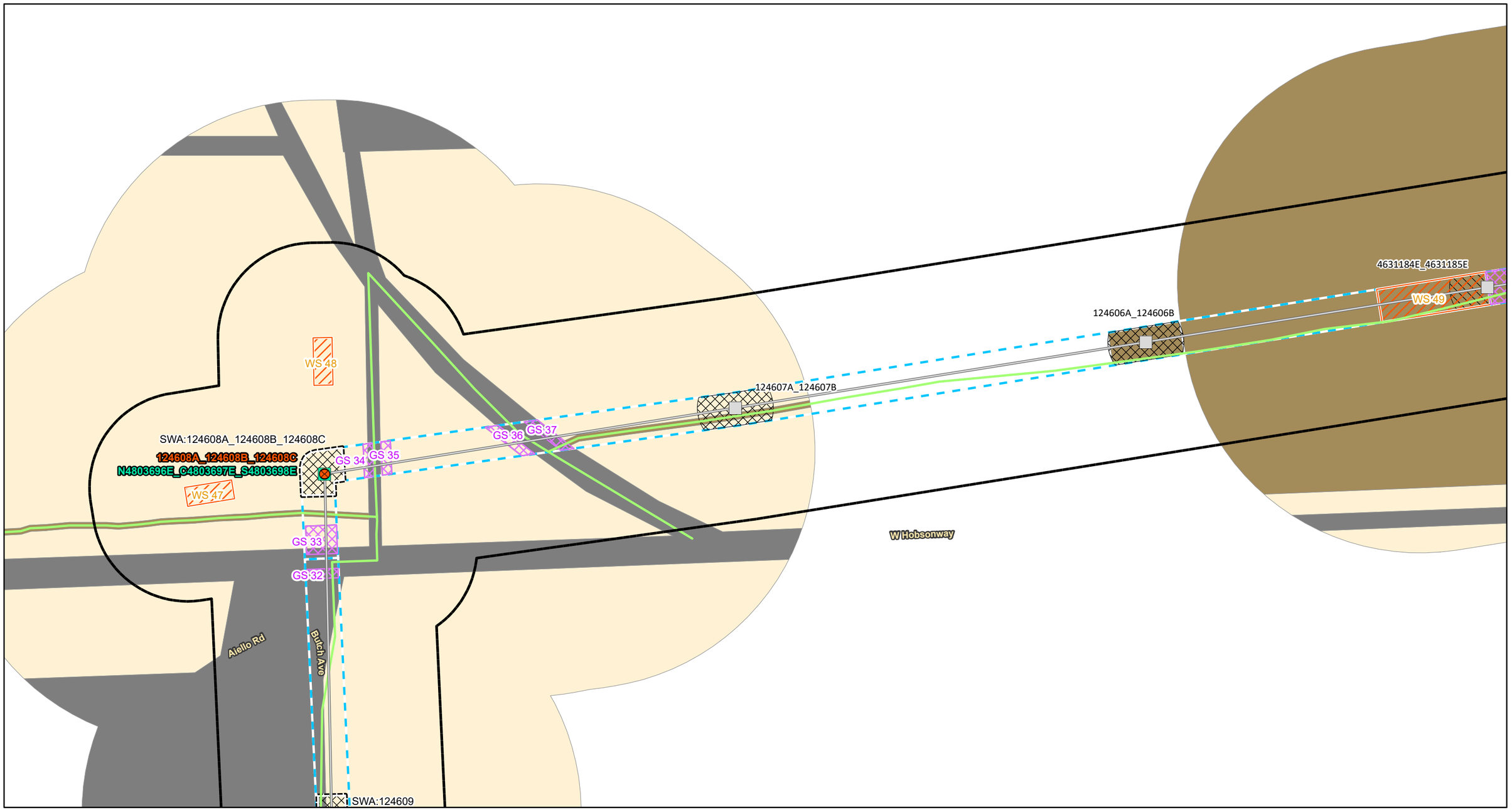
Structure Work Area
O&M Area

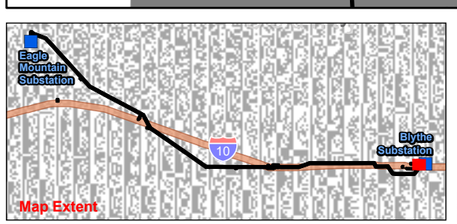
Land Cover Type
Creosote bush - white burr sage scrub
Developed

Disturbed
White bursage scrub

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area

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- O&M Area

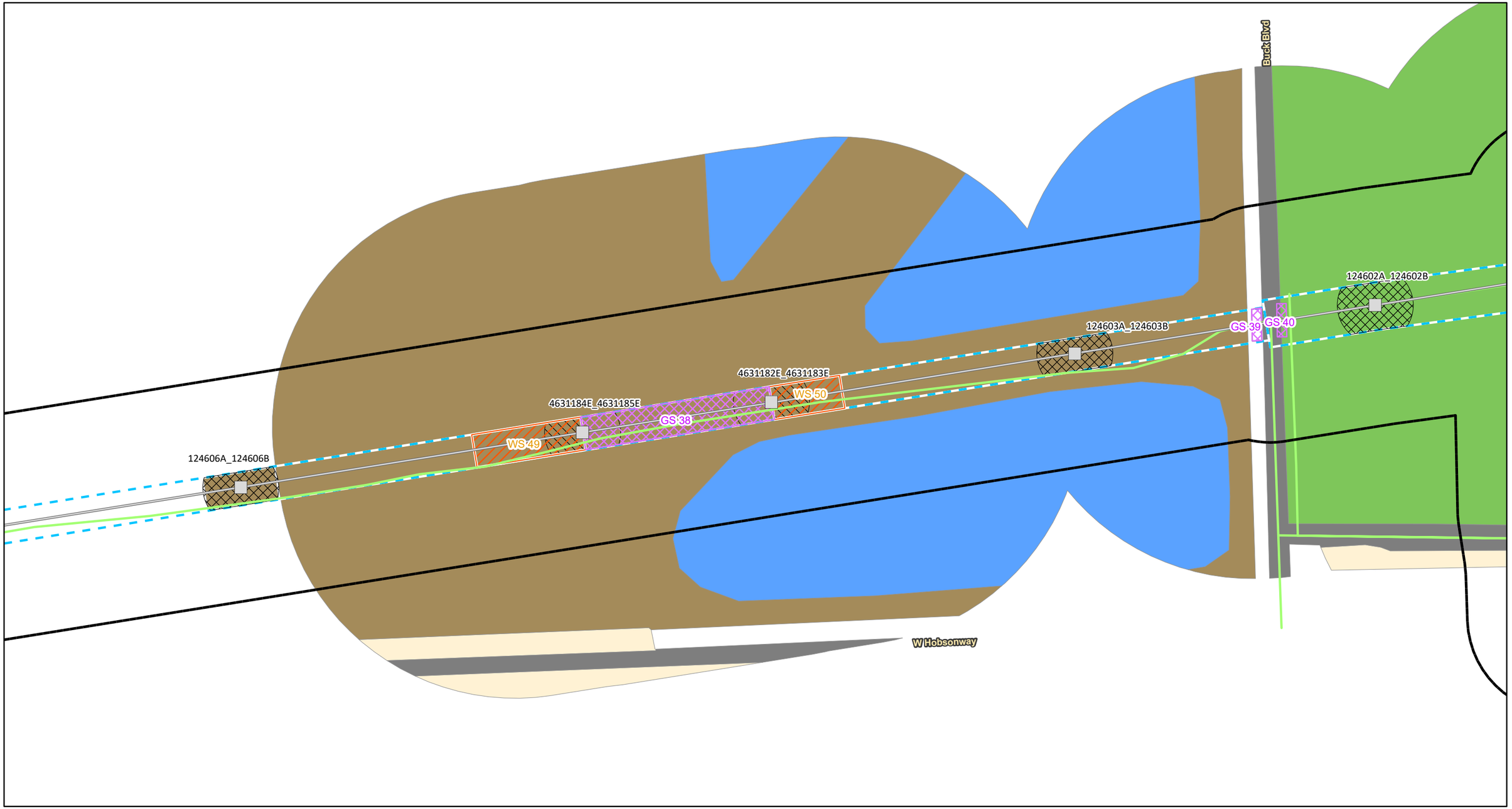
Land Cover Type

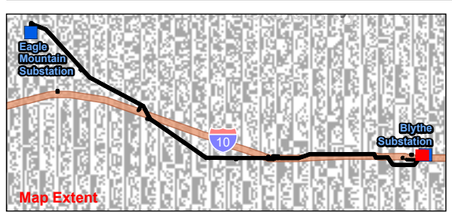
- Creosote bush - white burr sage scrub
- Developed
- Disturbed

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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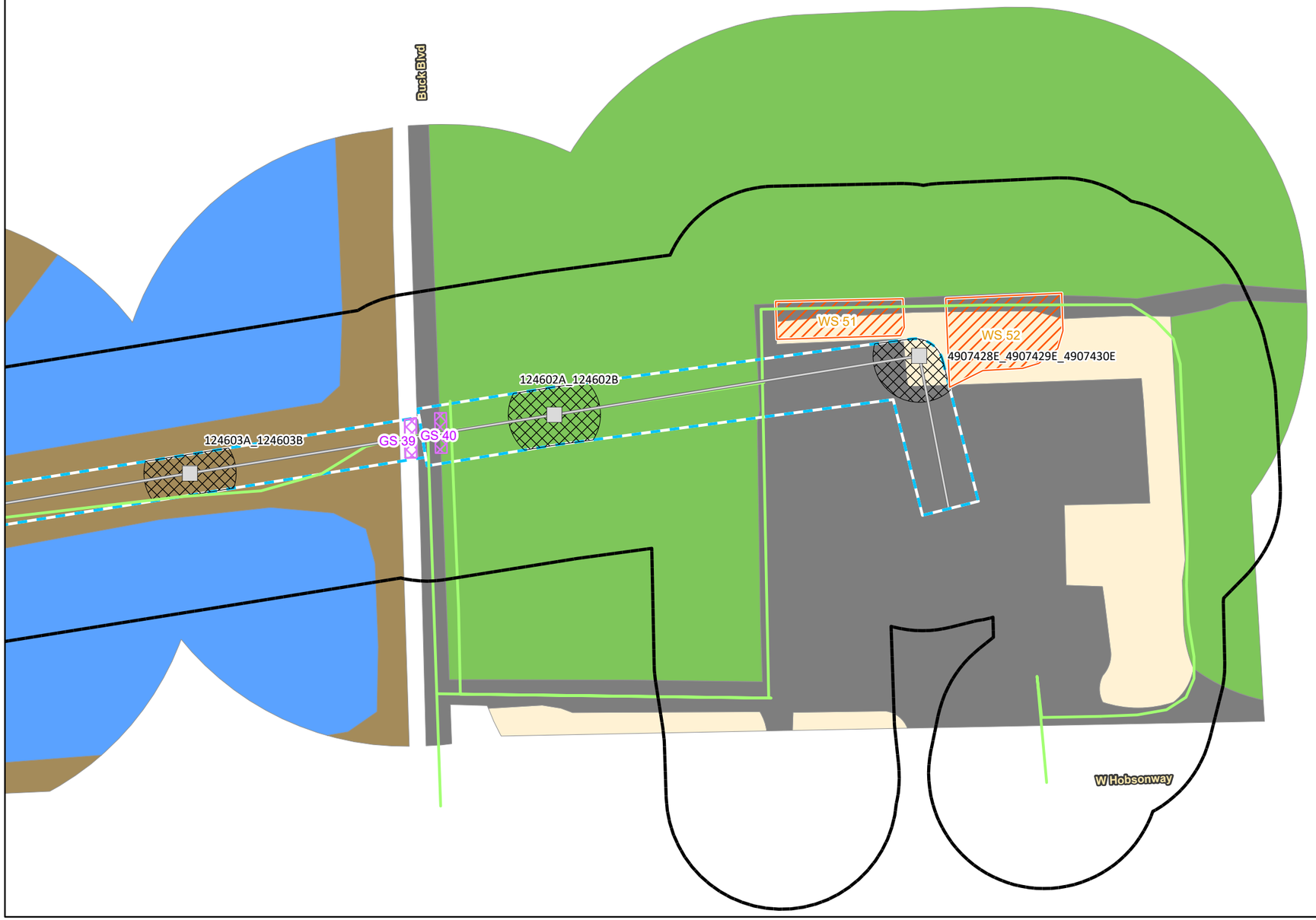
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

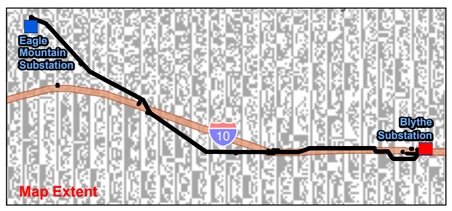
Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Cover Type
- Active Agriculture
- Creosote bush - white burr sage scrub
- Developed
- Disturbed
- Open Water

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

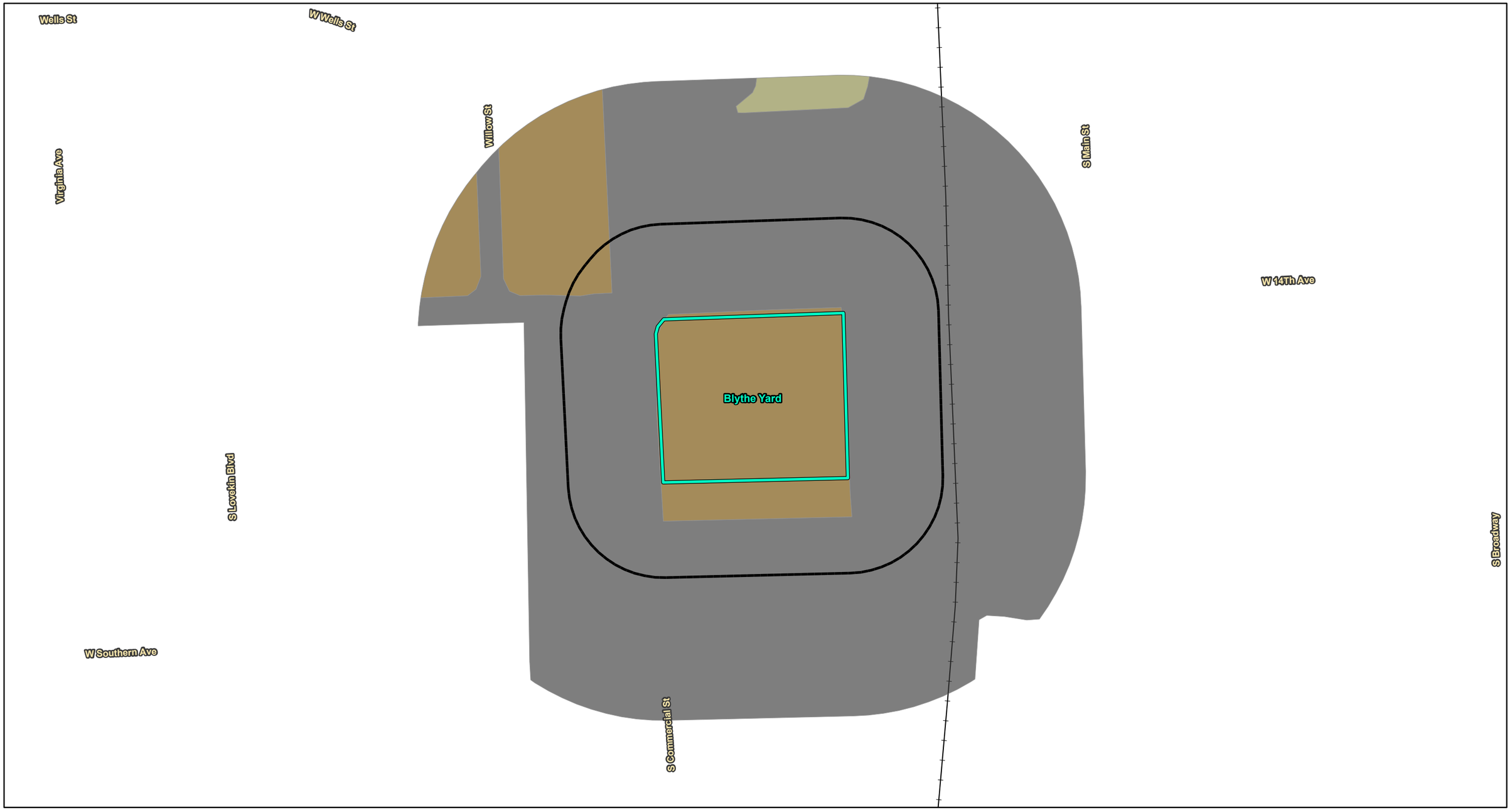
Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

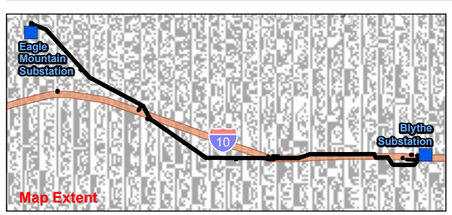
Land Cover Type
- Active Agriculture
- Creosote bush - white burr sage scrub
- Developed
- Disturbed
- Open Water

FIGURE 2

Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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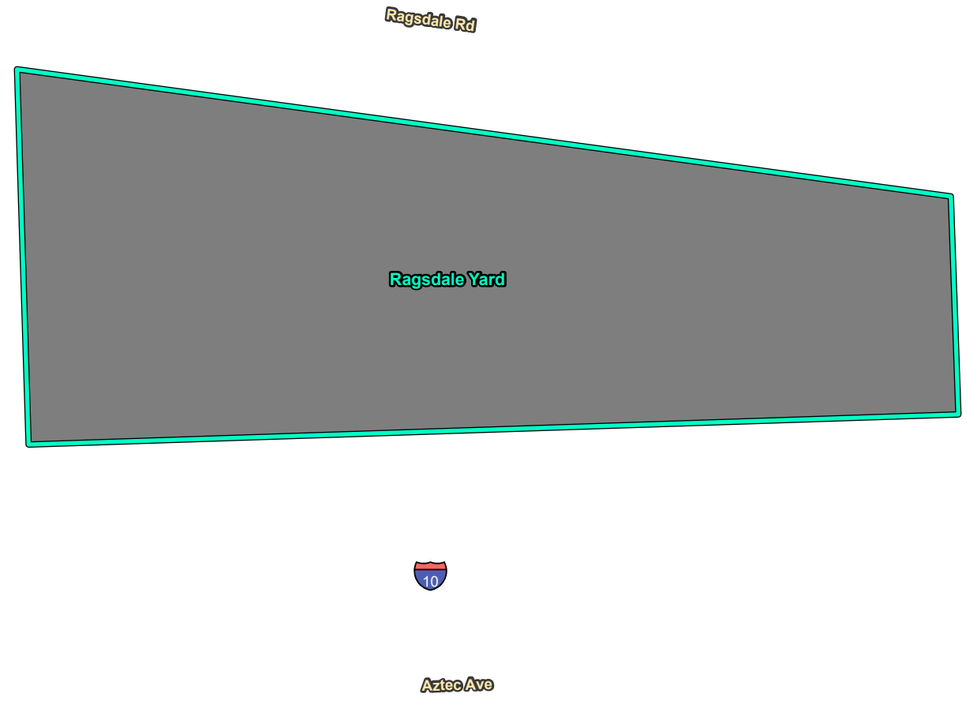
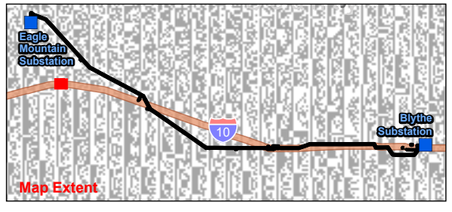
Study Area
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area

Land Cover Type
Allscale scrub
Developed
Disturbed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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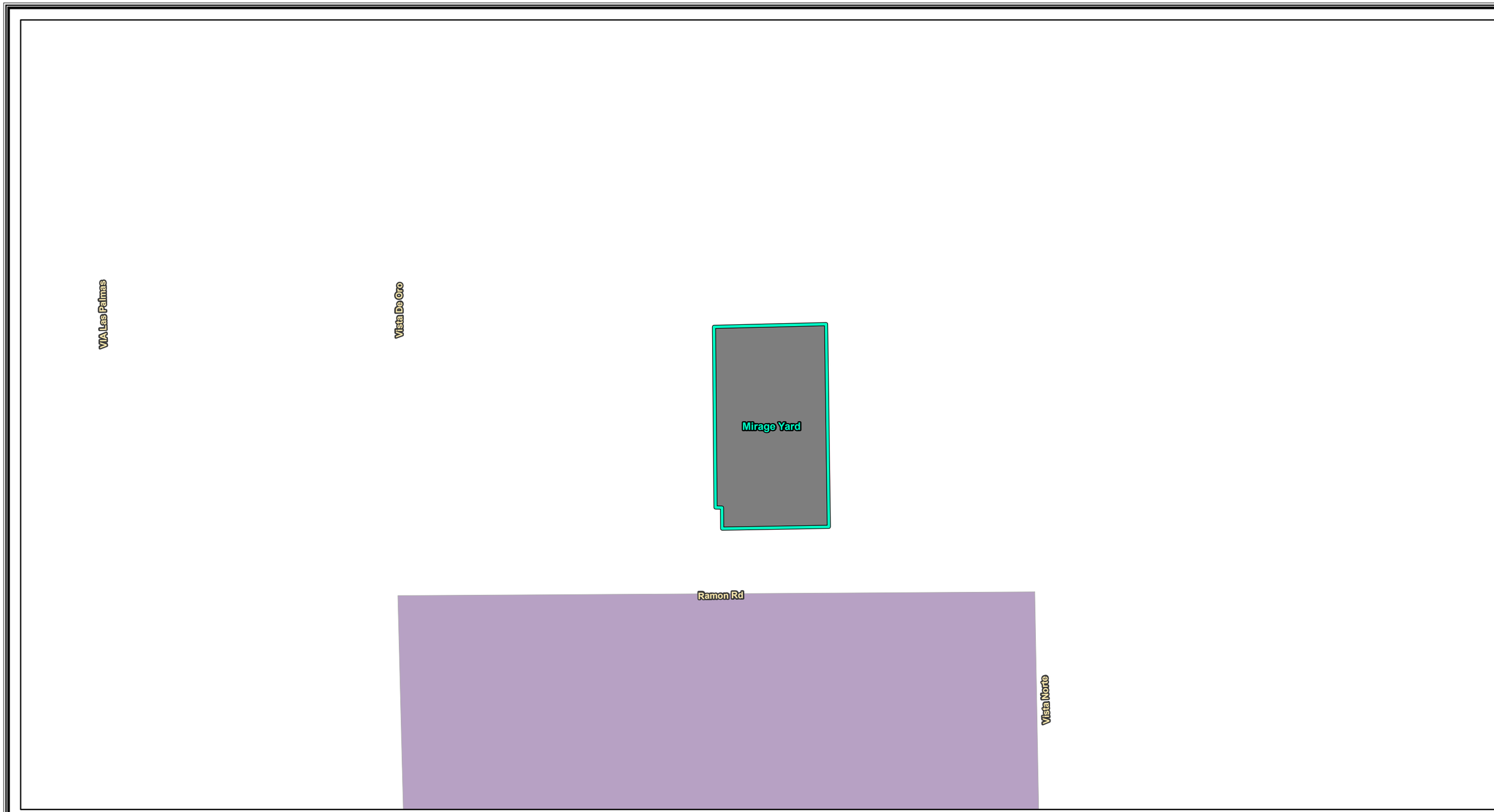
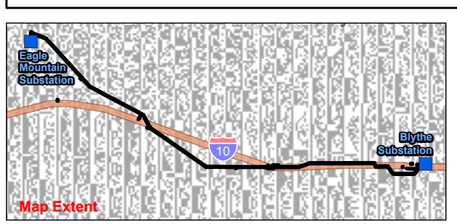
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area

Land Cover Type
Developed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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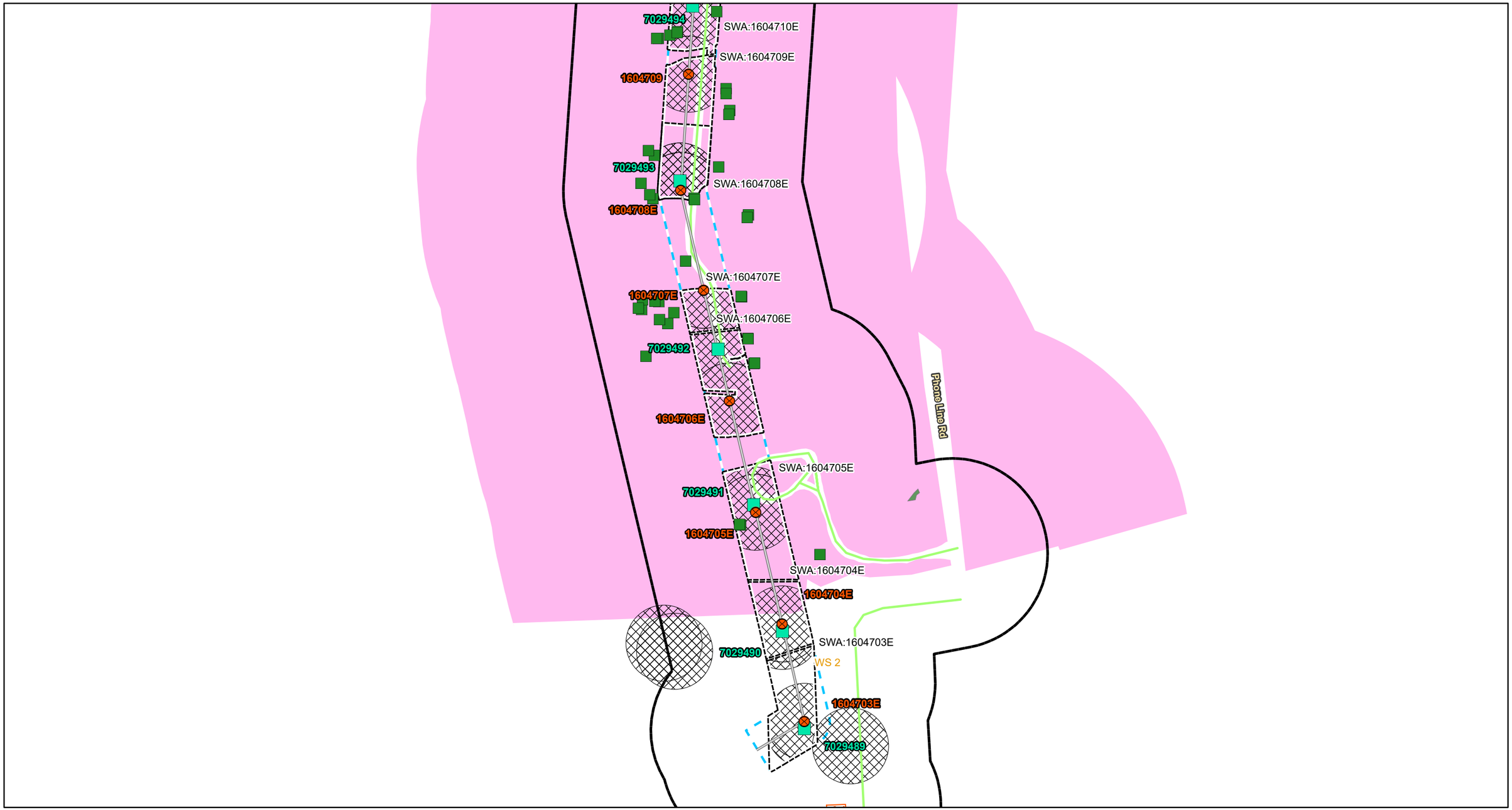
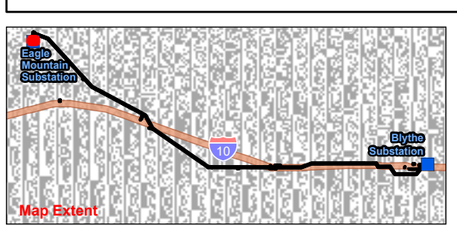
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area
State Land
Land Cover Type
Developed

FIGURE 2
Vegetation Communities

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- New Structure
- Existing Structure (to be removed)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

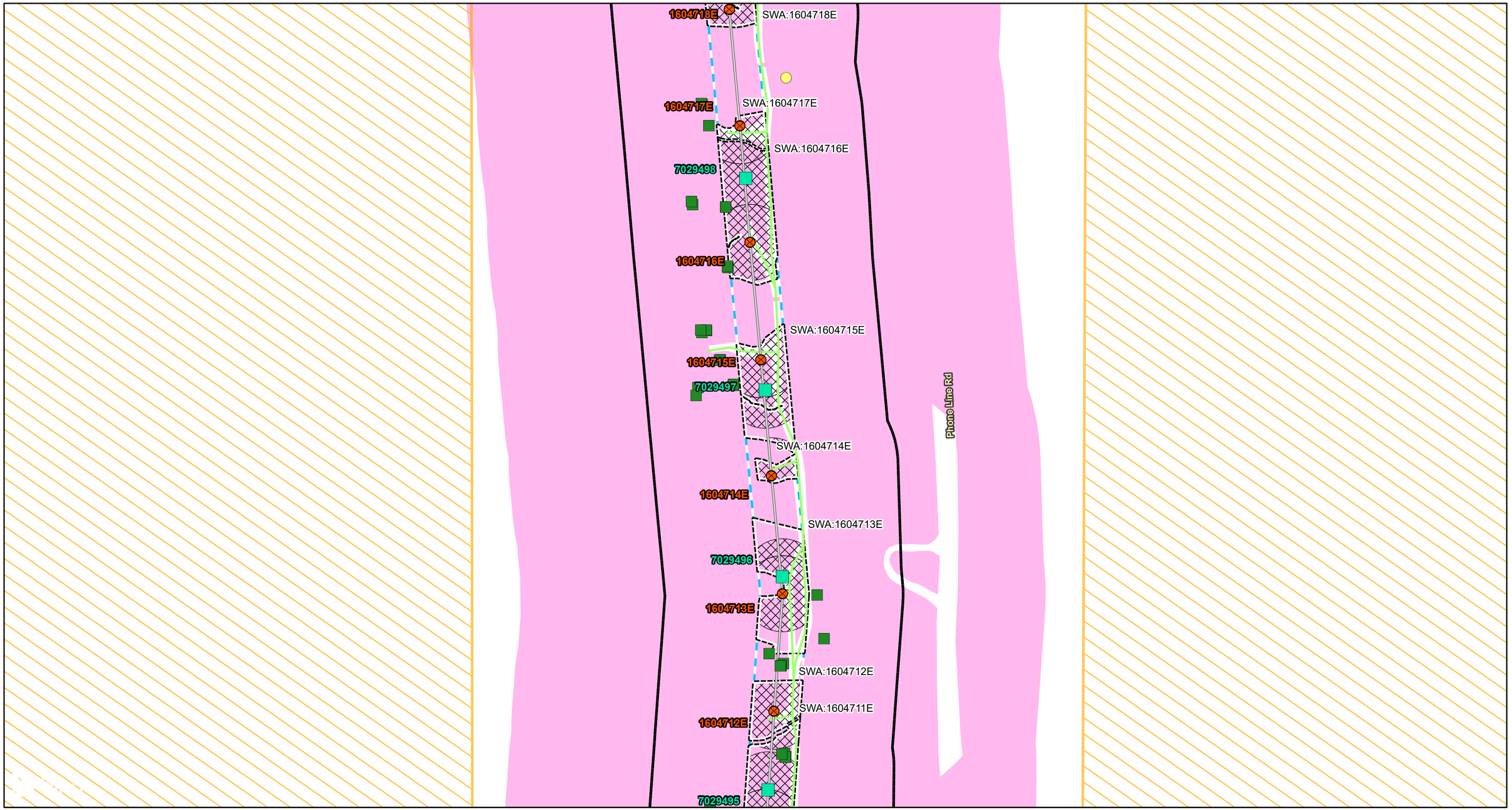
Special-Status Plant Point
- Alverson's foxtail cactus

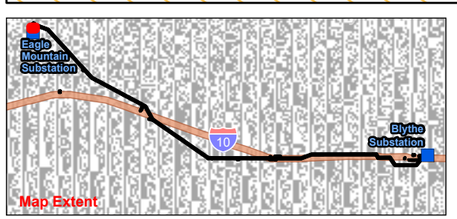
Special-Status Plant Polygon
- Alverson's foxtail cactus

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife
Page 1 of 150

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to be removed)
- Existing Circuit
- Access Road
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- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

Special-Status Plant Point
- Alverson's foxtail cactus

Desert Tortoise Occurrence Type
- Live Tortoise

Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

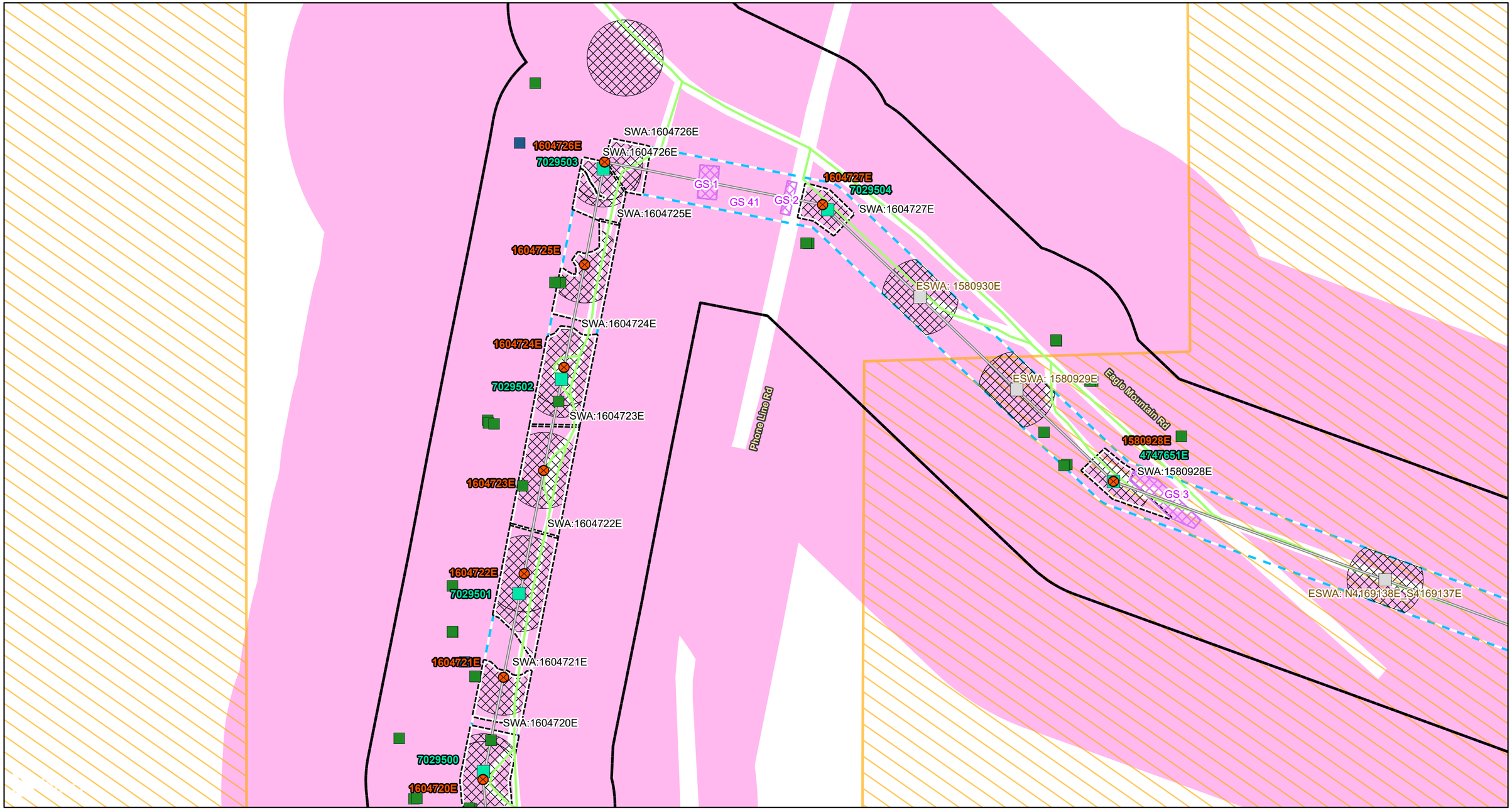
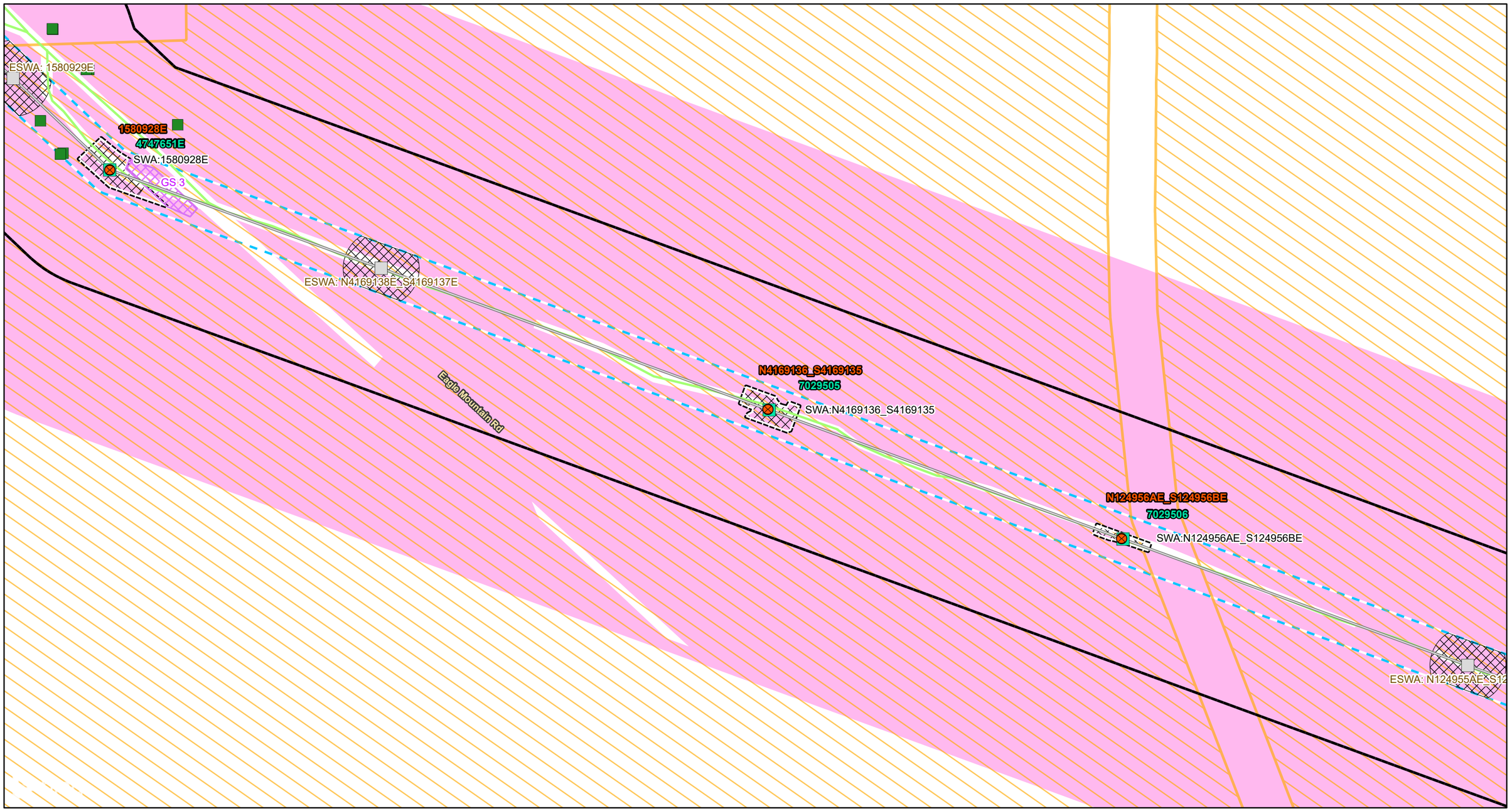
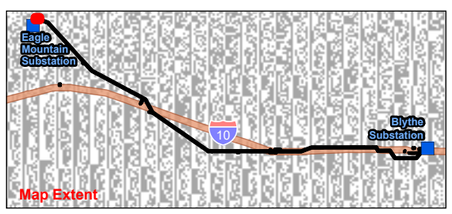


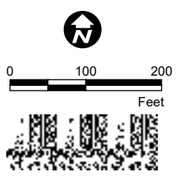
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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- Existing Structure (to be removed)
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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

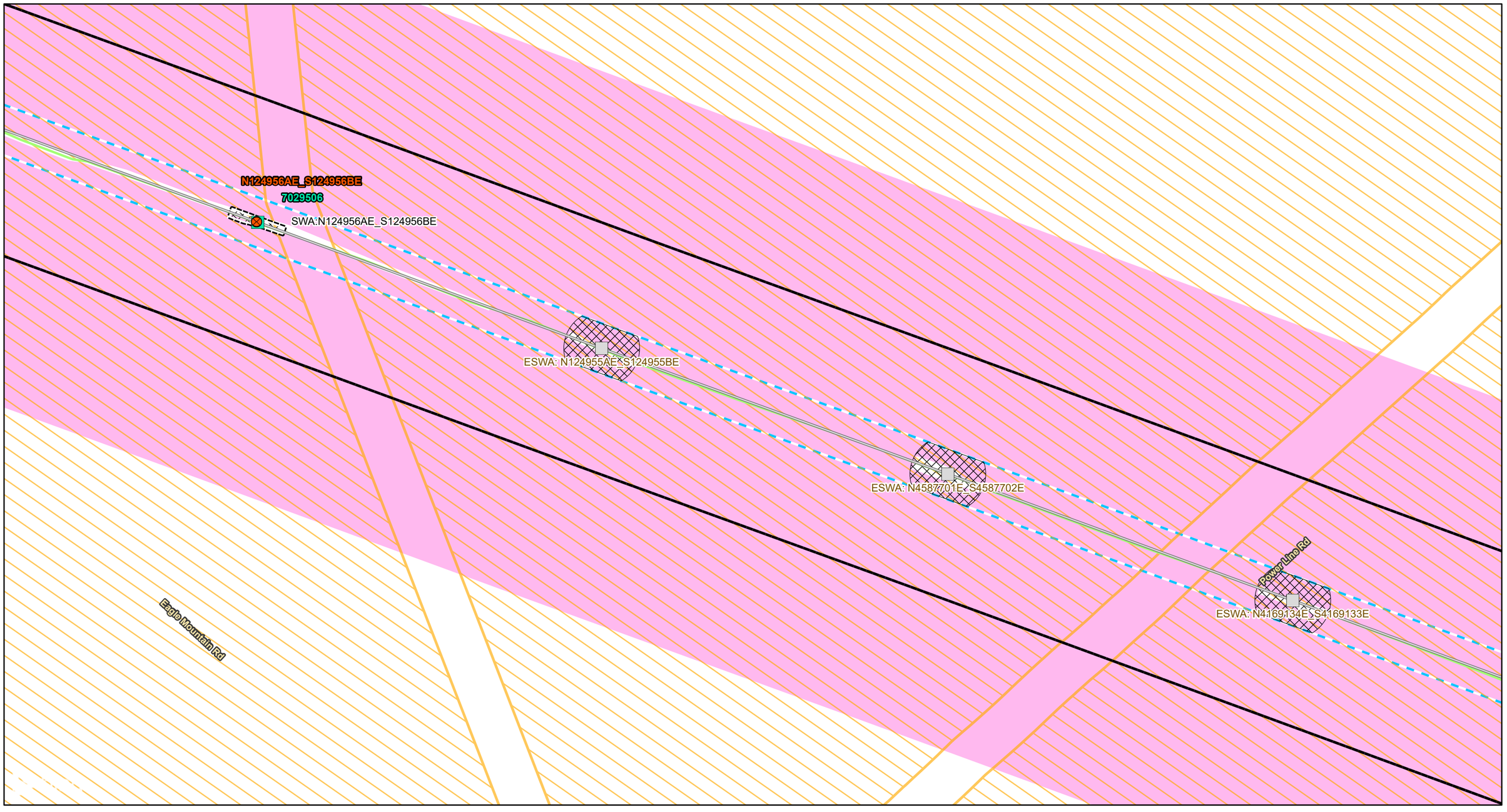
Land Owner
- BLM Land

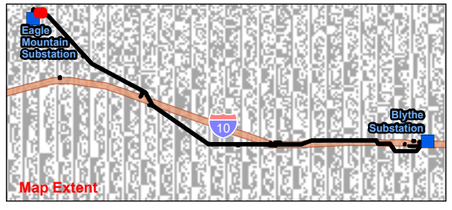
Special-Status Plant Point
- Alverson's foxtail cactus

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Construction Area
- Guard Structure
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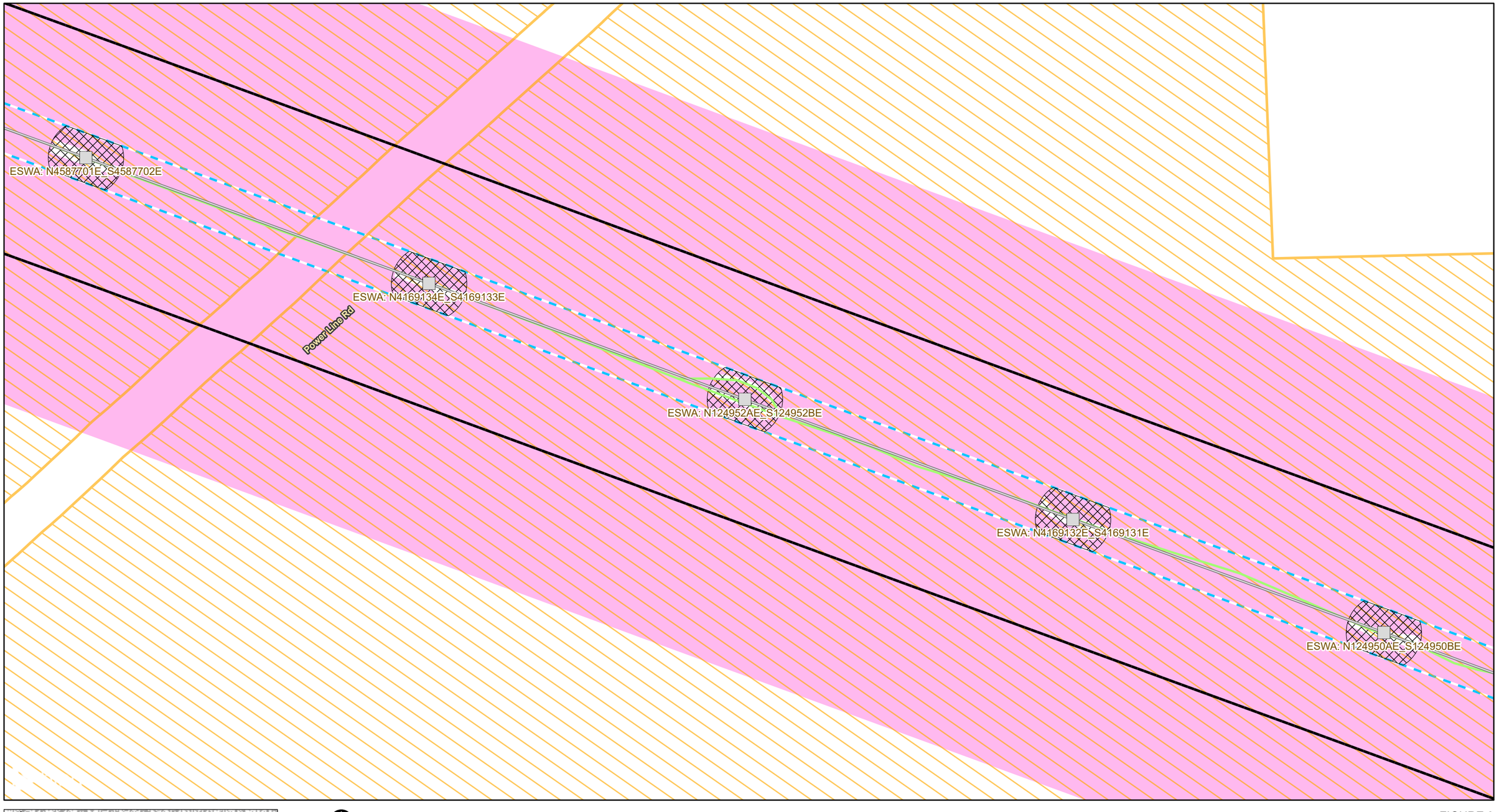
- Structure Work Area
- O&M Area

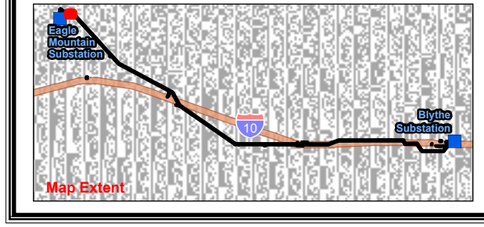
Land Owner
- BLM Land

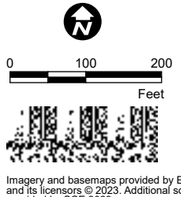
Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

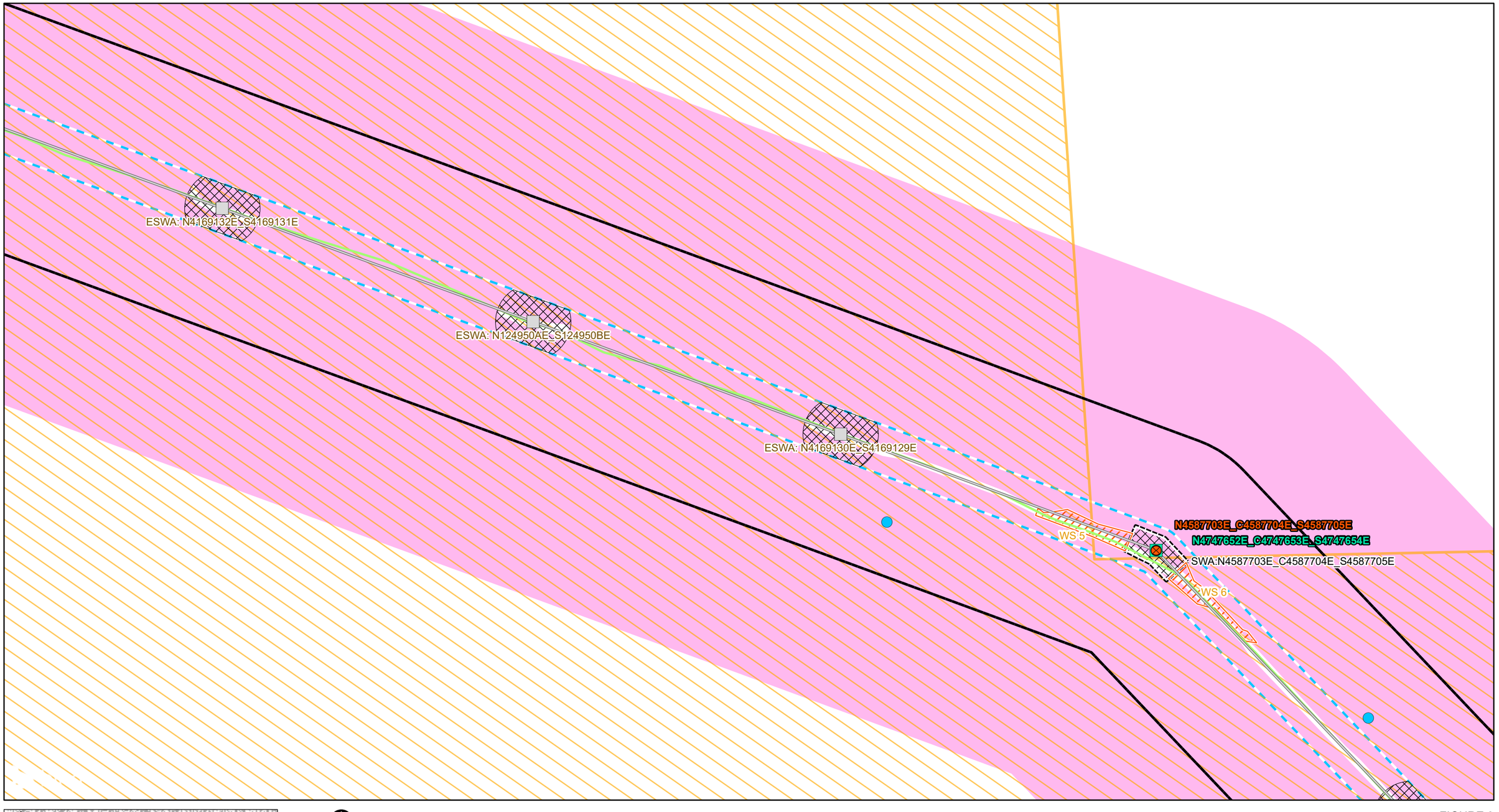
Land Owner
- BLM Land

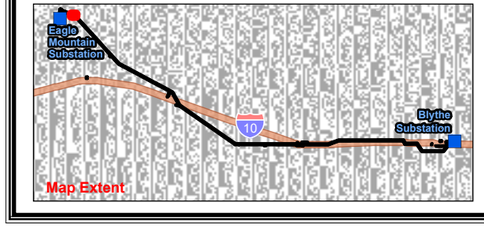
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- New Structure
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- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

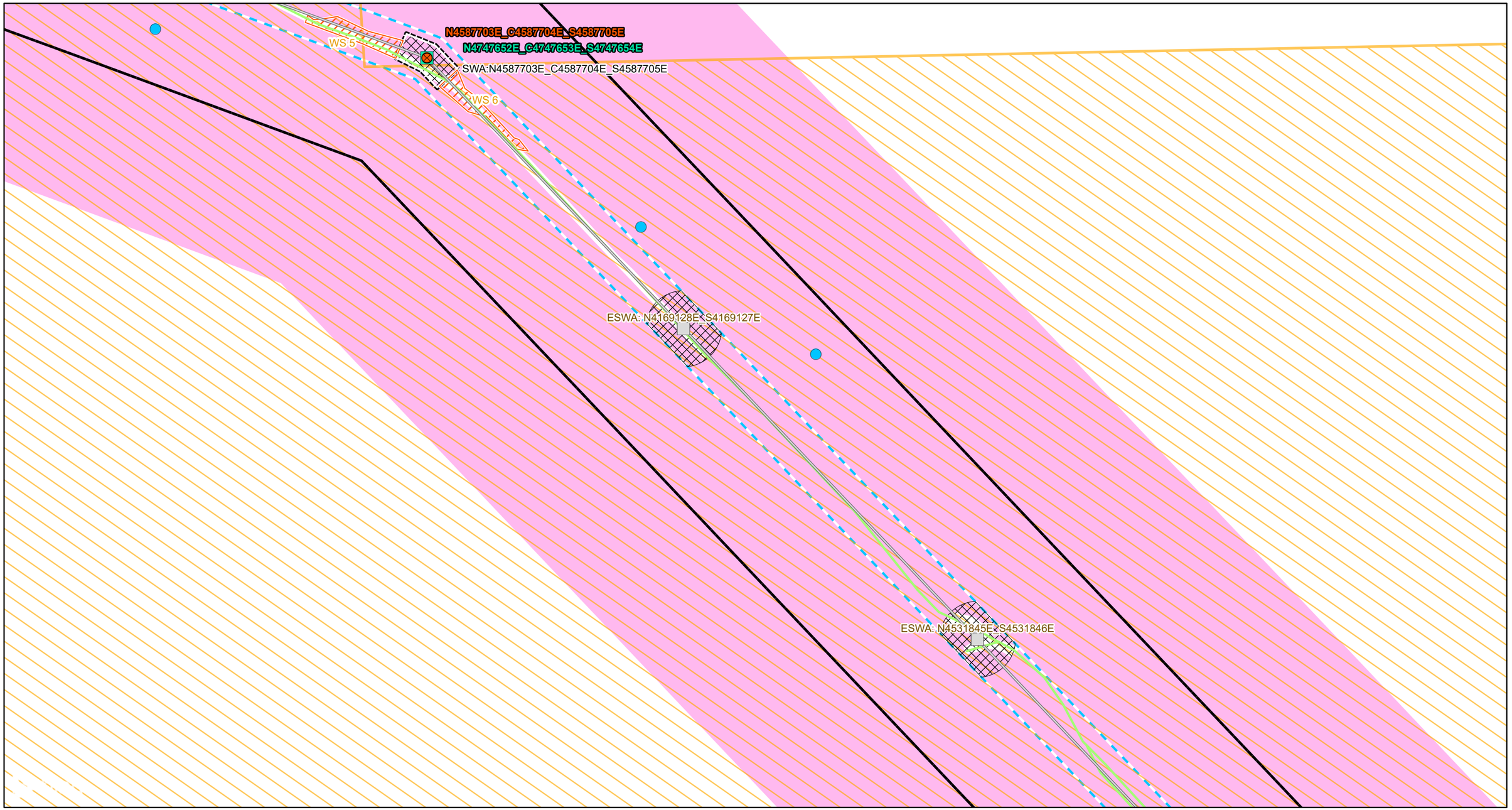
Desert Tortoise Occurrence Type
- Burrow

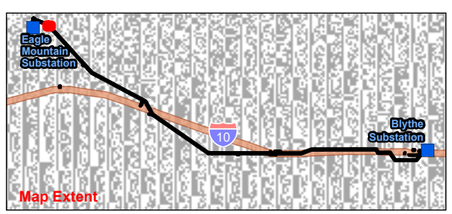
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Structure Work Area
- O&M Area

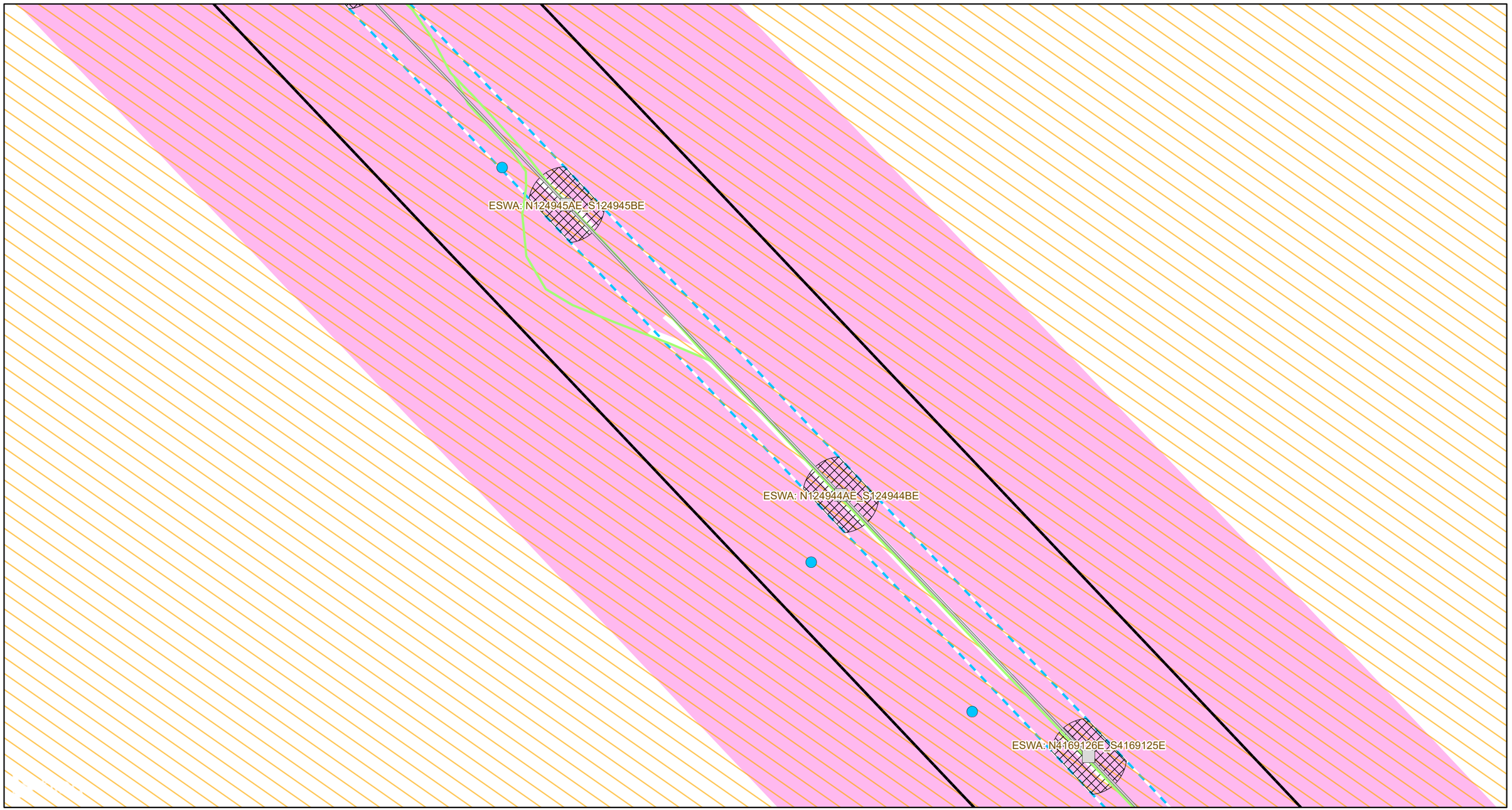
Land Owner
- BLM Land

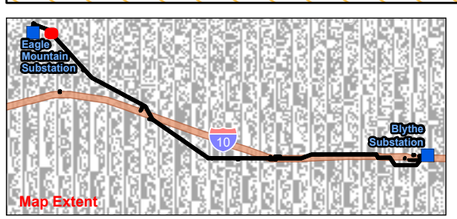
Desert Tortoise Occurrence Type
- Burrow

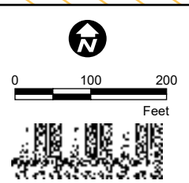
Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

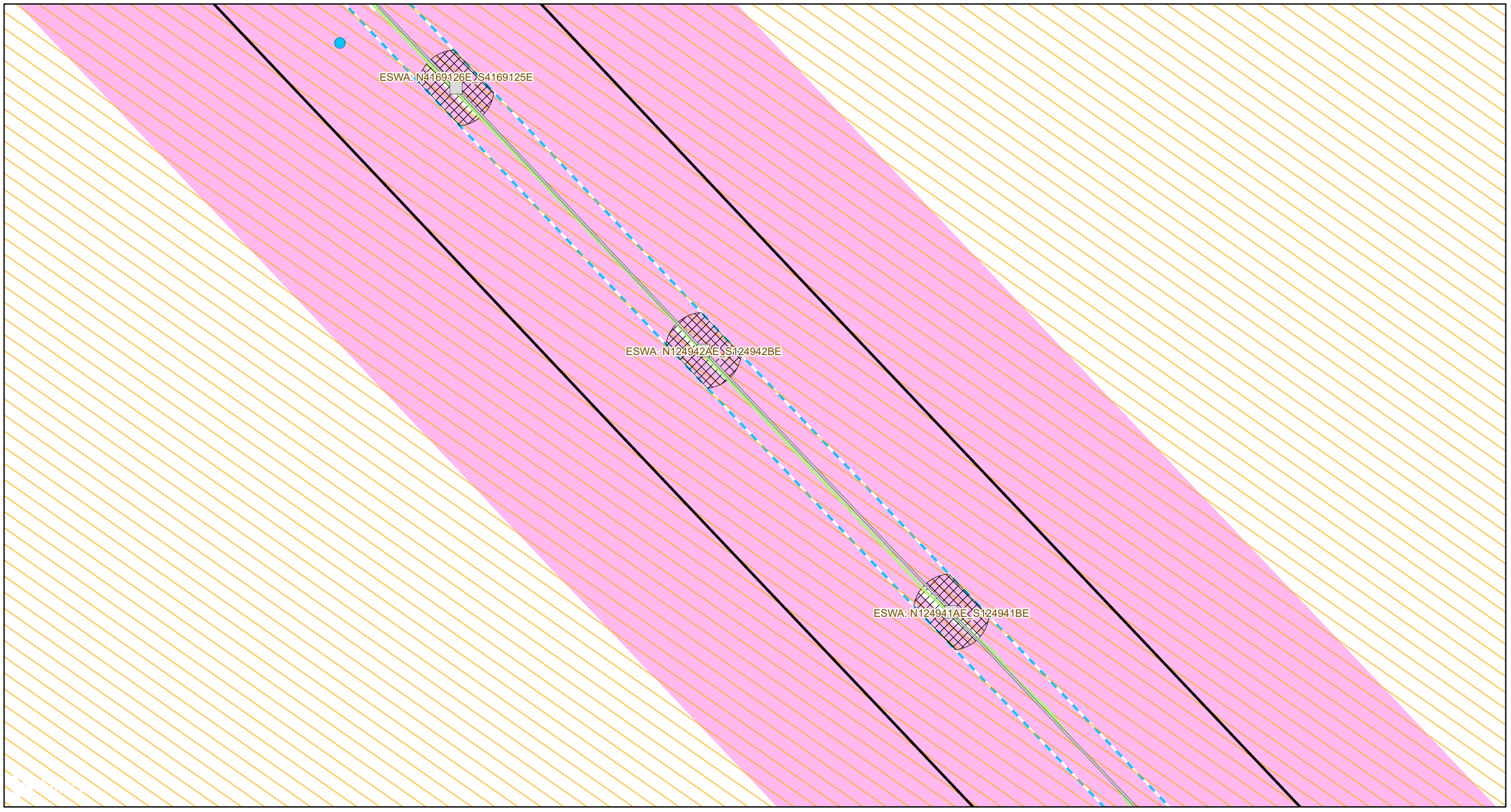
Land Owner
- BLM Land

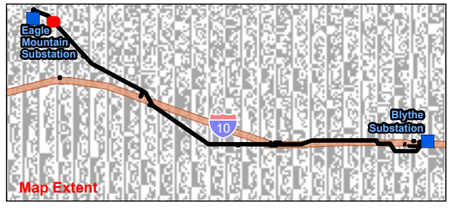
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
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- O&M Area

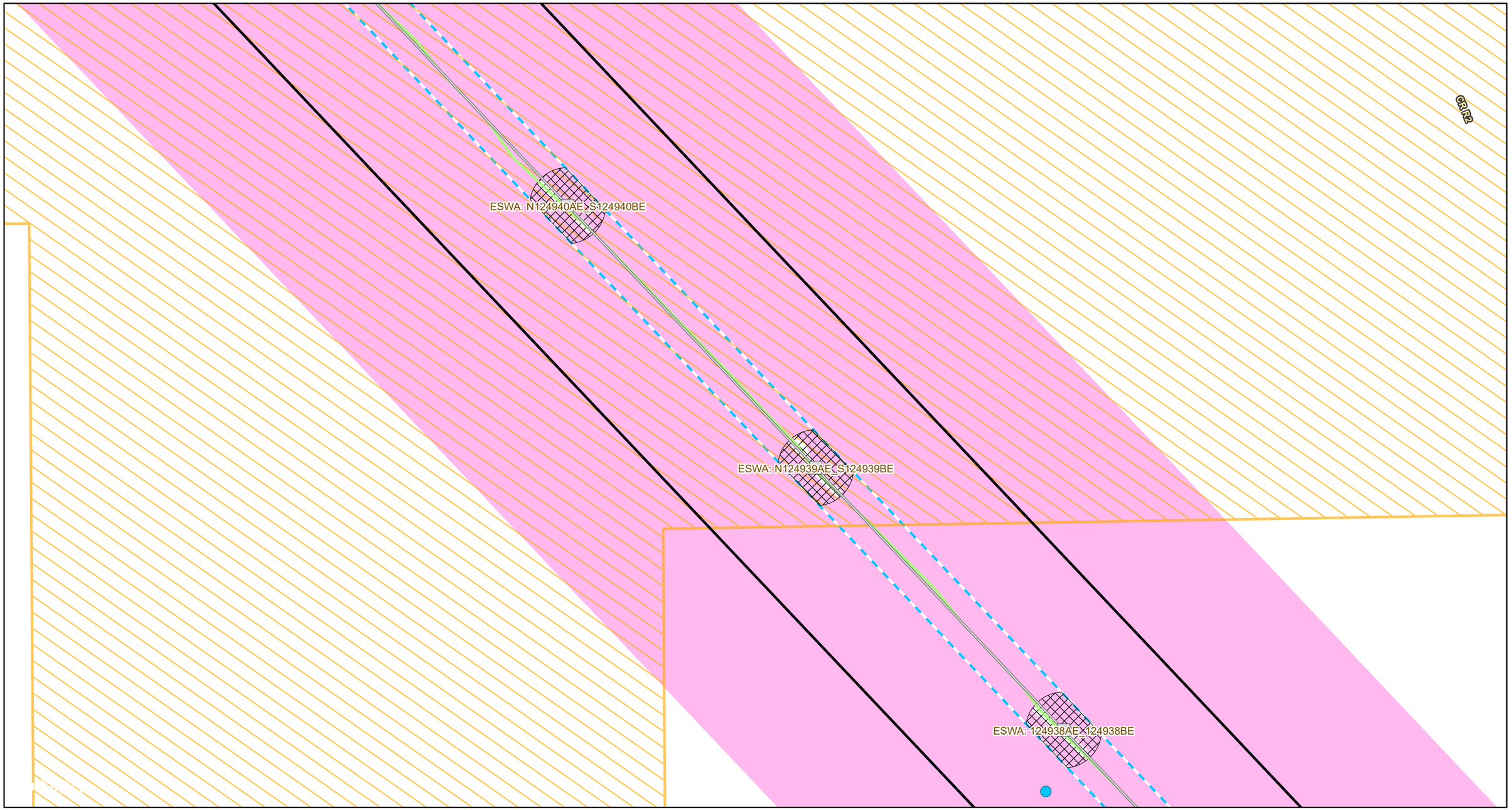
Land Owner
- BLM Land

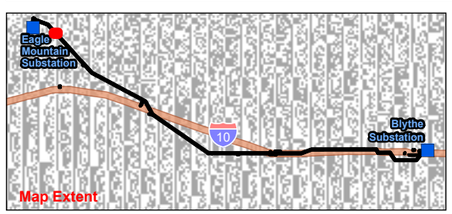
Desert Tortoise Occurrence Type
- Burrow

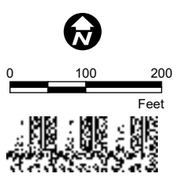
Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

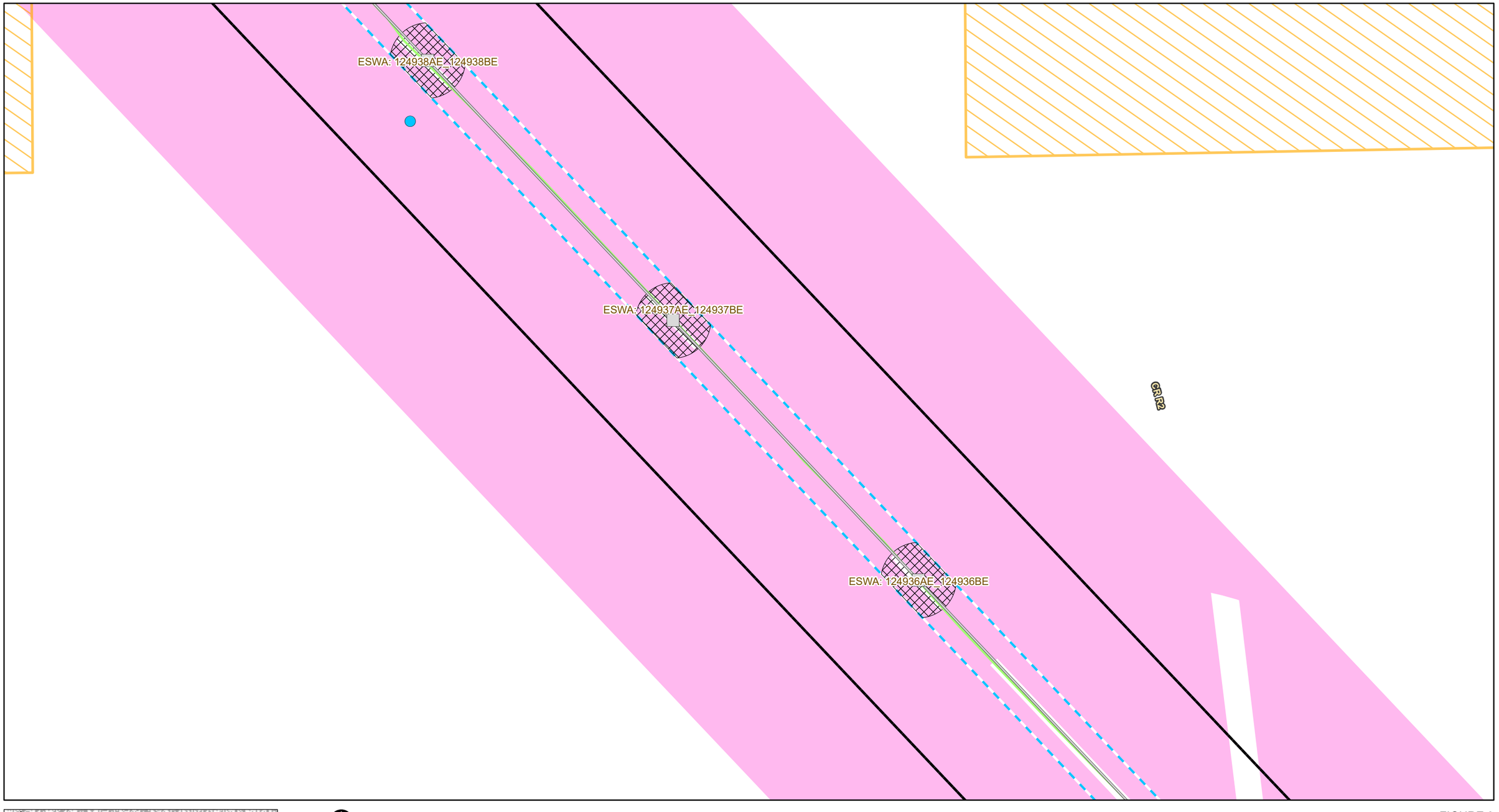
Desert Tortoise Occurrence Type
- Burrow

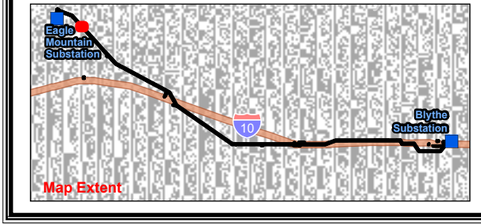
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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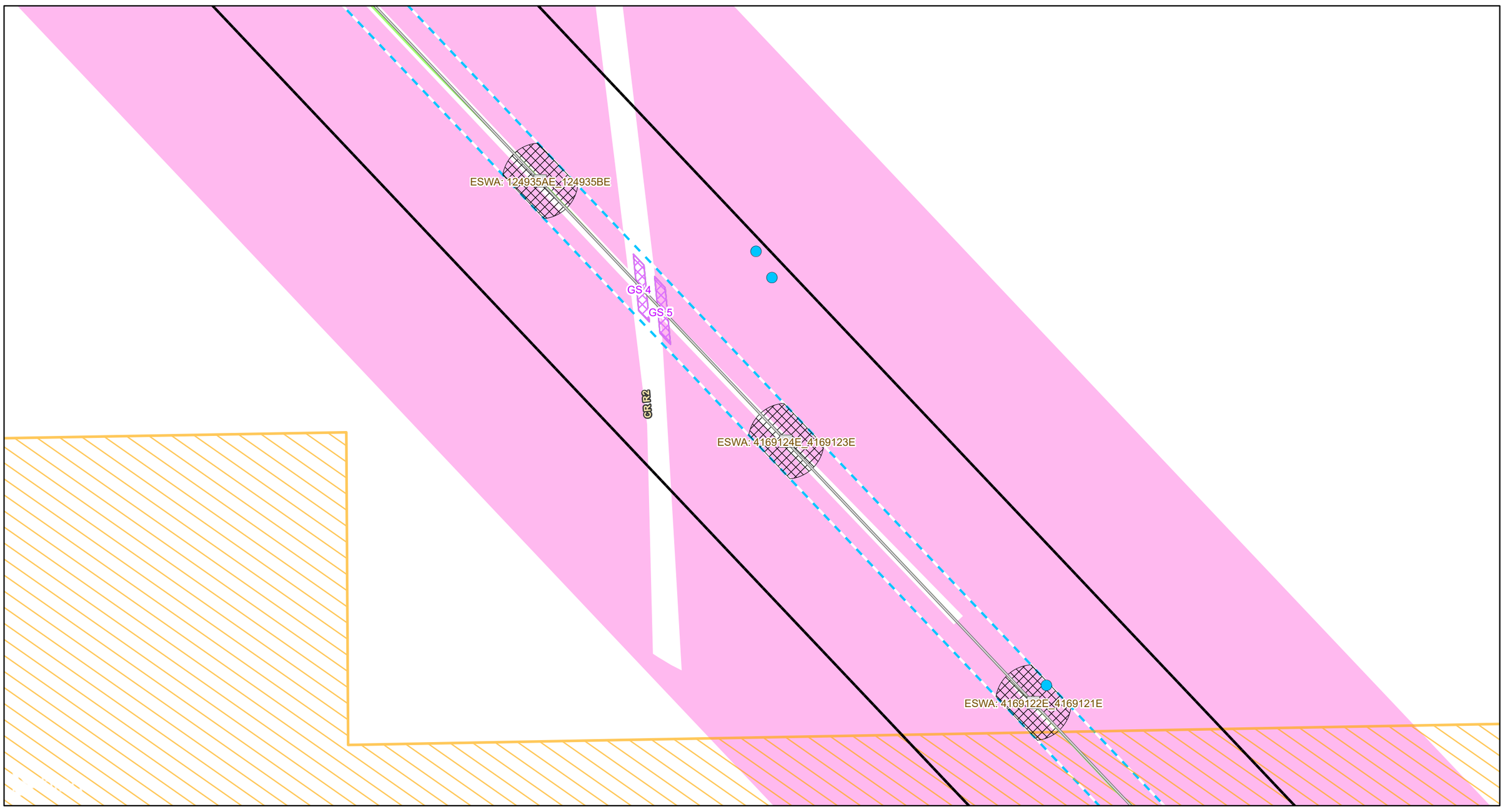
Land Owner
- BLM Land

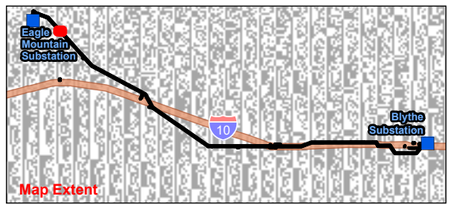
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Construction Area
- Guard Structure
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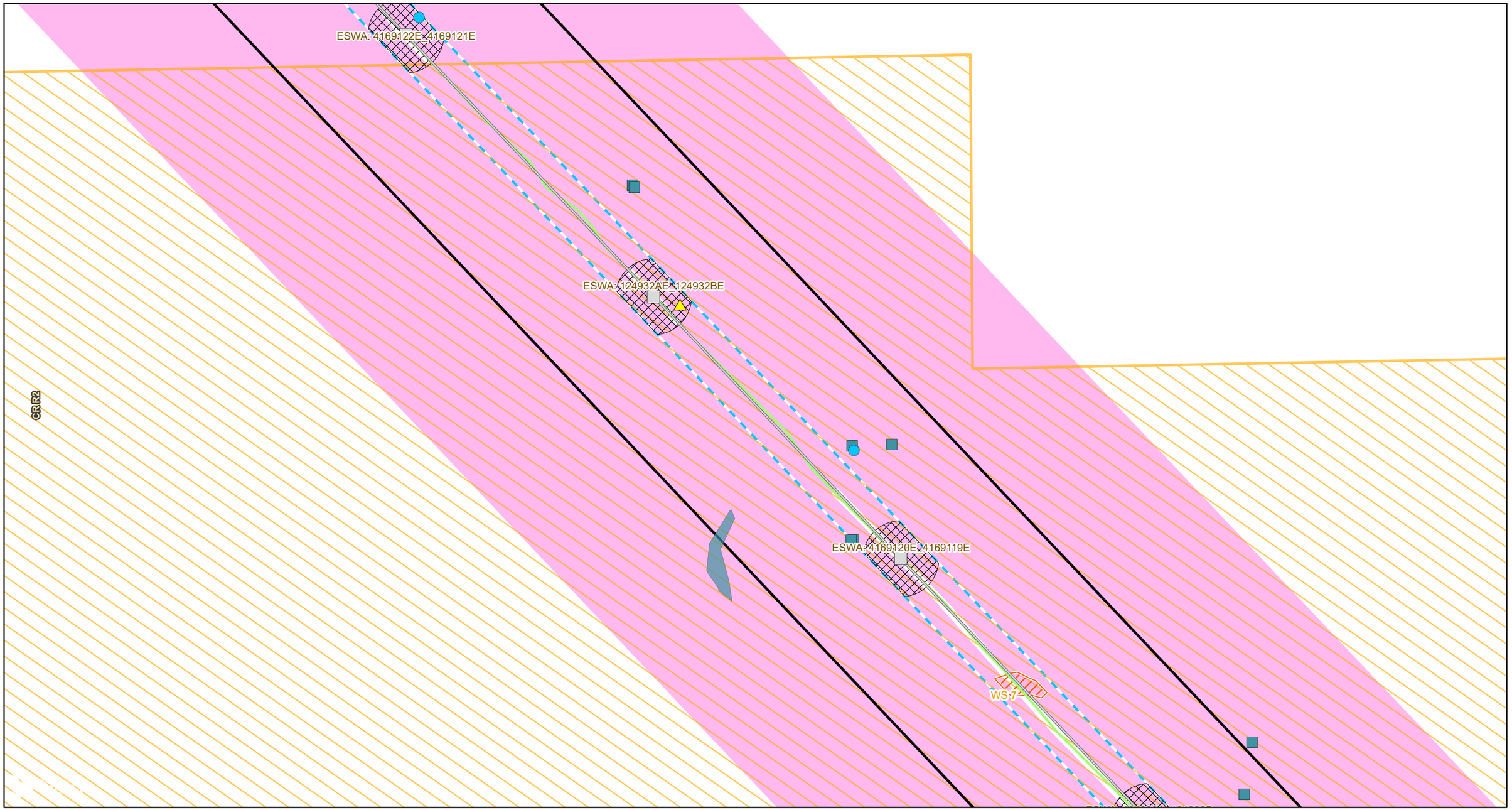
Land Owner
- BLM Land

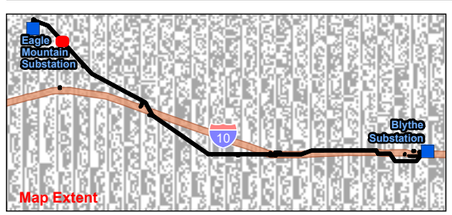
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

Special-Status Wildlife
- Black-Tailed Gnatcatcher

Special-Status Plant Point
- Emory's crucifixion thorn

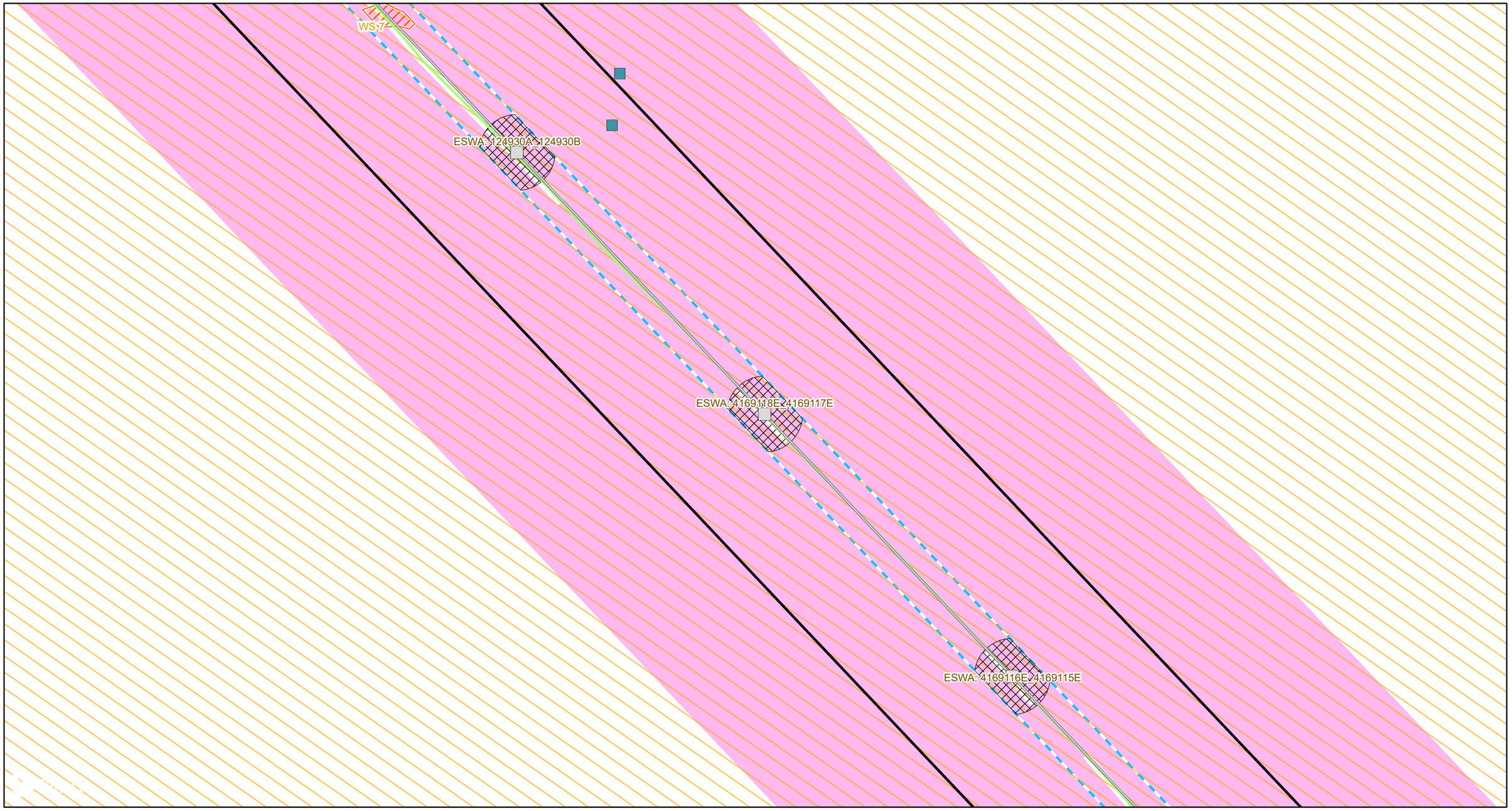
Special-Status Plant Polygon
- Emory's crucifixion thorn

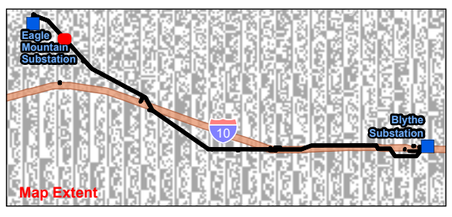
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

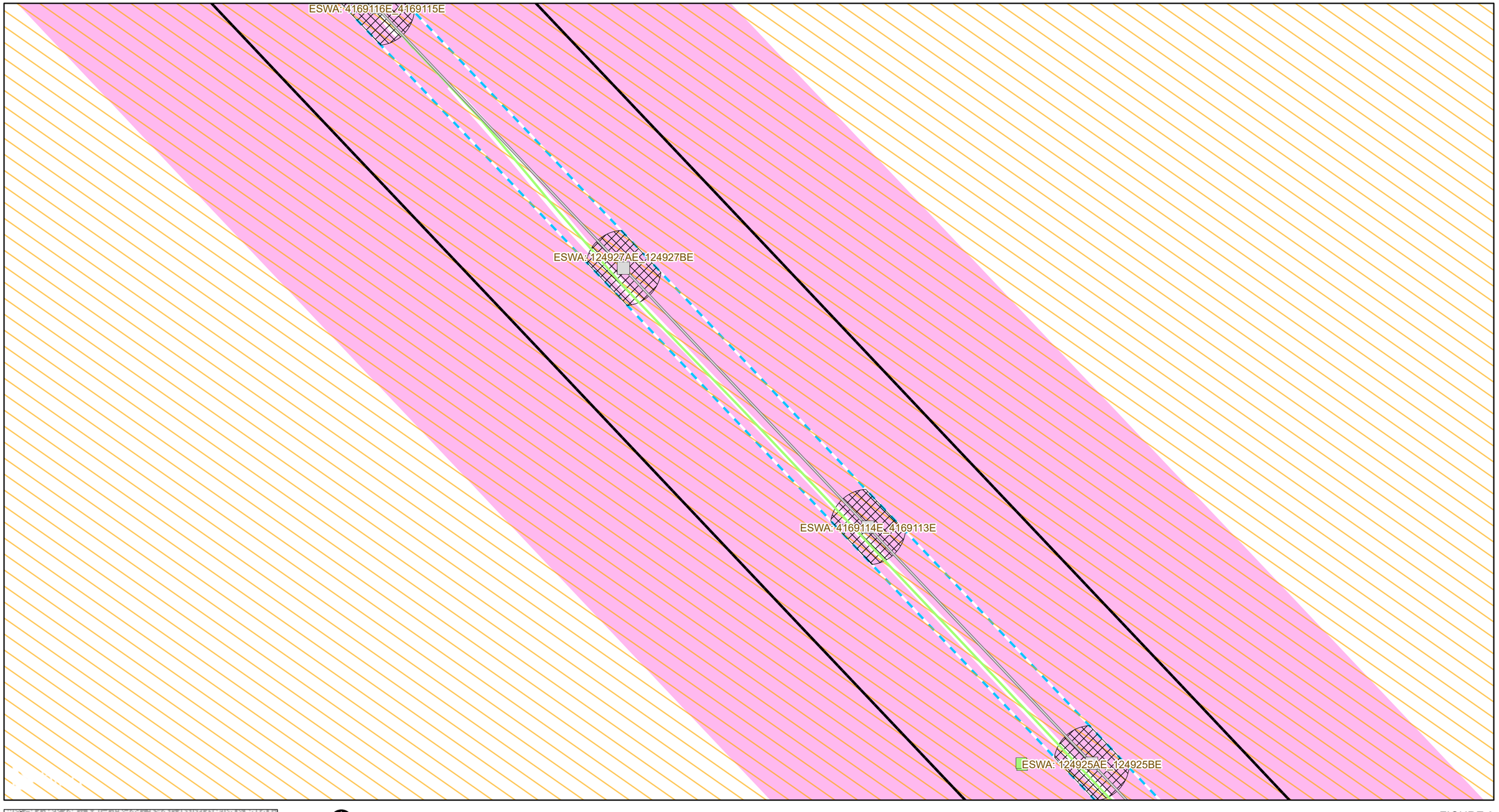
Special-Status Plant Point
- Emory's crucifixion thorn

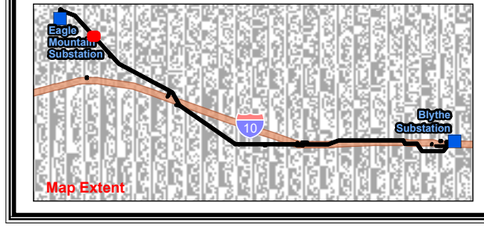
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
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- Access Road
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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

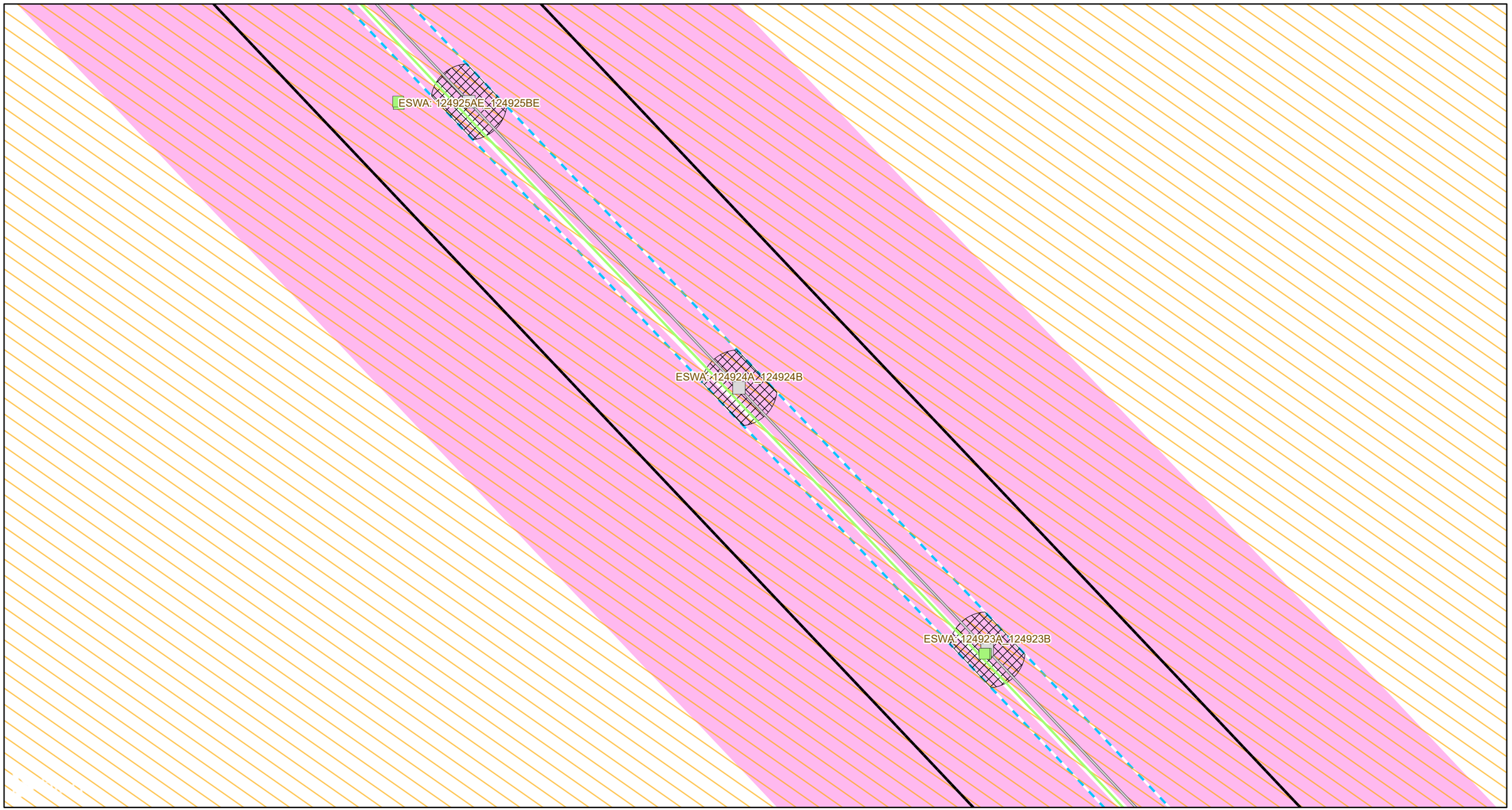
Special-Status Plant Point
- Desert unicorn plant

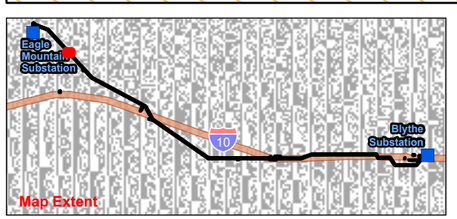
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
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- Access Road
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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

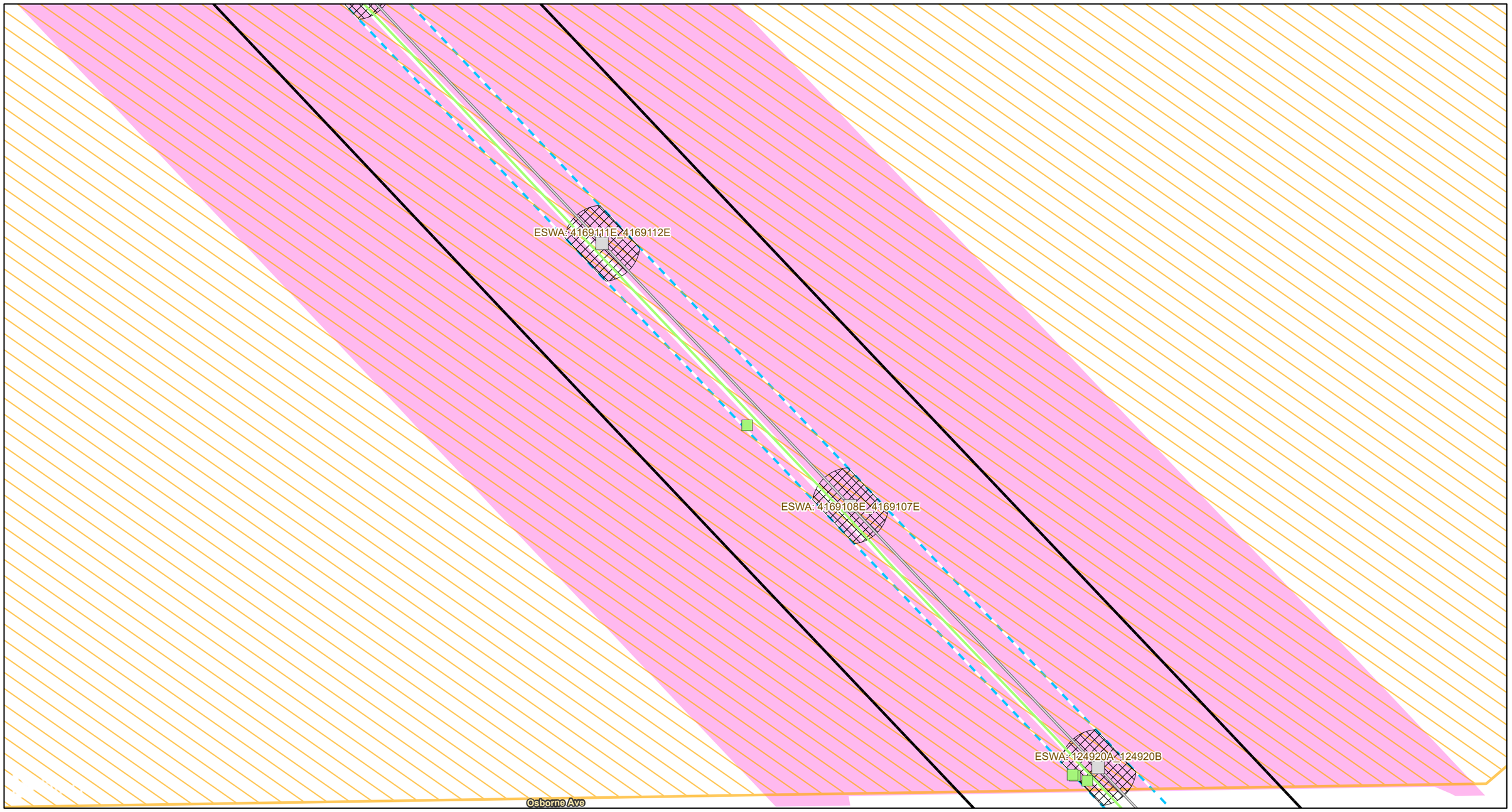
Special-Status Plant Point
- Desert unicorn plant

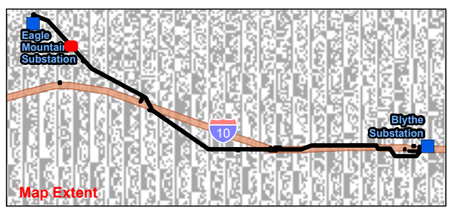
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

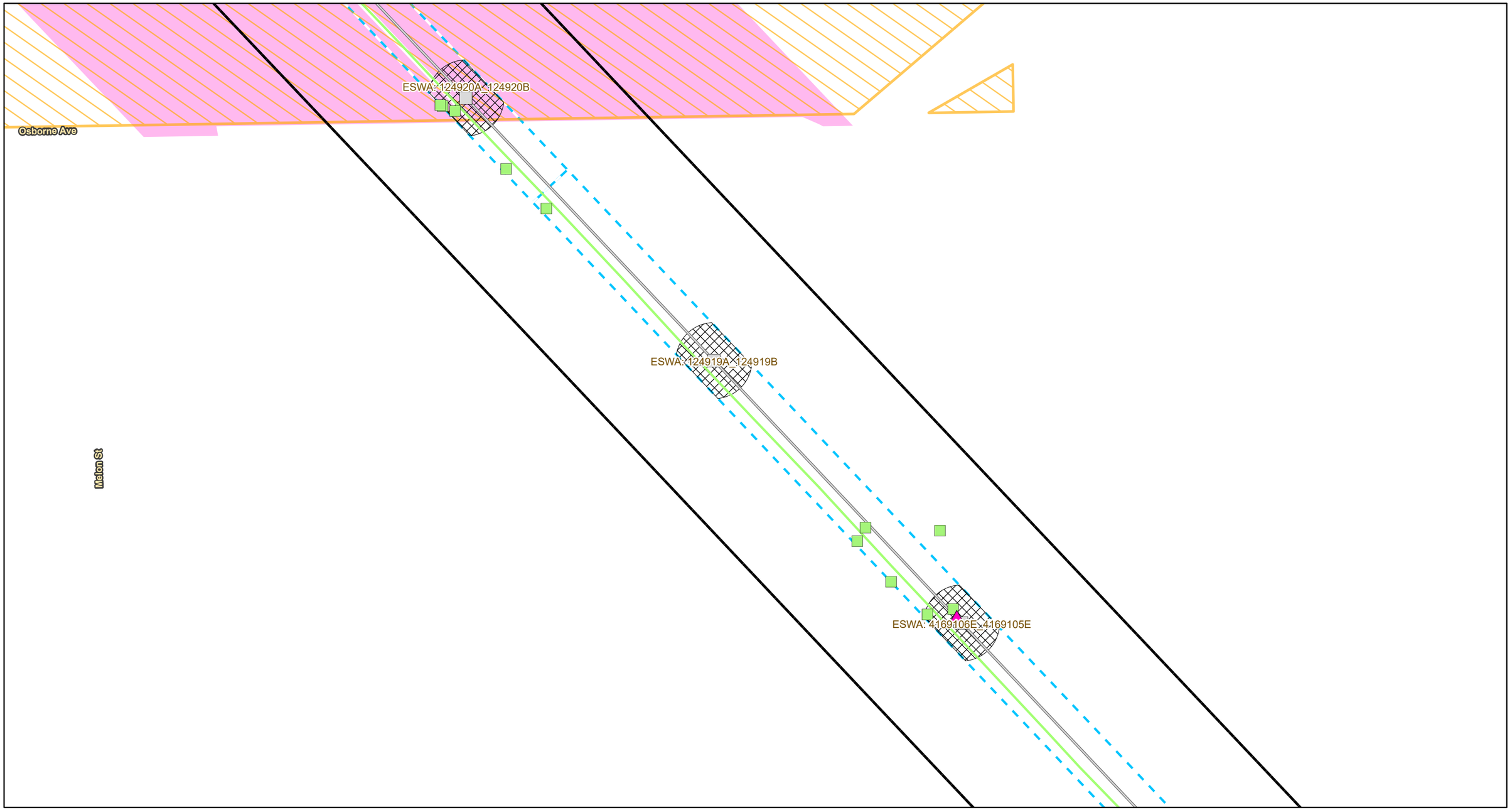
Special-Status Plant Point
- Desert unicorn plant

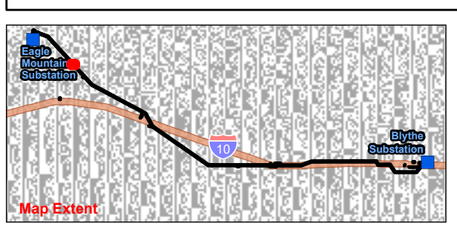
Suitable Habitat
- Desert Tortoise

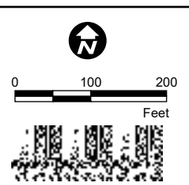
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Existing Structure (to remain)
Existing Circuit
Access Road
Study Area
Existing EM-B Right of Way

Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area

Land Owner
BLM Land

Special-Status Wildlife
Prairie Falcon

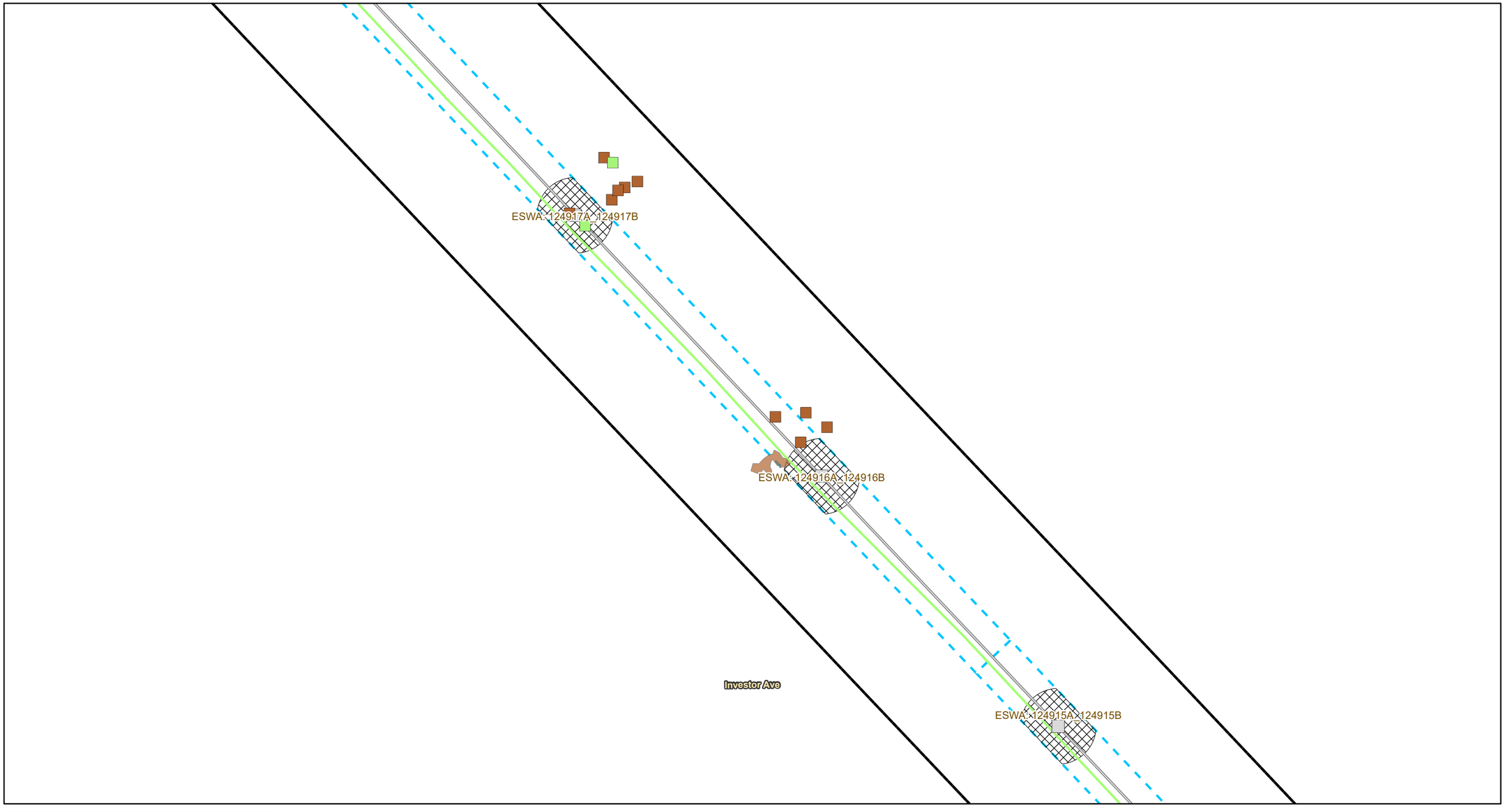
Special-Status Plant Point
Desert unicorn plant

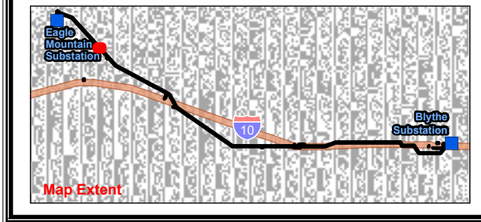
Suitable Habitat
Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

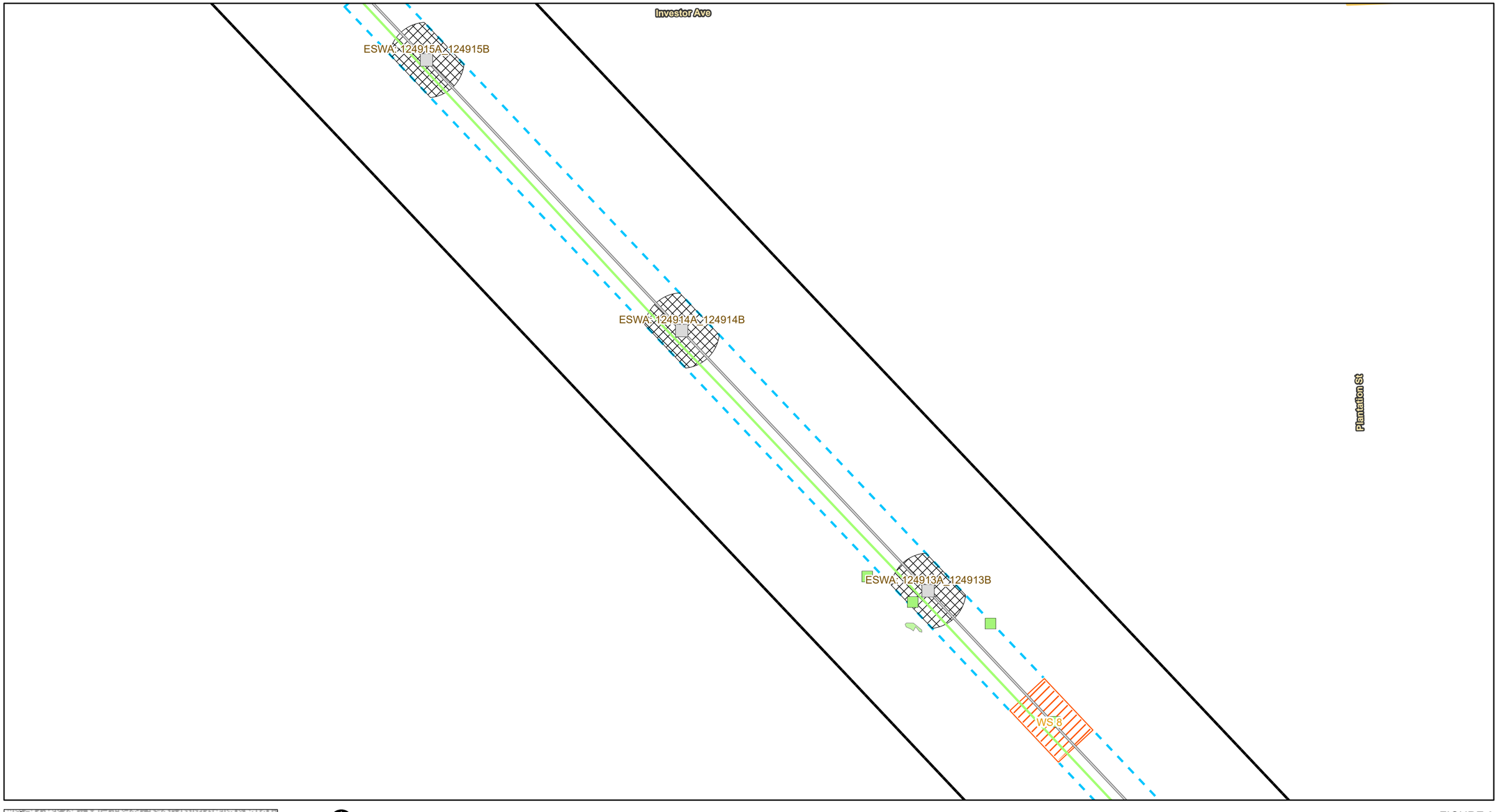
Special-Status Plant Point
- California ditaxis
- Desert unicorn plant

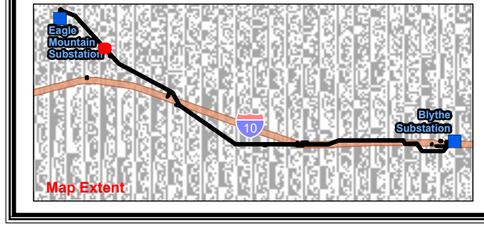
Special-Status Plant Polygon
- California ditaxis

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

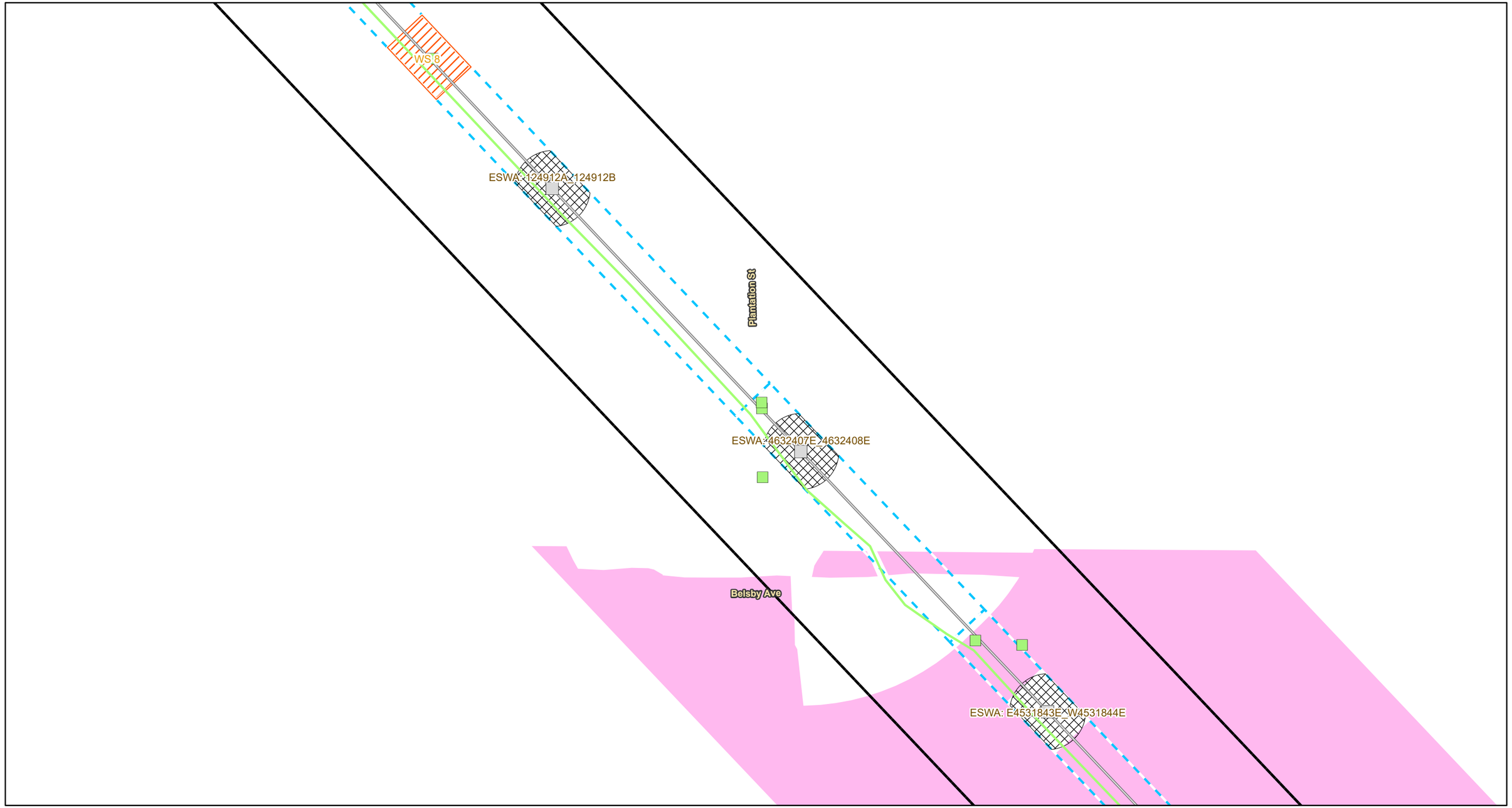
Land Owner
- BLM Land

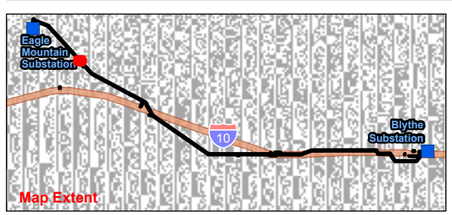
Special-Status Plant Point
- Desert unicorn plant

Special-Status Plant Polygon
- Desert unicorn plant

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

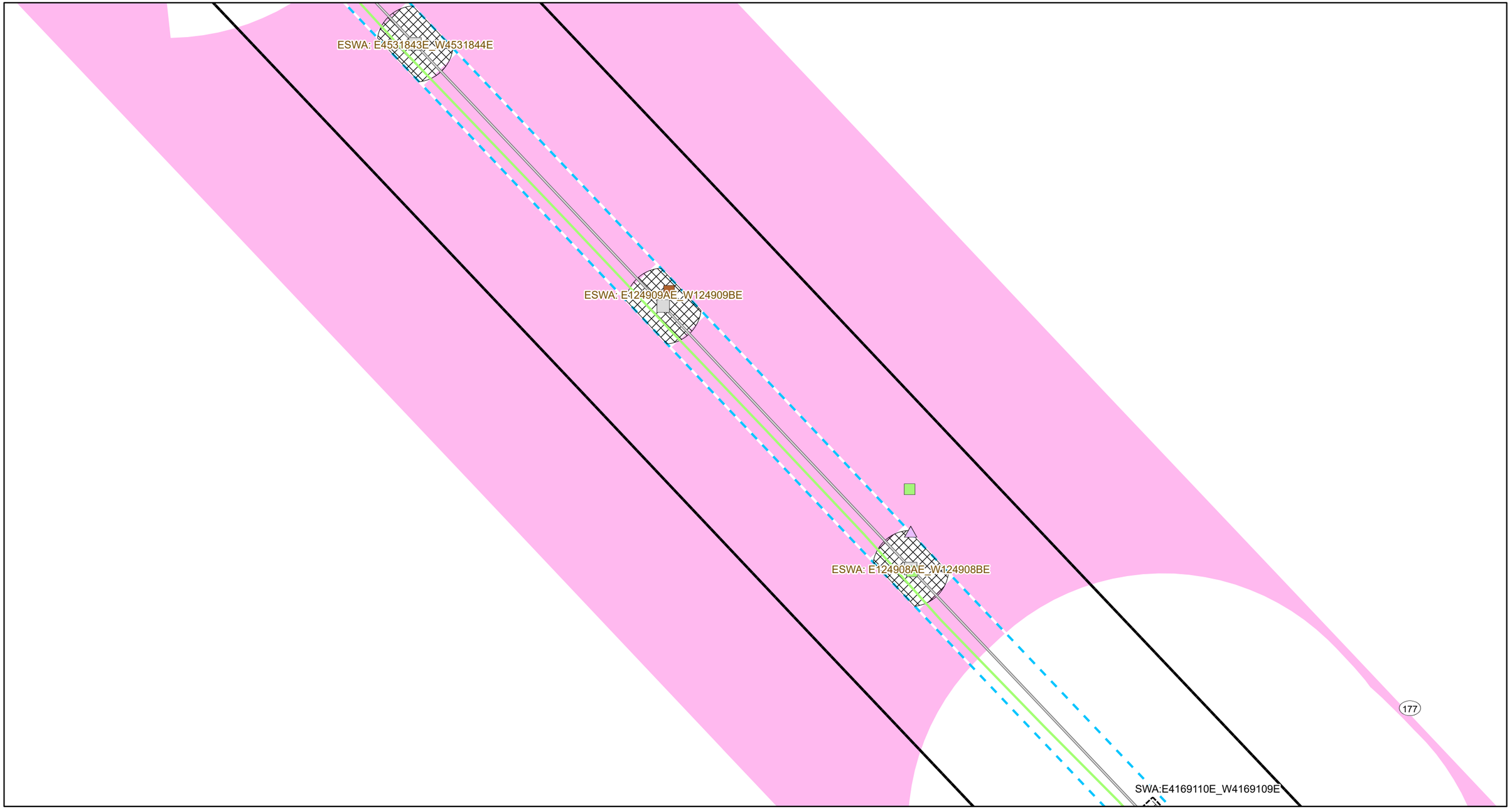
Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

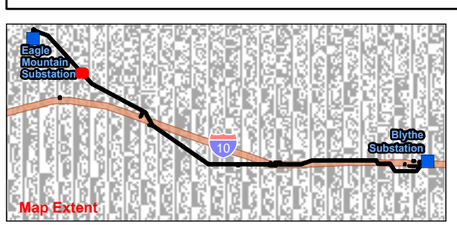
Special-Status Plant Point
- Desert unicorn plant

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Special-Status Wildlife
- Desert Kit Fox

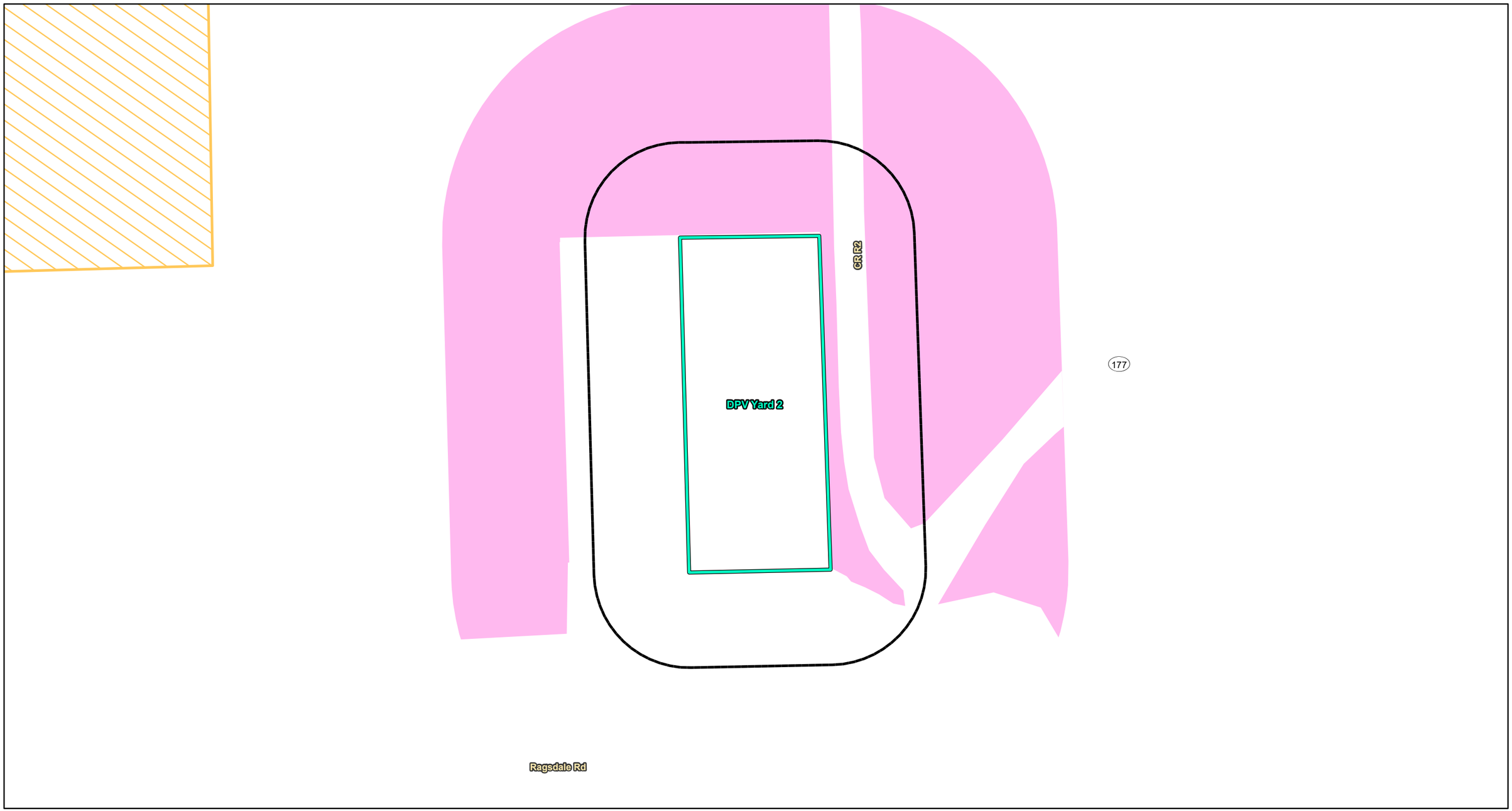
Special-Status Plant Point
- California ditaxis
- Desert unicorn plant

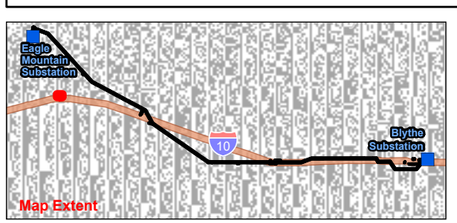
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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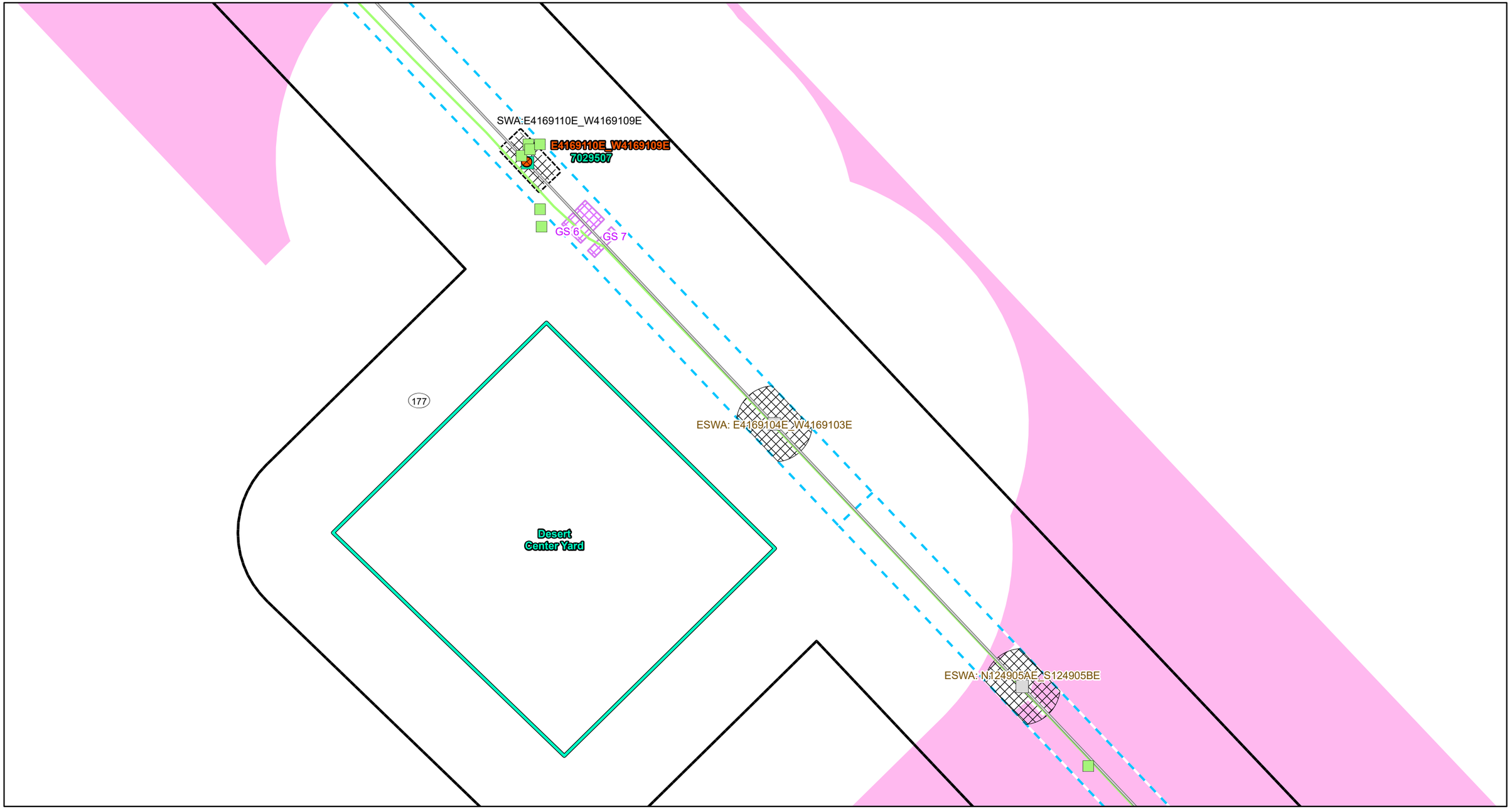
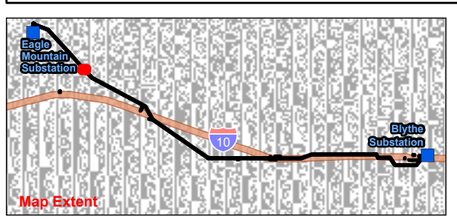
Study Area
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area
Land Owner
BLM Land
Suitable Habitat
Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- New Structure
- Existing Structure (to be removed)
- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Proposed Laydown Yard
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Special-Status Plant Point

- Desert unicorn plant

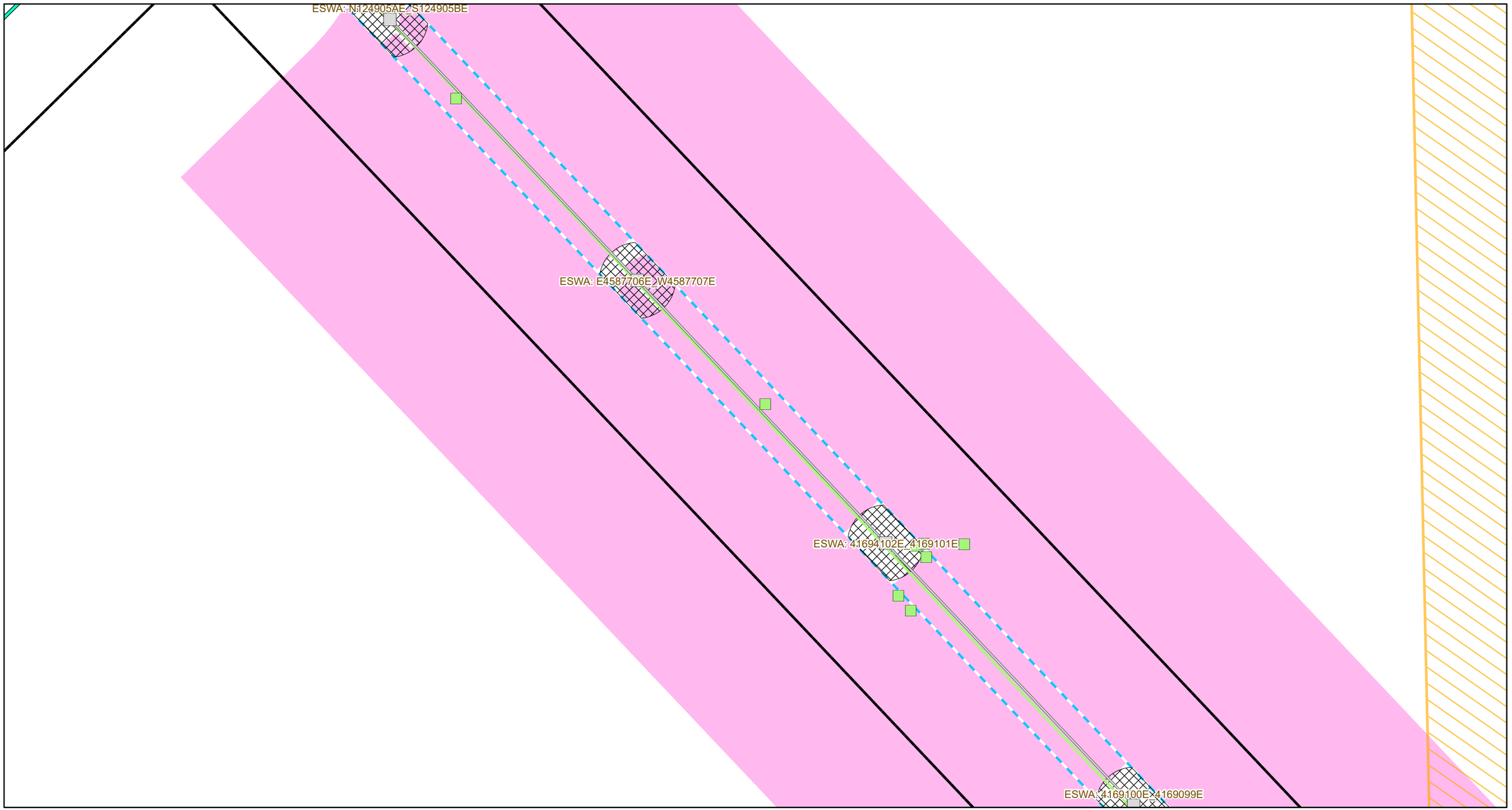
Suitable Habitat

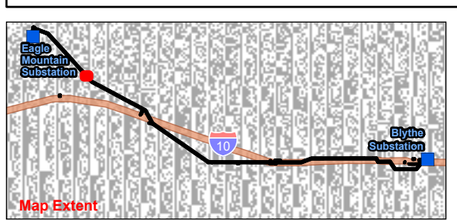
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
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- Wire Setup
- Structure Work Area
- O&M Area

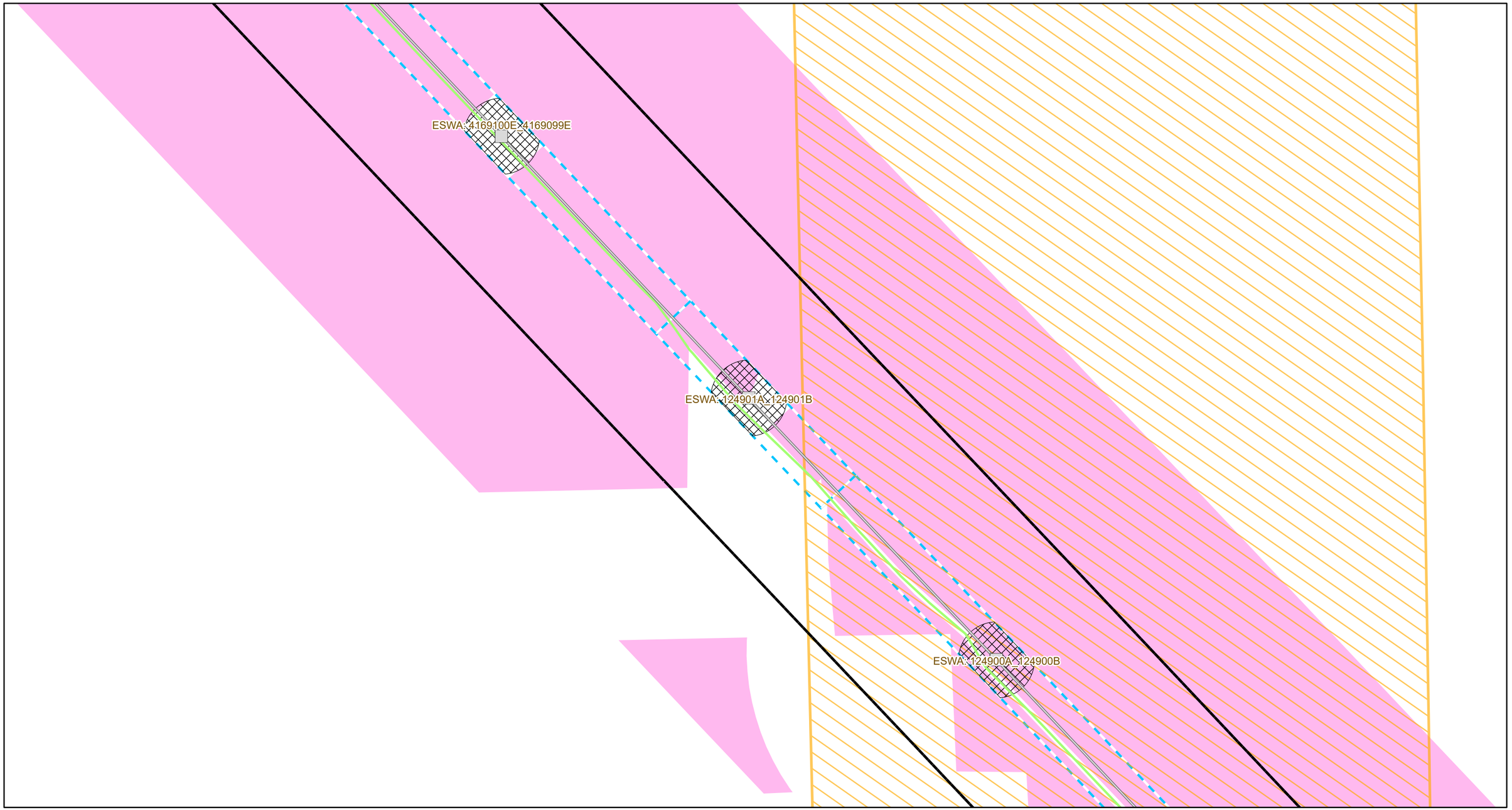
Land Owner
- BLM Land

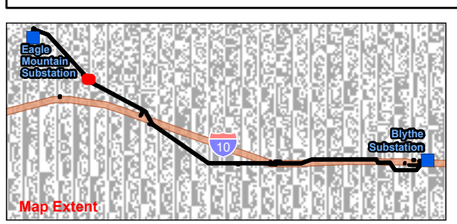
Special-Status Plant Point
- Desert unicorn plant

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

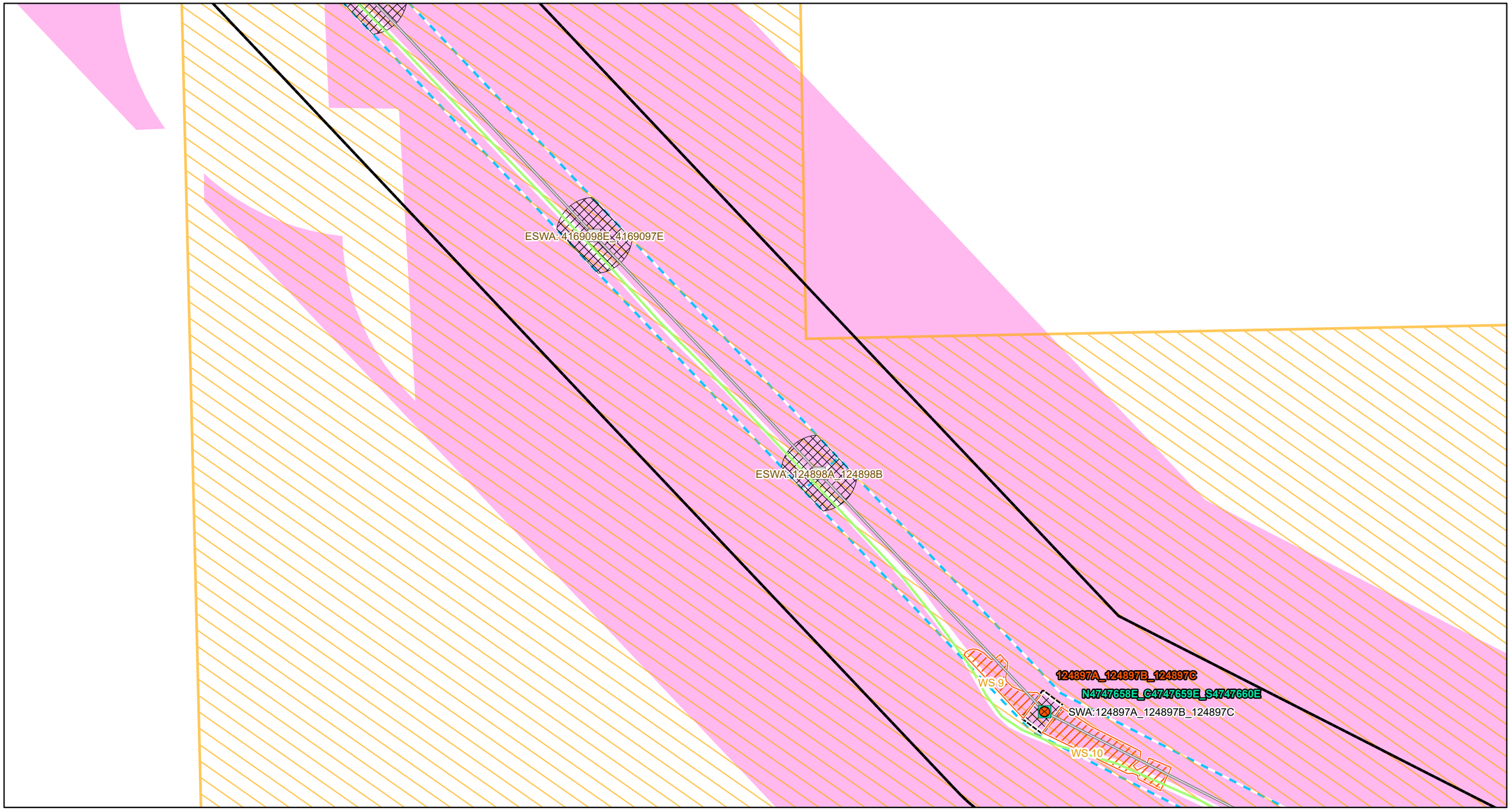
Land Owner
- BLM Land

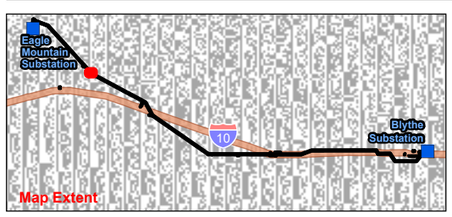
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
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Construction Area
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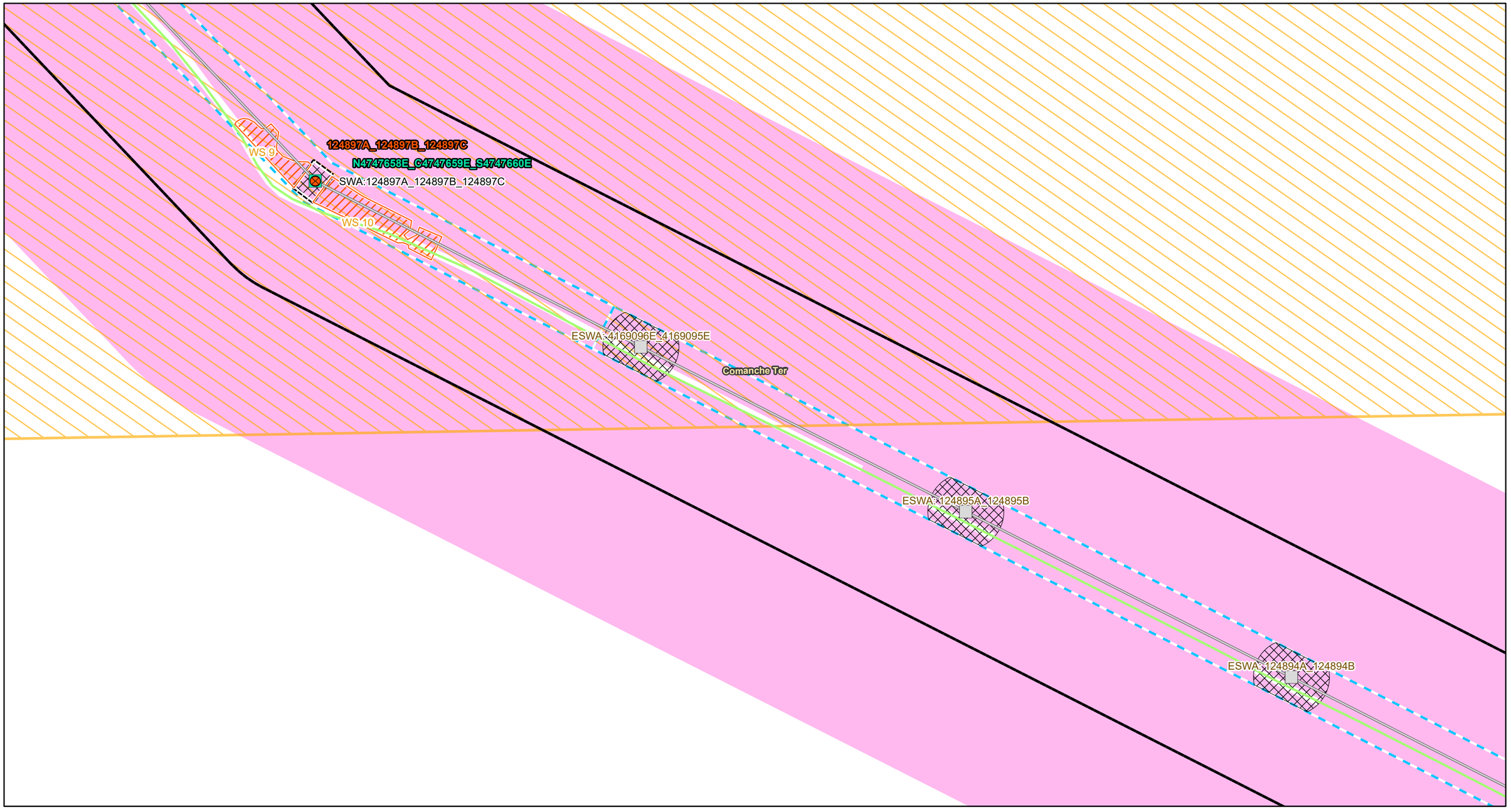
- Structure Work Area
- O&M Area

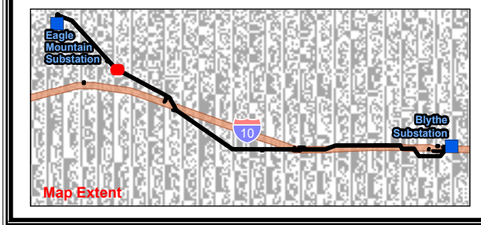
Land Owner
- BLM Land

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
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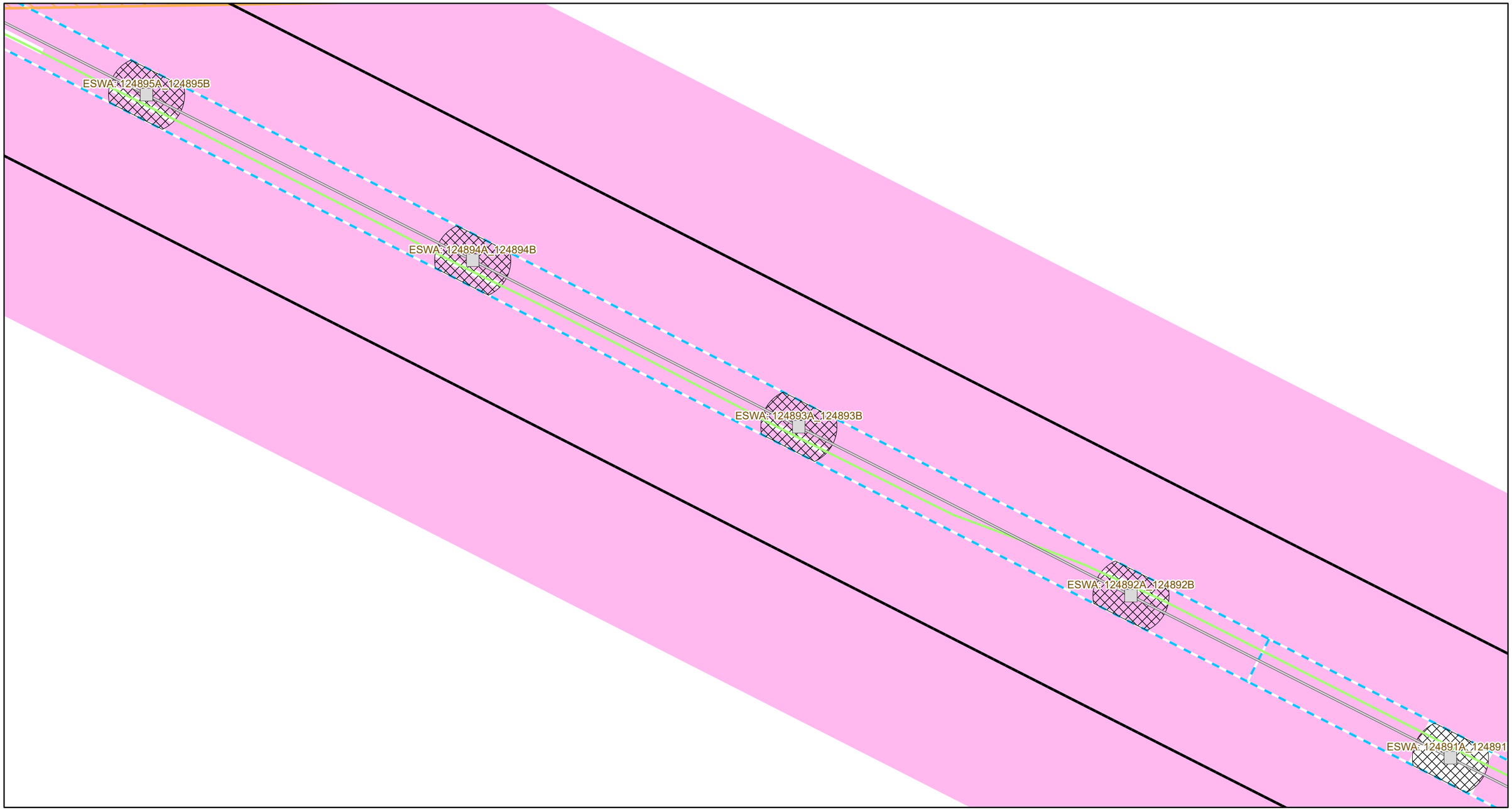
- O&M Area

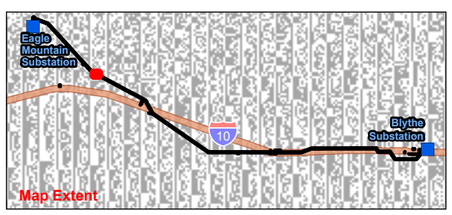
Land Owner
- BLM Land

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

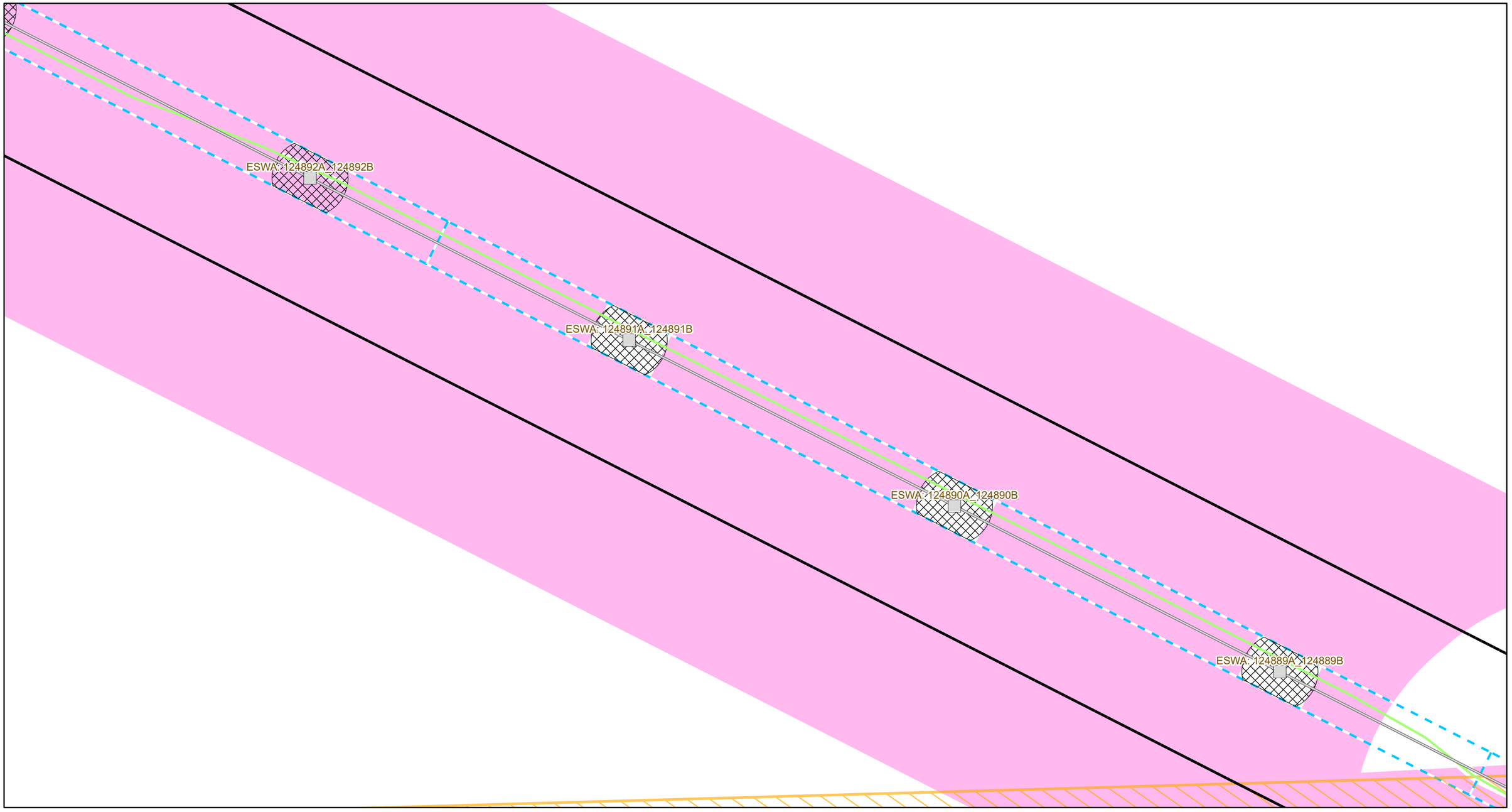
Land Owner
- BLM Land

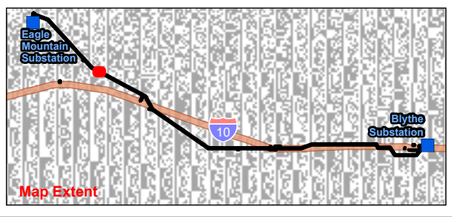
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

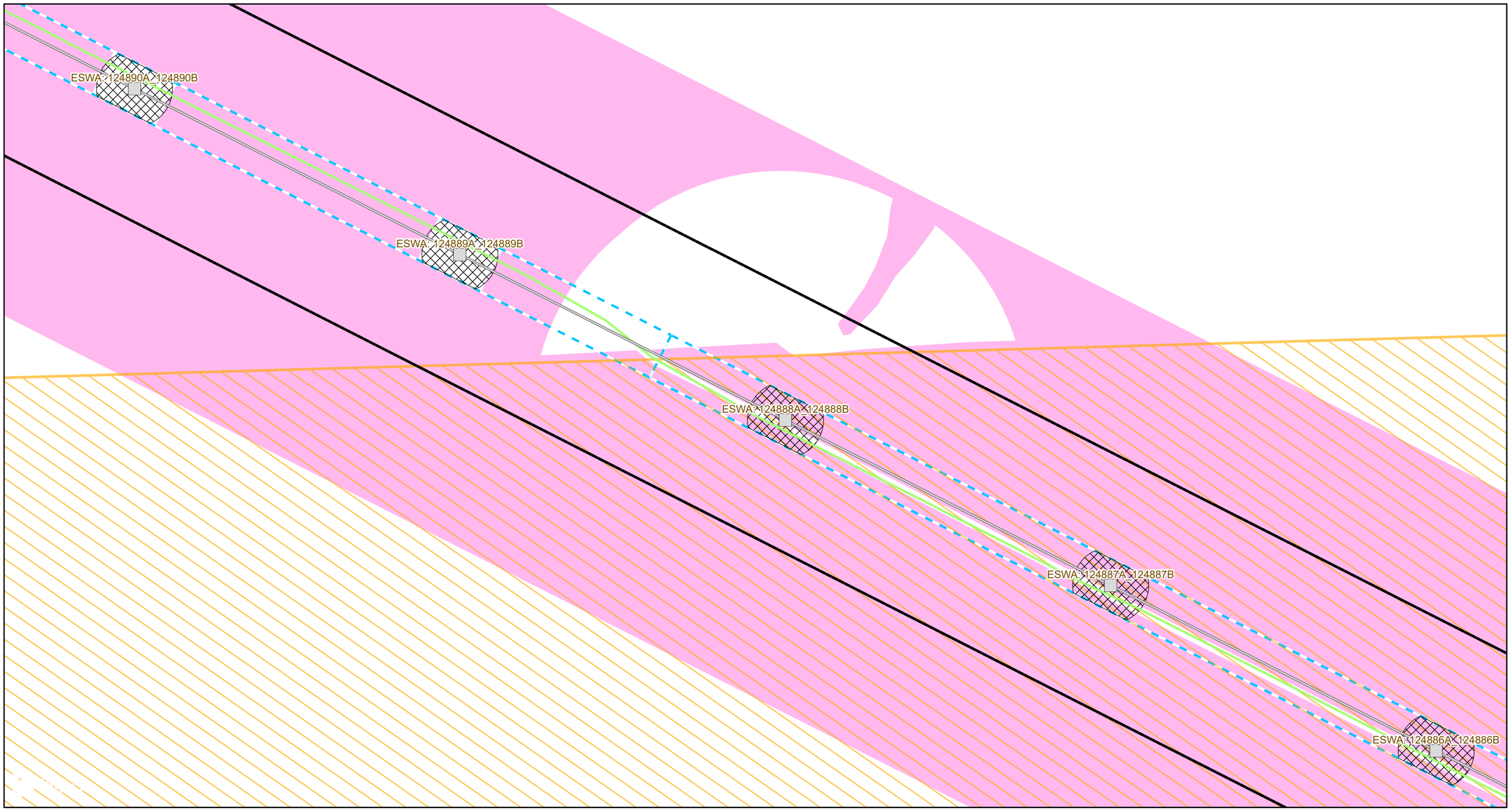
Land Owner
- BLM Land

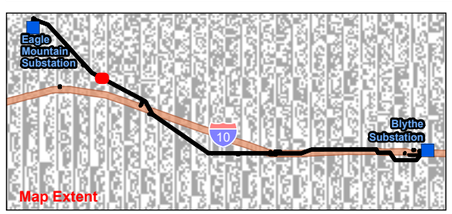
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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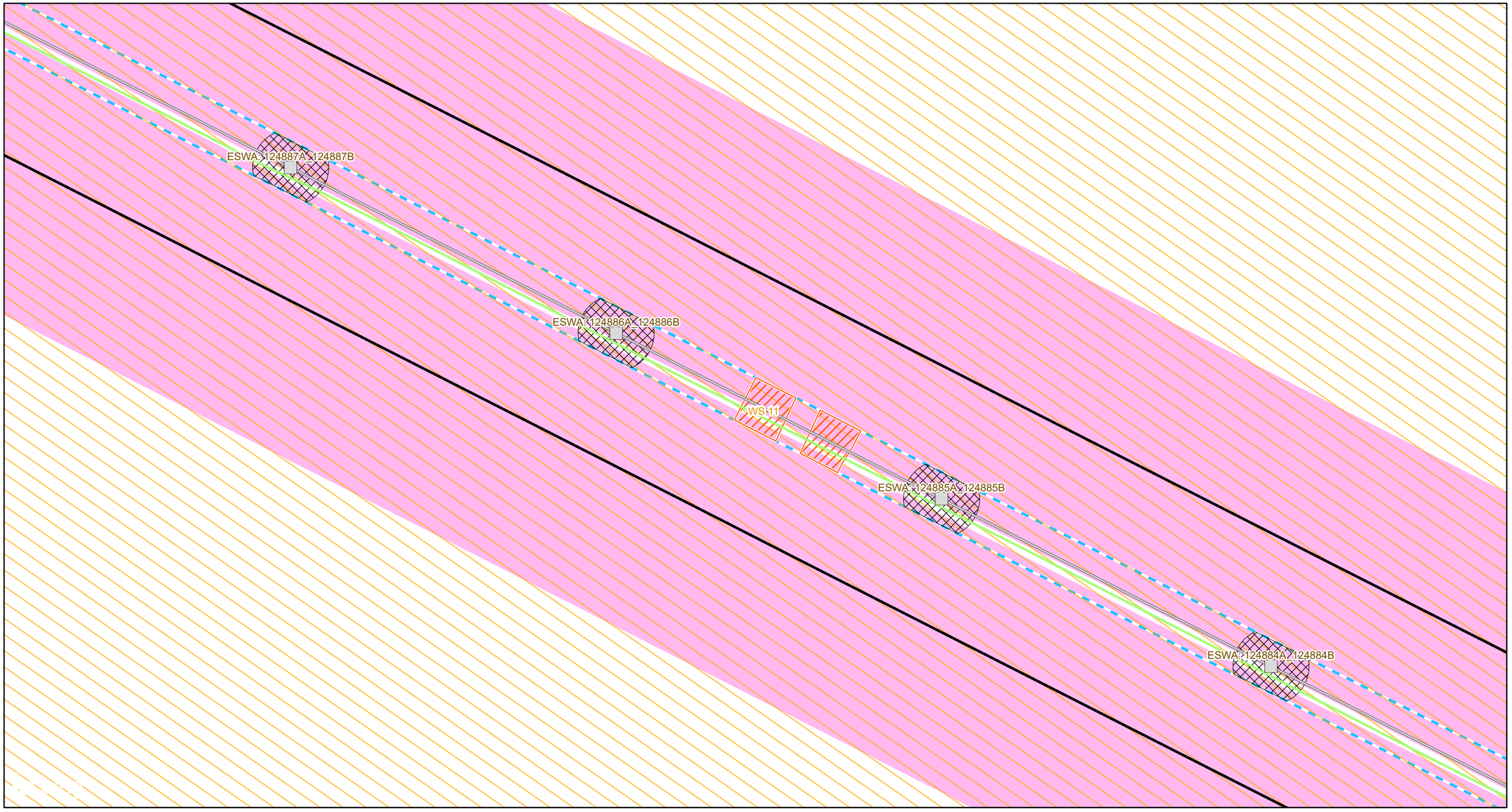
Land Owner
- BLM Land

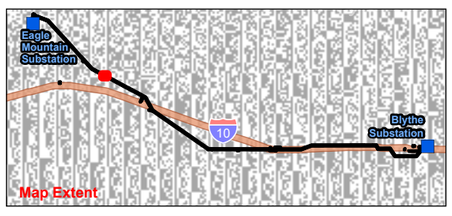
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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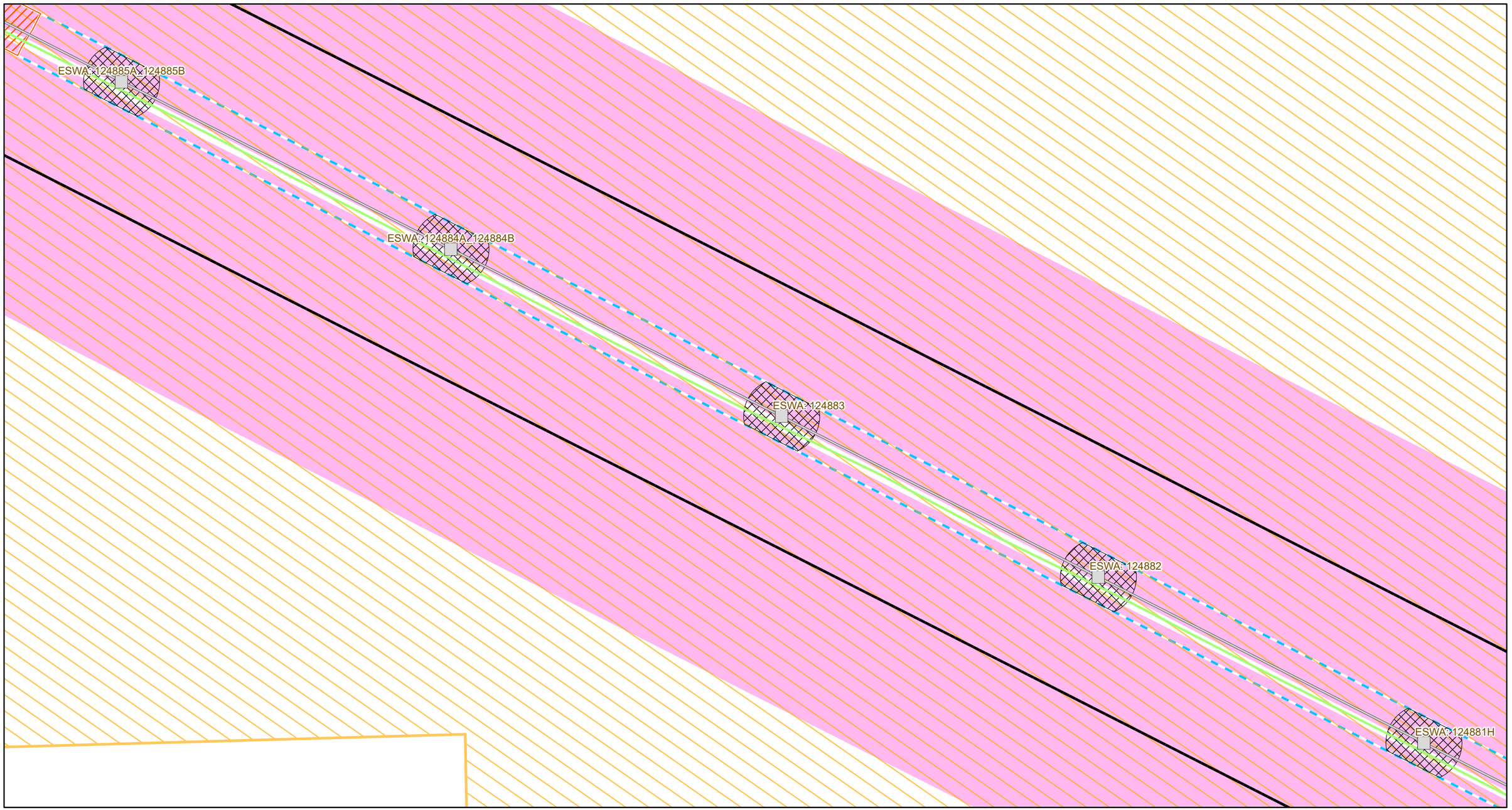

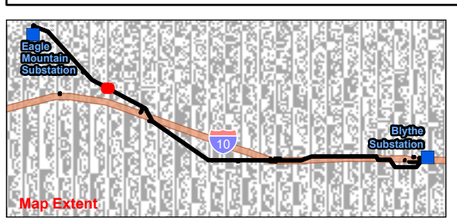

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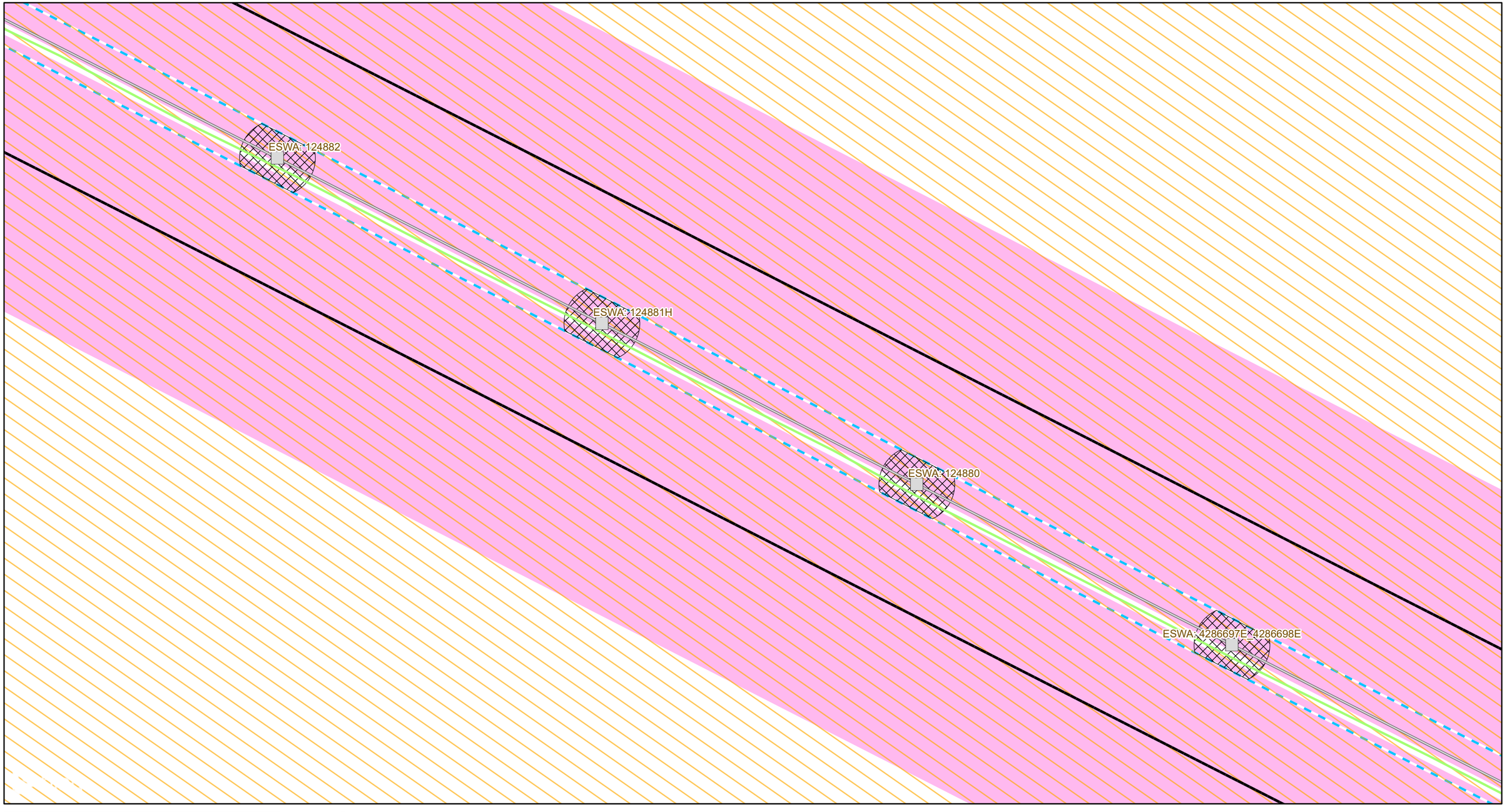

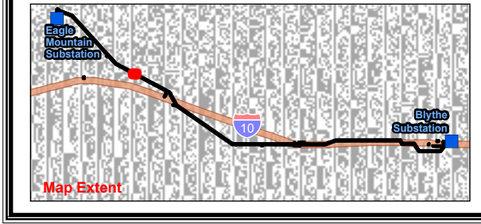

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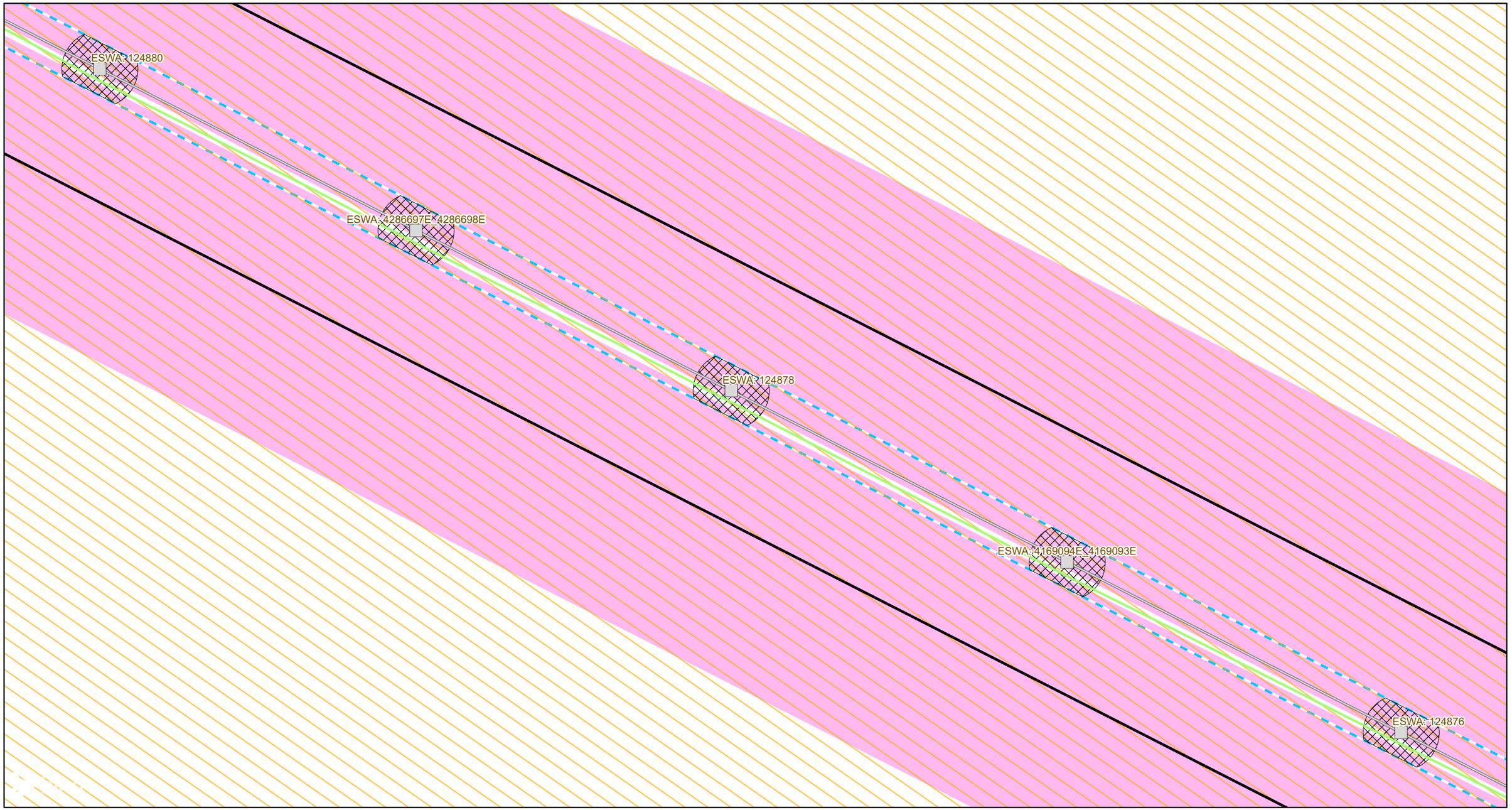

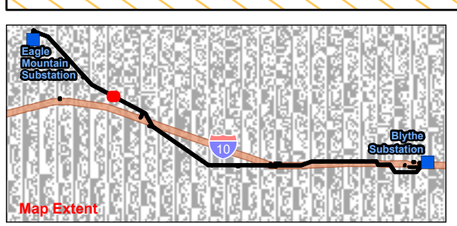

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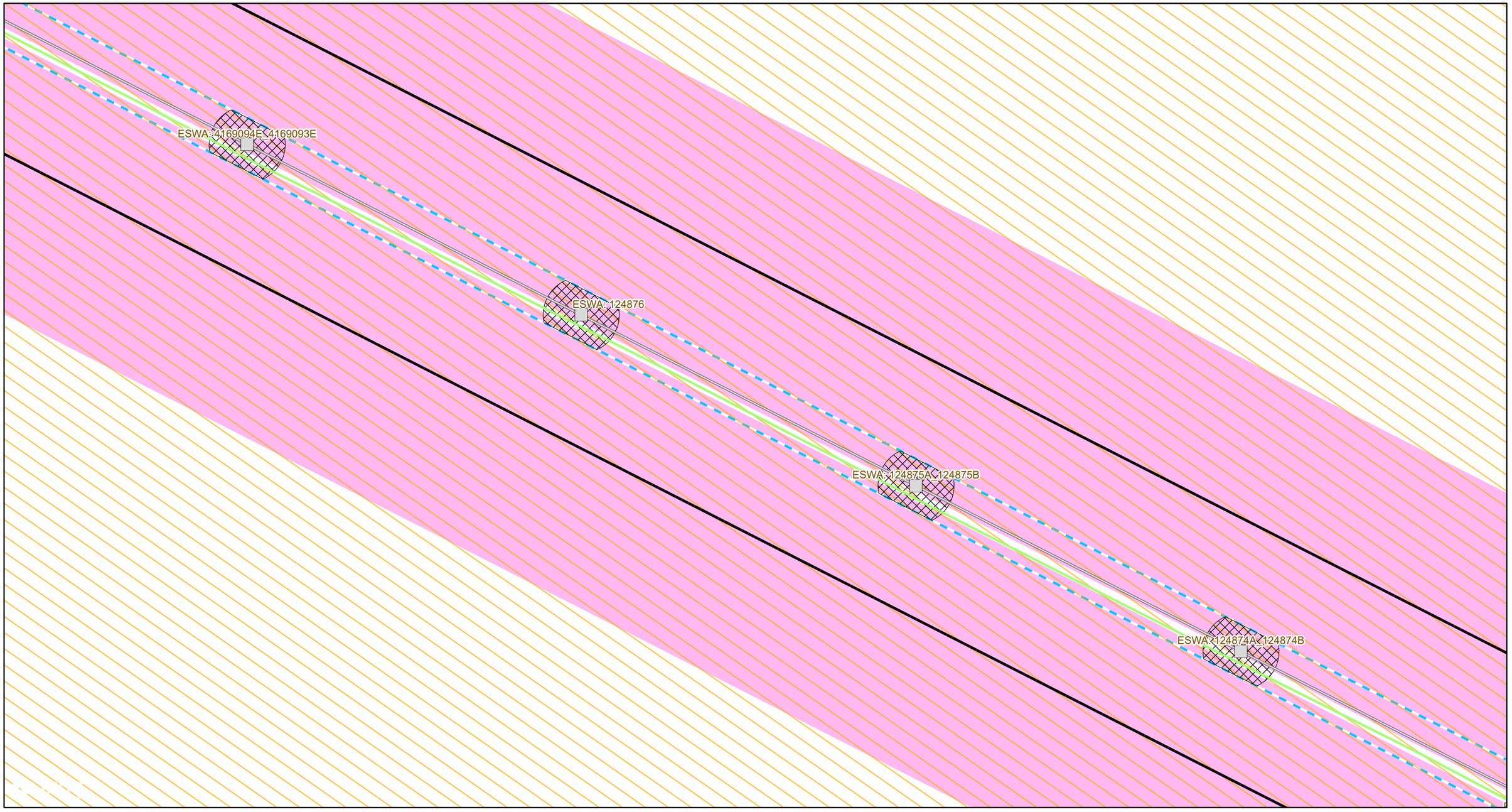

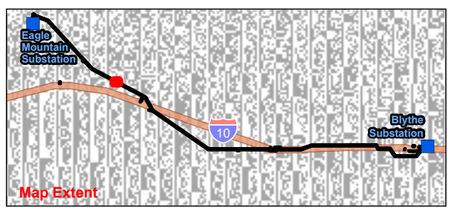

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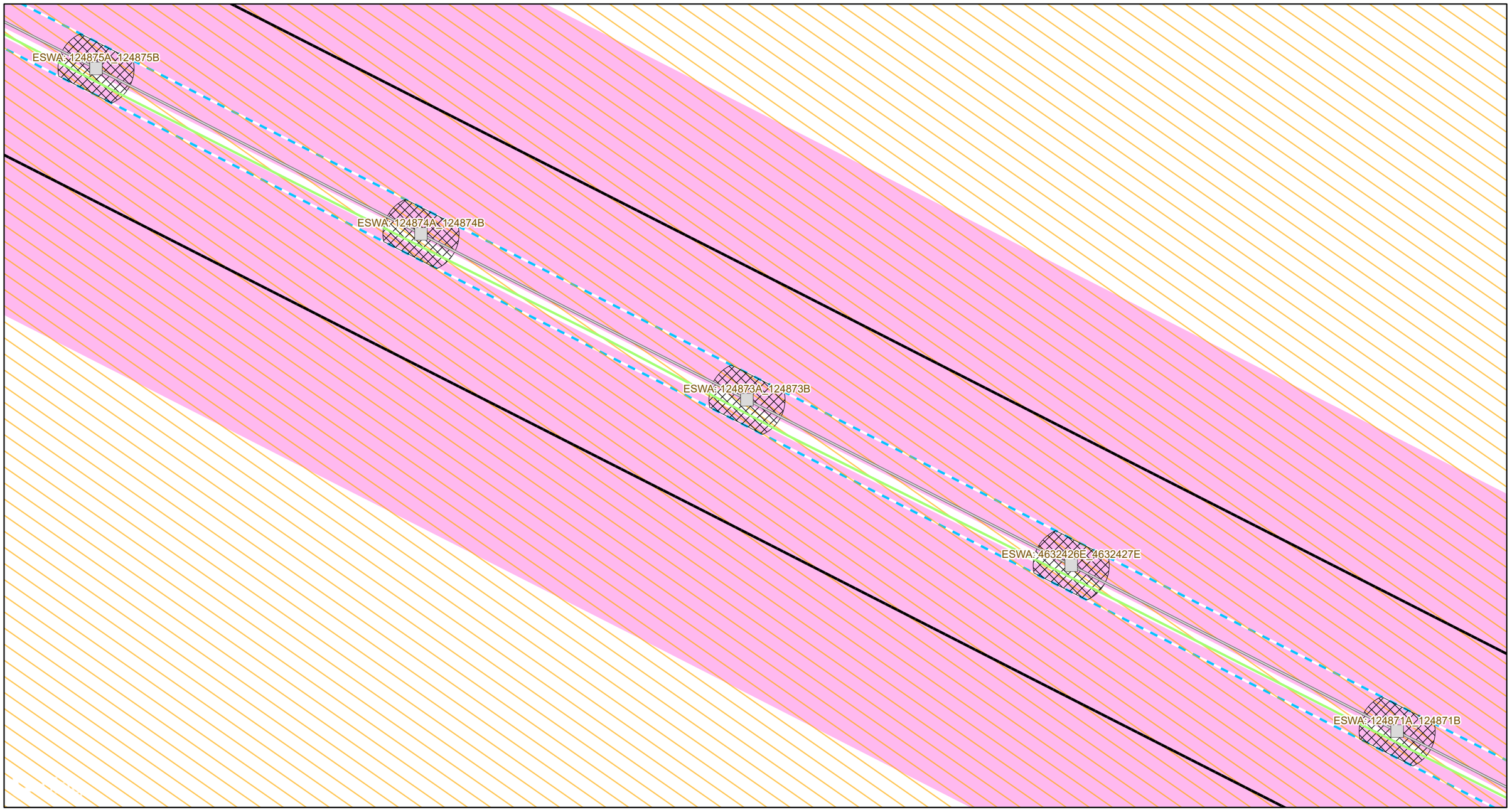

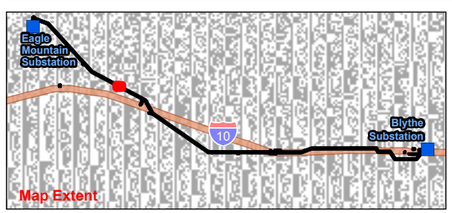

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Southern California Edison
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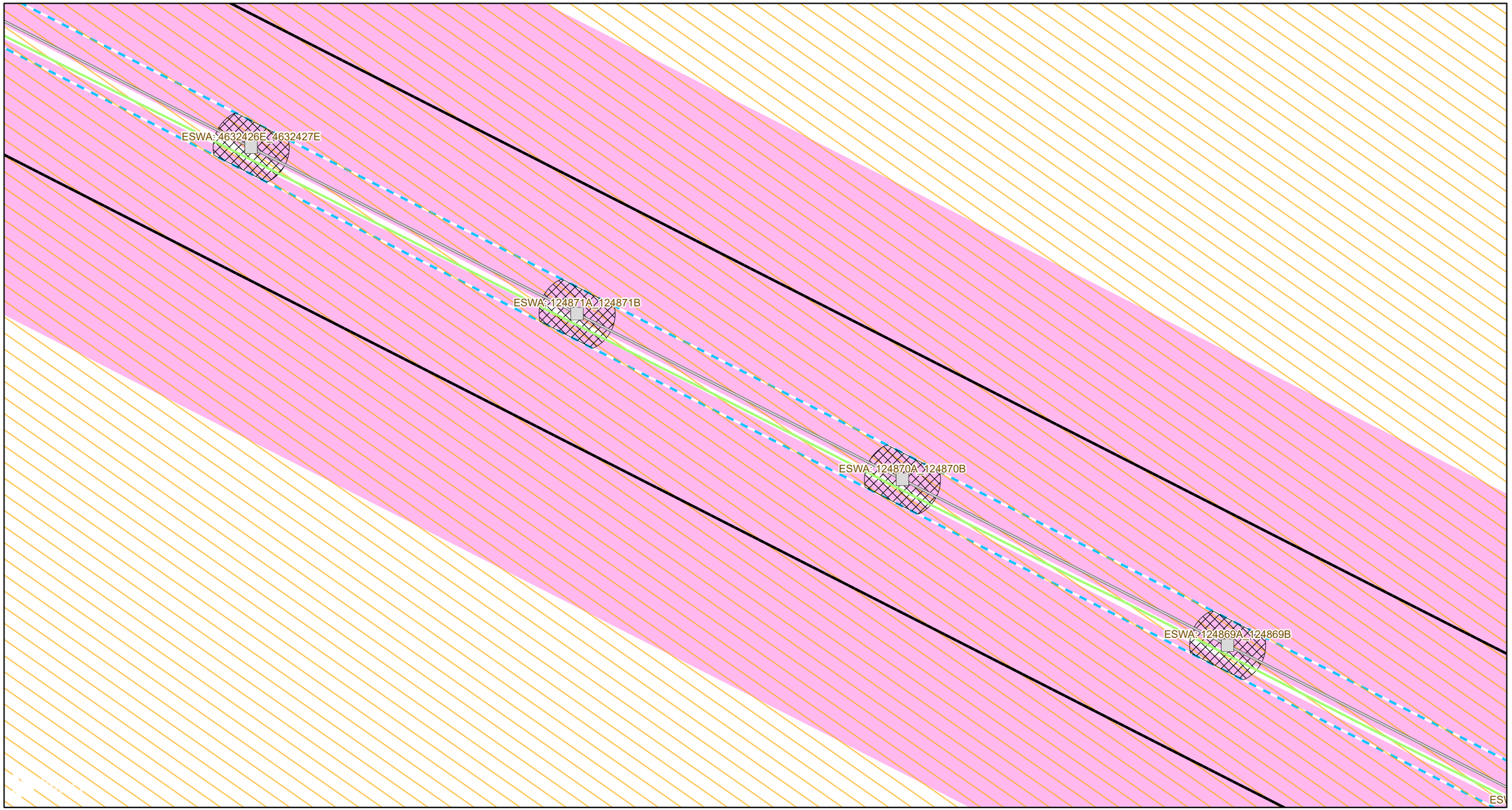

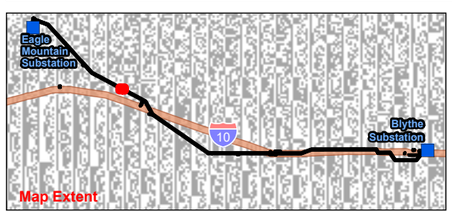

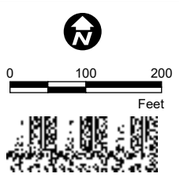

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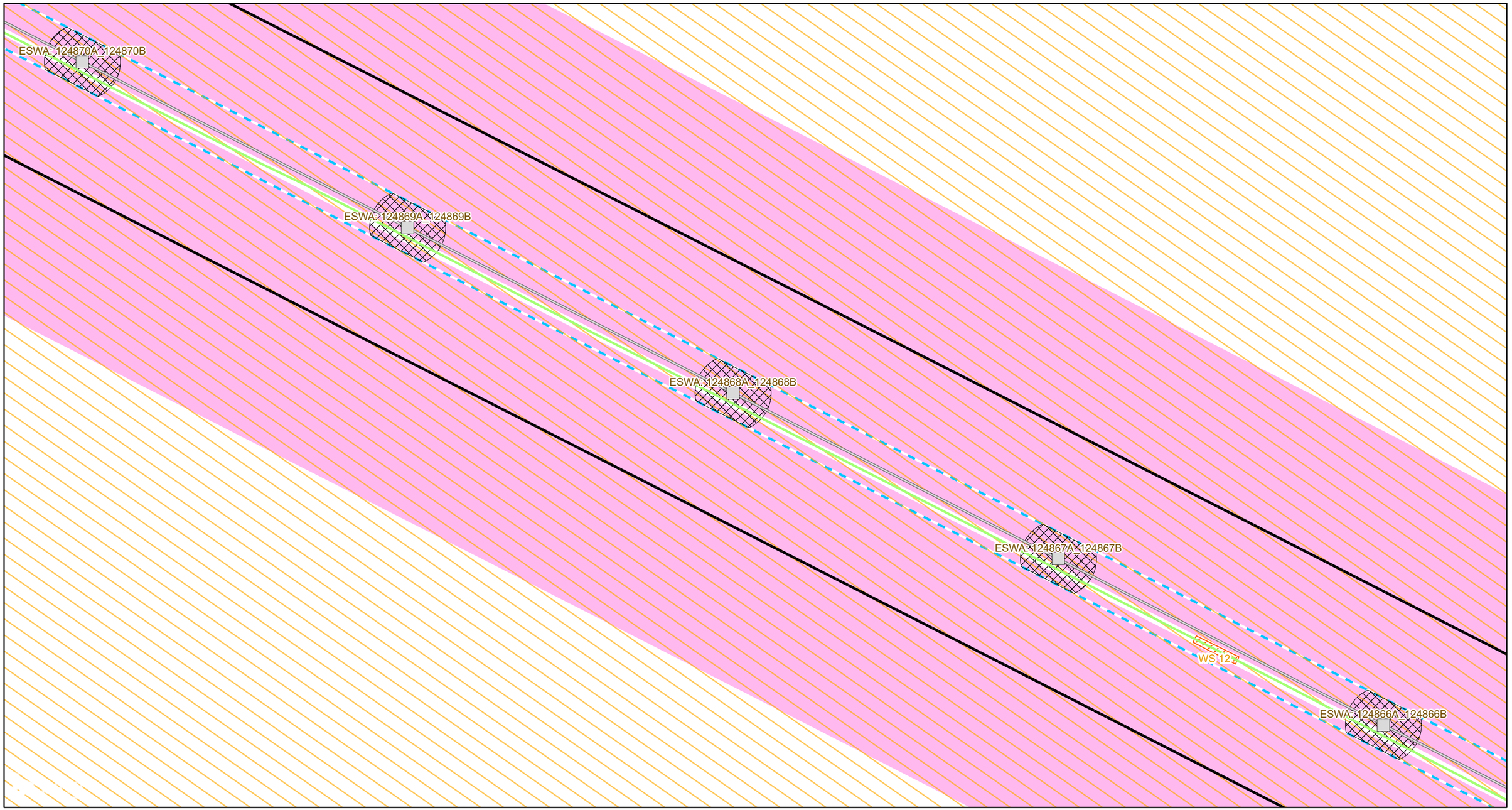
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



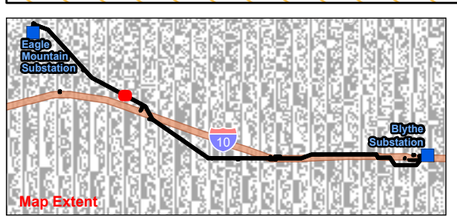


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FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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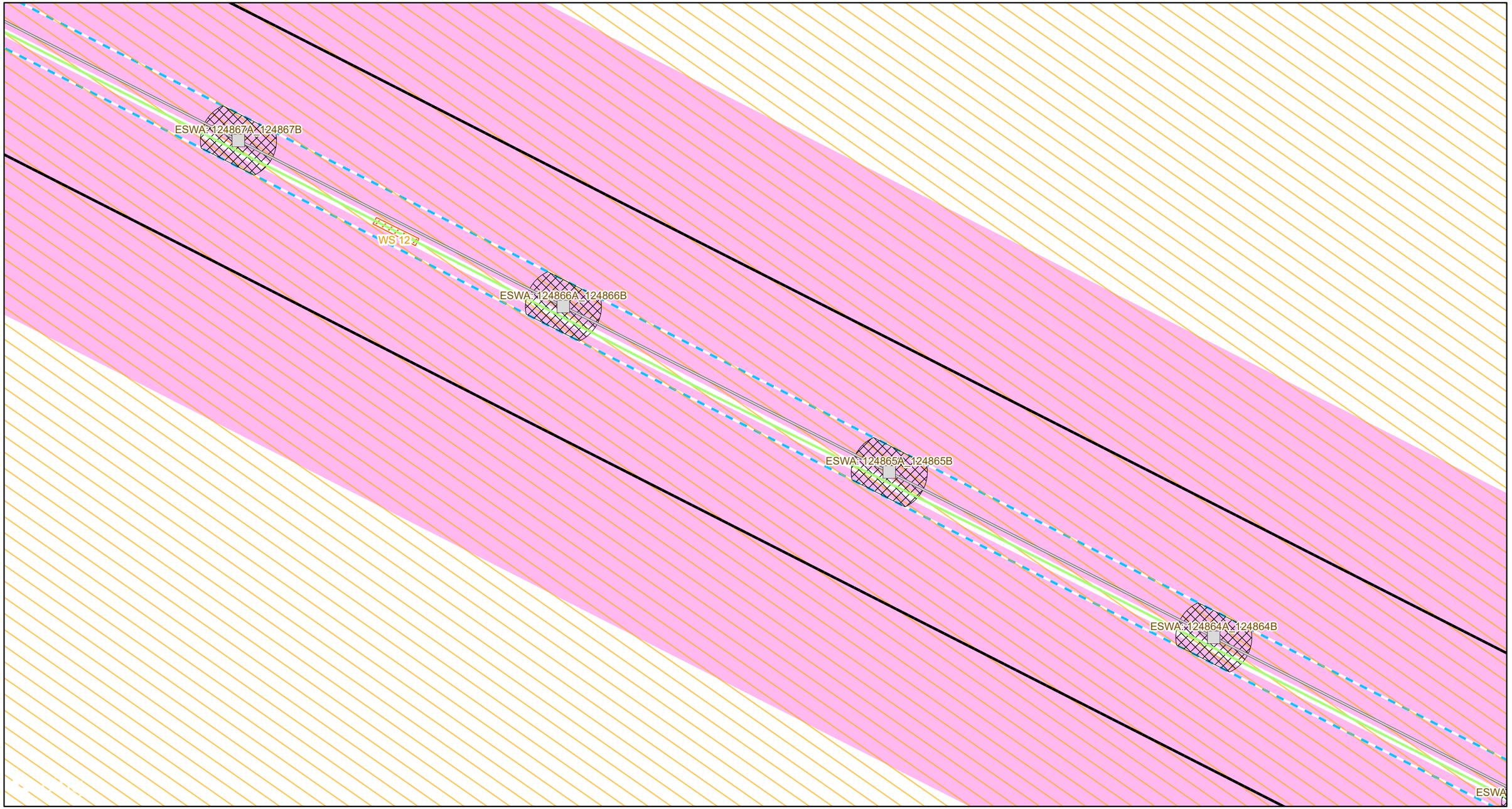

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

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ESWA_124864A_124864B

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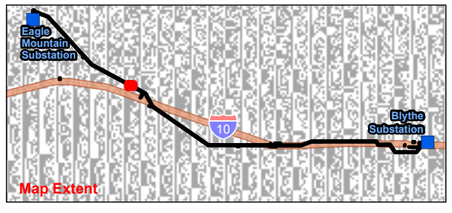

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Special-Status Plants and Wildlife

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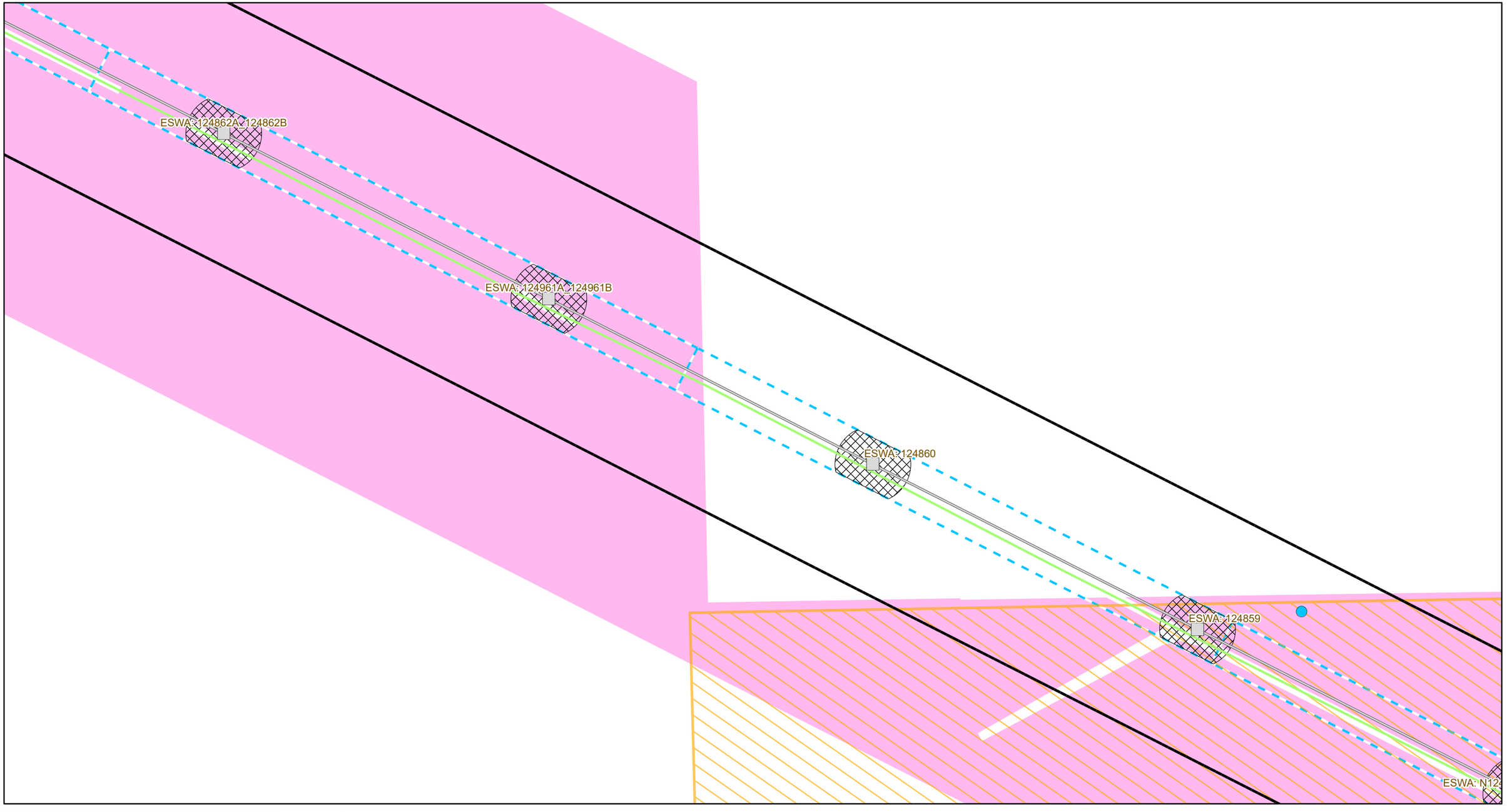

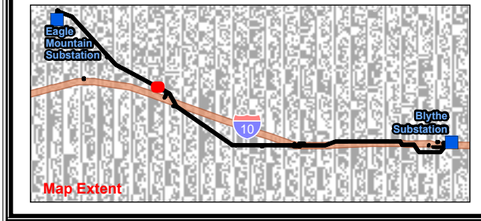

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Desert Tortoise Occurrence Type
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Suitable Habitat
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FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
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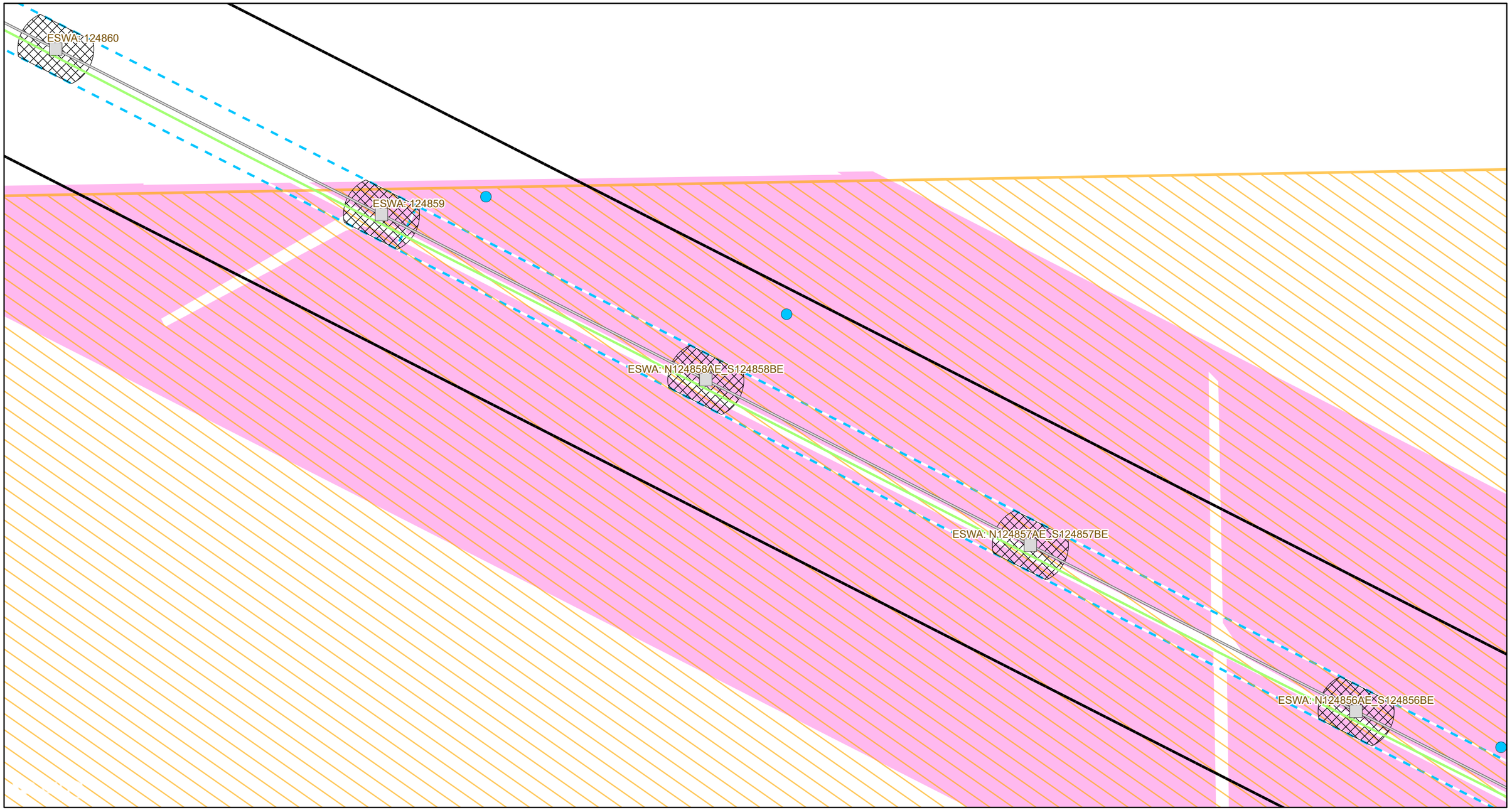

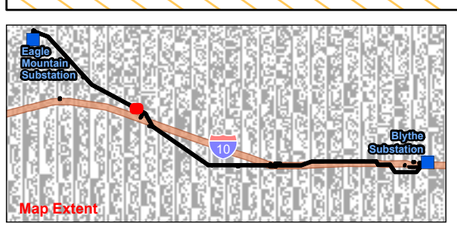

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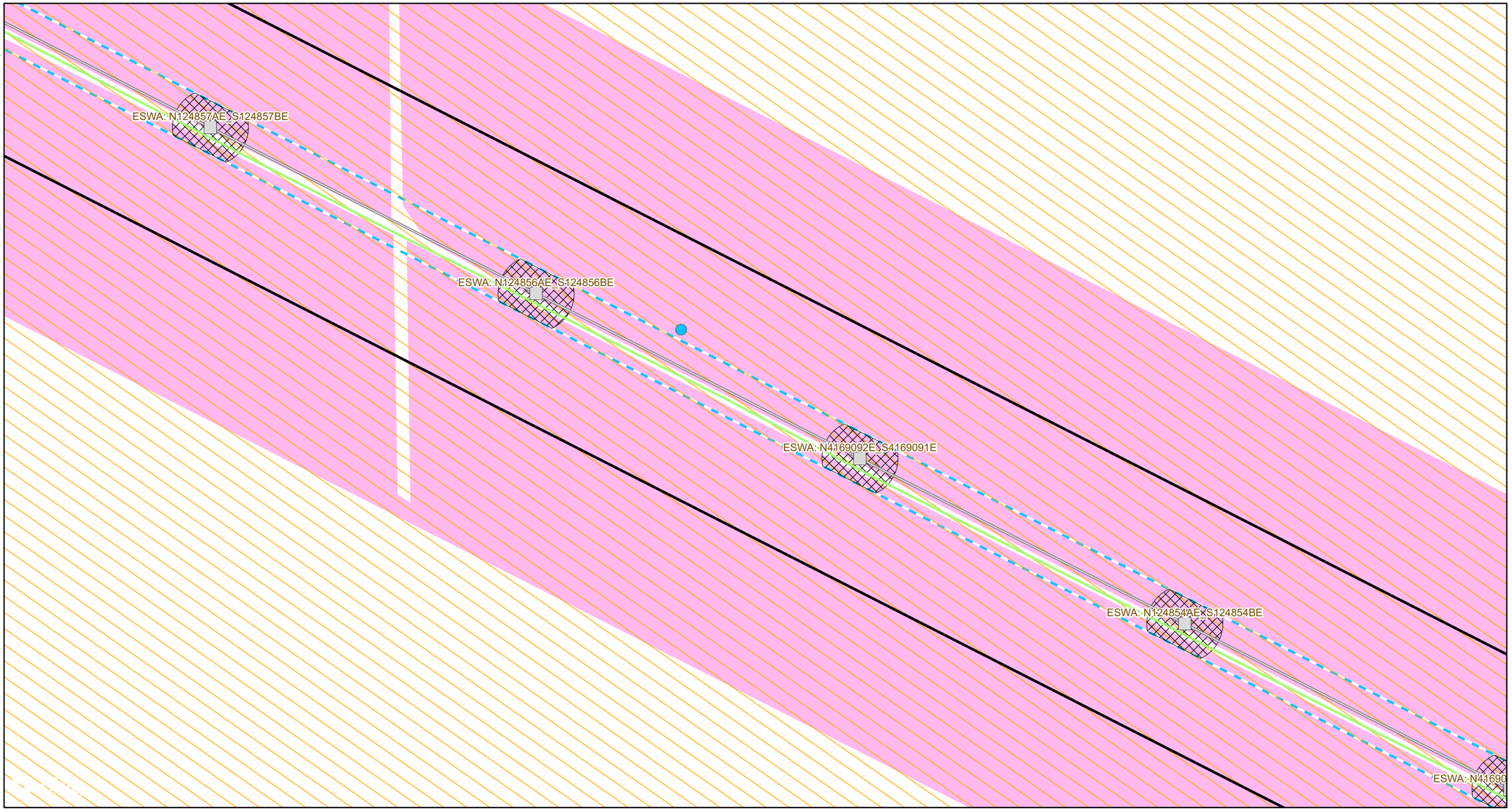

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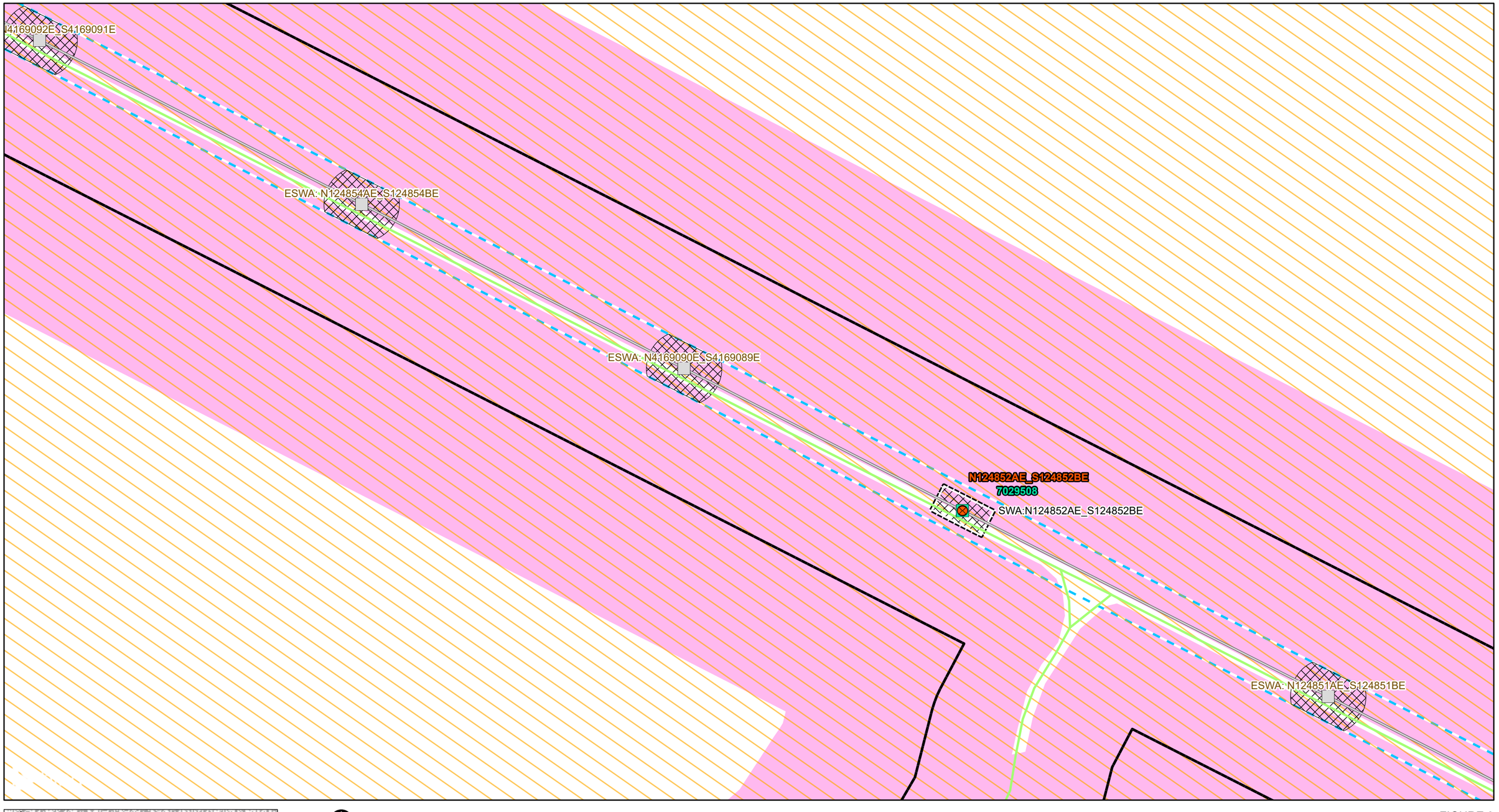

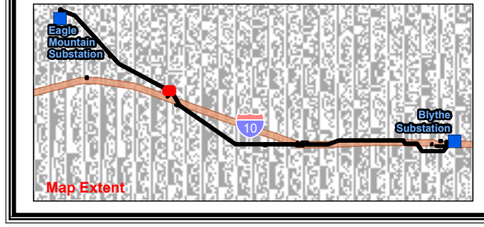

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FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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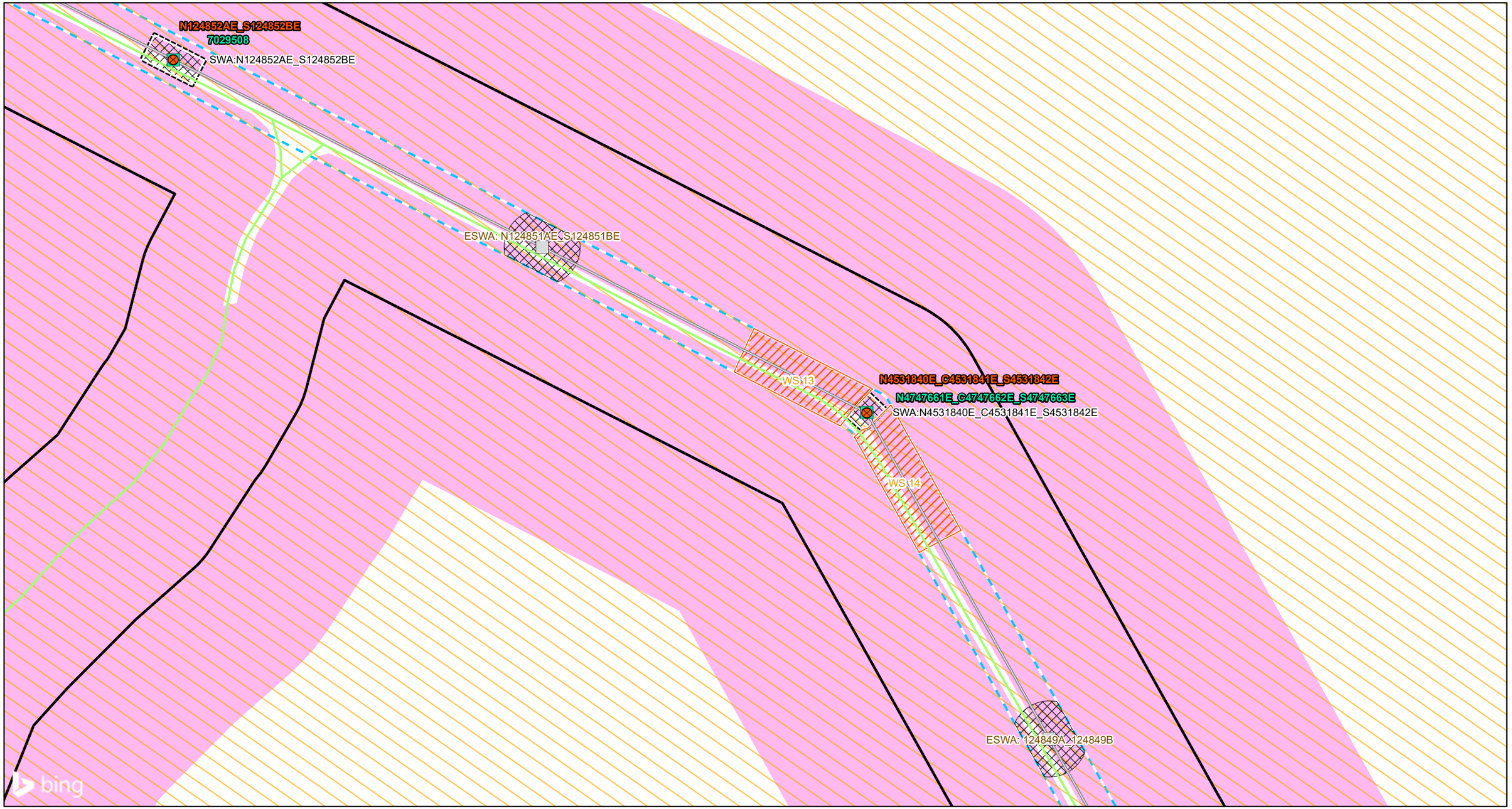

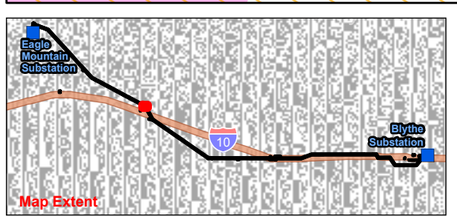

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FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
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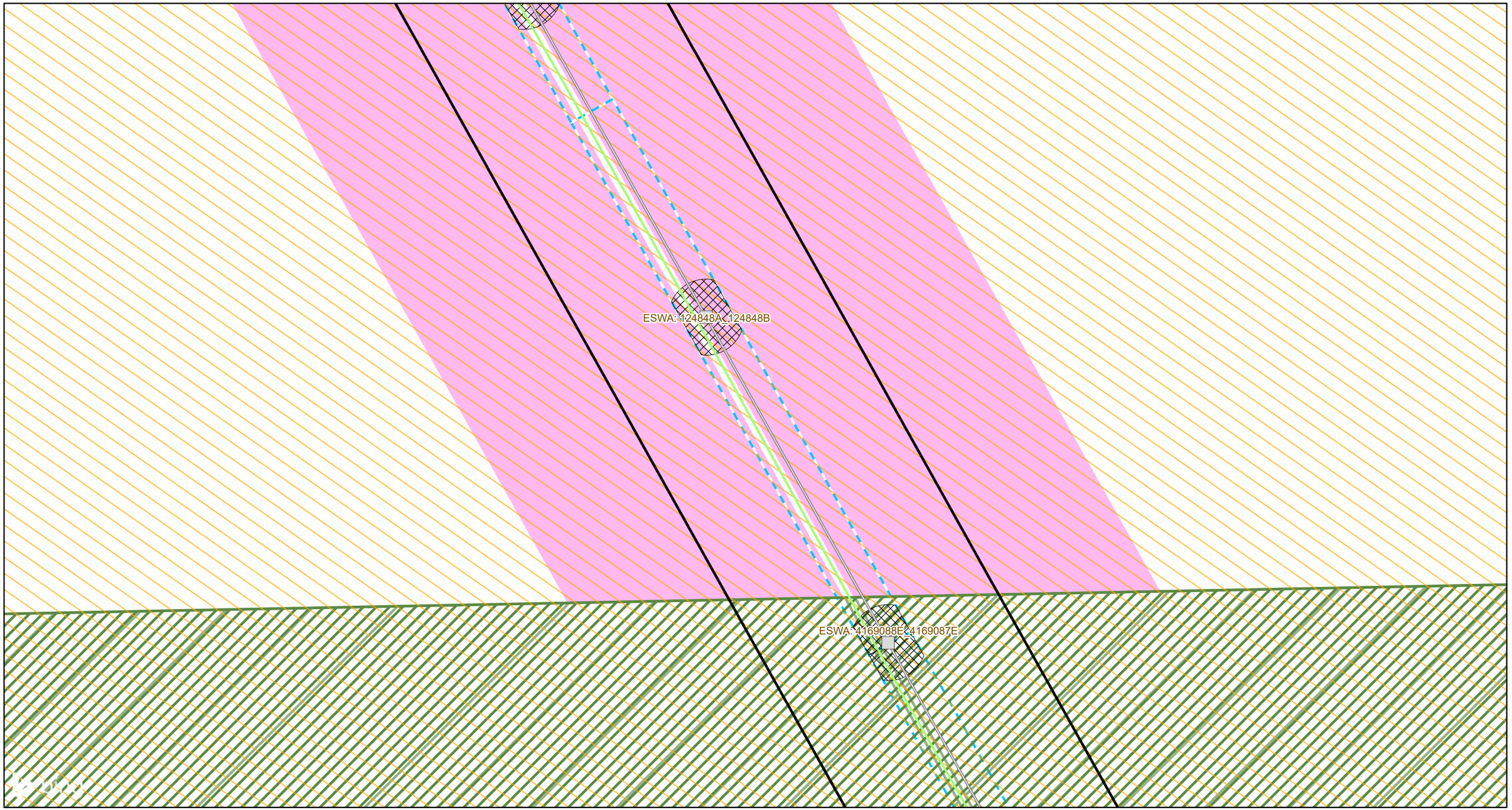

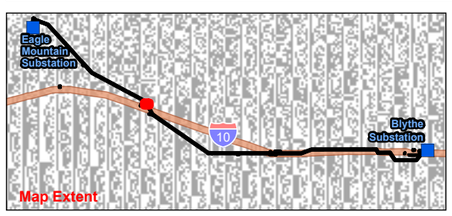

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Suitable Habitat
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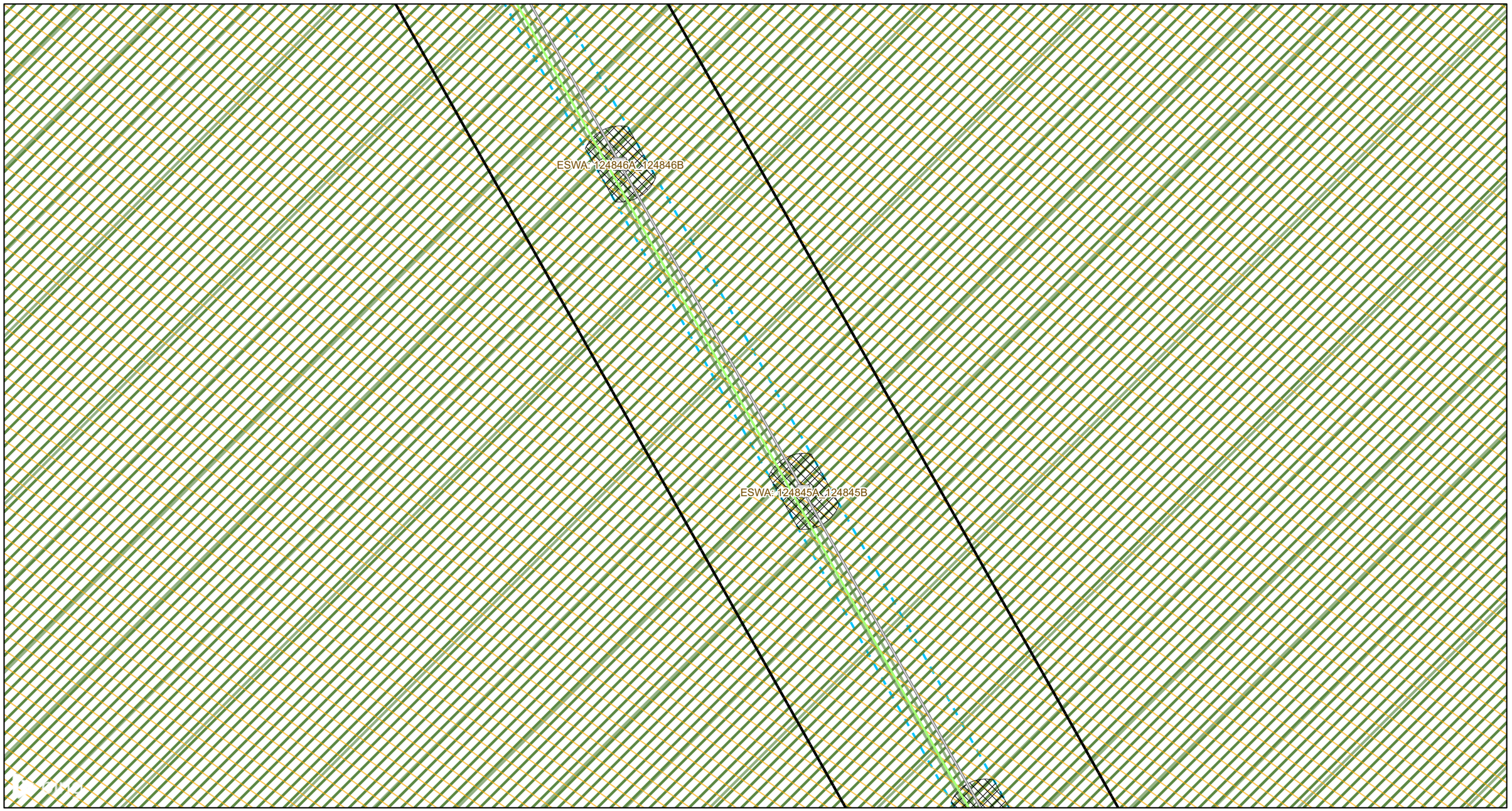
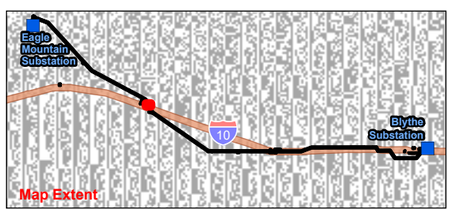
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Plants and Wildlife

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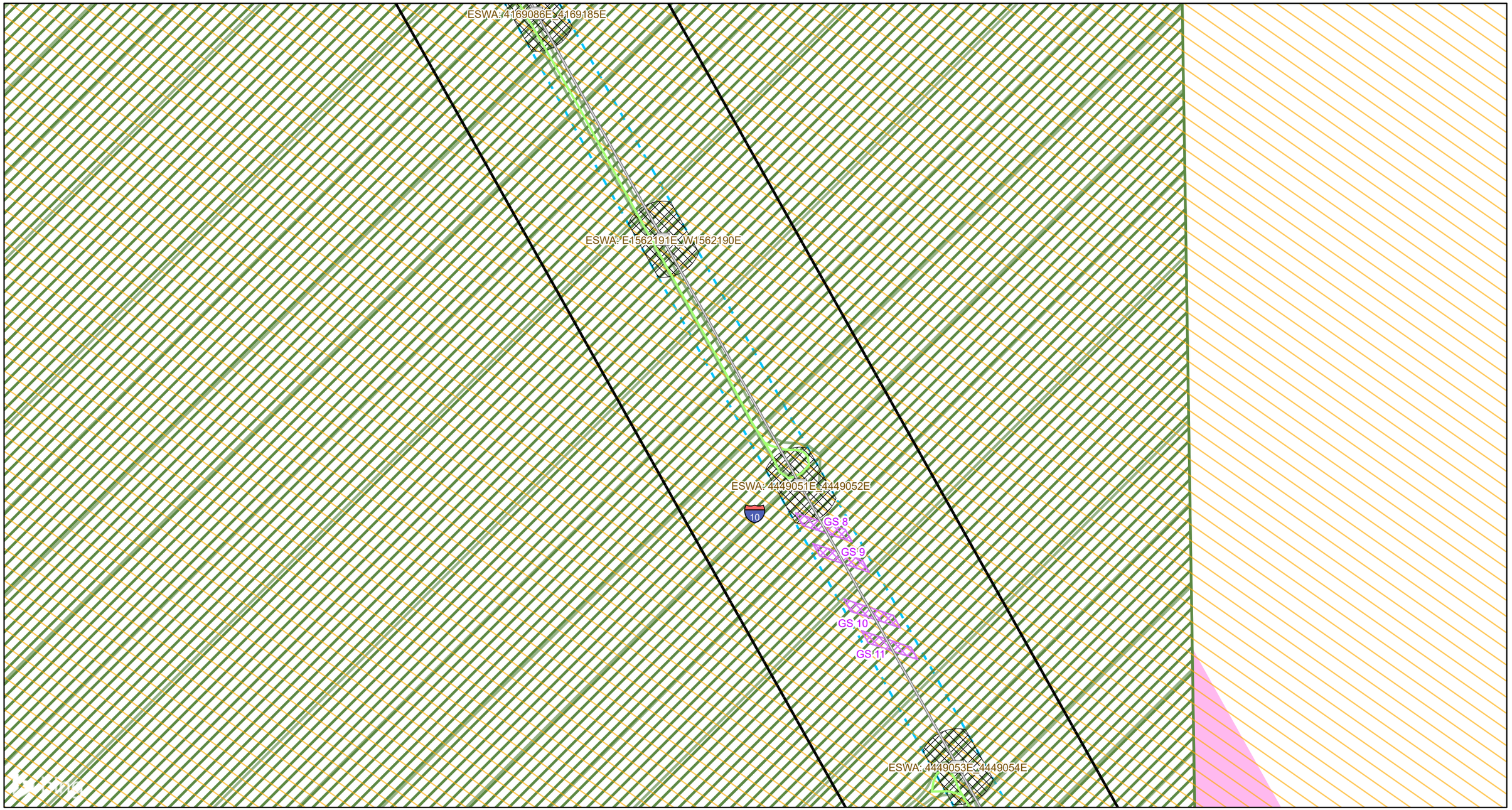

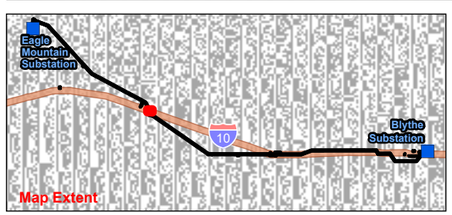

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USFWS Critical Habitat
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FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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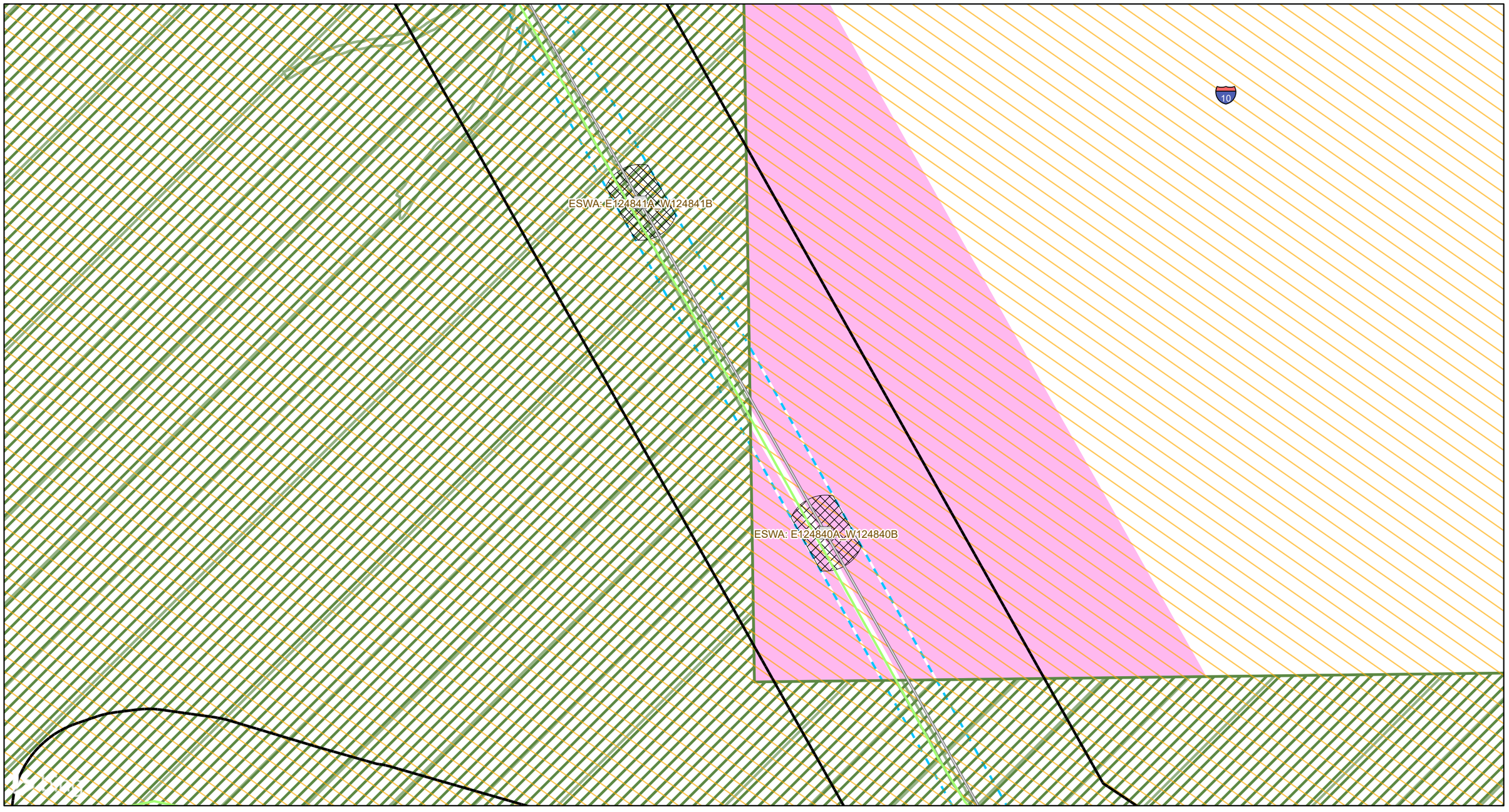

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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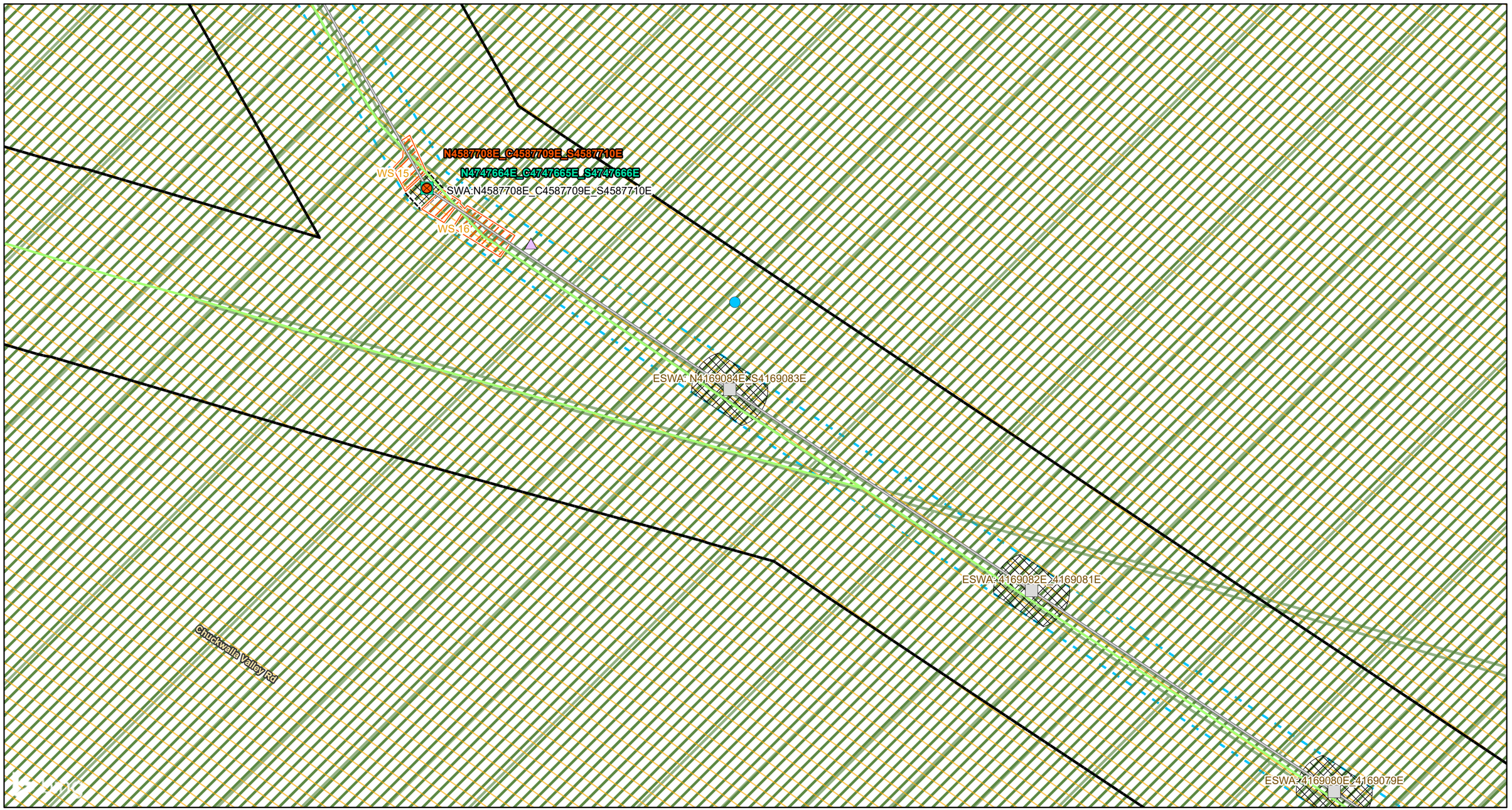

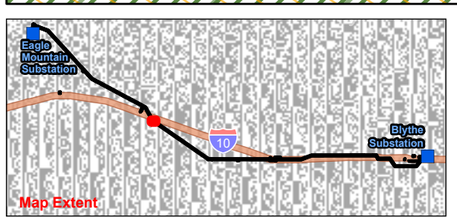

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Special-Status Wildlife
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Desert Tortoise Occurrence Type
- Burrow

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

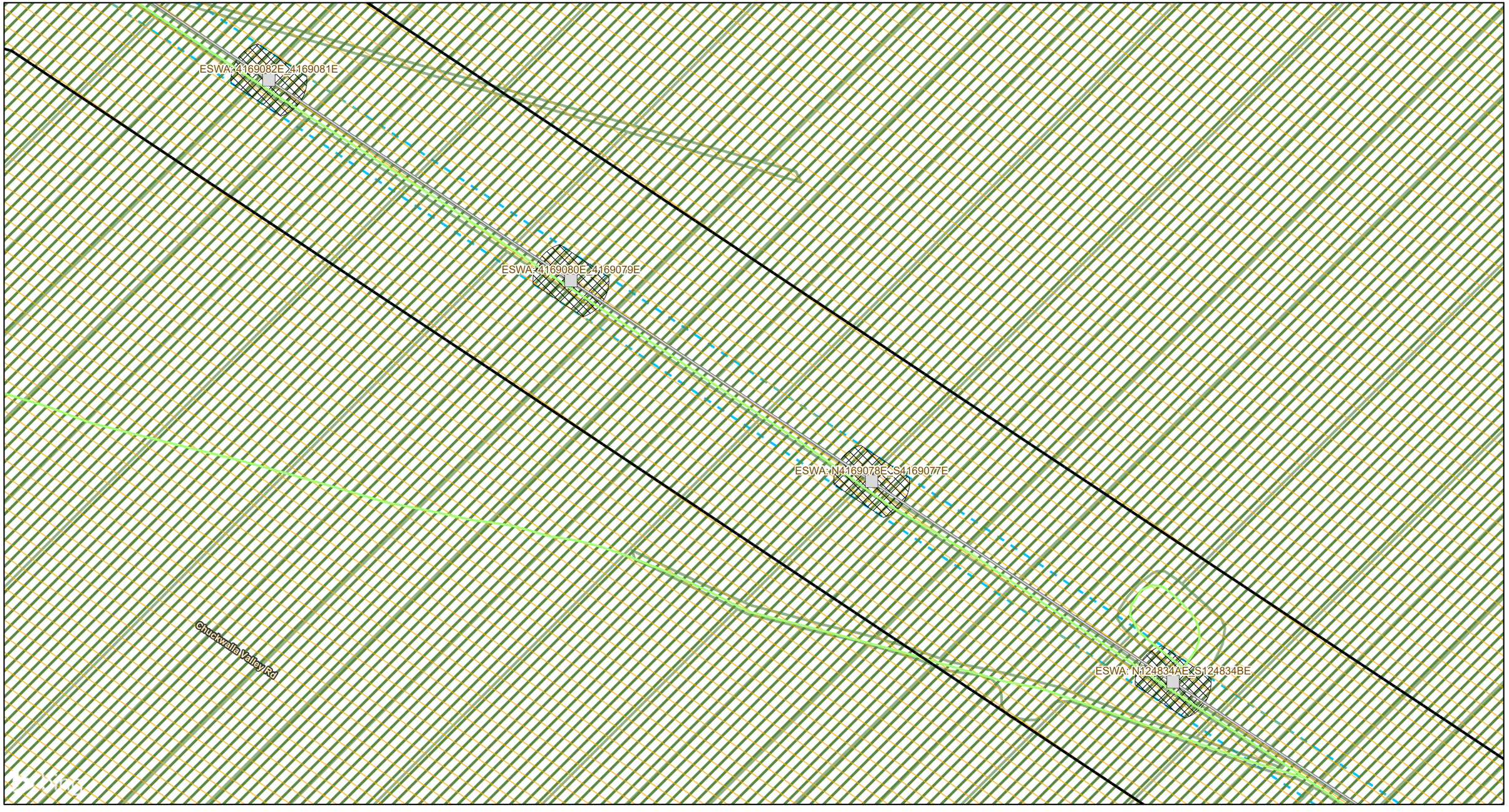

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

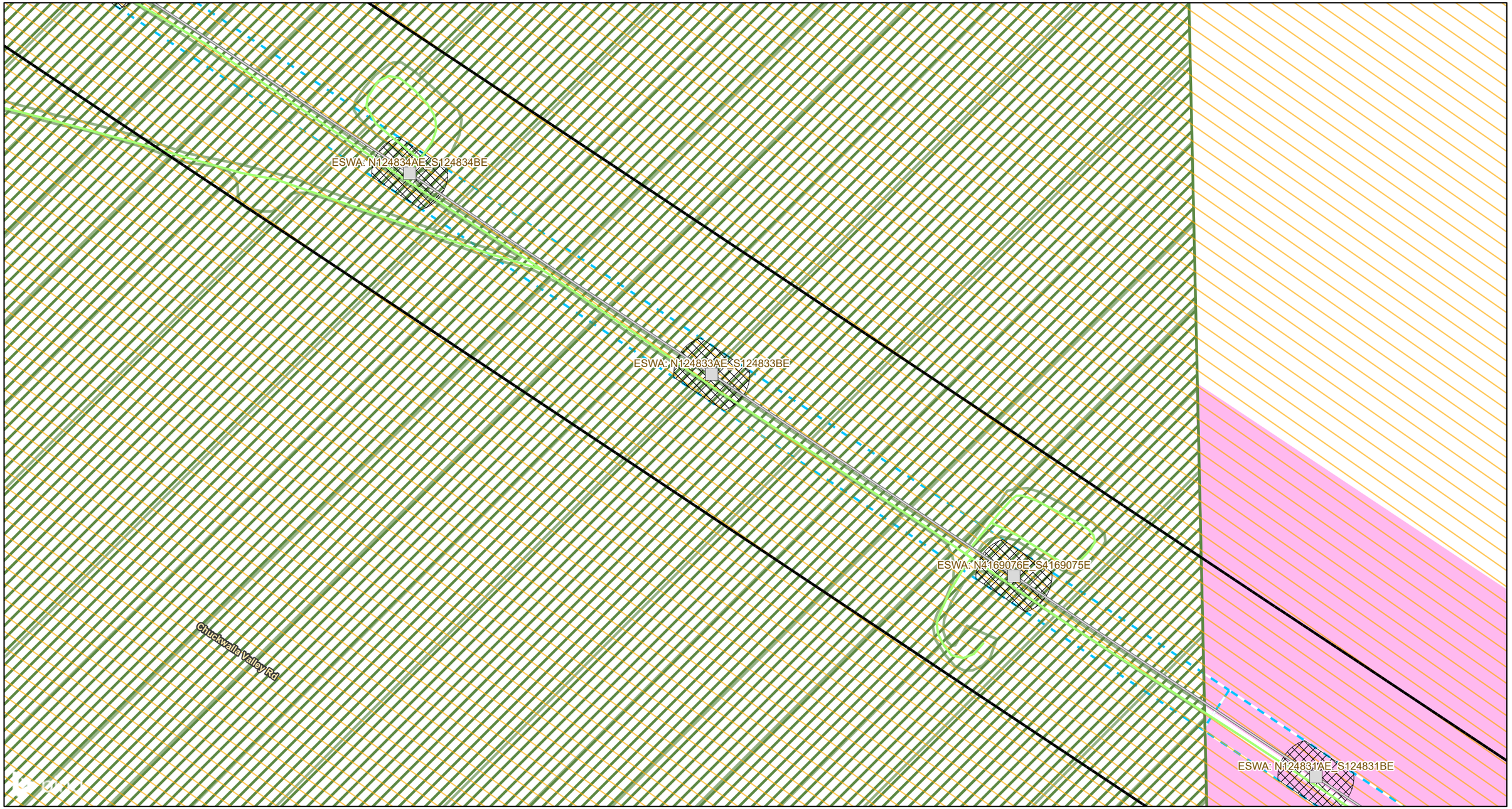

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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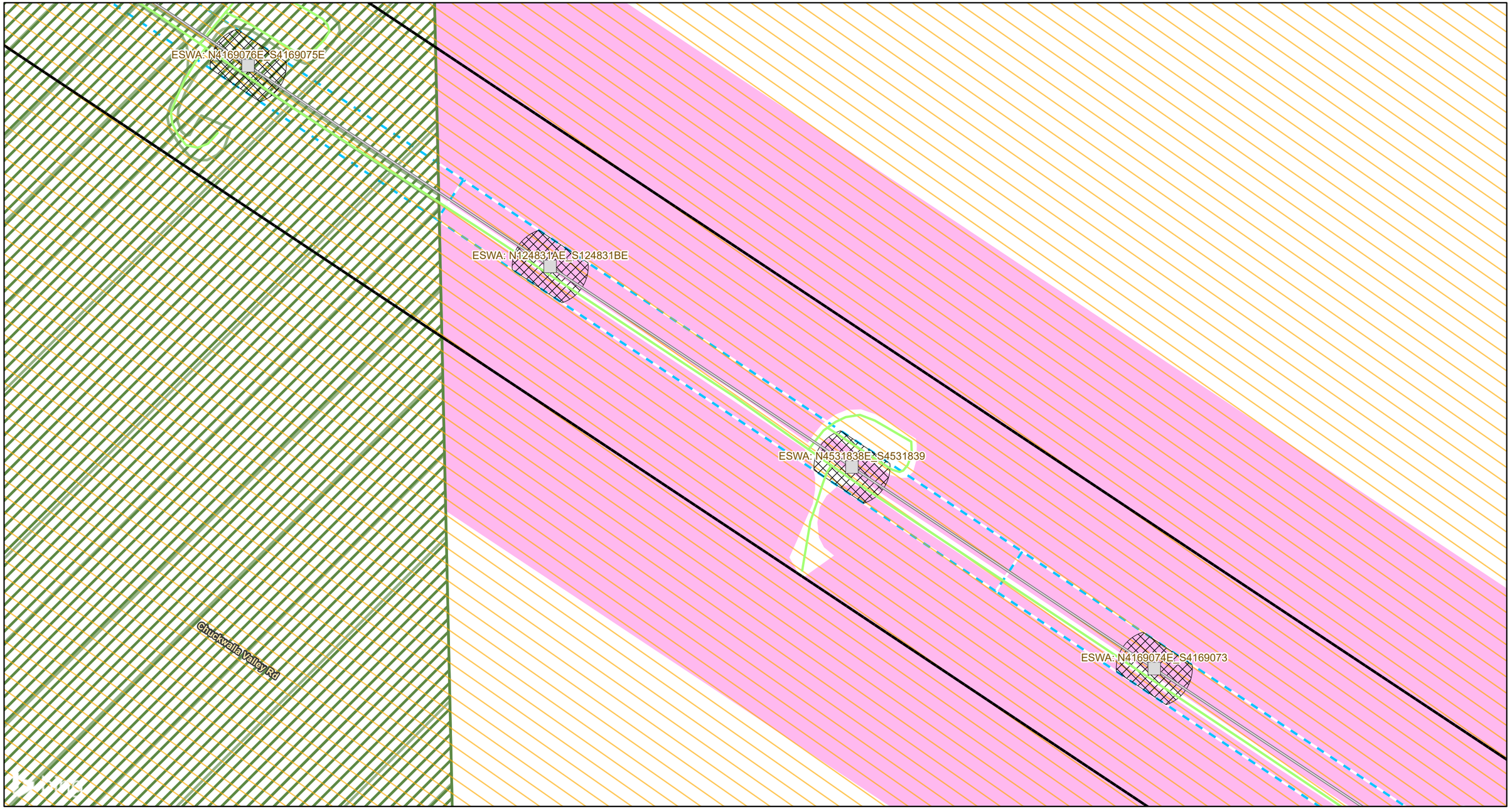

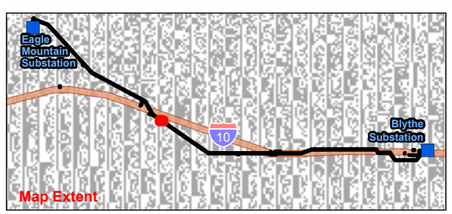

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Feet

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- O&M Area

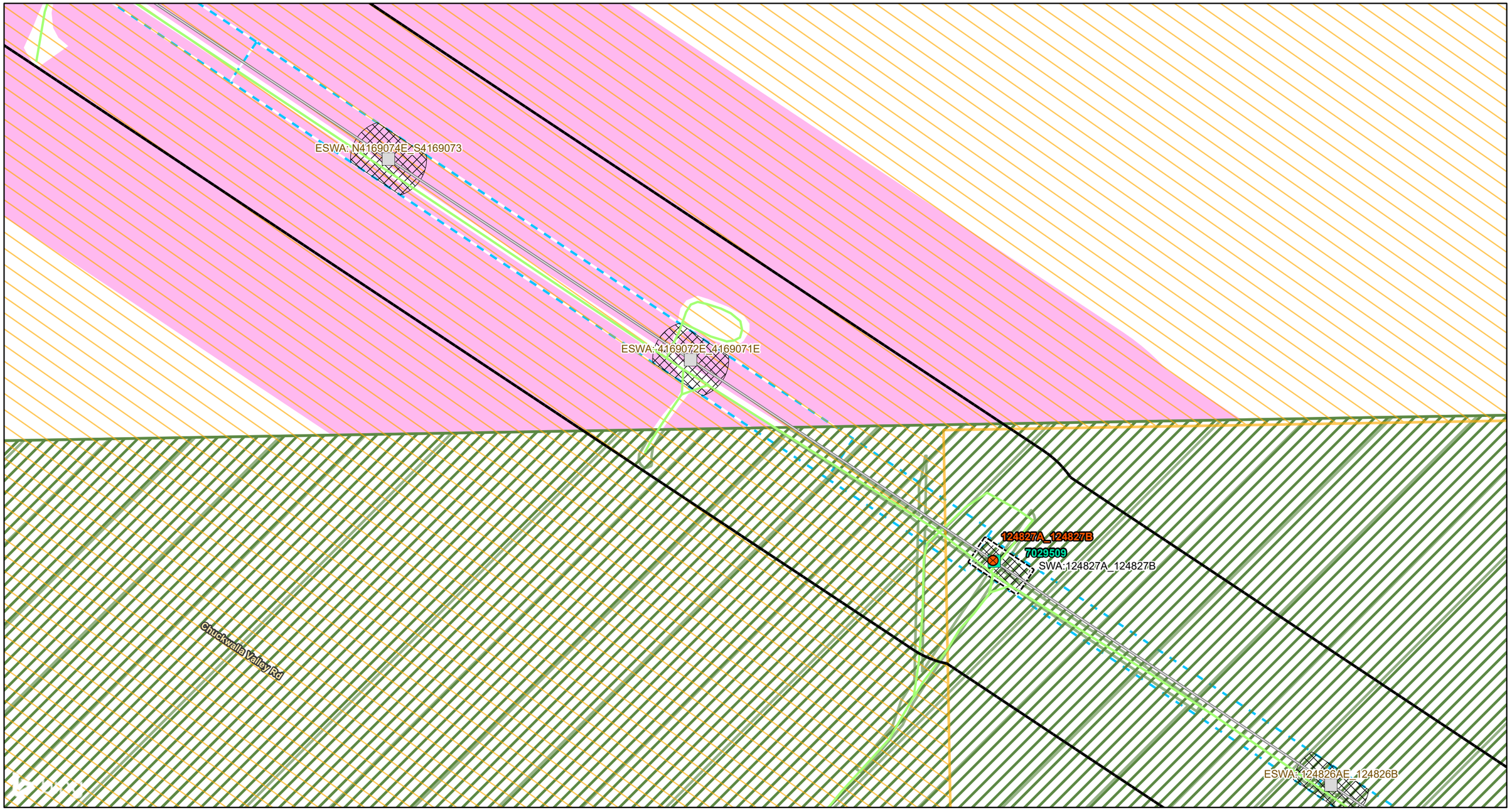
Land Owner
- BLM Land

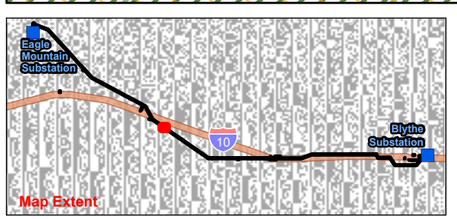
Suitable Habitat
- Desert Tortoise

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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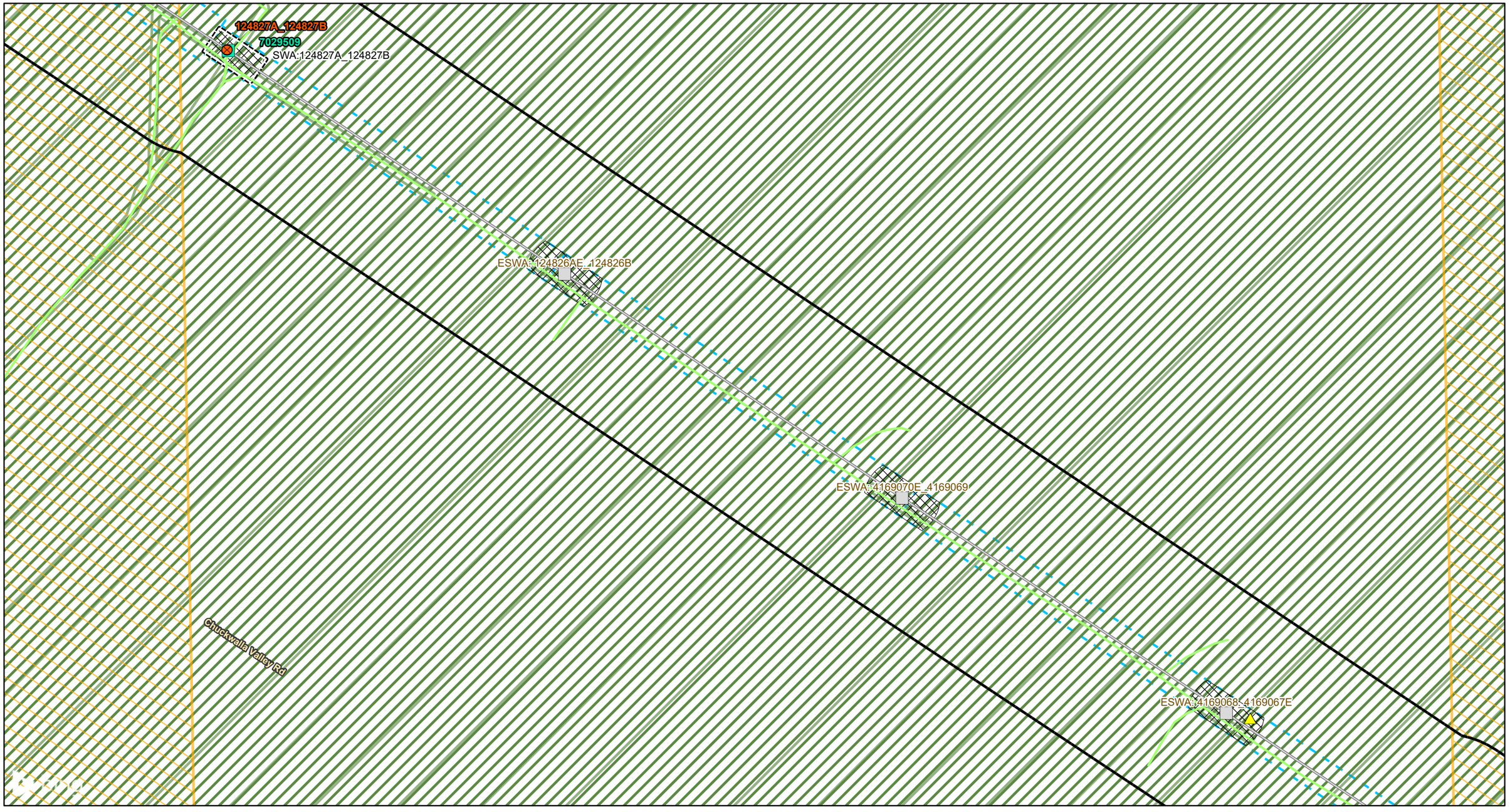
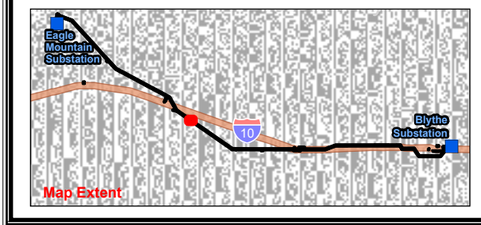
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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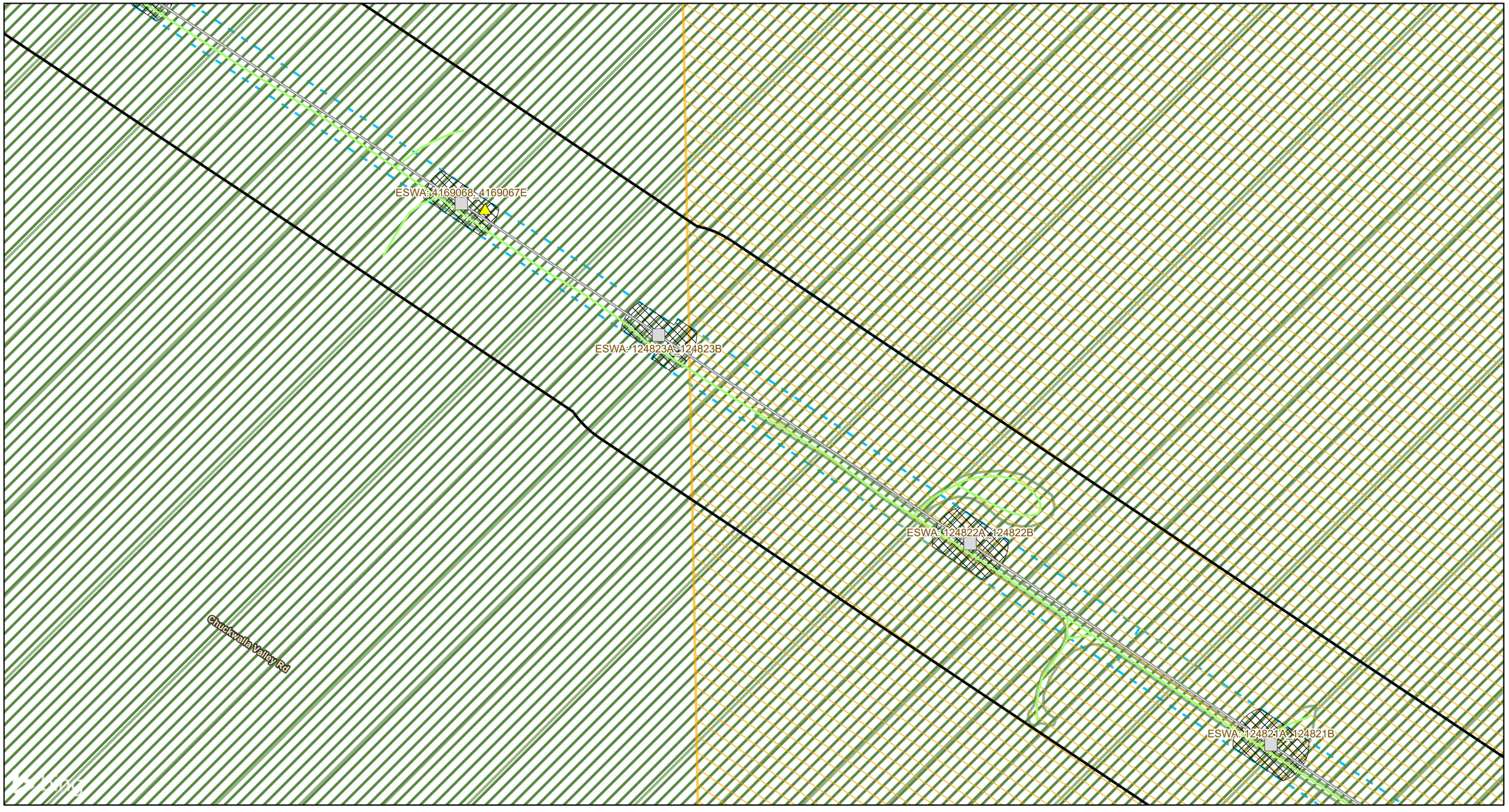
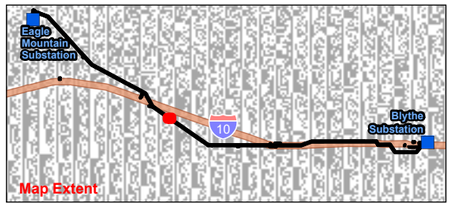
Special-Status Wildlife
- Black-Tailed Gnatcatcher

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Southern California Edison
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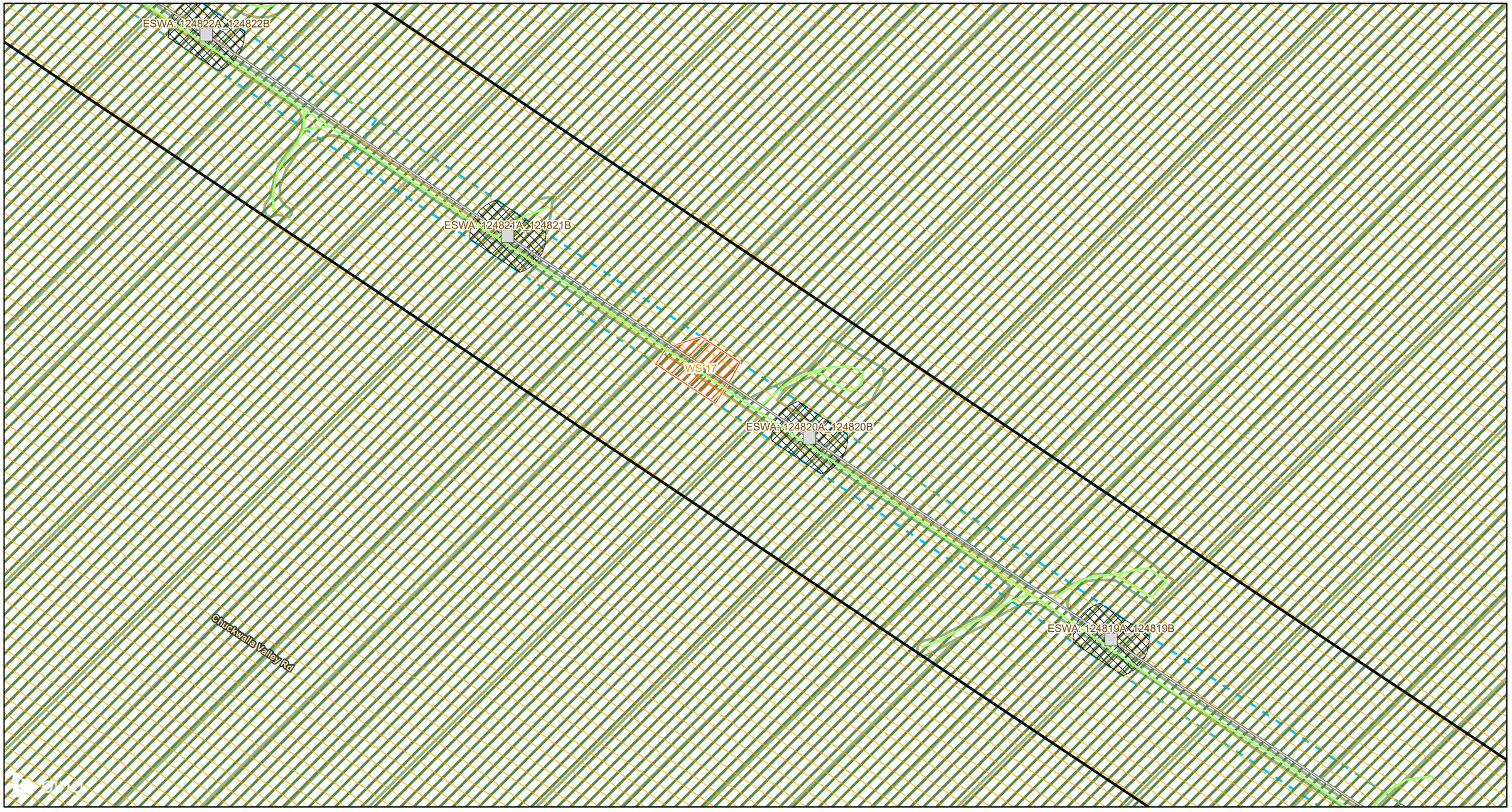

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Southern California Edison
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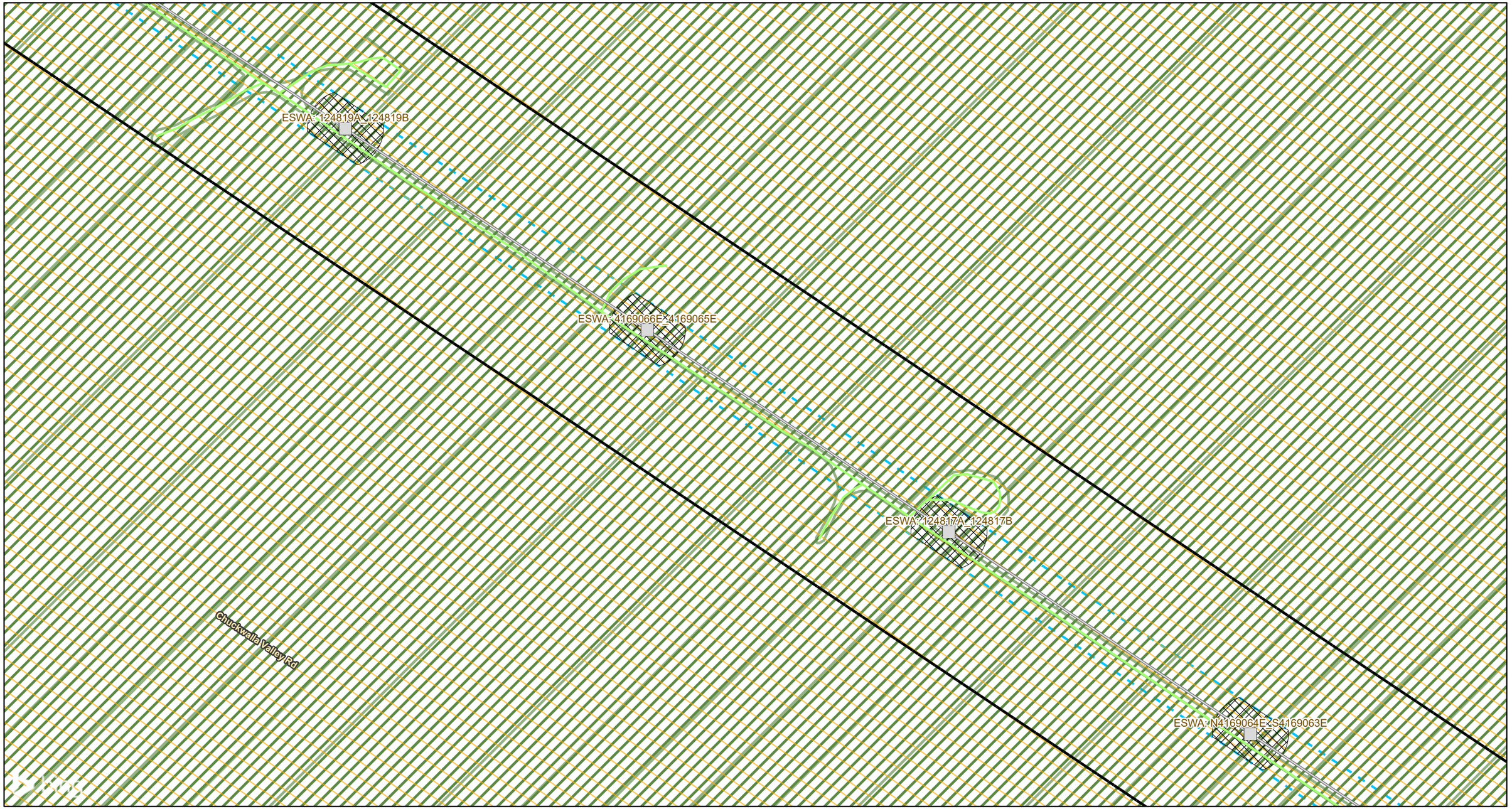

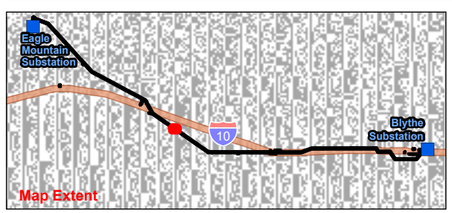

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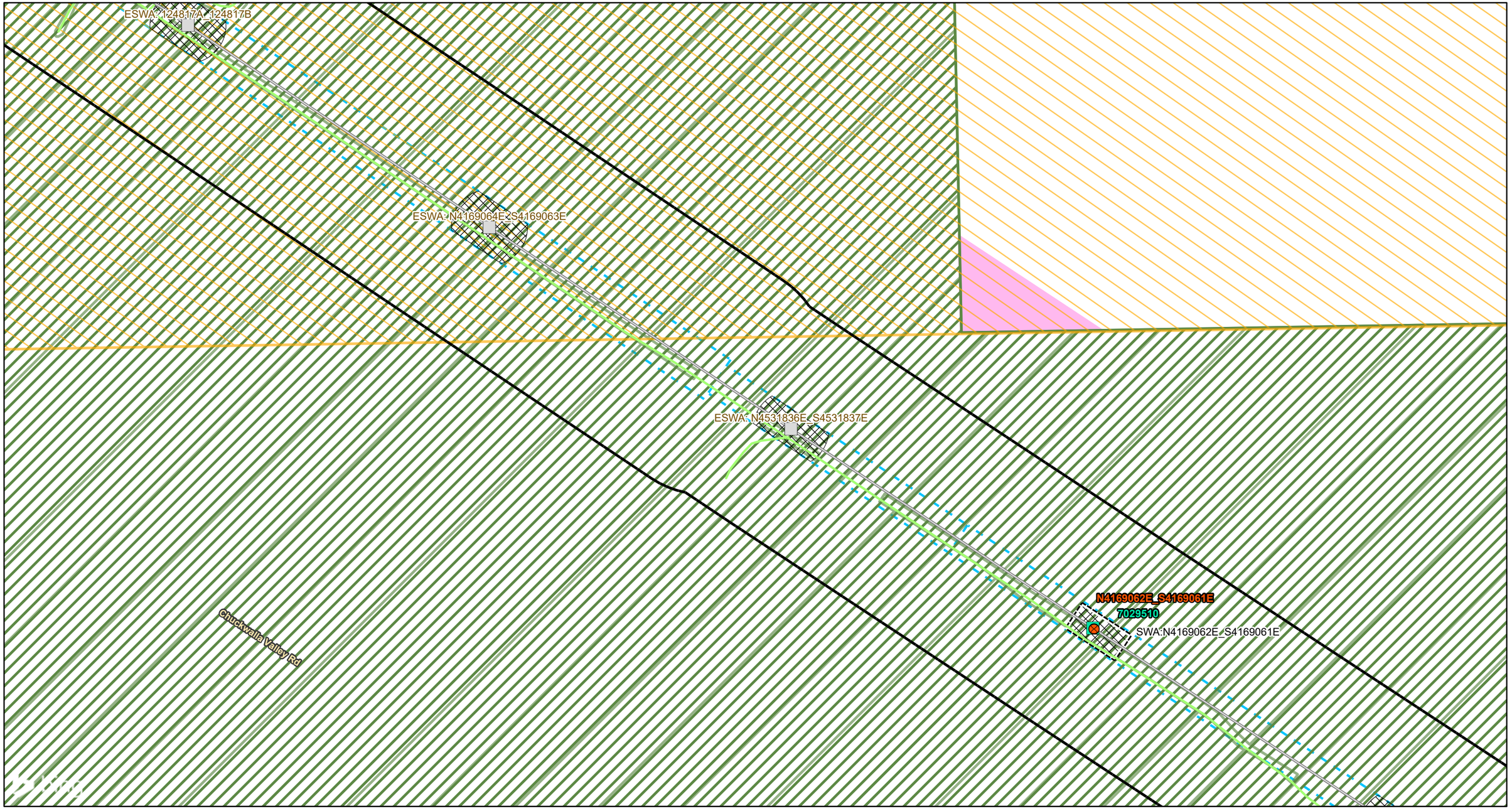

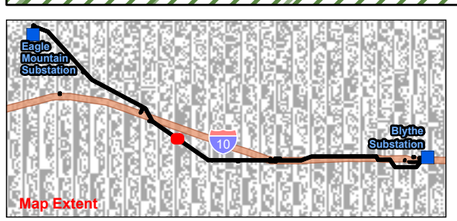

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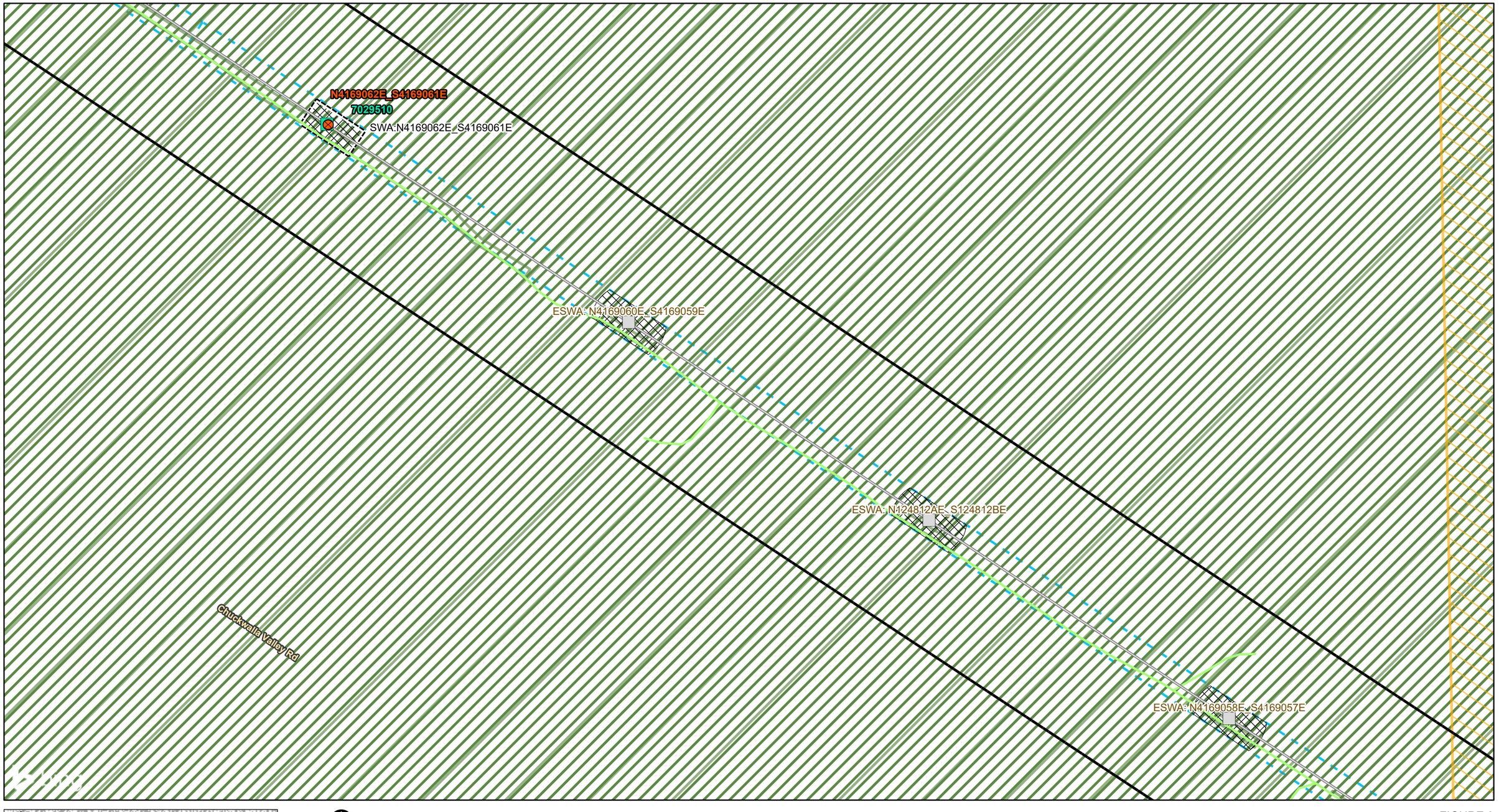
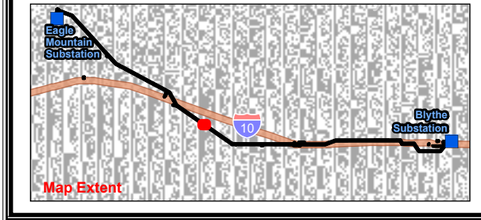
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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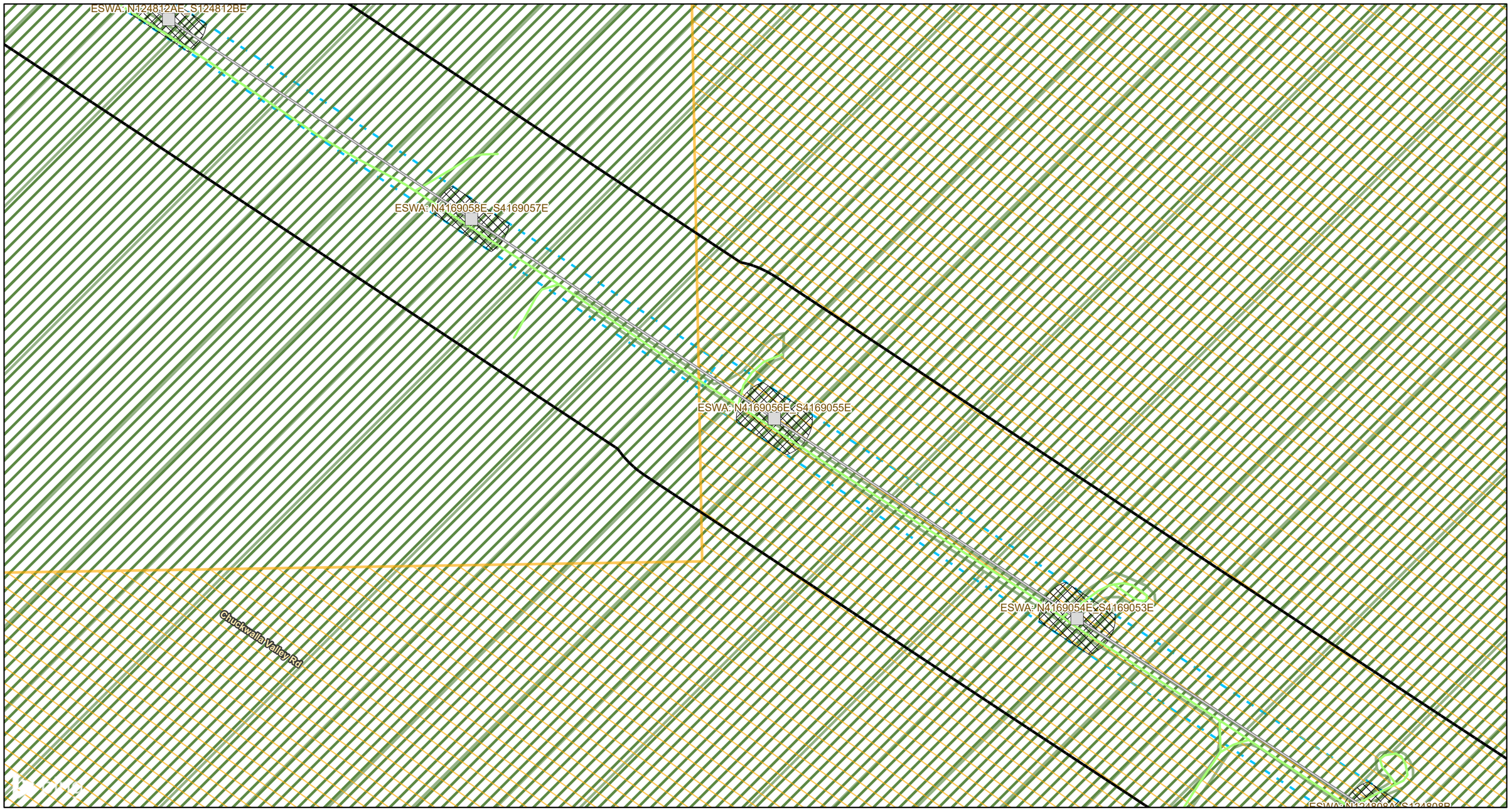
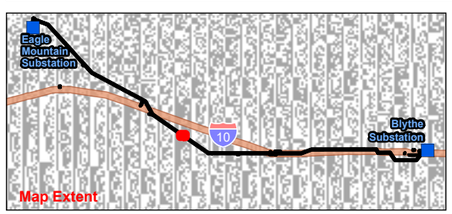
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Plants and Wildlife

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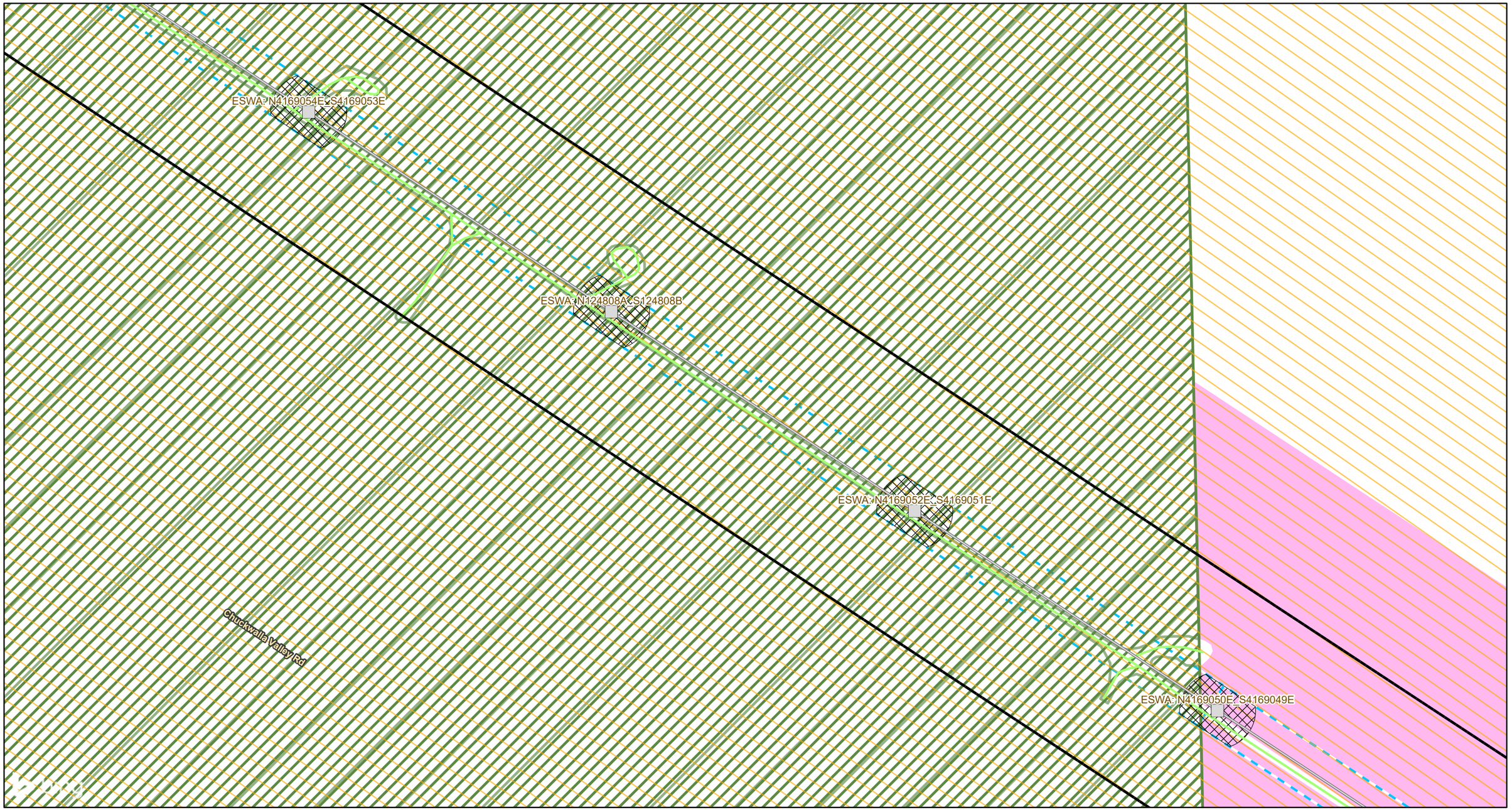

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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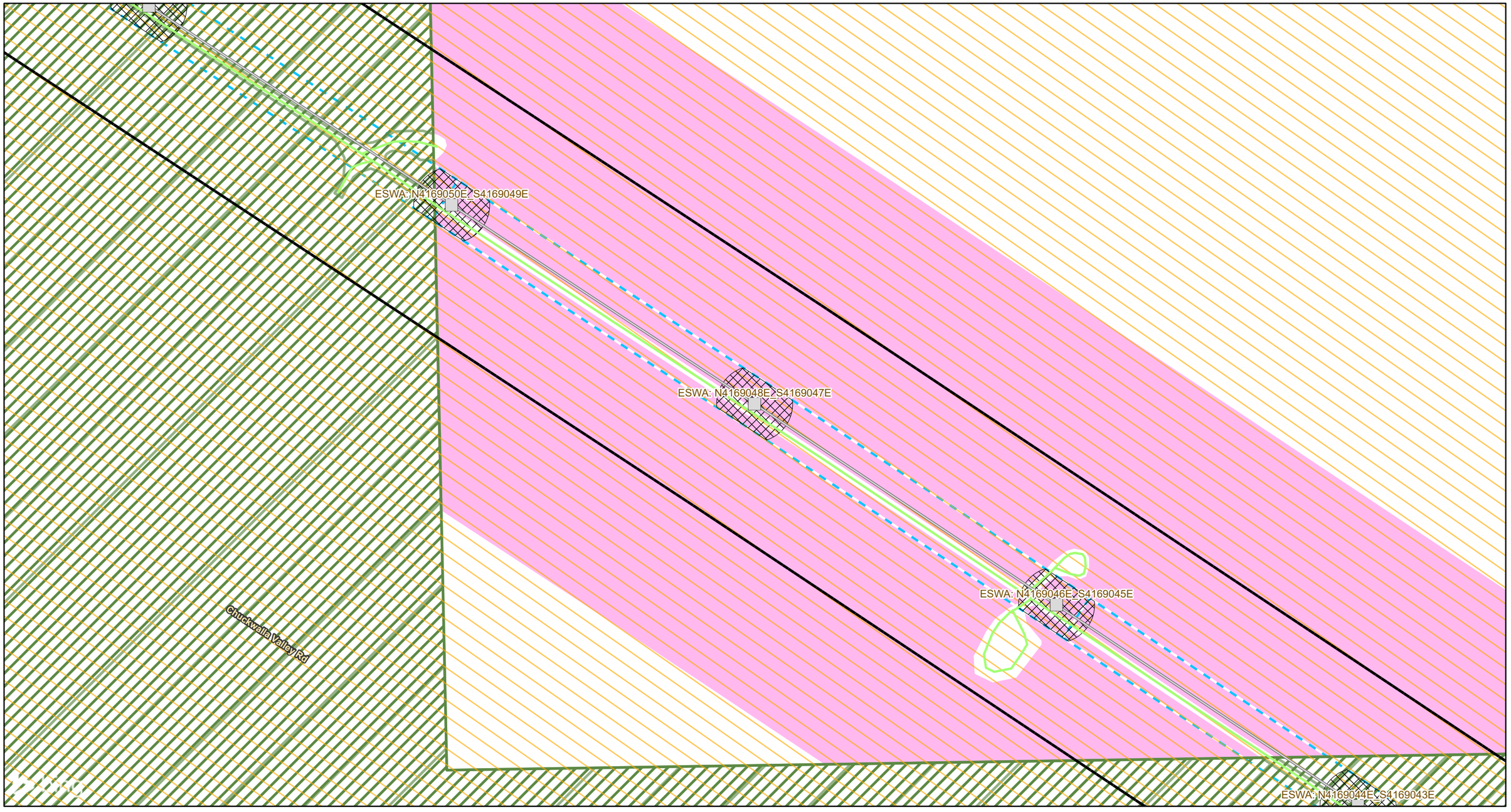

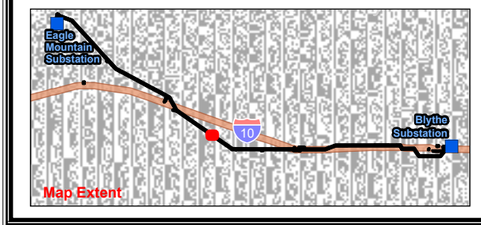

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FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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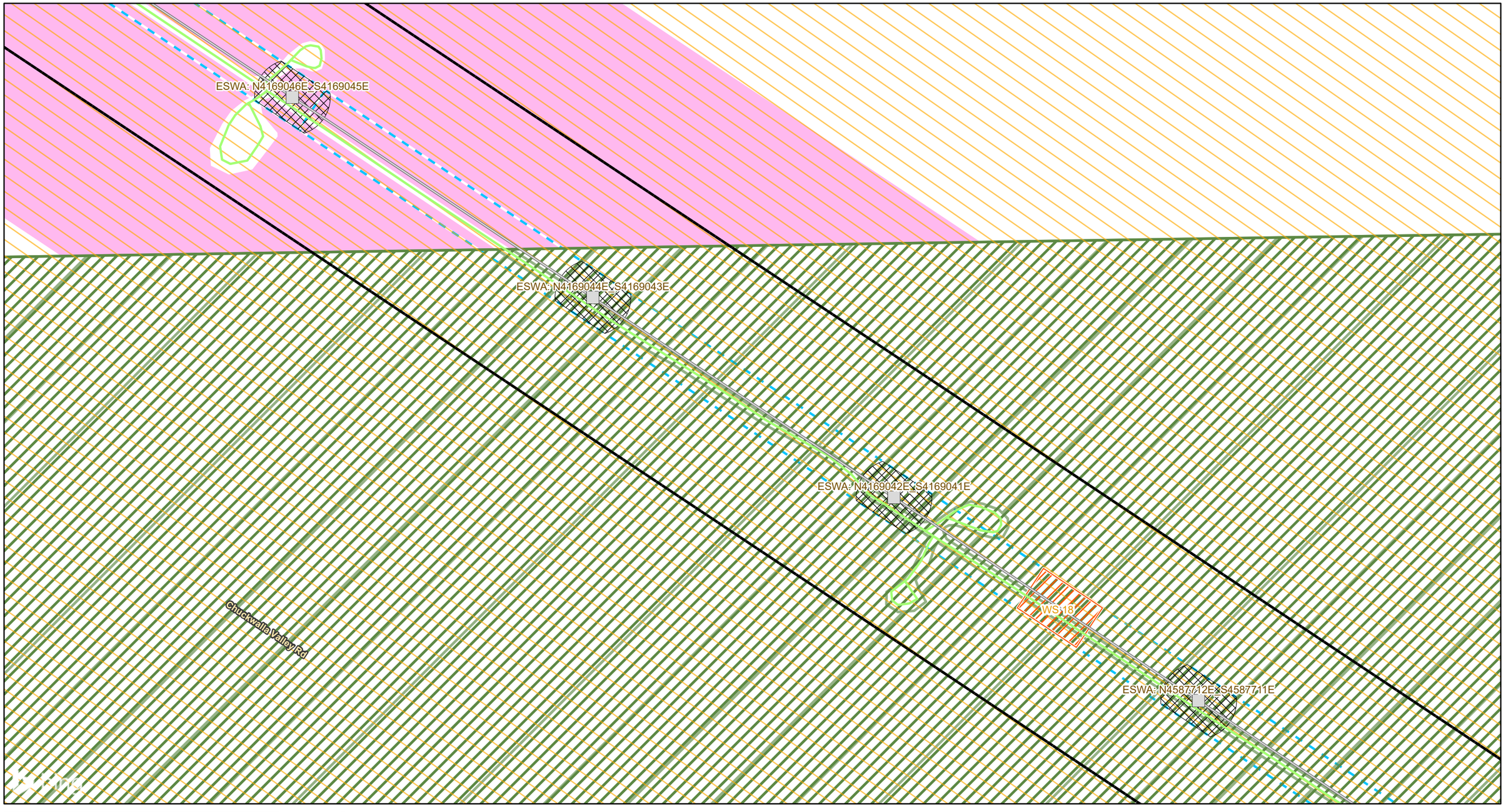

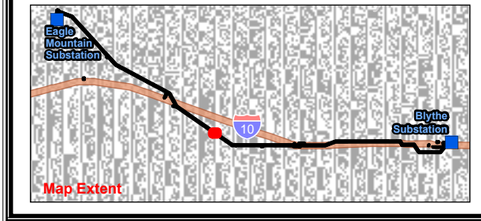

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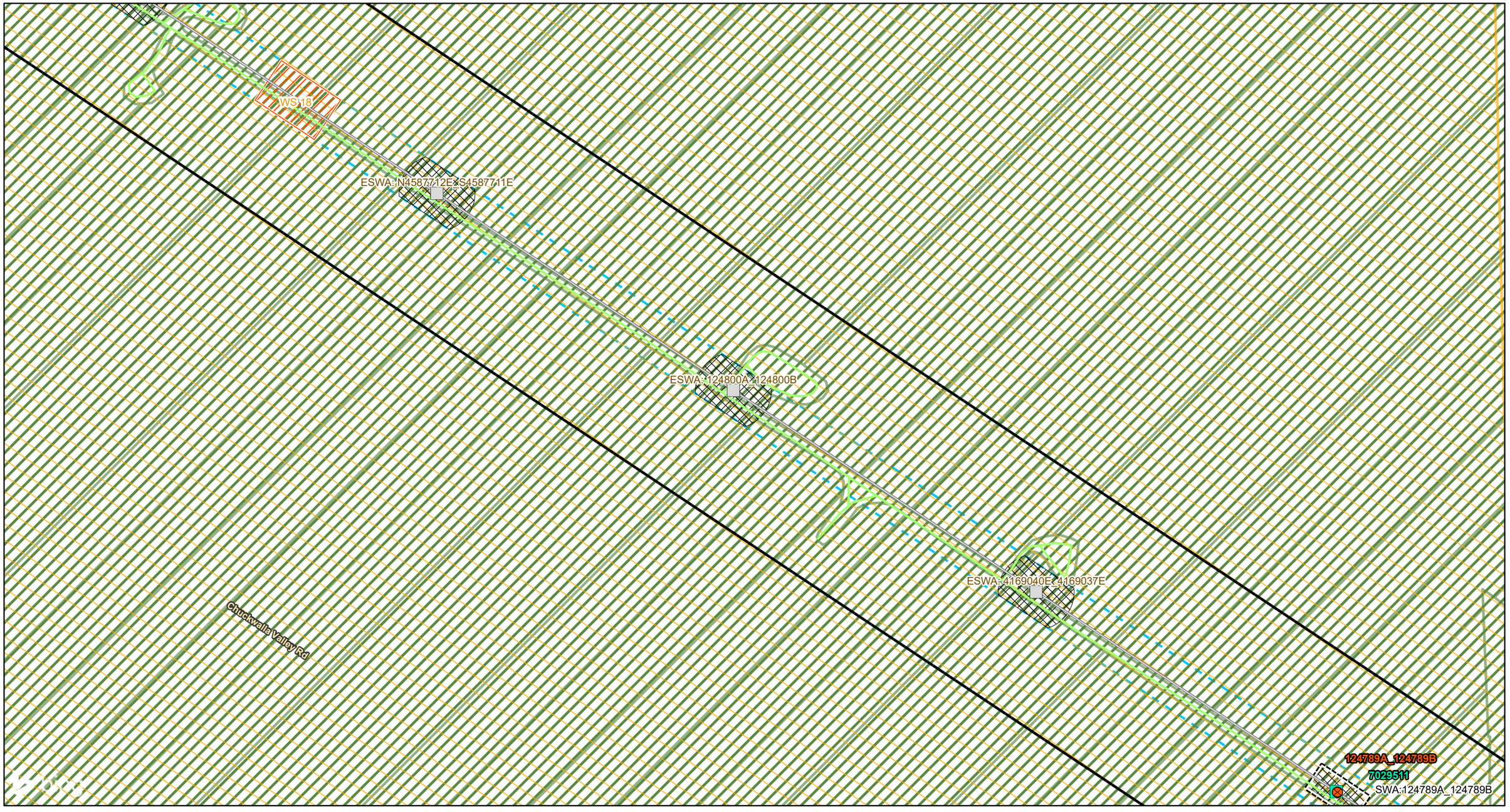
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



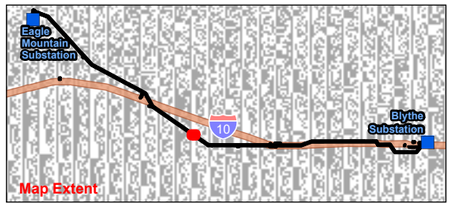


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FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
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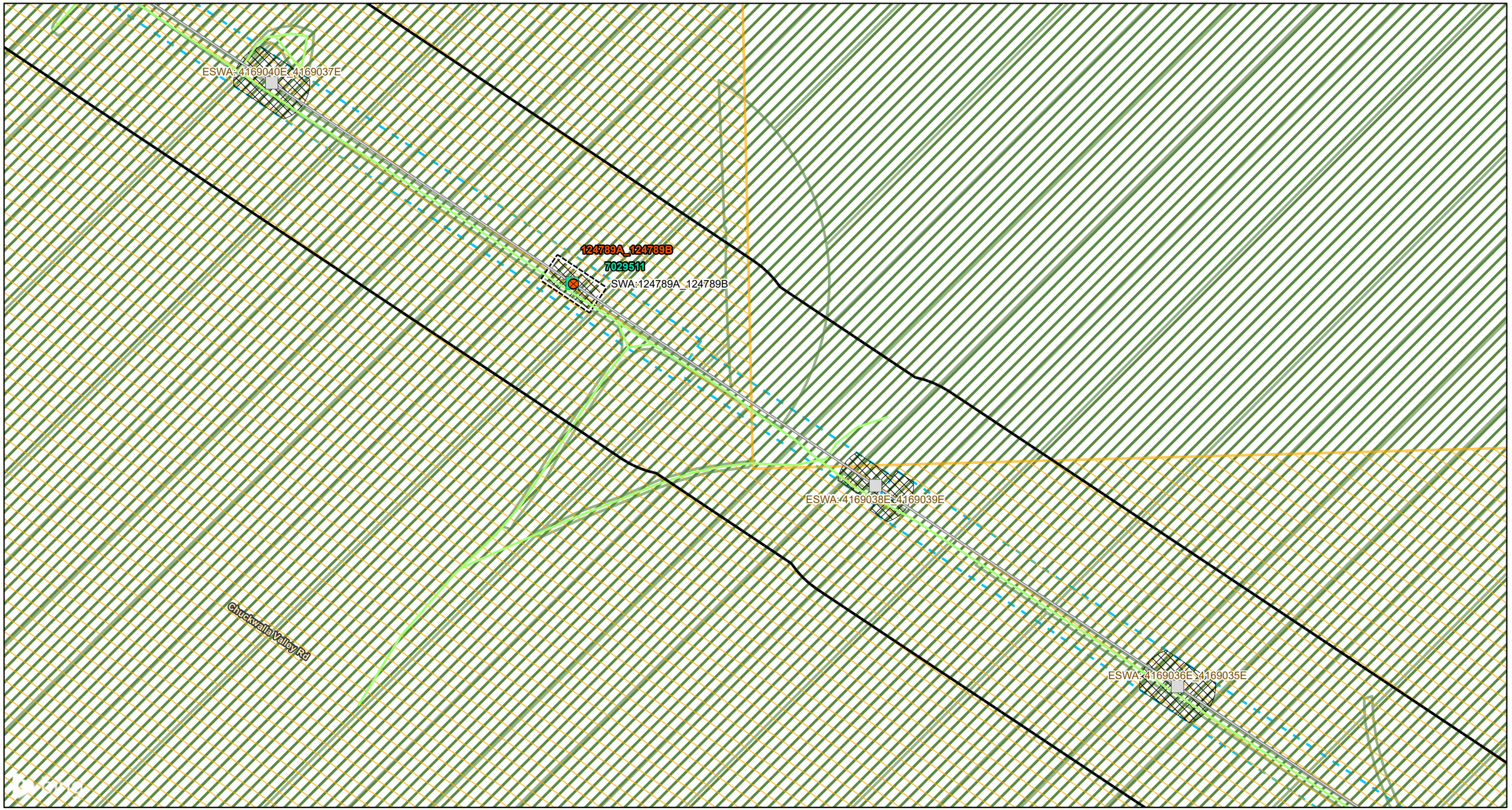

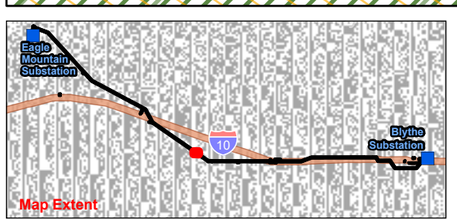

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FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
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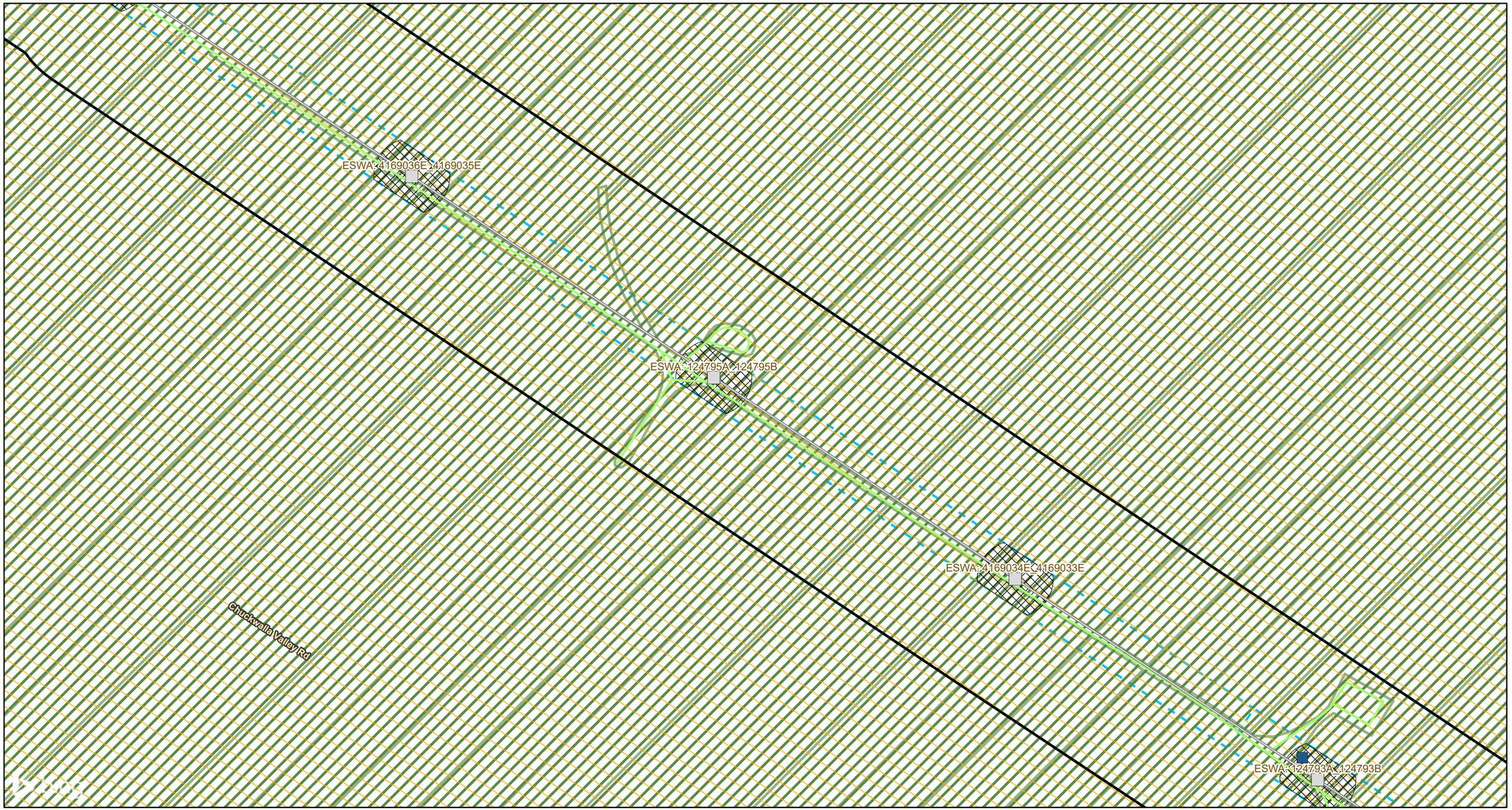

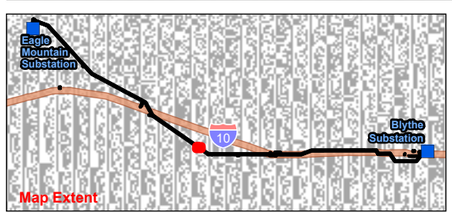

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USFWS Critical Habitat
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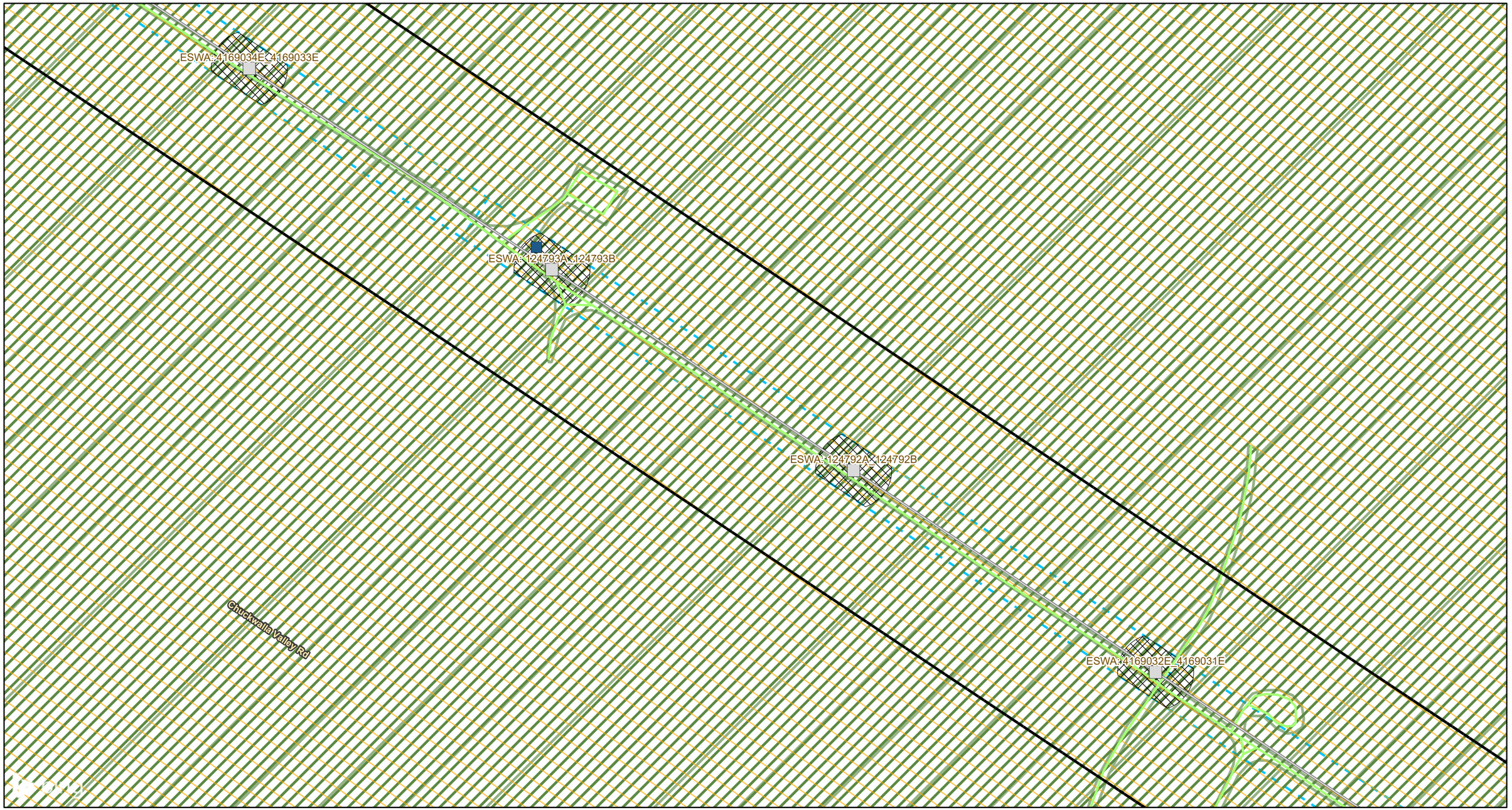
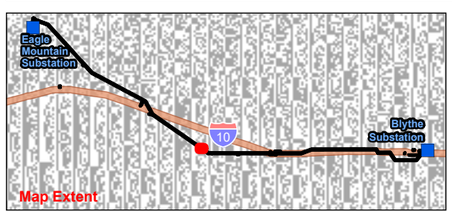
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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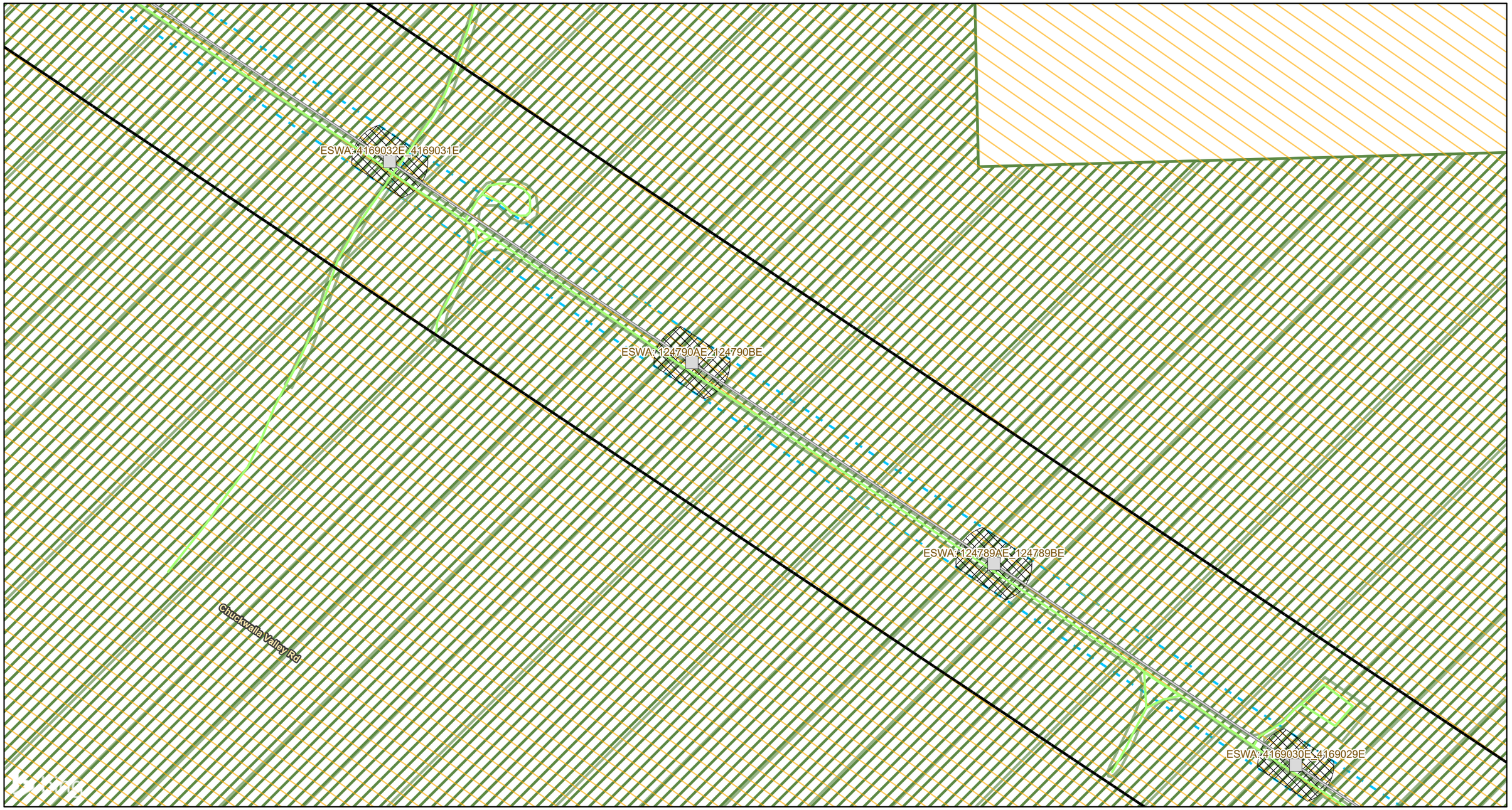

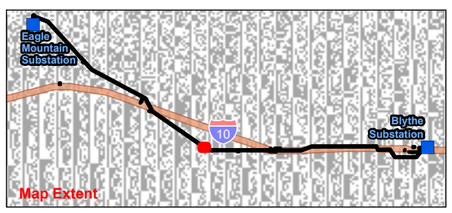

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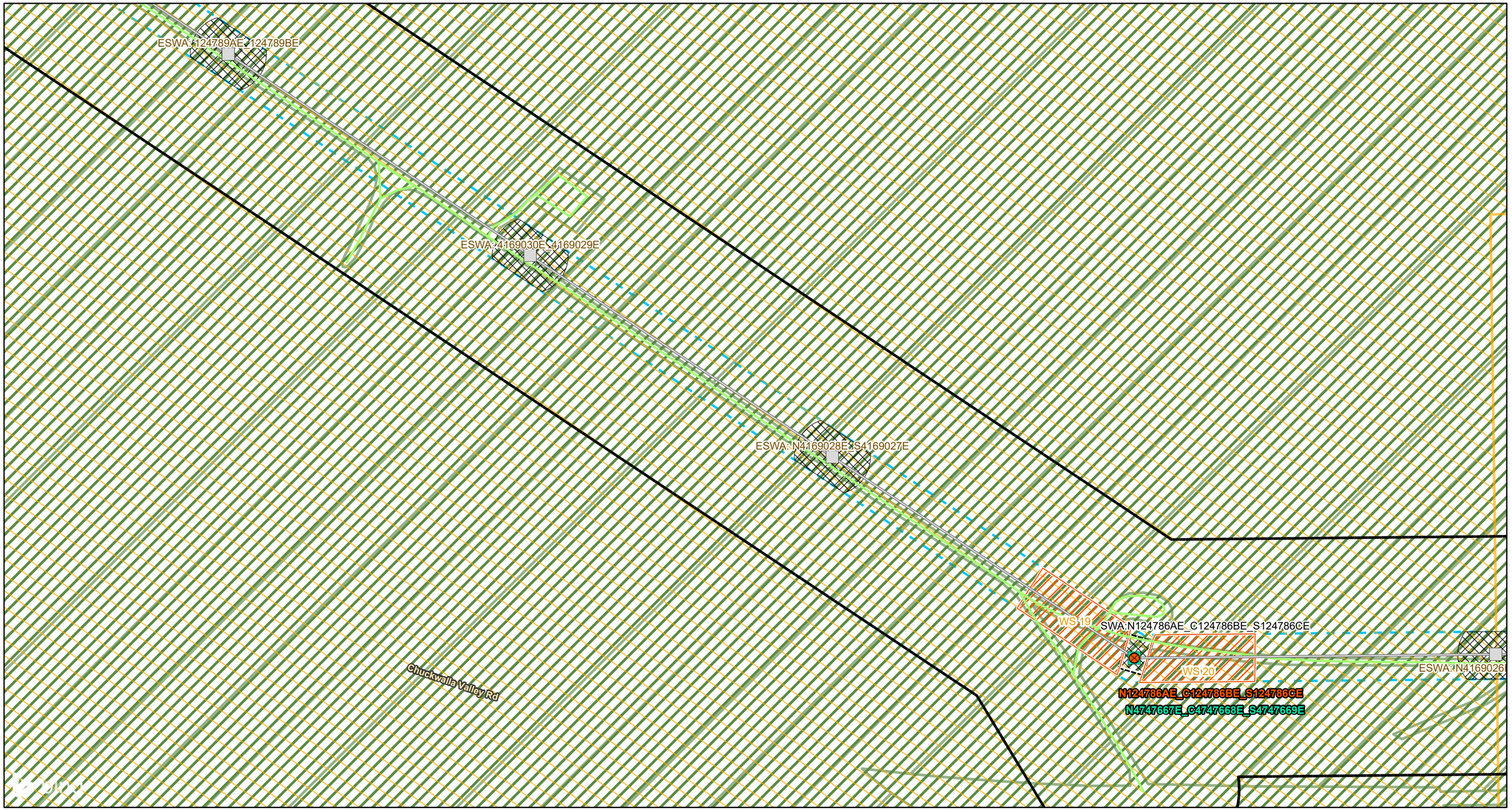

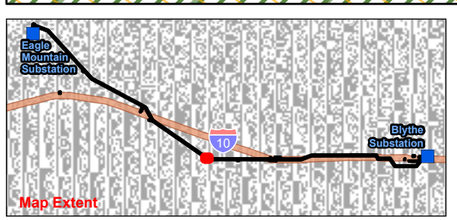

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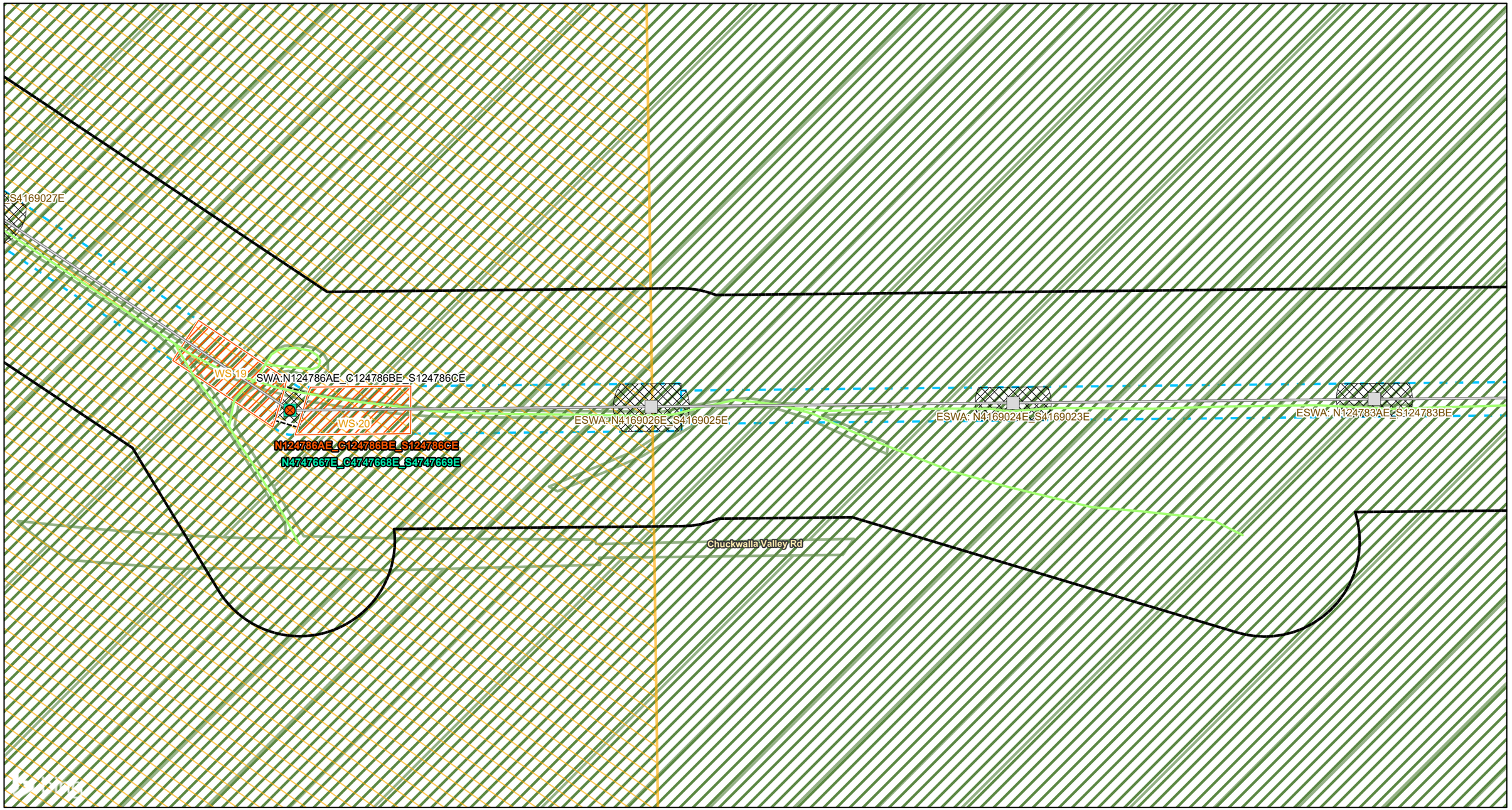
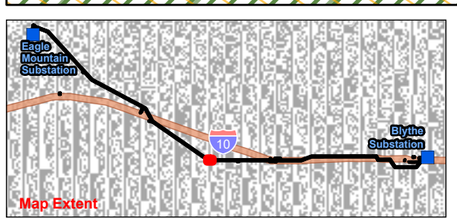
Eagle Mountain-Blythe 161-kV Project





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Feet

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- New Structure
- Existing Structure (to be removed)
- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

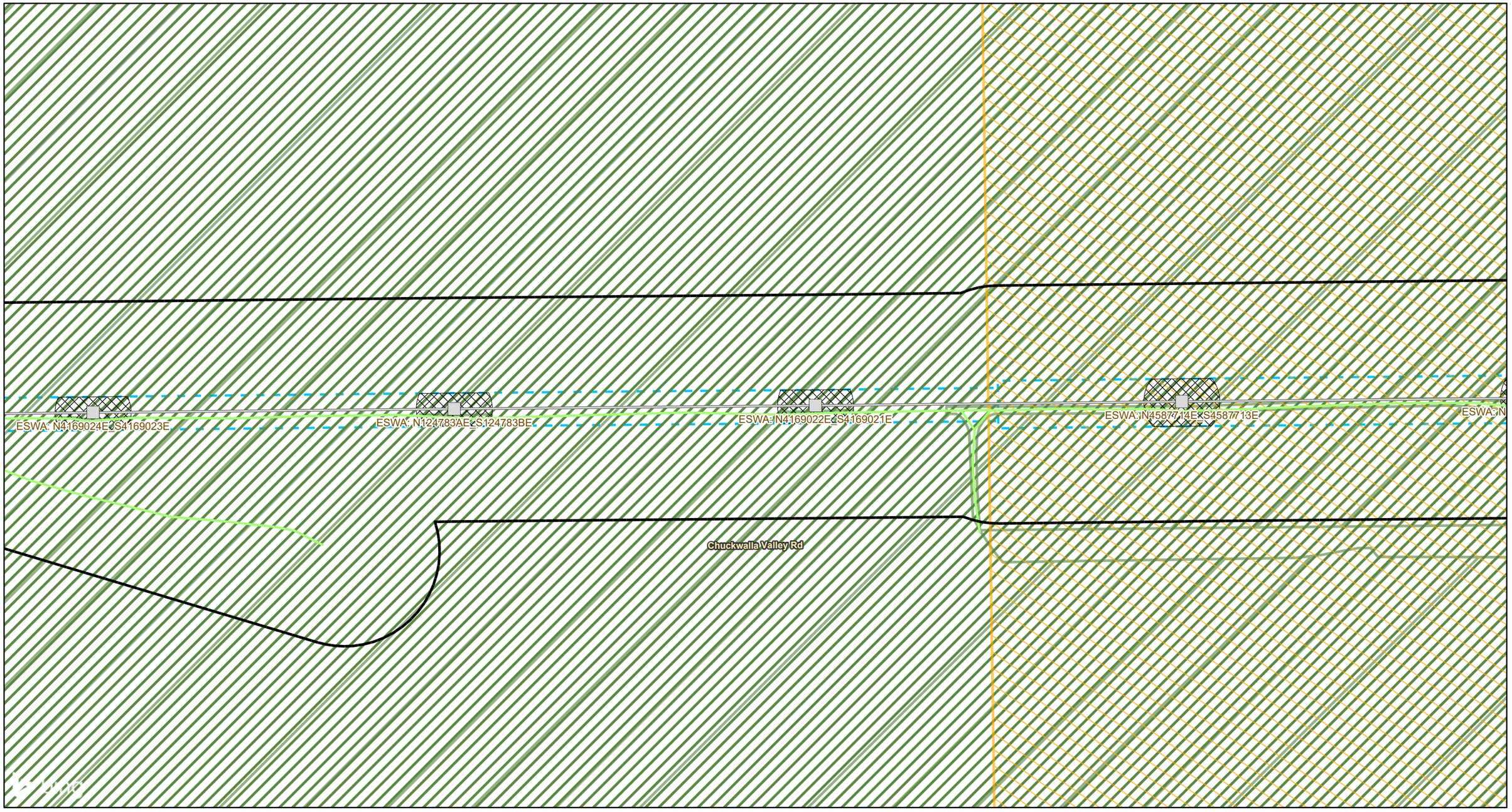
Land Owner
- BLM Land

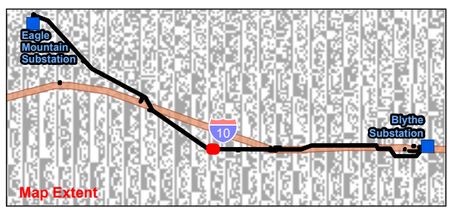
Suitable Habitat
- Desert Tortoise

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Existing Structure (to remain)
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- Access Road
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Construction Area
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- O&M Area

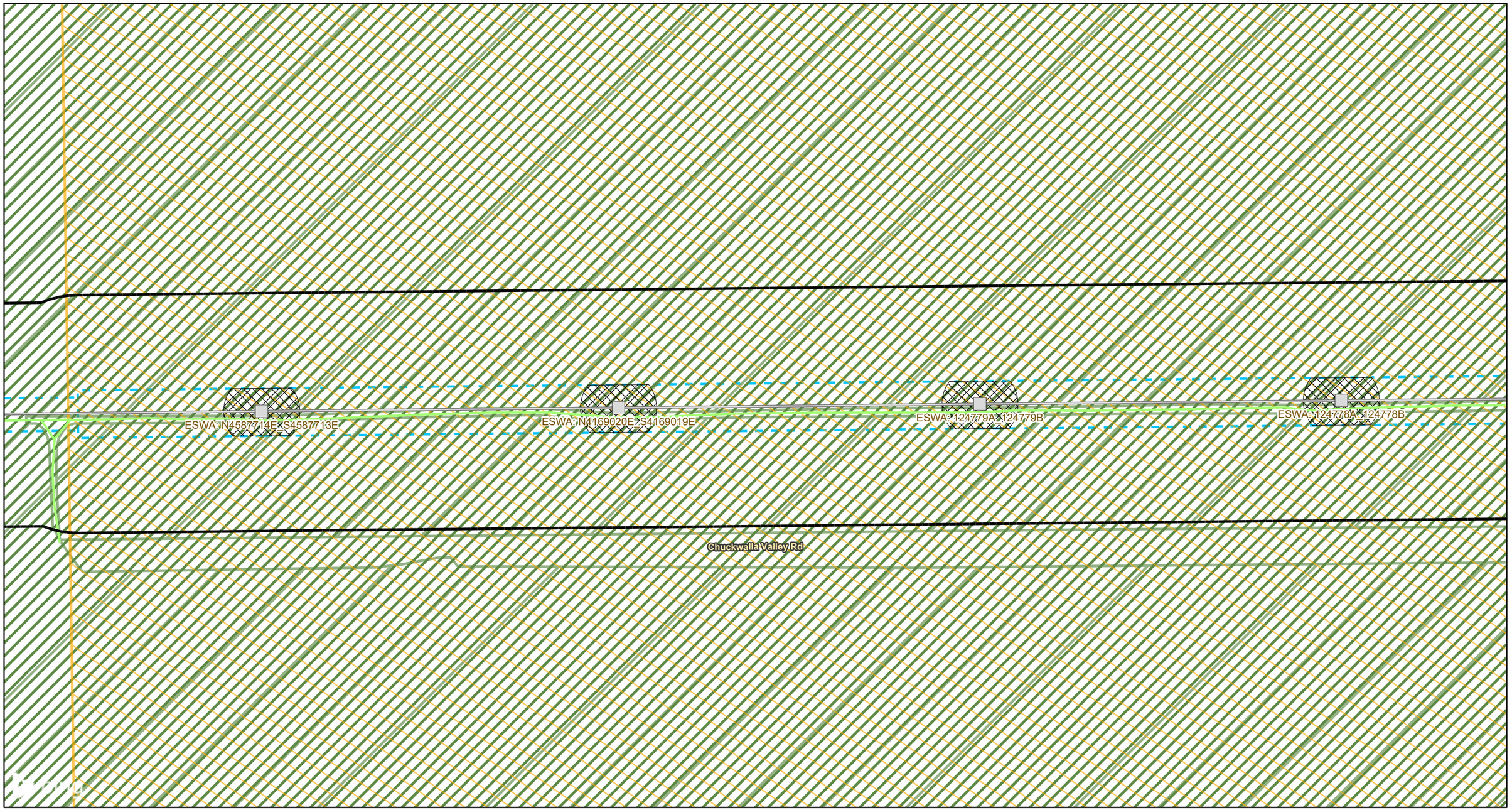
Land Owner
- BLM Land

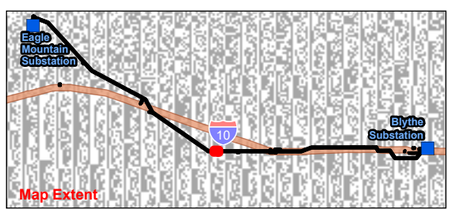
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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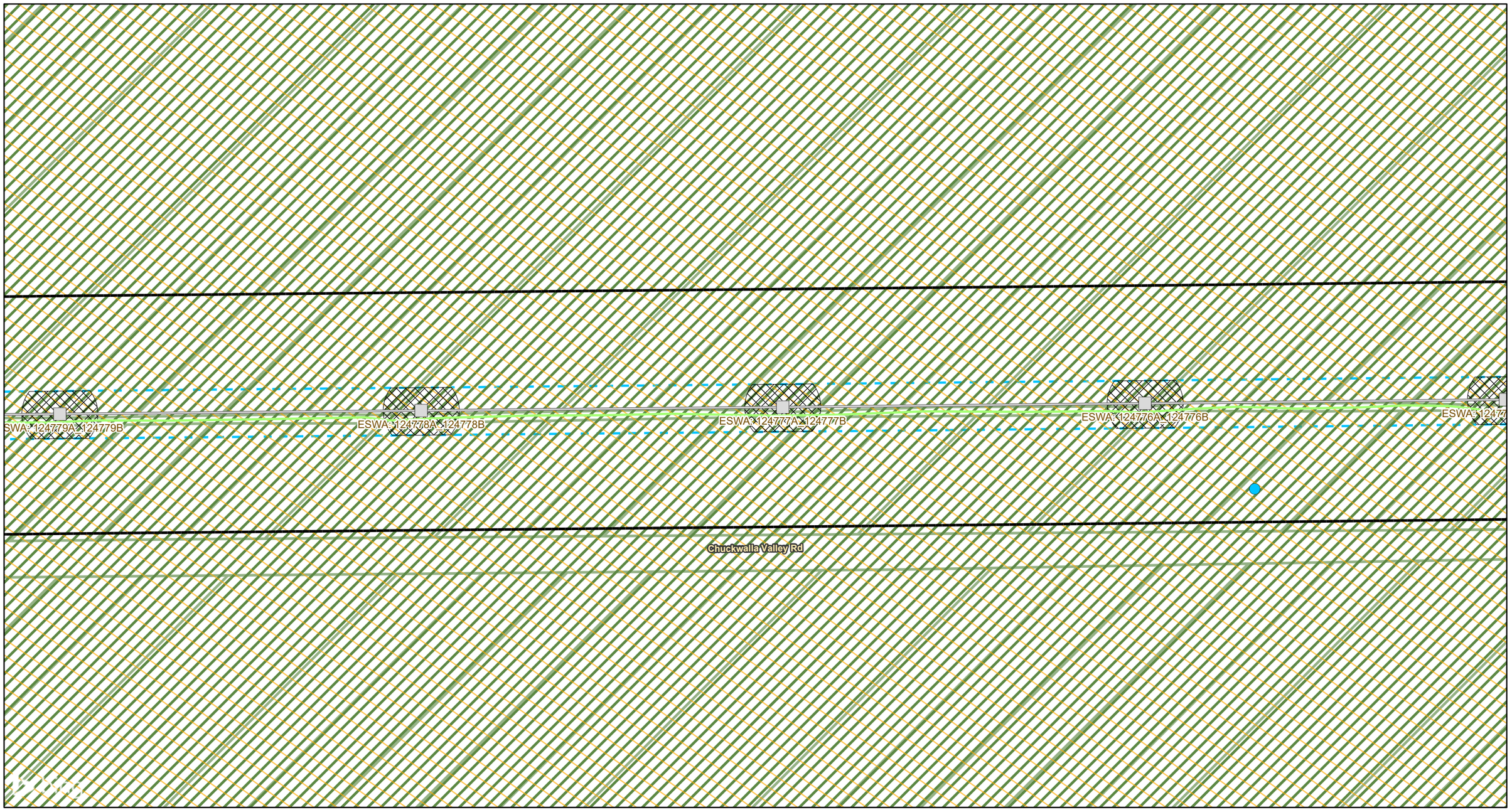
Land Owner
- BLM Land

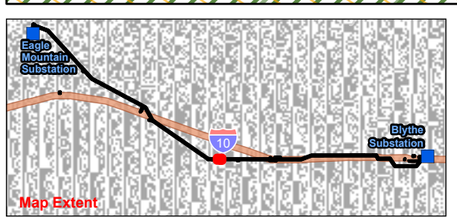
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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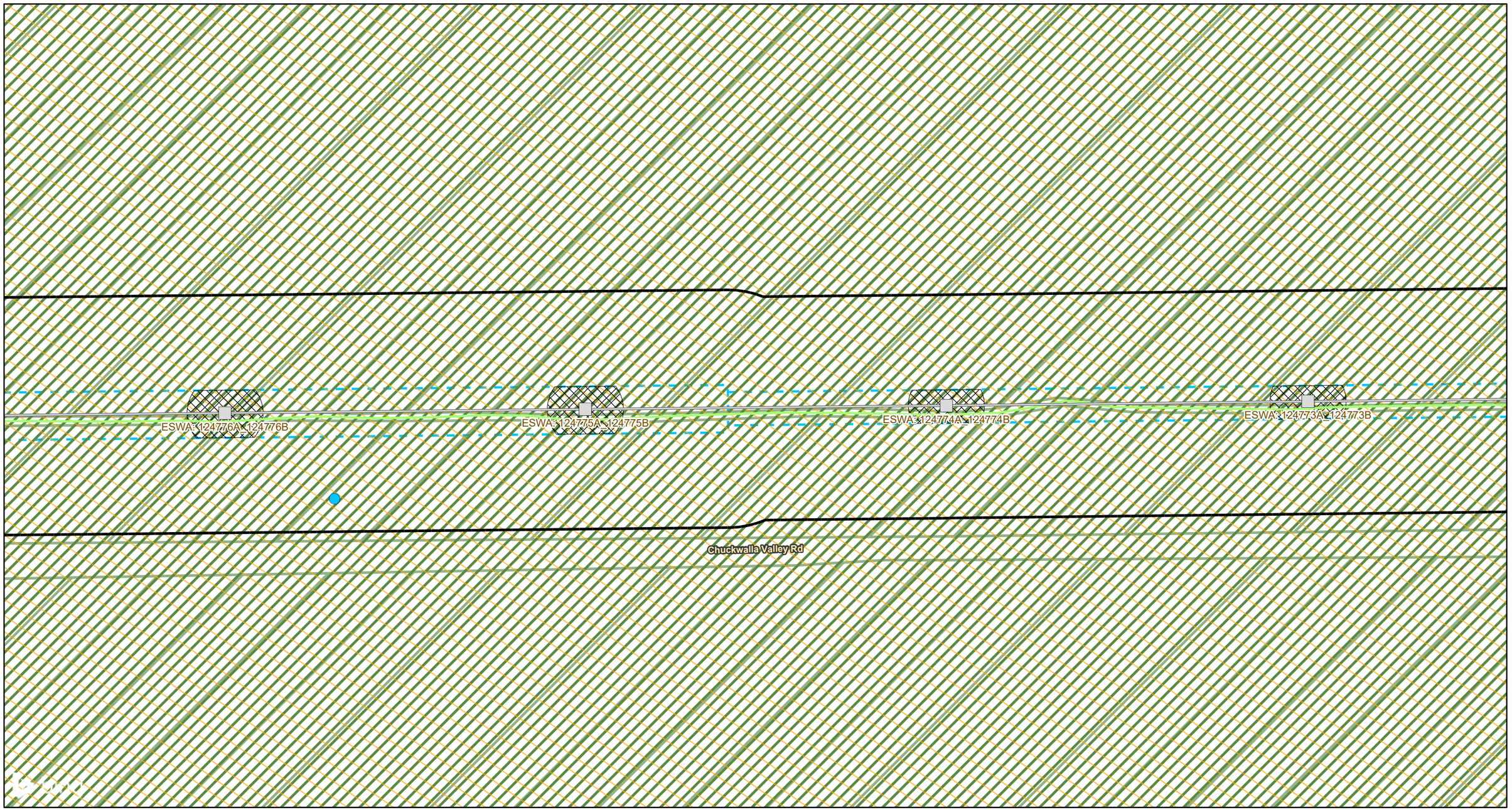
Land Owner
- BLM Land

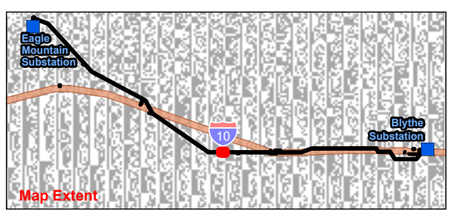
Desert Tortoise Occurrence Type
- Burrow

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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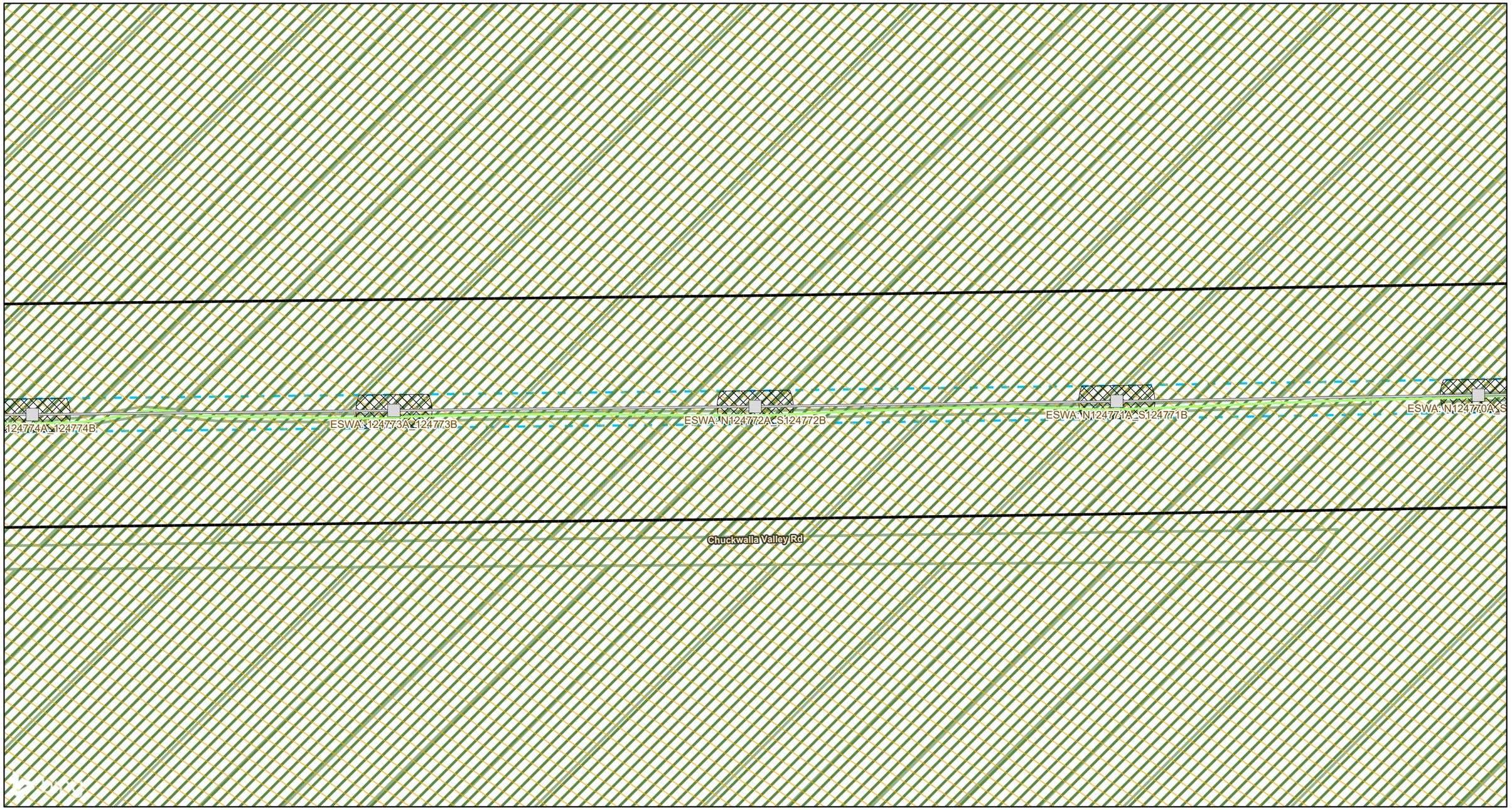
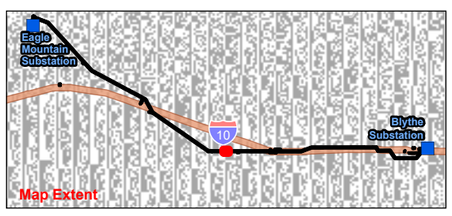
Desert Tortoise Occurrence Type
- Burrow

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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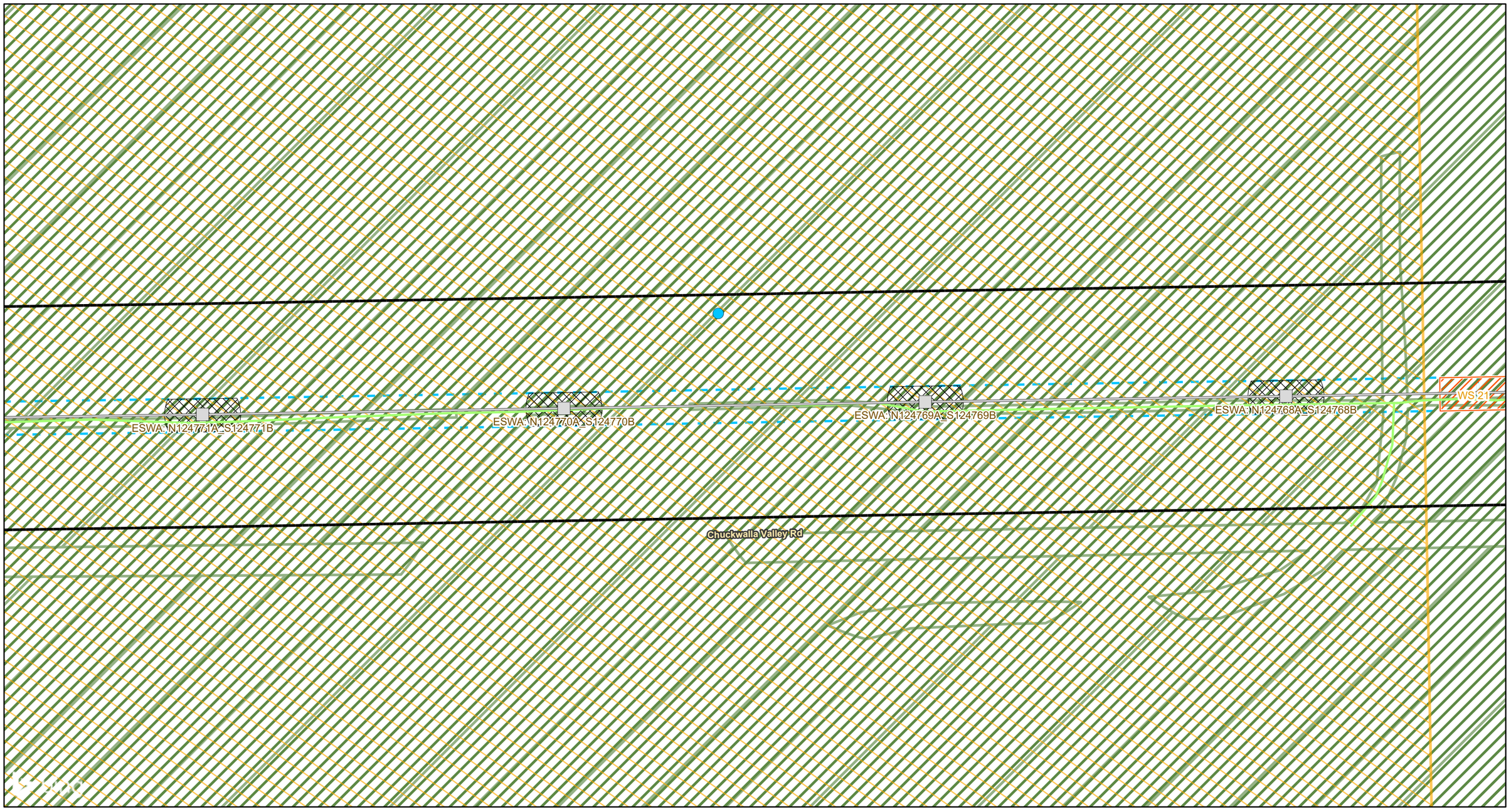
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



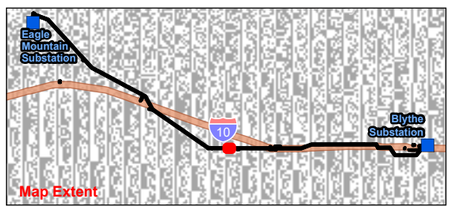


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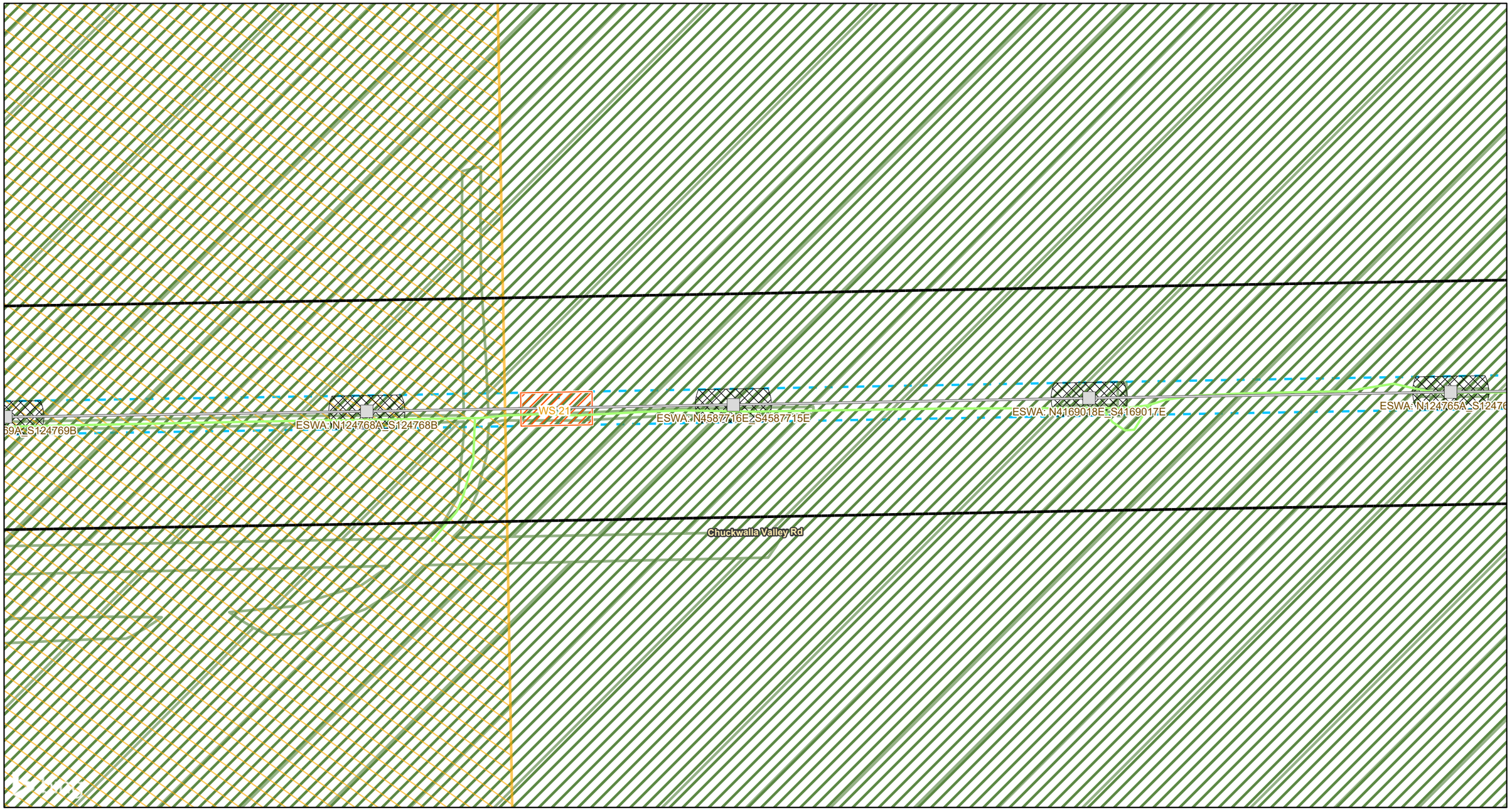
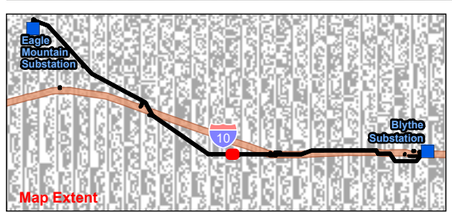
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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USFWS Critical Habitat
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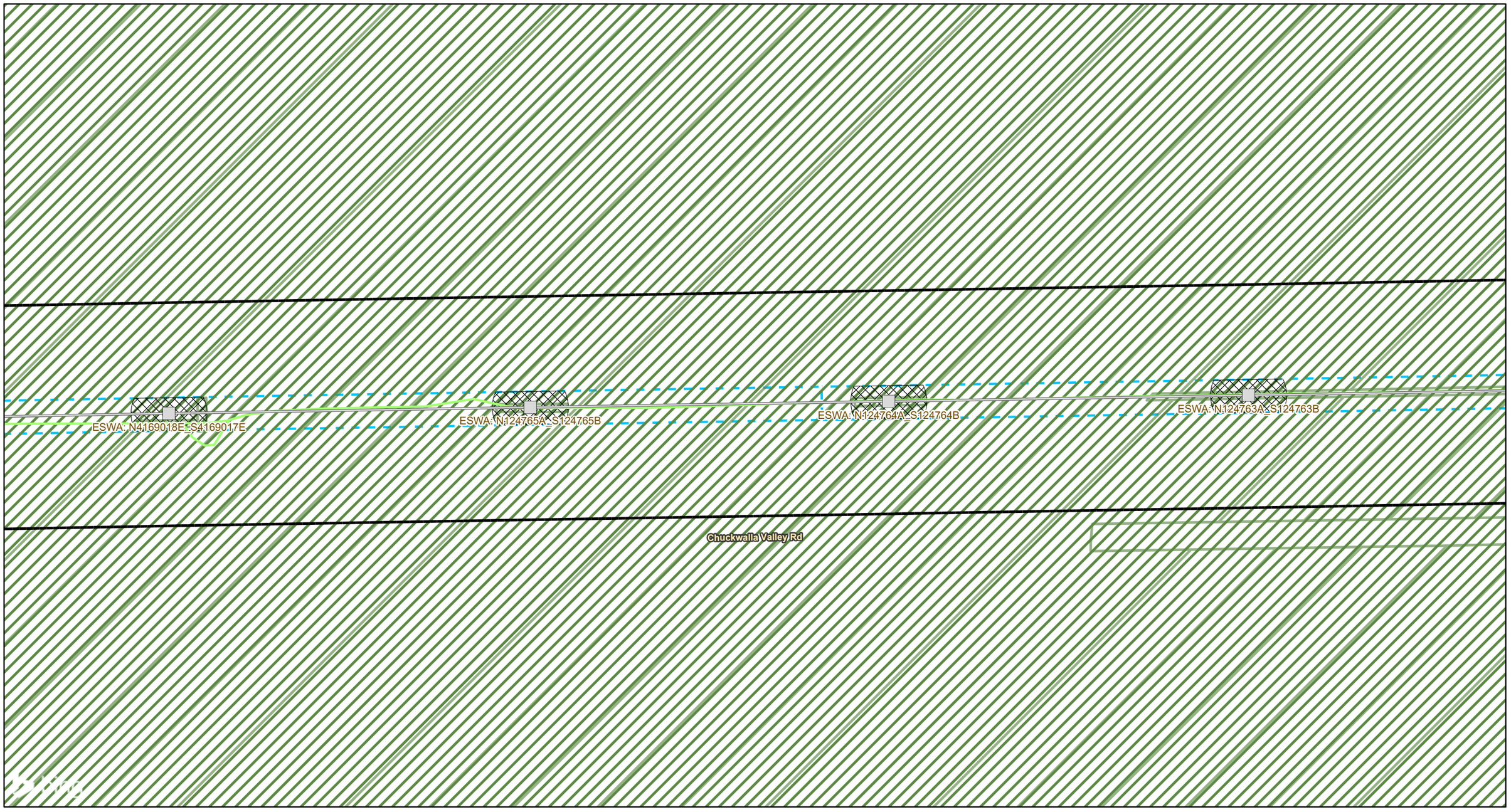
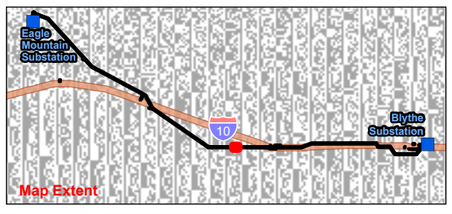
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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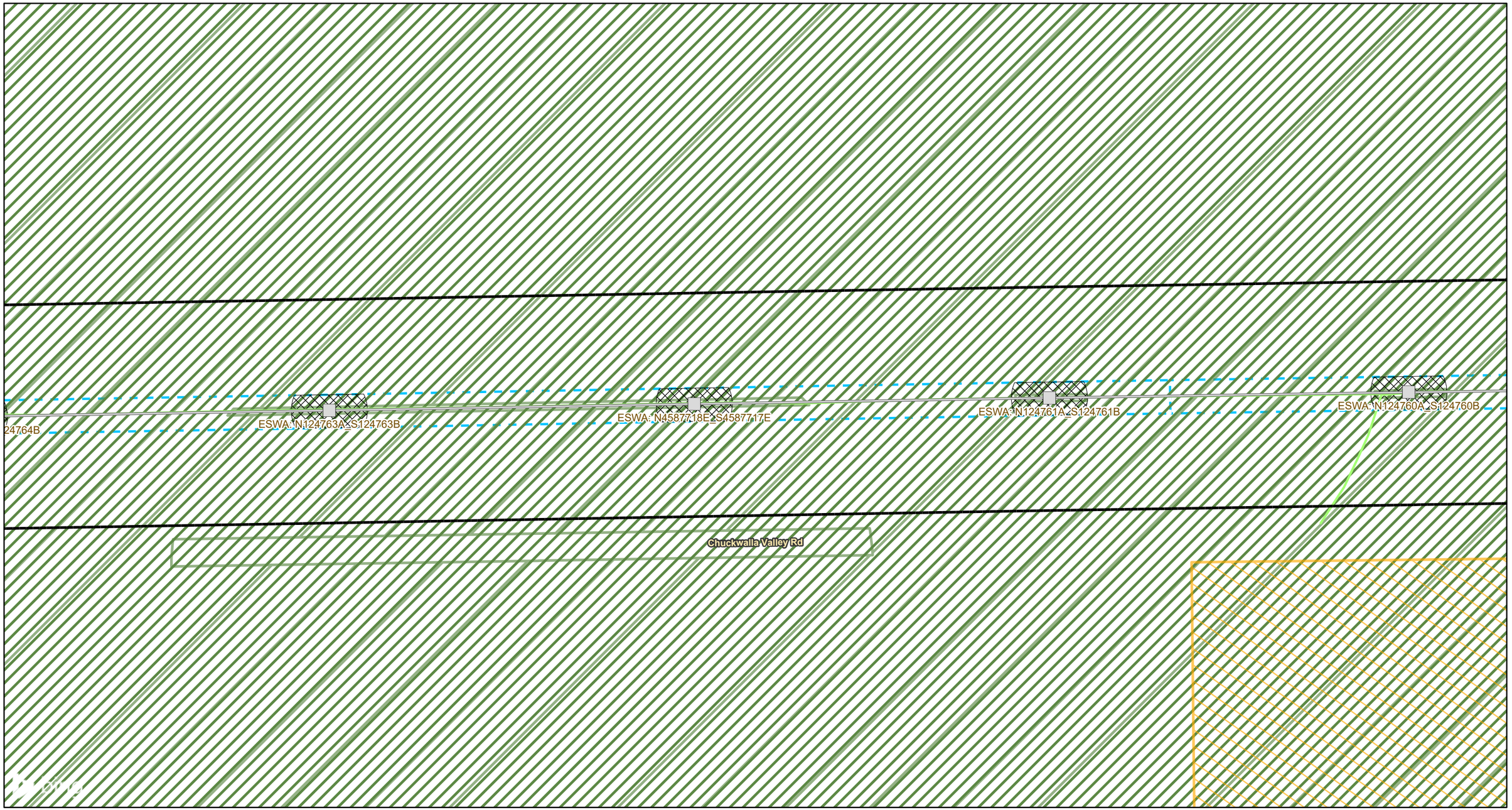
USFWS Critical Habitat

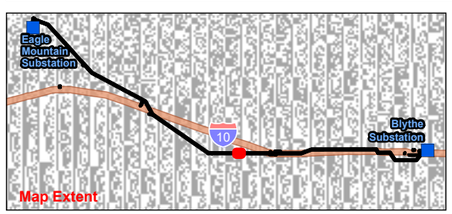
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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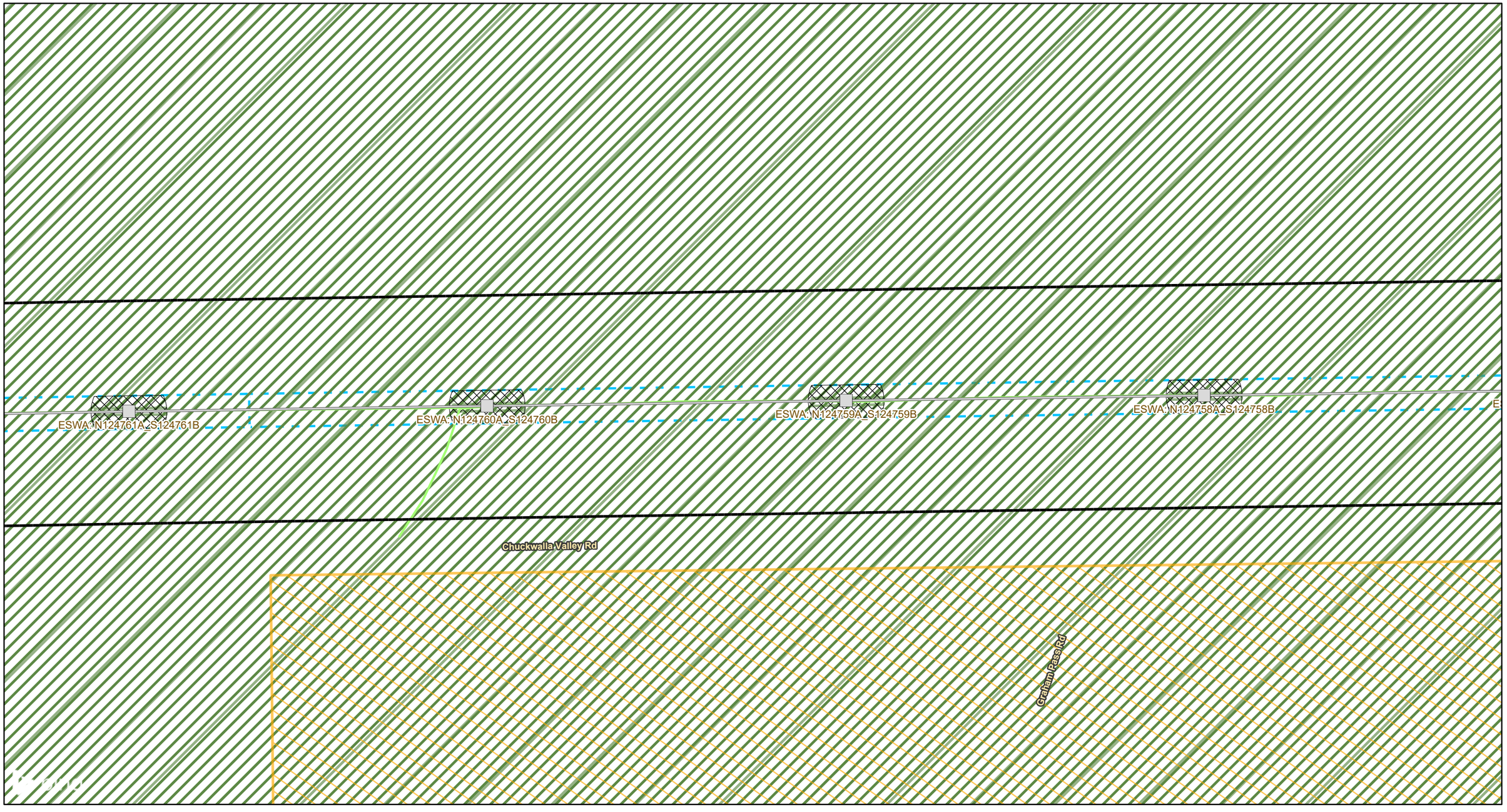
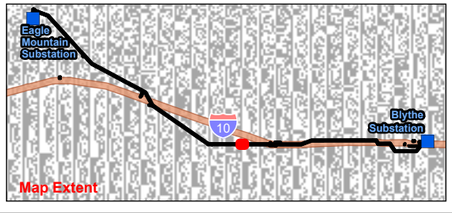
Land Owner
- BLM Land

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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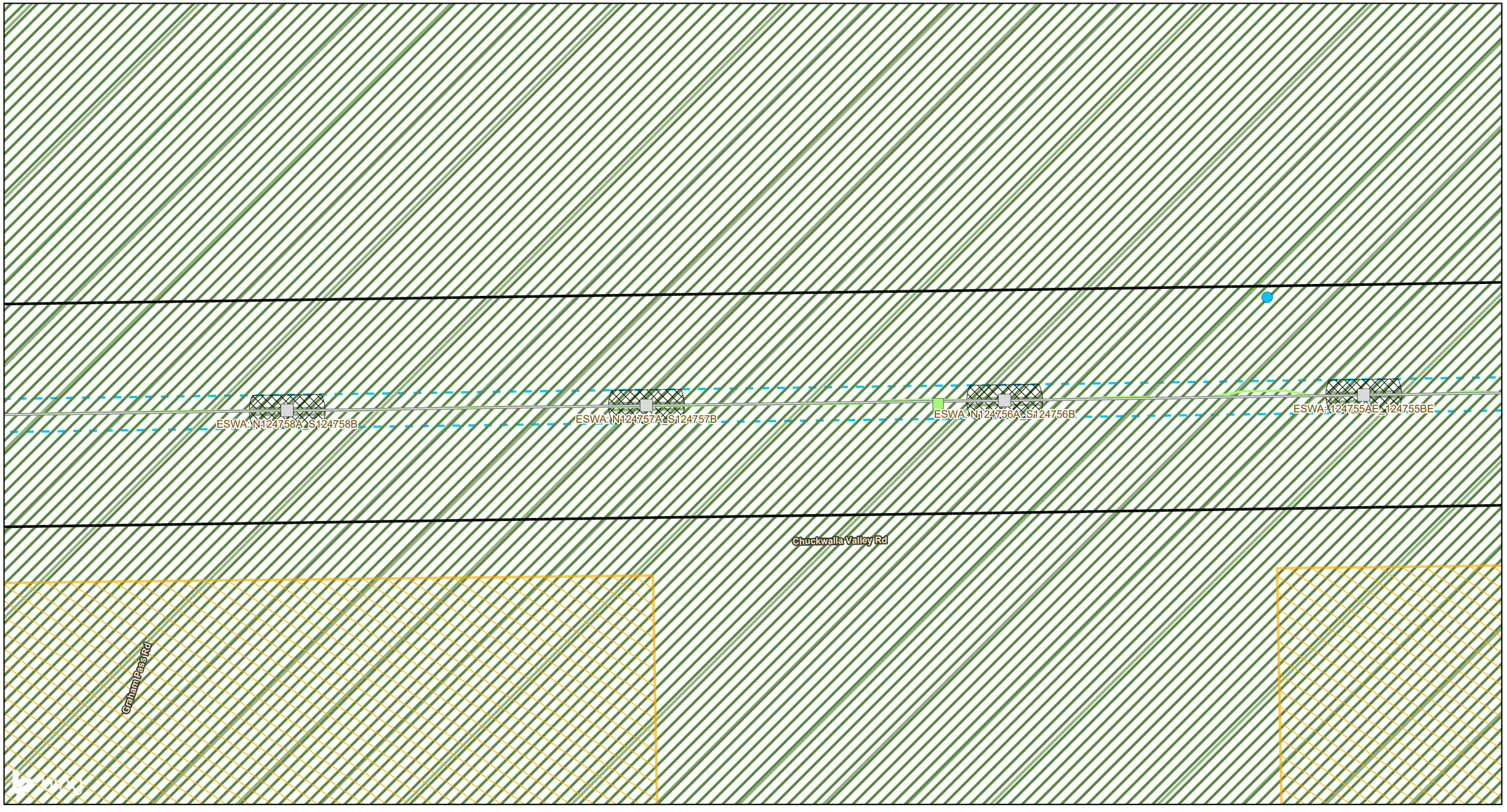
Land Owner
- BLM Land

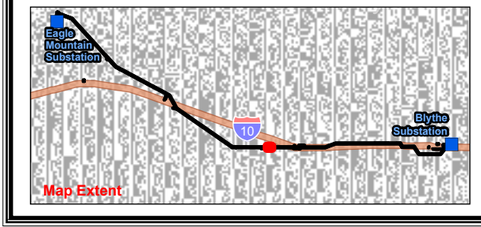
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
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Construction Area
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Land Owner
- BLM Land

Special-Status Plant Point
- Desert unicorn plant

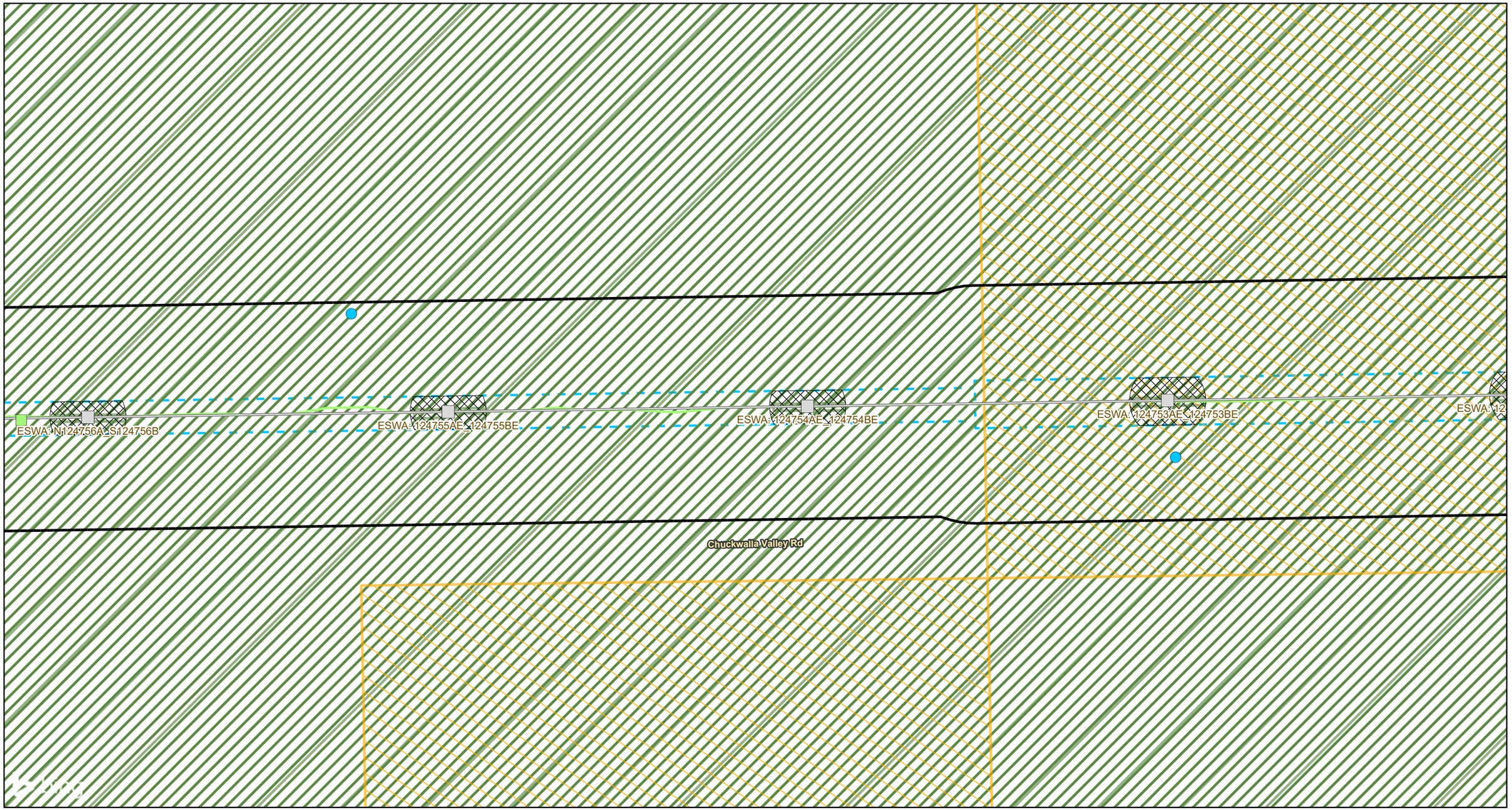
Desert Tortoise Occurrence Type
- Burrow

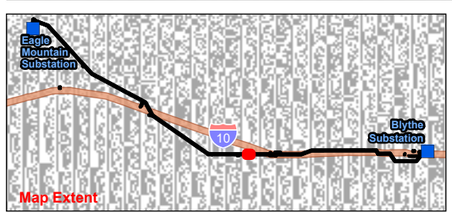
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Special-Status Plant Point
- Desert unicorn plant

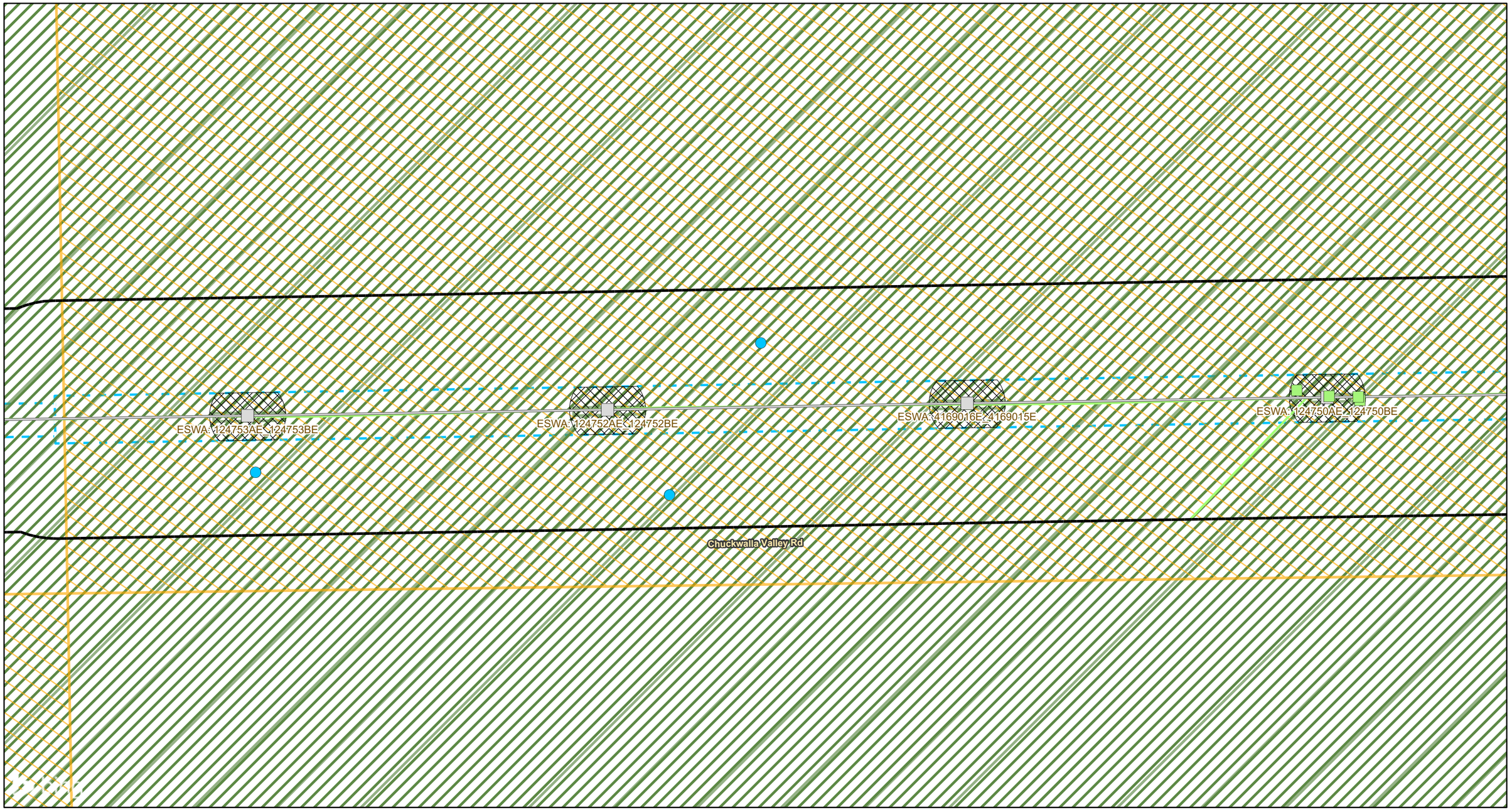
Desert Tortoise Occurrence Type
- Burrow

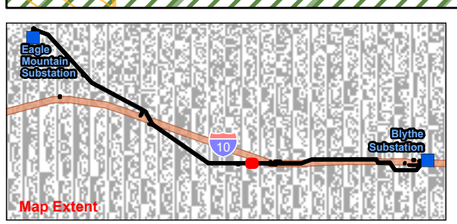
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- BLM Land

Special-Status Plant Point
- Desert unicorn plant

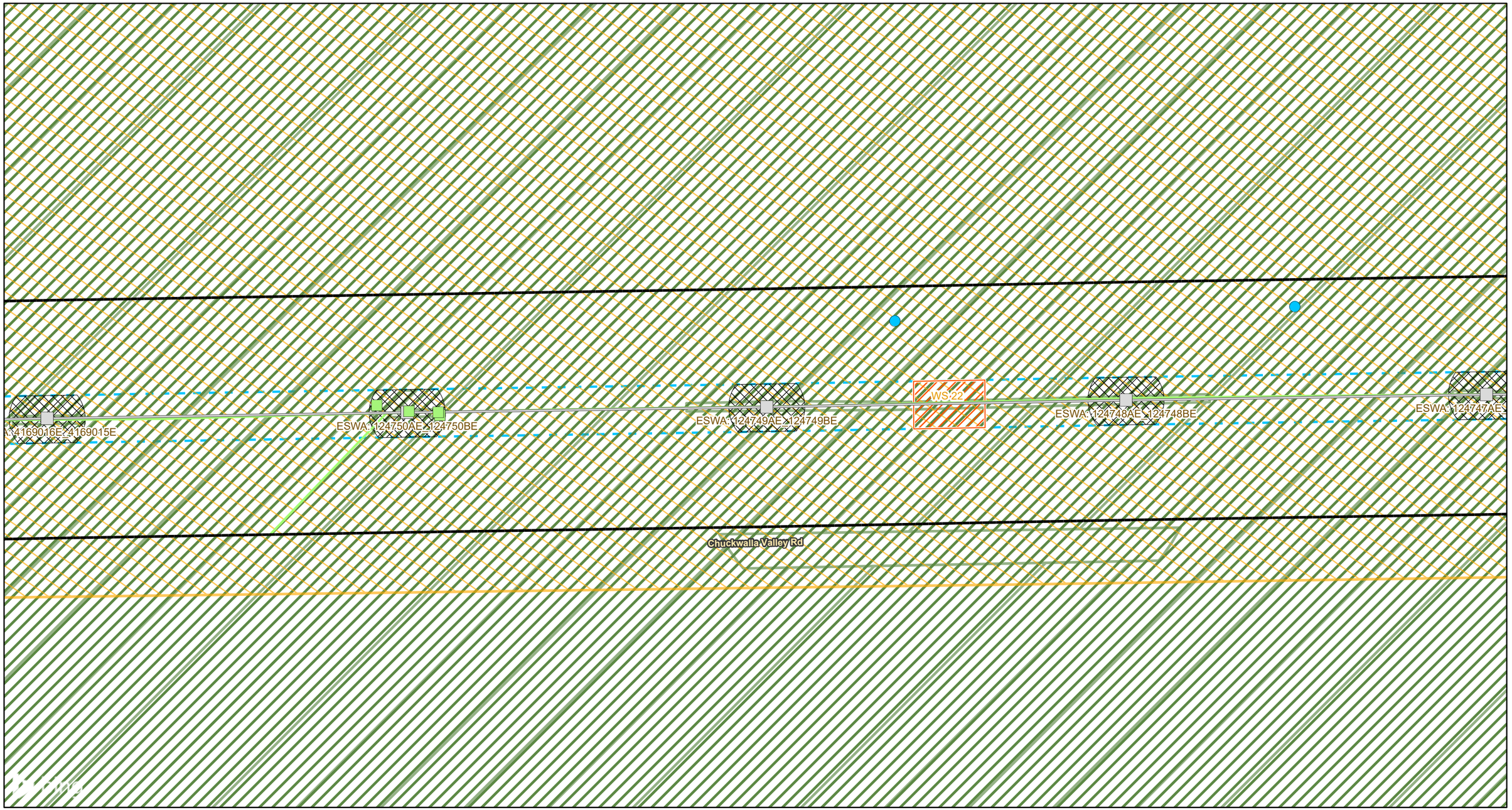
Desert Tortoise Occurrence Type
- Burrow

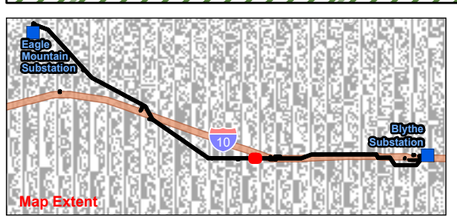
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Land Owner
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Special-Status Plant Point
- Desert unicorn plant

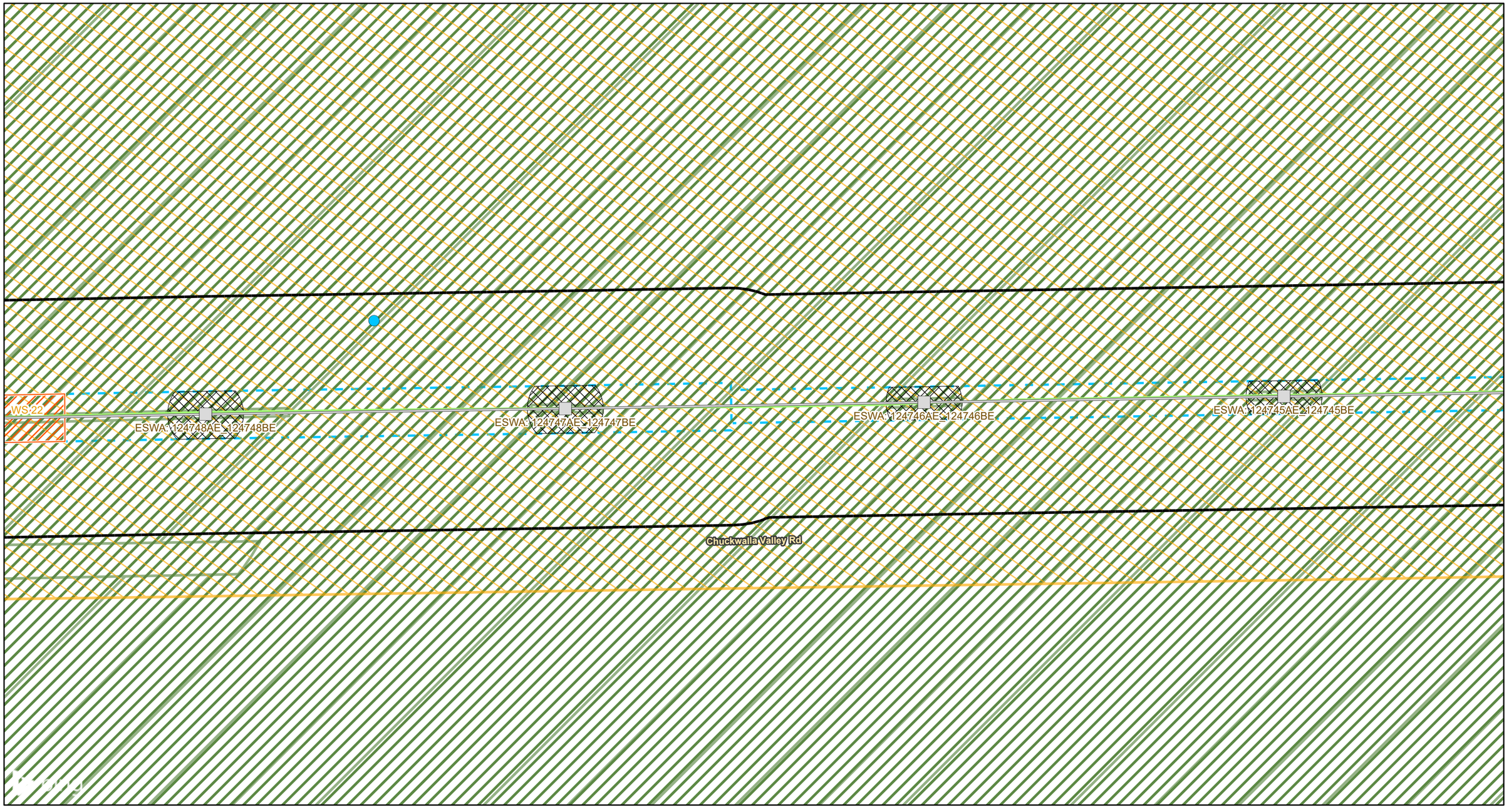
Desert Tortoise Occurrence Type
- Burrow

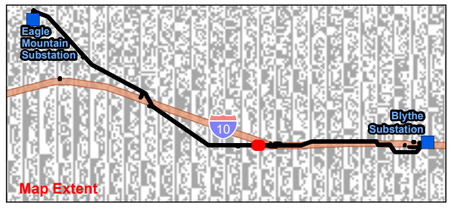
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- Wire Setup
- Structure Work Area
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Land Owner
- BLM Land

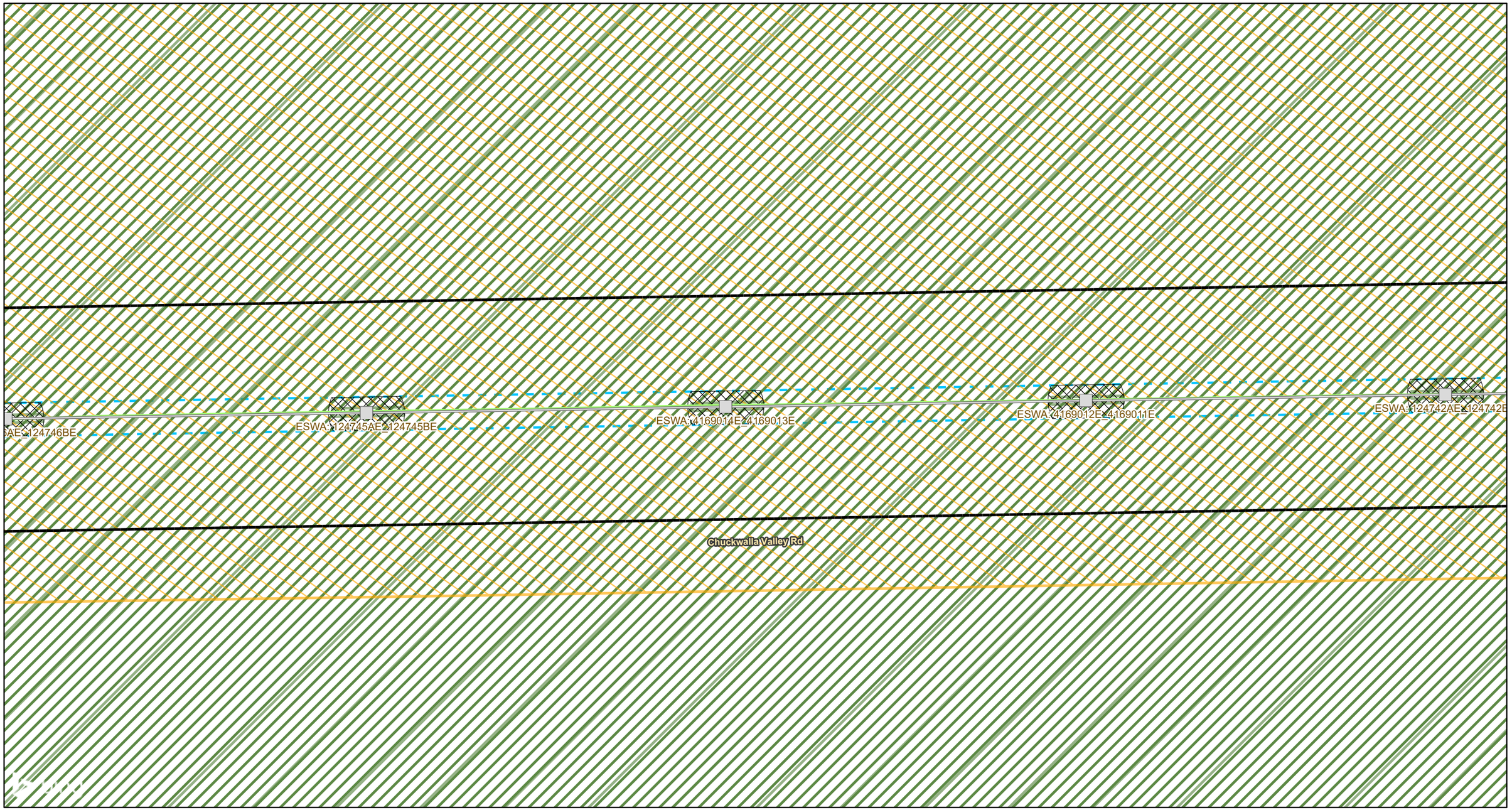
Desert Tortoise Occurrence Type
- Burrow

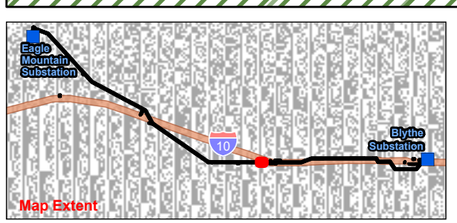
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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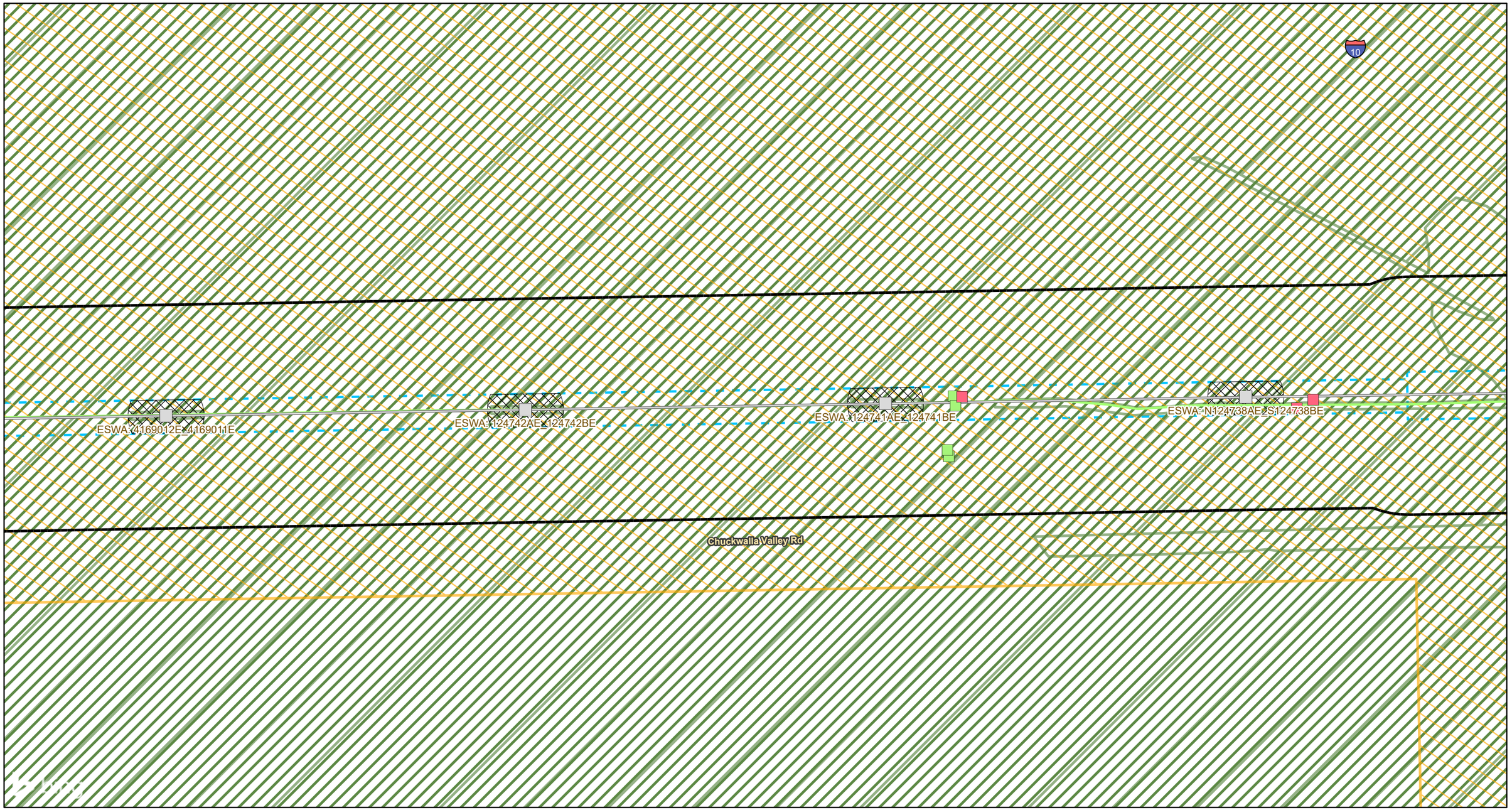
Land Owner
- BLM Land

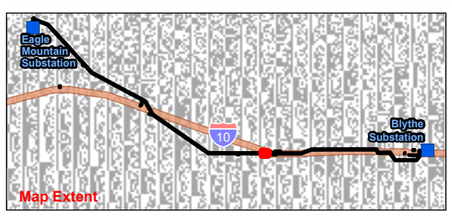
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- BLM Land

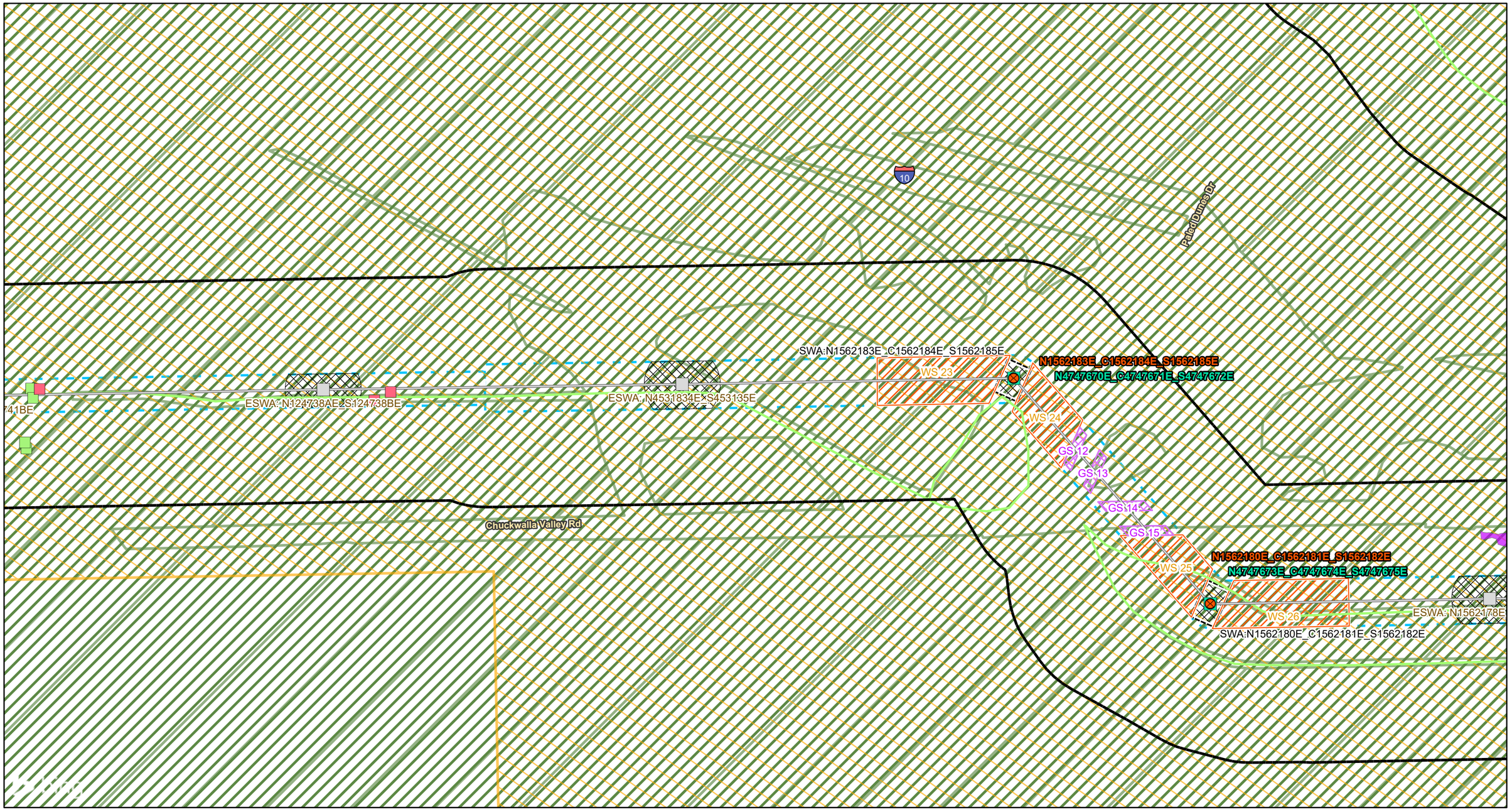
Special-Status Plant Point
- Desert unicorn plant
- Harwood's milkvetch

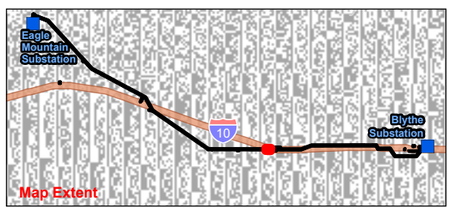
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- New Structure
- Existing Structure (to be removed)
- Existing Structure (to remain)
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- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

Special-Status Plant Point
- Desert unicorn plant
- Harwood's milkvetch

Special-Status Plant Polygon
- Abrams' spurge

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

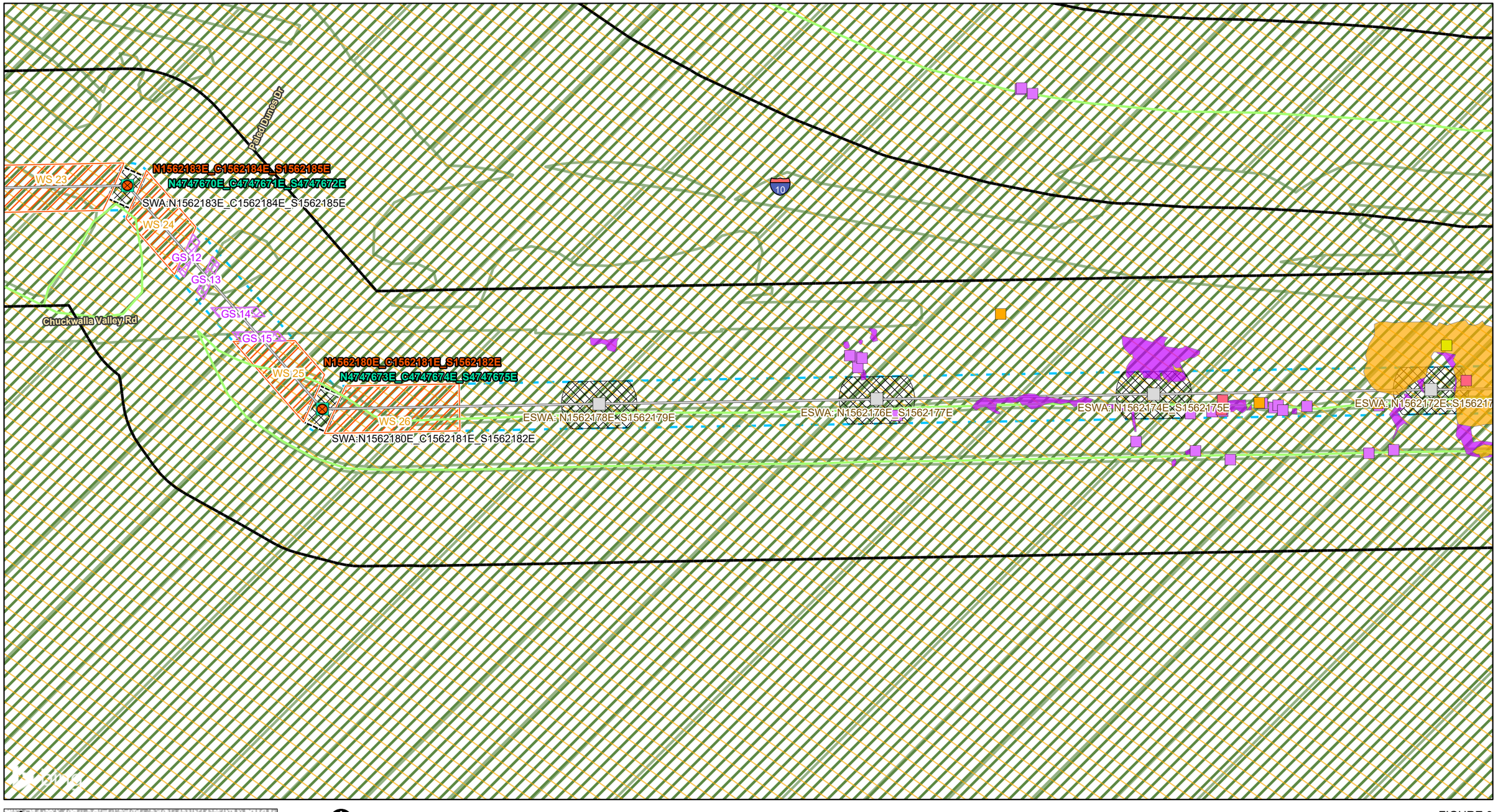
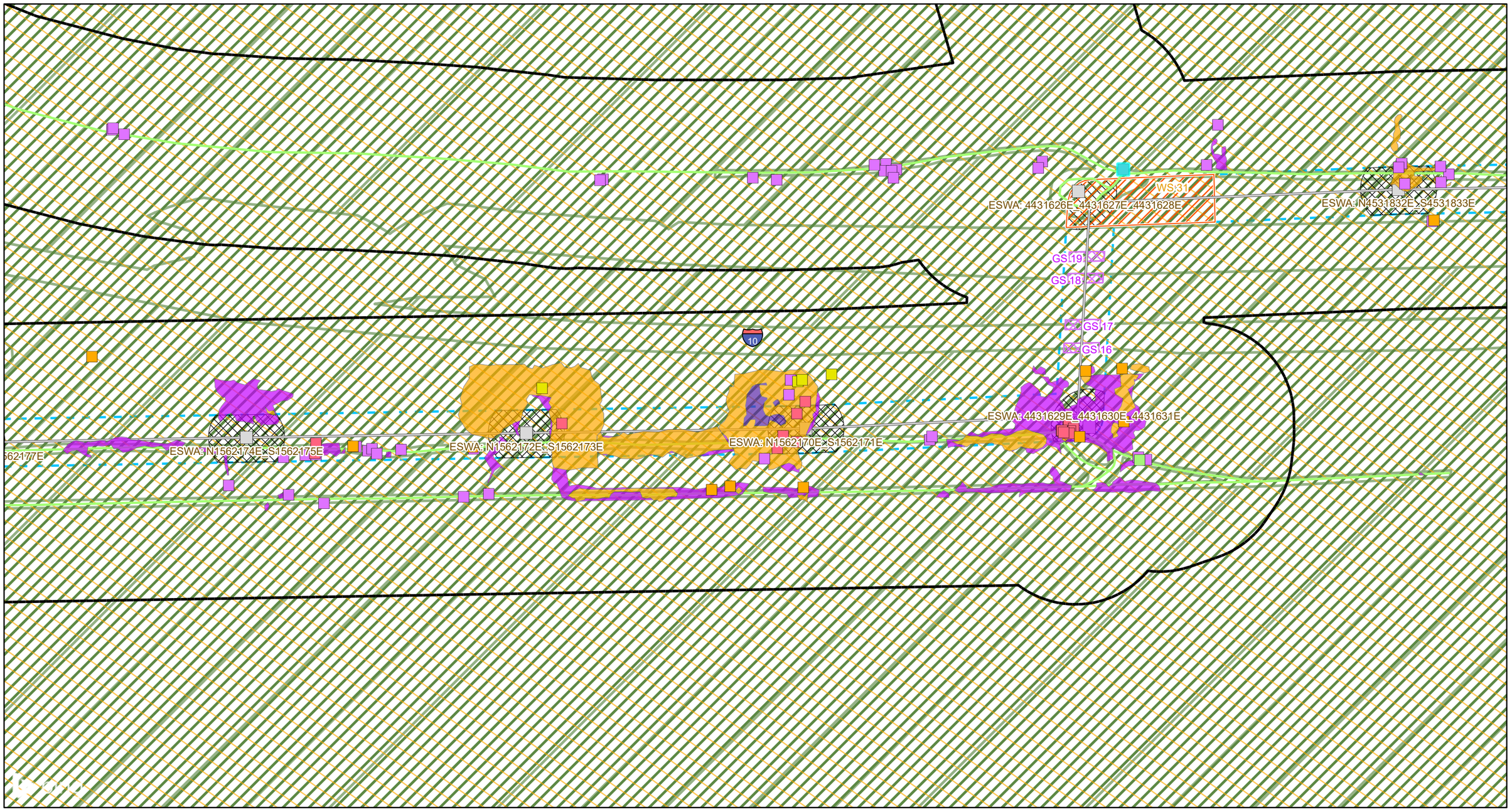
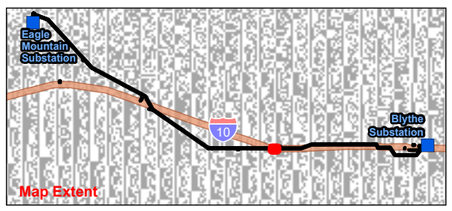


FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

Special-Status Plant Point
- Abrams' spurge

- Desert unicorn plant
- Harwood's milkvetch
- Roughstalk witch grass
- Watson's amaranth

Special-Status Plant Polygon
- Abrams' spurge
- Roughstalk witch grass
- Watson's amaranth

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

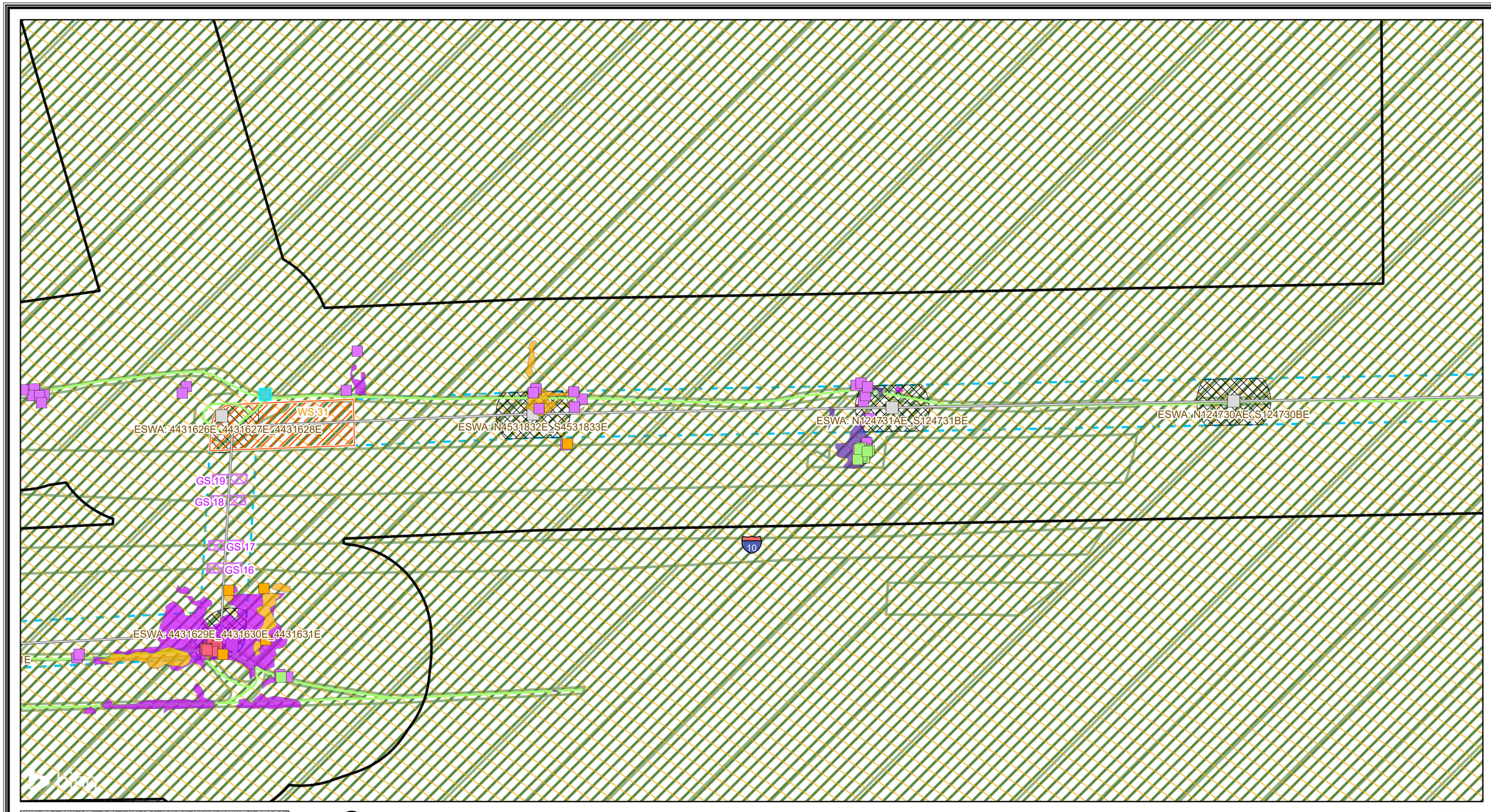
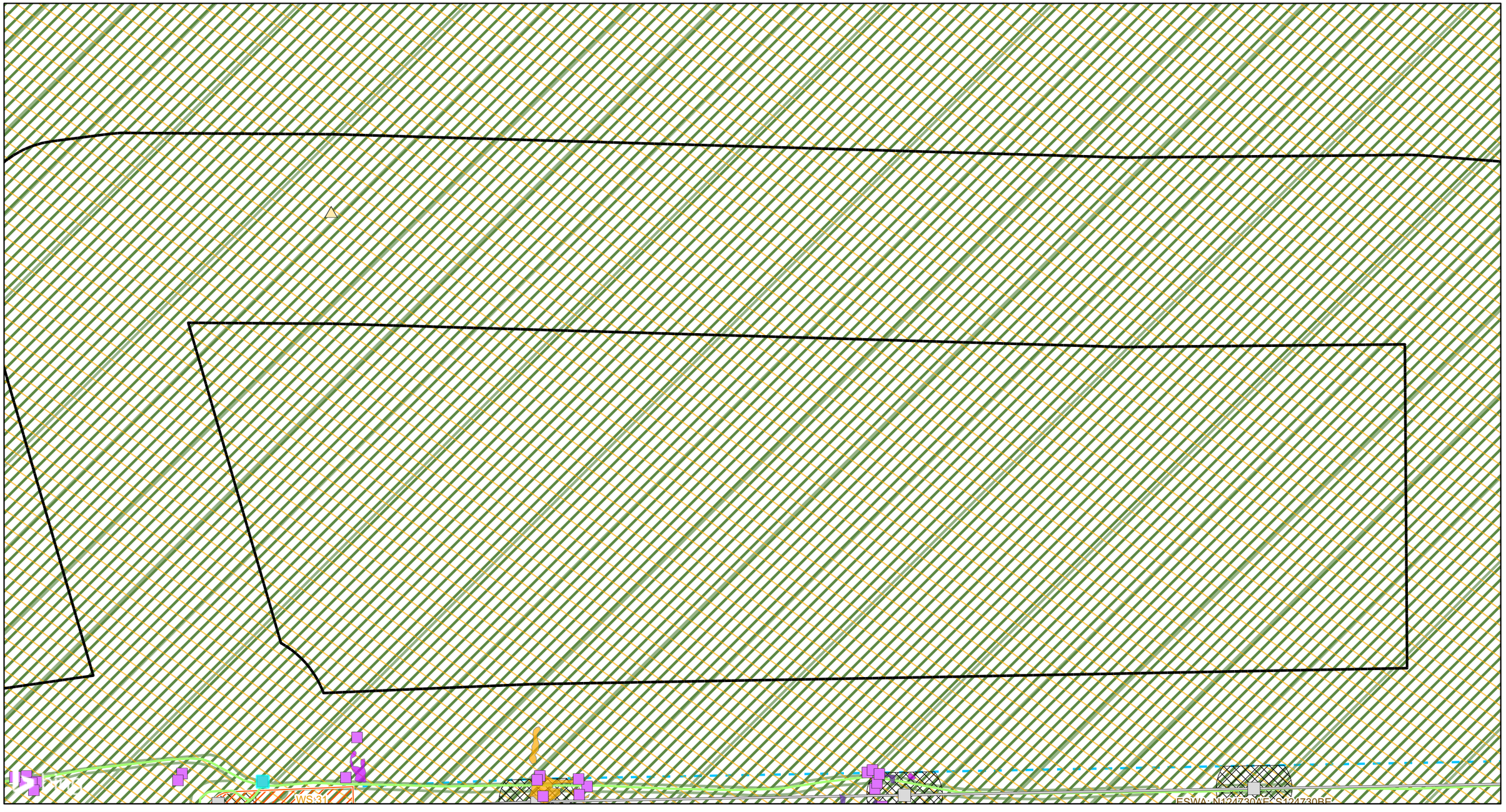
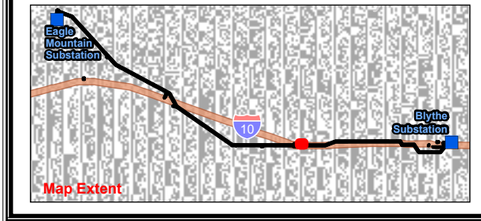


FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

Land Owner
- BLM Land

Special-Status Wildlife
- Burrowing Owl

Special-Status Plant Point
- Abrams' spurge
- Harwood's milkvetch

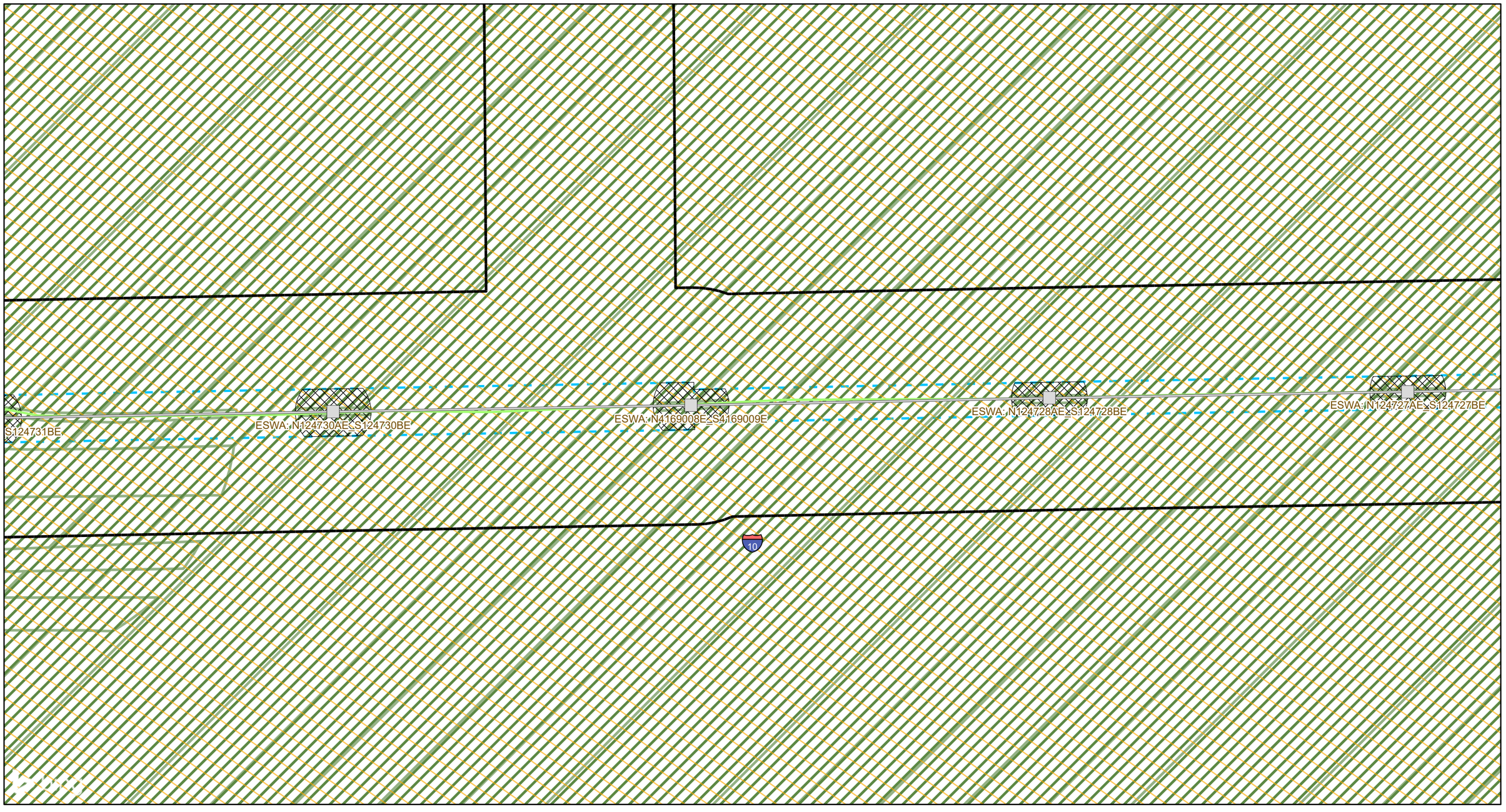
Special-Status Plant Polygon
- Abrams' spurge
- Roughstalk witch grass
- Watson's amaranth

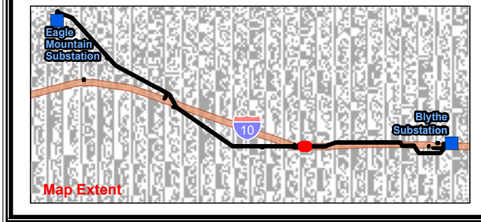
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Construction Area
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- Structure Work Area
- O&M Area

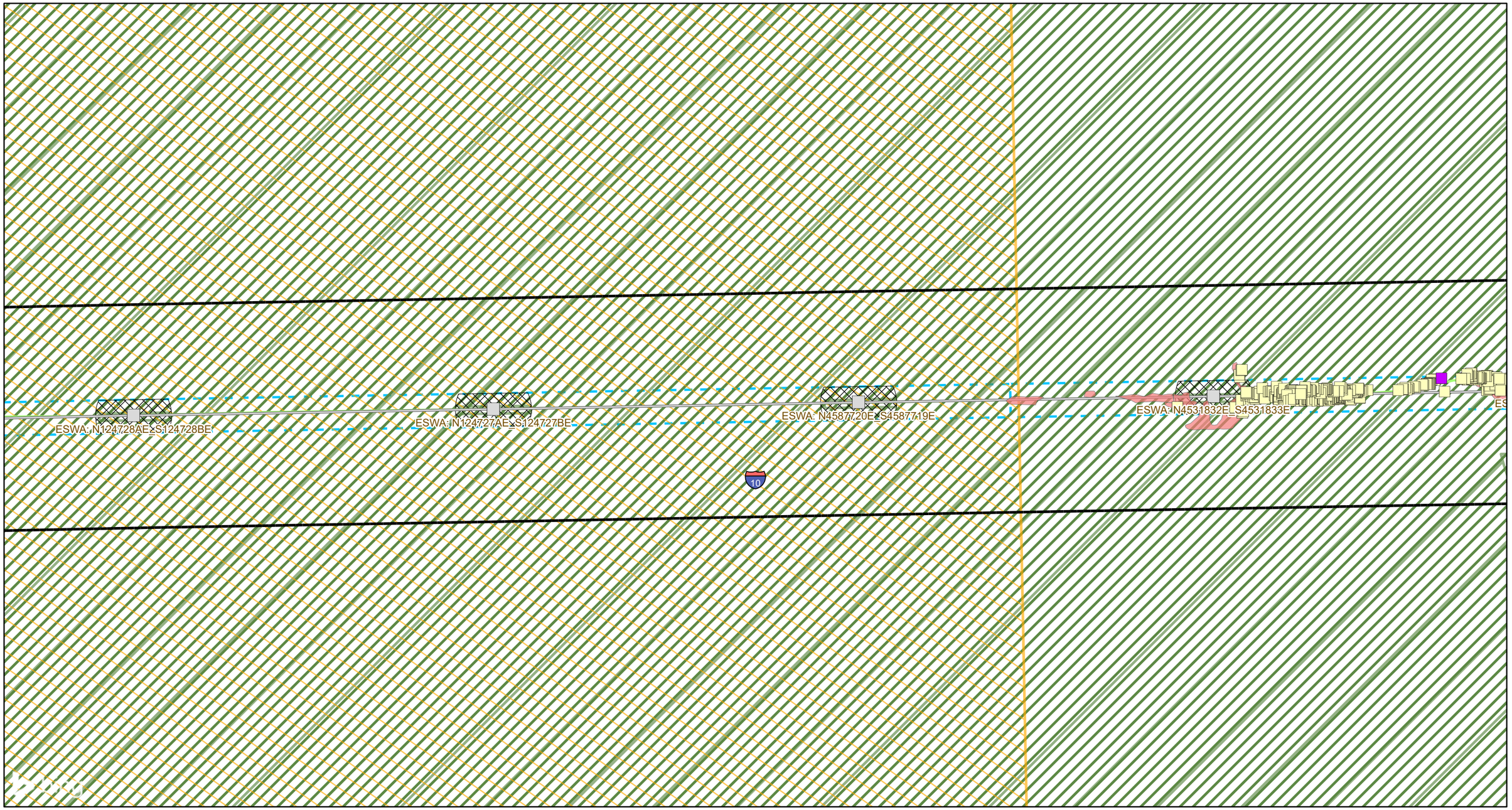
Land Owner
- BLM Land

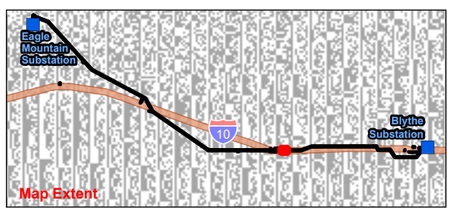
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Special-Status Plant Point
- Gravel milkvetch
- Ribbed cryptantha

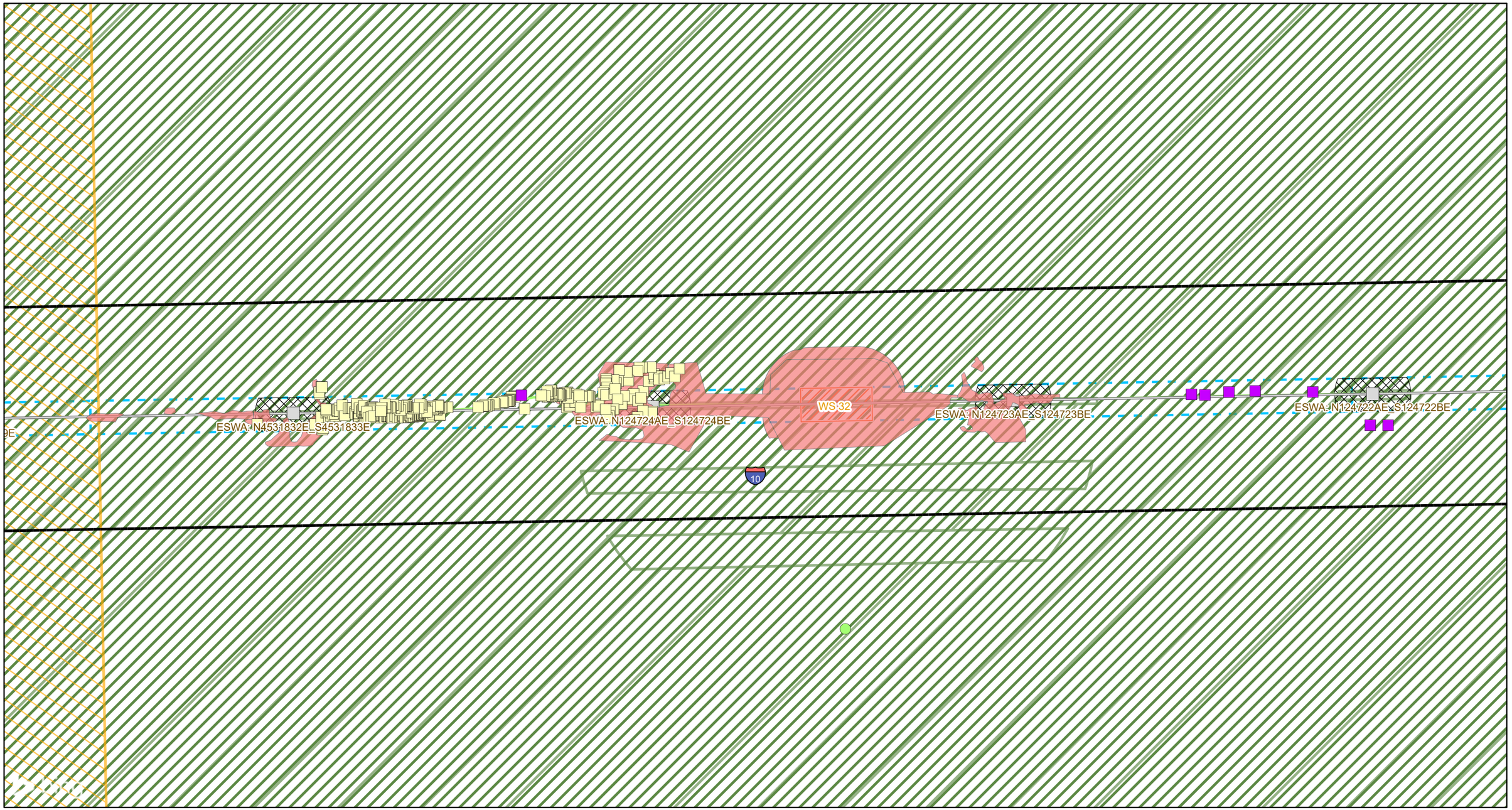
Special-Status Plant Polygon
- Ribbed cryptantha

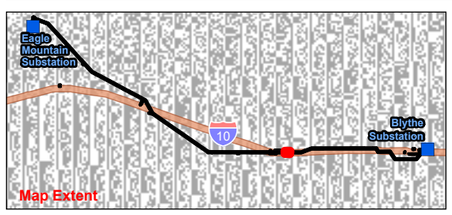
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Special-Status Plant Point
- Gravel milkvetch
- Ribbed cryptantha

Special-Status Plant Polygon
- Ribbed cryptantha

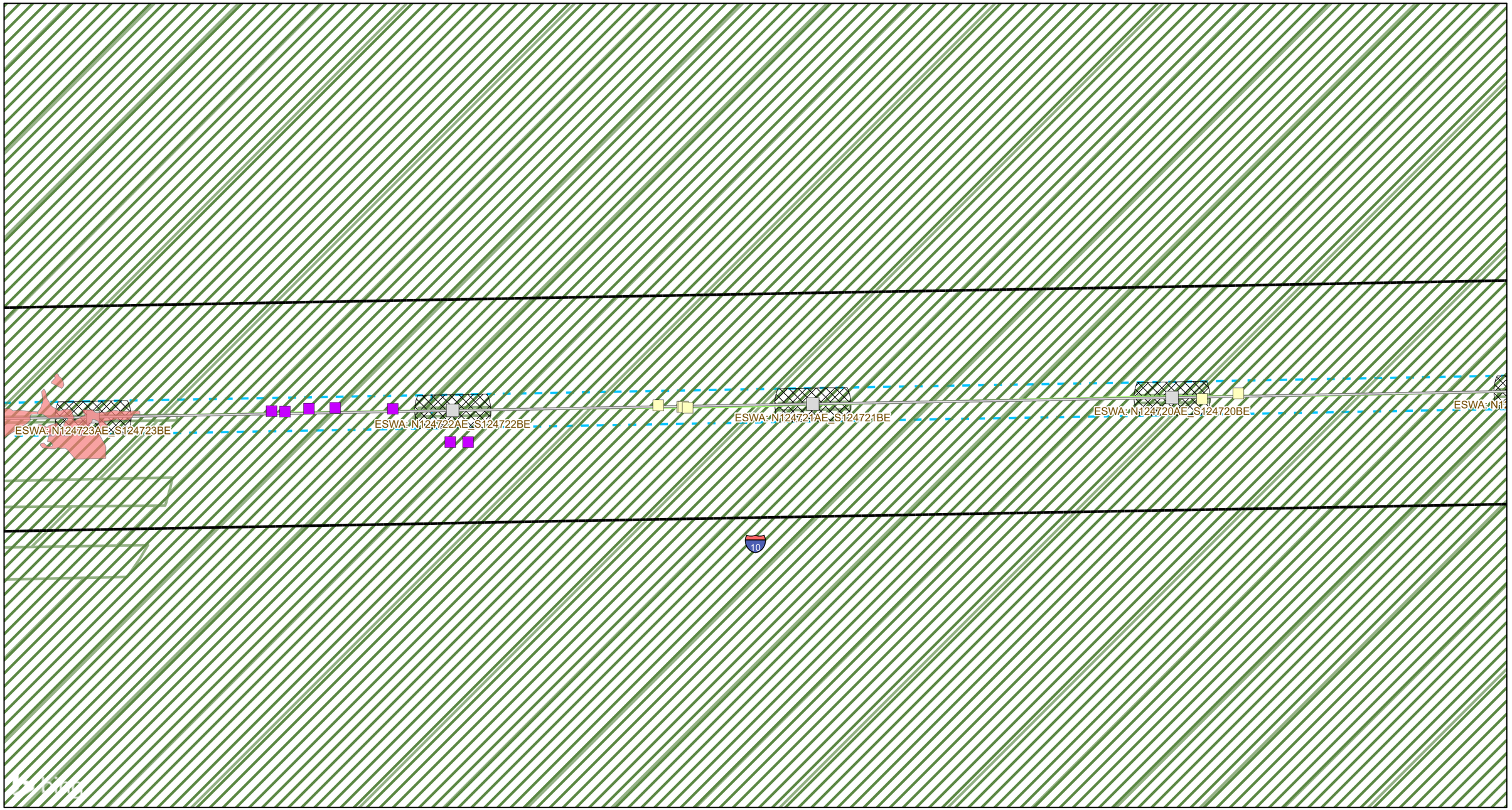
Desert Tortoise Occurrence Type
- Pallet

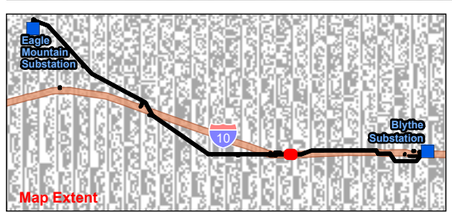
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Plant Point
- Gravel milkvetch
- Ribbed cryptantha

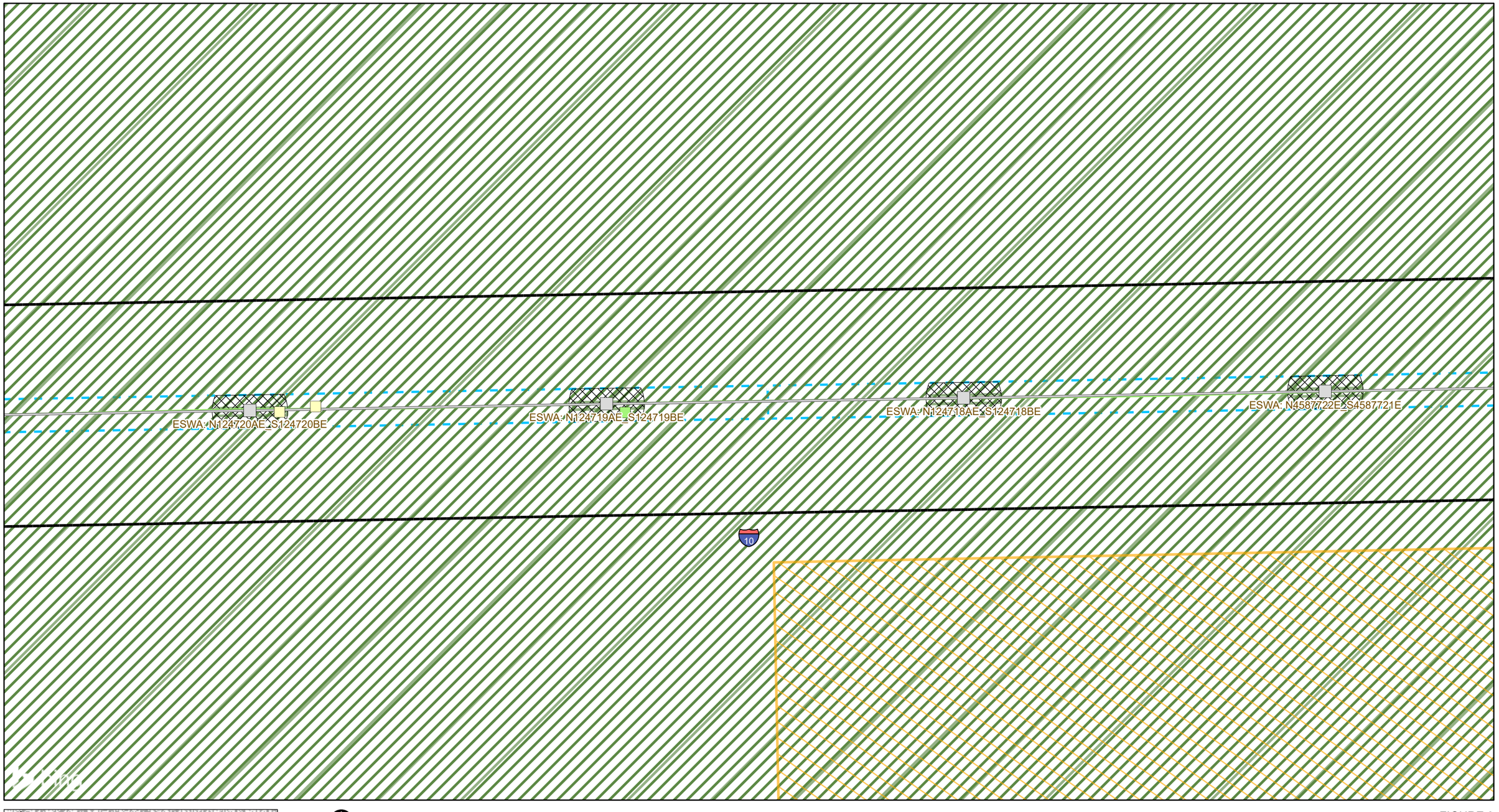
Special-Status Plant Polygon
- Ribbed cryptantha

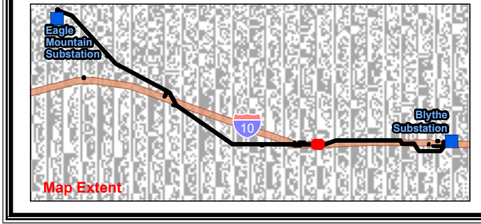
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

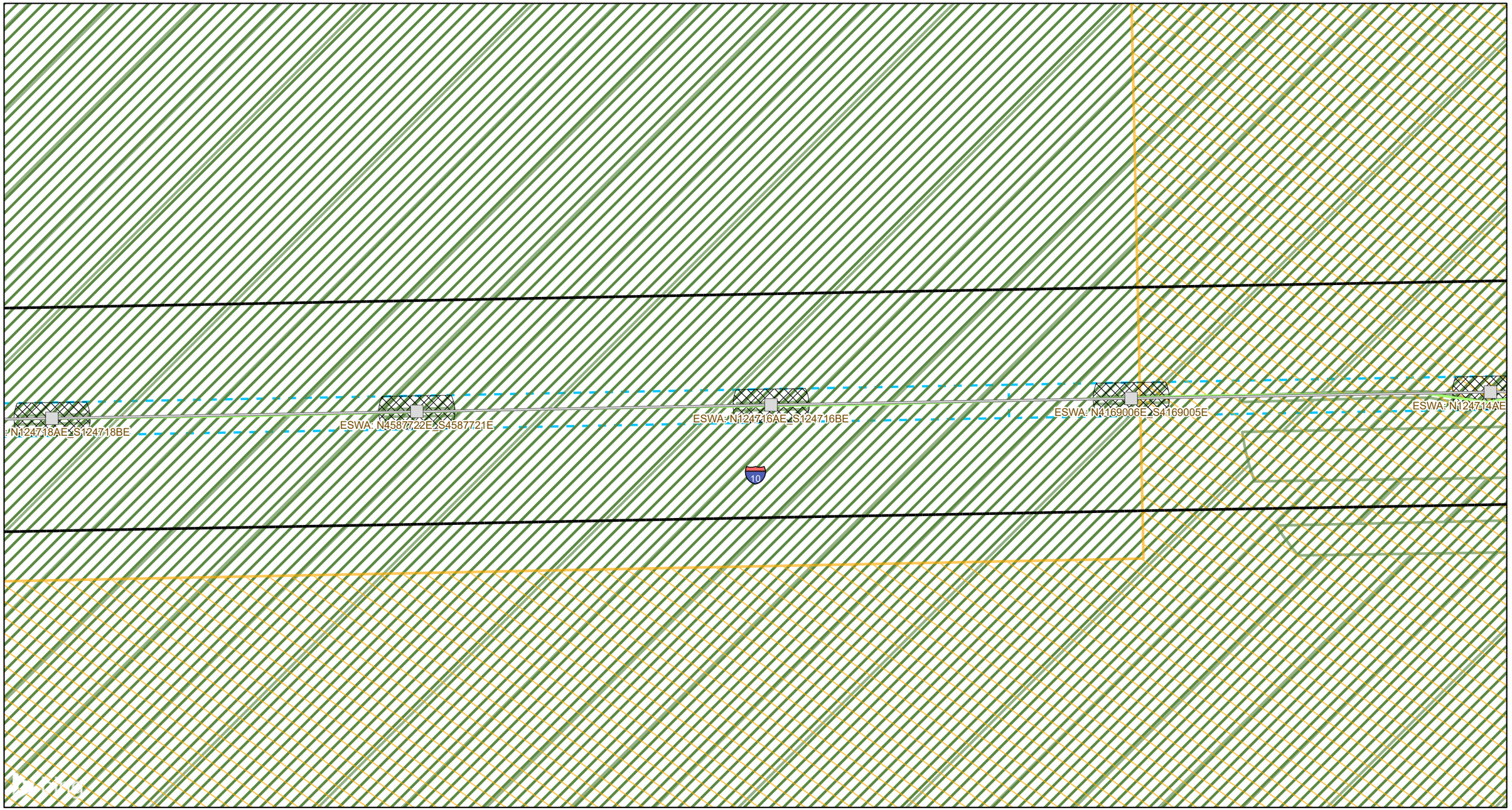
Special-Status Plant Point
- Desert unicorn plant
- Gravel milkvetch

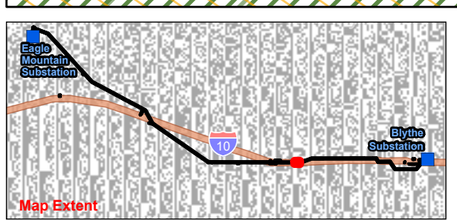
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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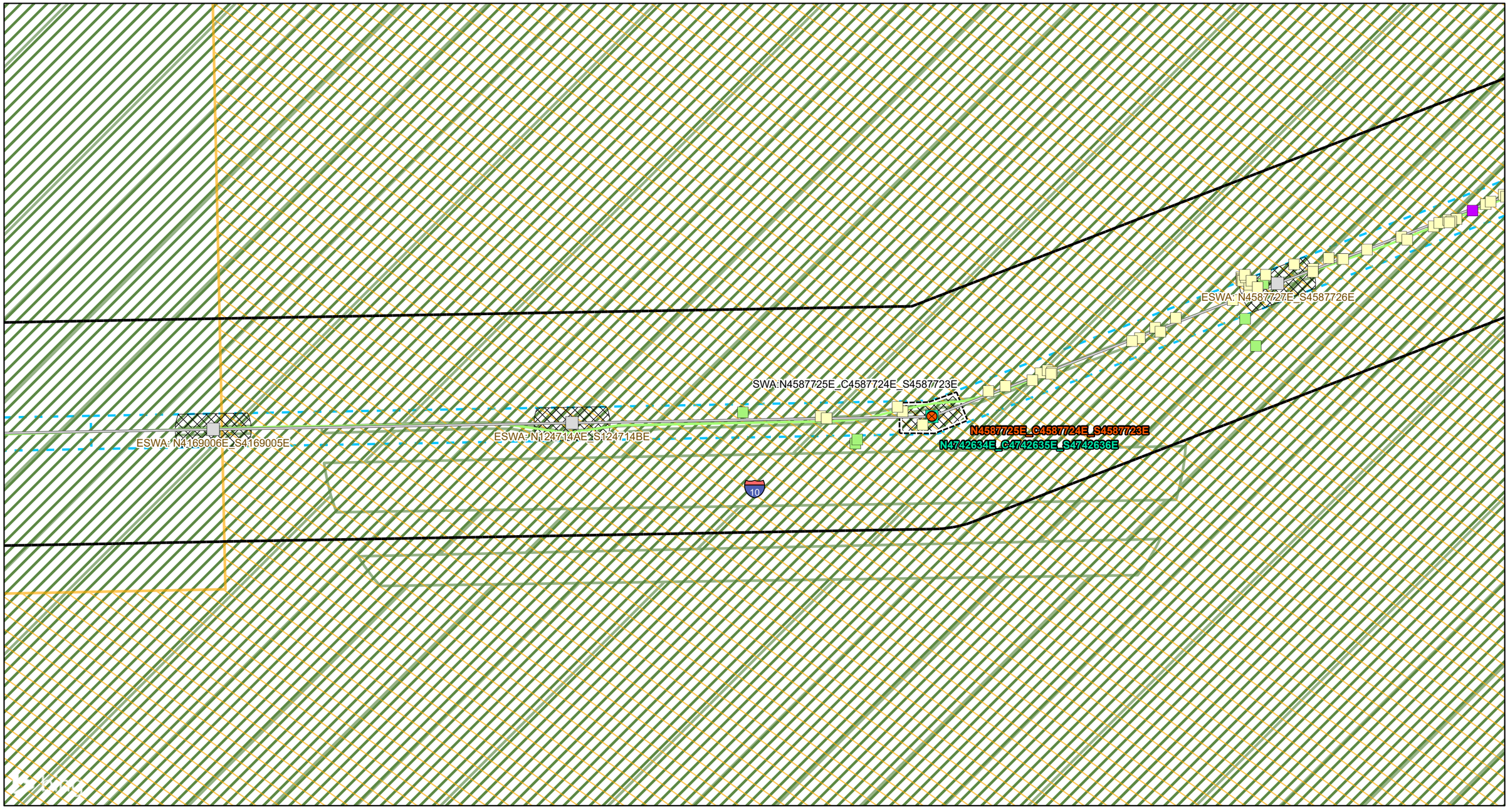
Land Owner
- BLM Land

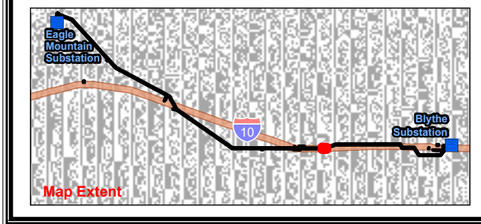
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Land Owner
- BLM Land

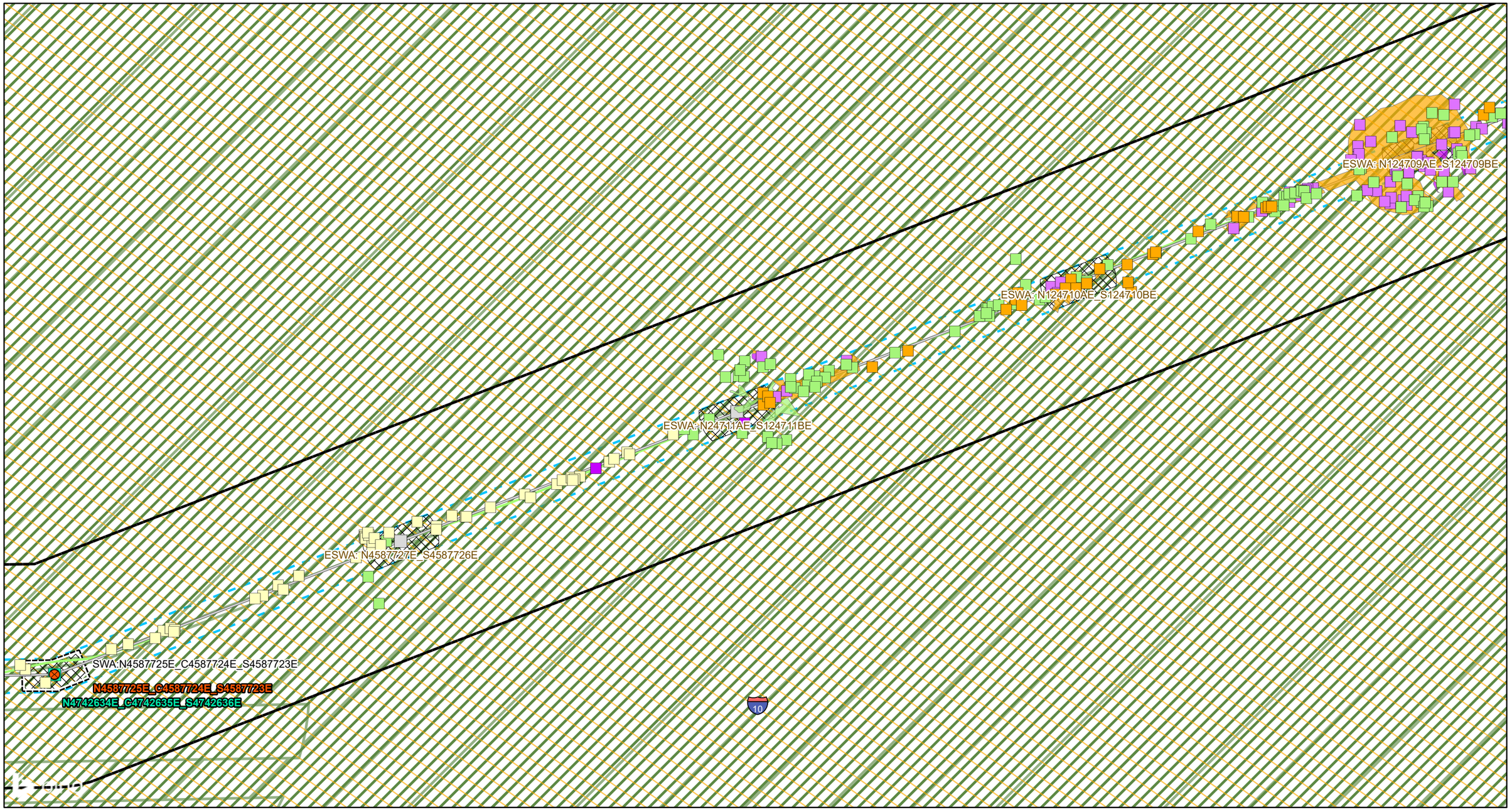
Special-Status Plant Point
- Desert unicorn plant
- Gravel milkvetch
- Ribbed cryptantha

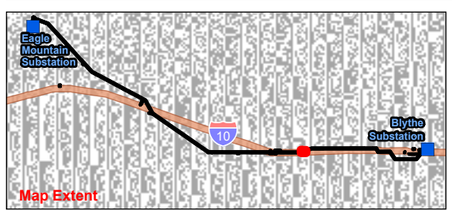
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Special-Status Plant Point
- Abrams' spurge
- Desert unicorn plant
- Gravel milkvetch
- Ribbed cryptantha
- Roughstalk witch grass

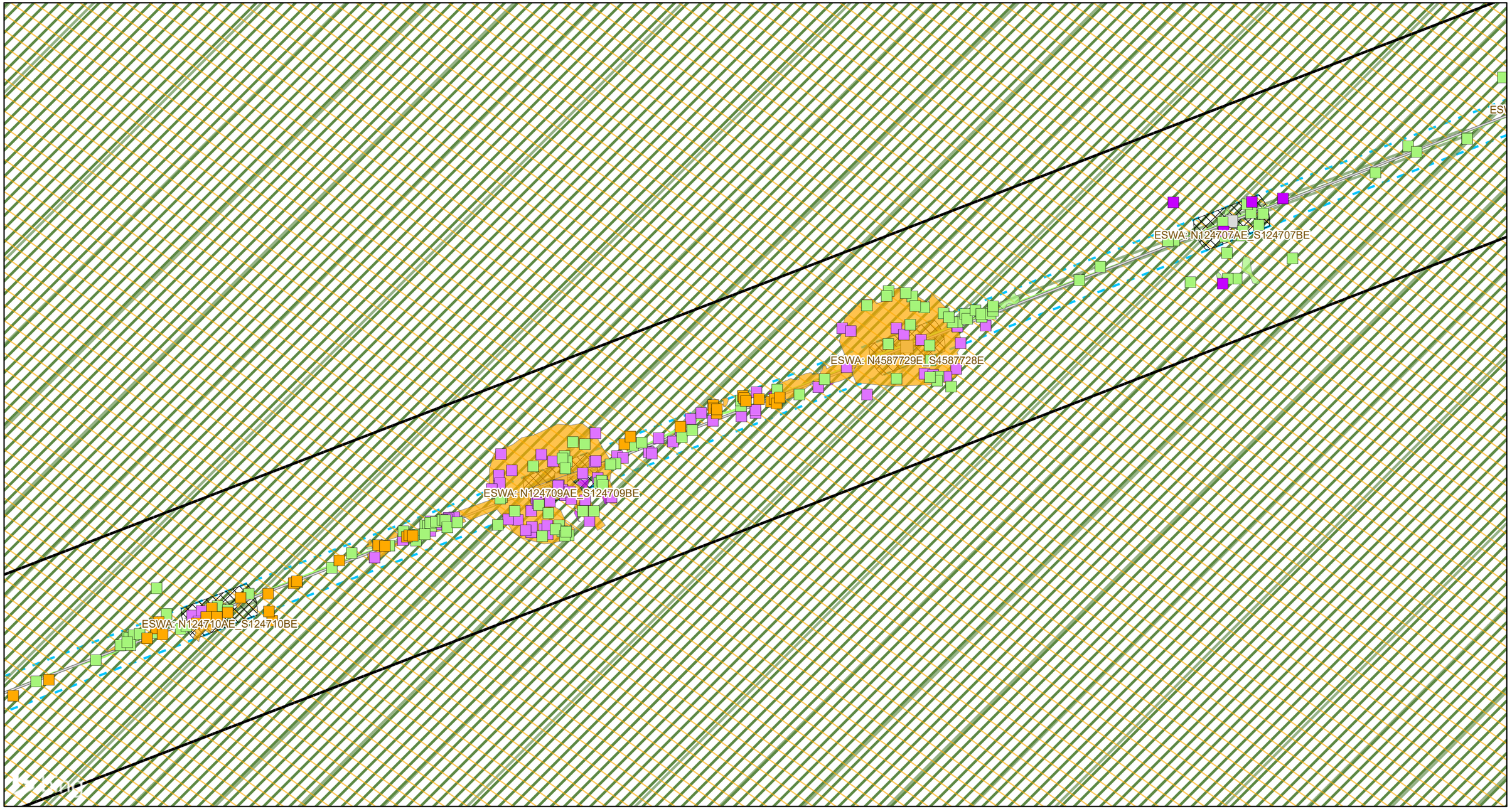
Special-Status Plant Polygon
- Abrams' spurge
- Desert unicorn plant
- Roughstalk witch grass

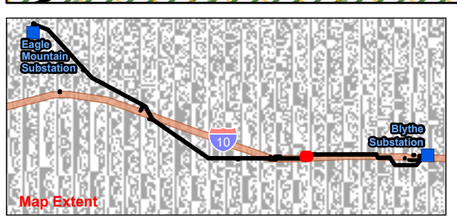
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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Special-Status Plant Point
- Abrams' spurge

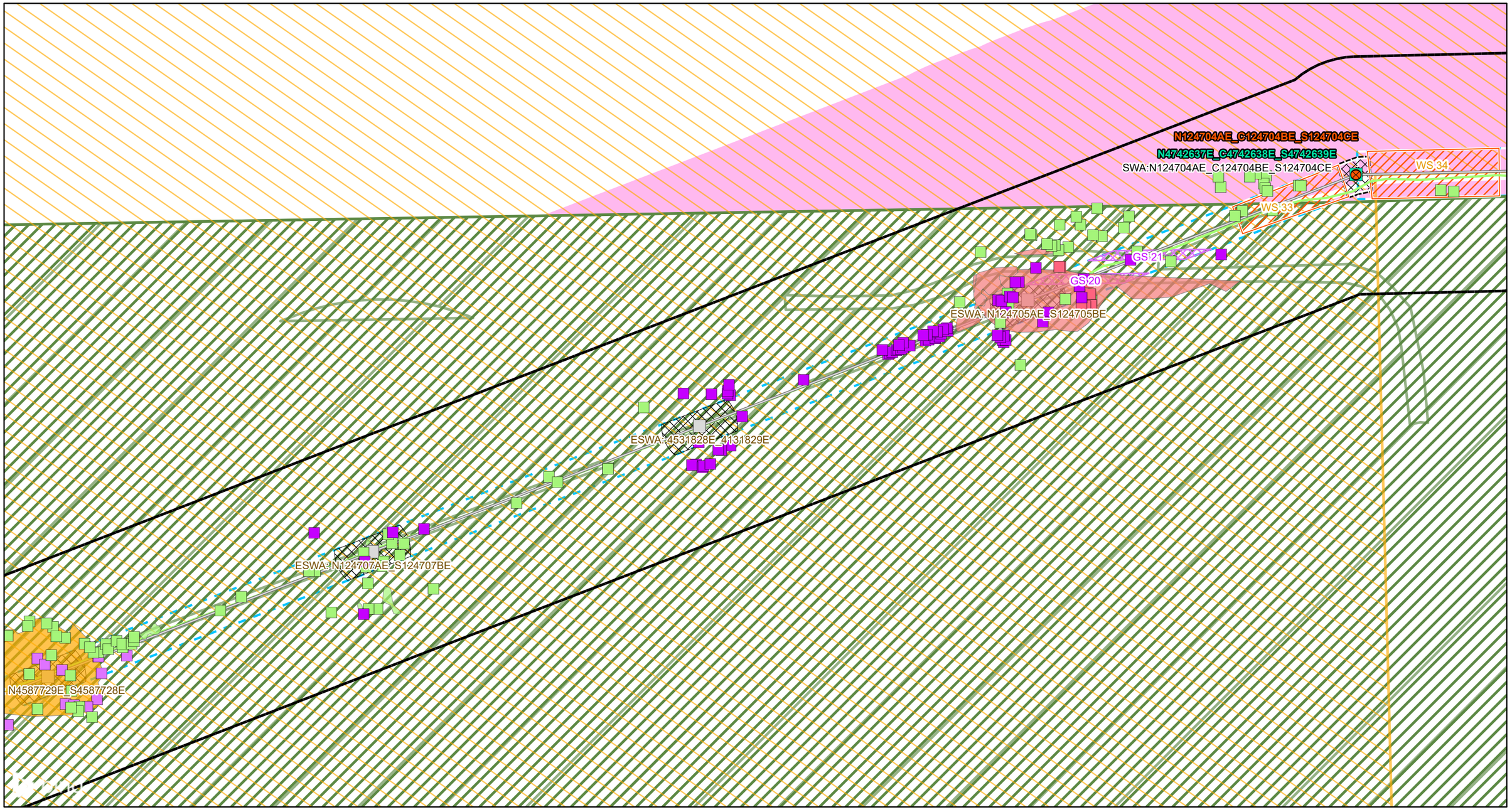
- Desert unicorn plant
- Ribbed cryptantha
- Roughstalk witch grass

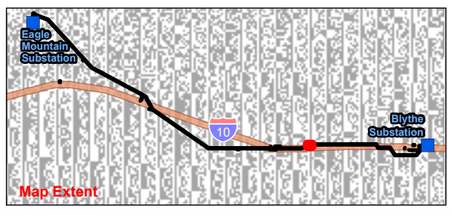
Special-Status Plant Polygon
- Abrams' spurge
- Desert unicorn plant
- Roughstalk witch grass

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
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Special-Status Plant Point
- Abrams' spurge
- Desert unicorn plant
- Harwood's milkvetch
- Ribbed cryptantha

Special-Status Plant Polygon
- Abrams' spurge
- Desert unicorn plant
- Ribbed cryptantha
- Roughstalk witch grass

Suitable Habitat
- Desert Tortoise

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

N124704AE_C124704BE_S124704CE
N4742637E_C4742638E_S4742639E
WS 34
WS 33
SWA:N124704AE_C124704BE_S124704CE
ESWA: N124703AE_S124703BE
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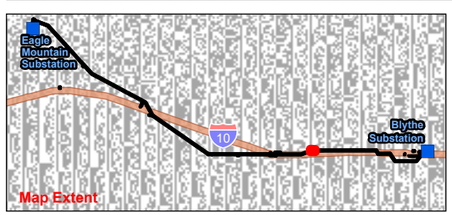
GS 21
GS 20
ESWA: N124705AE_S124705BE



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Land Owner
- BLM Land
- State Land

Special-Status Plant Point
- Desert unicorn plant
- Harwood's milkvetch
- Ribbed cryptantha

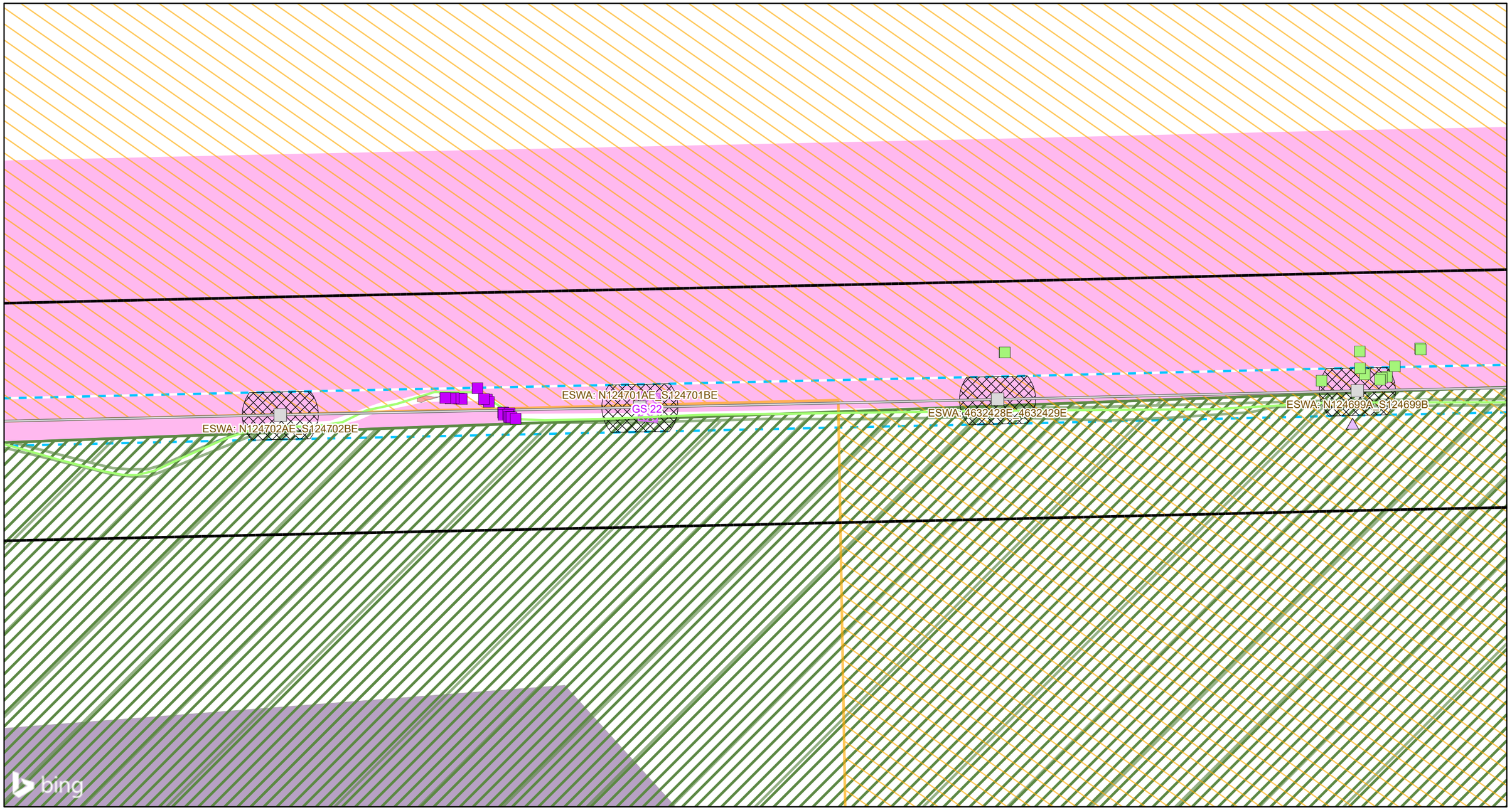
Special-Status Plant Polygon
- Desert unicorn plant
- Ribbed cryptantha

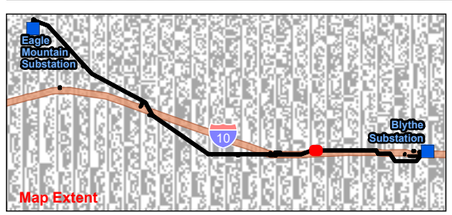
Suitable Habitat
- Desert Tortoise

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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- O&M Area

Land Owner
- BLM Land
- State Land

Special-Status Wildlife
- Desert Kit Fox

Special-Status Plant Point
- Desert unicorn plant
- Ribbed cryptantha

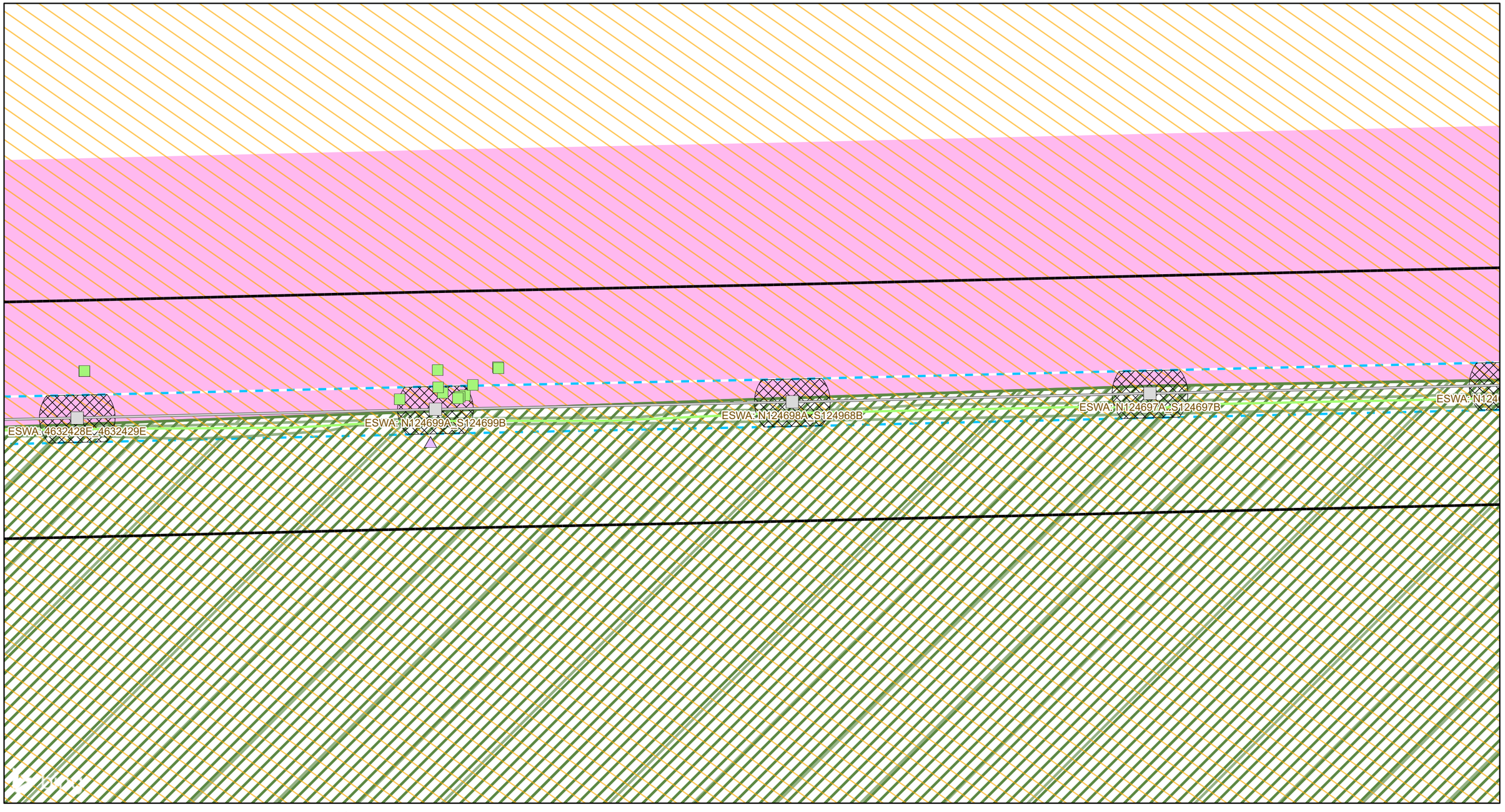
Special-Status Plant Polygon
- Ribbed cryptantha

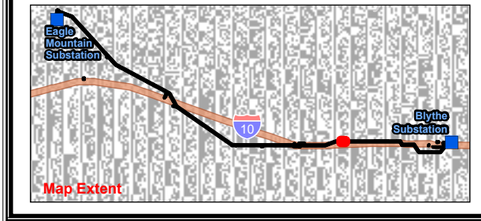
Suitable Habitat
- Desert Tortoise

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Wildlife
- Desert Kit Fox

Special-Status Plant Point
- Desert unicorn plant

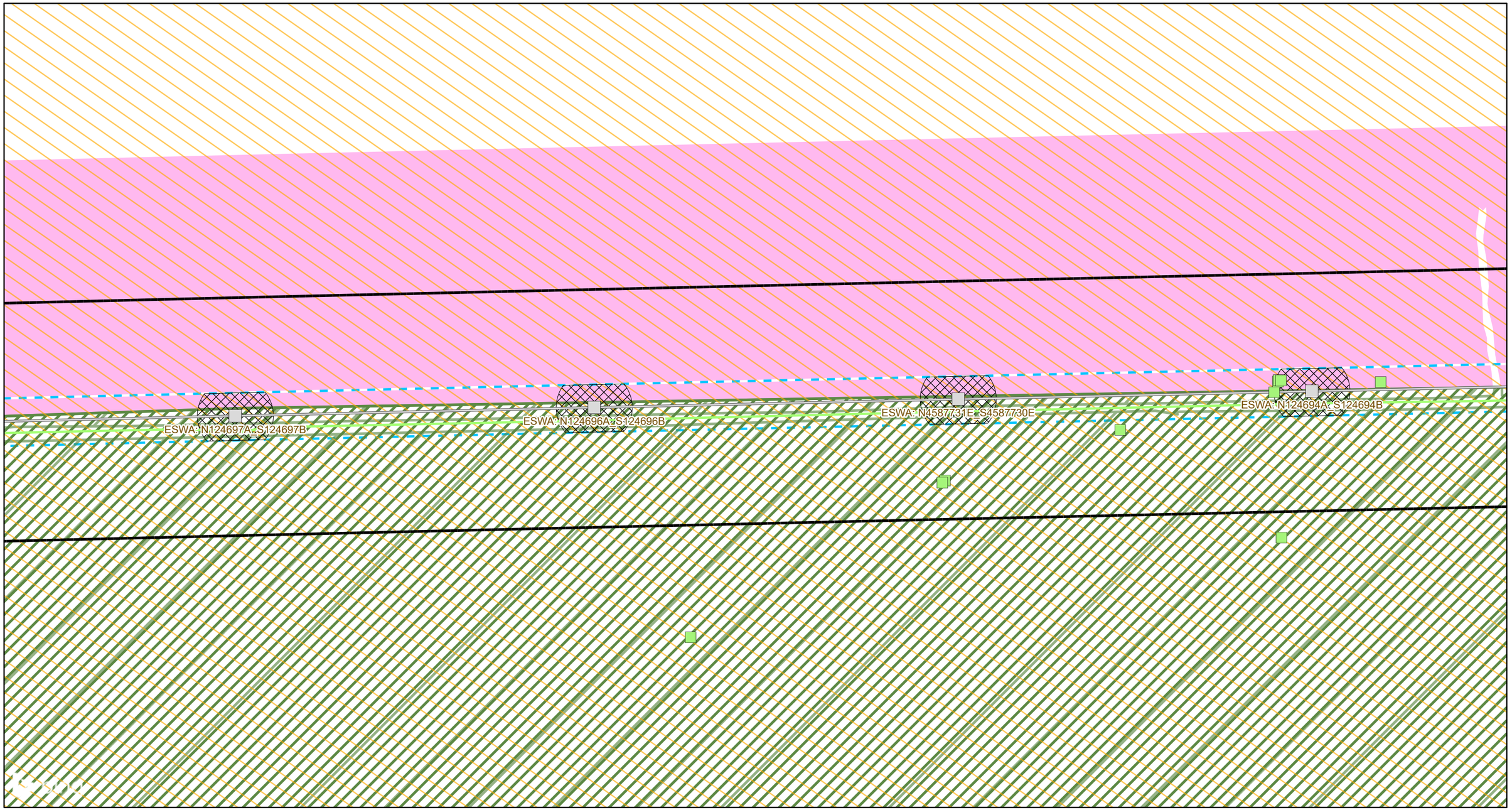
Suitable Habitat
- Desert Tortoise

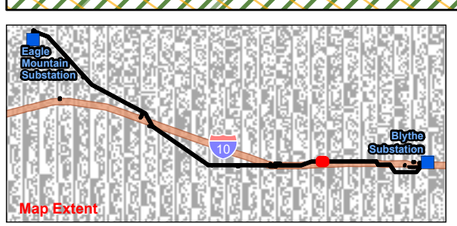
USFWS Critical Habitat
- Desert Tortoise

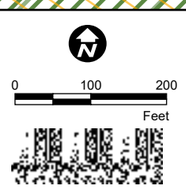
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project







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Land Owner
- BLM Land

Special-Status Plant Point
- Desert unicorn plant

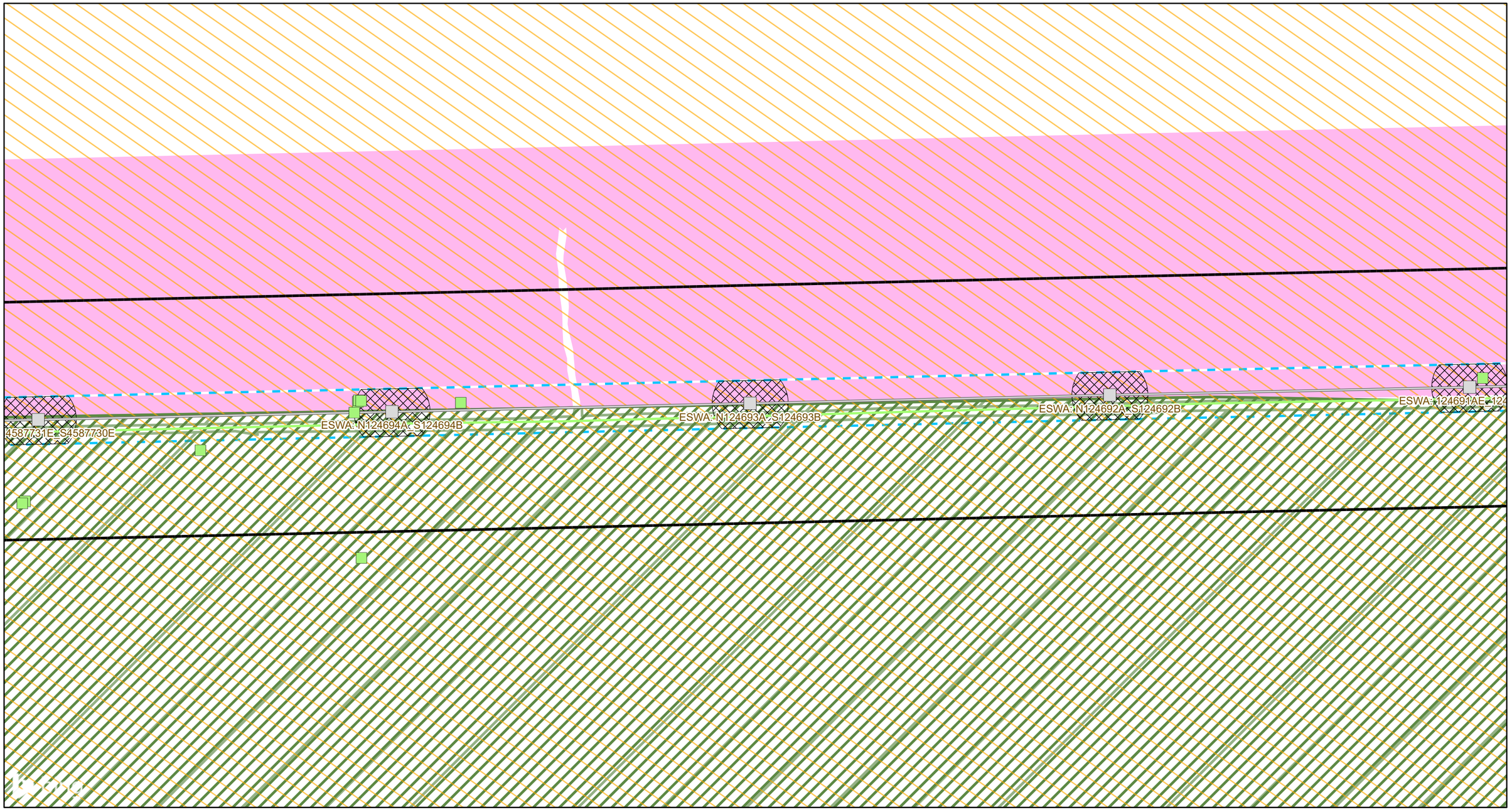
Suitable Habitat
- Desert Tortoise

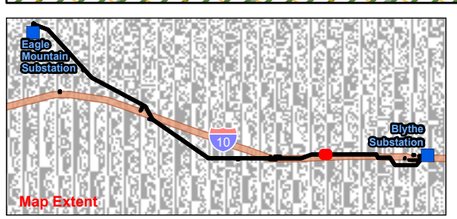
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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USFWS Critical Habitat
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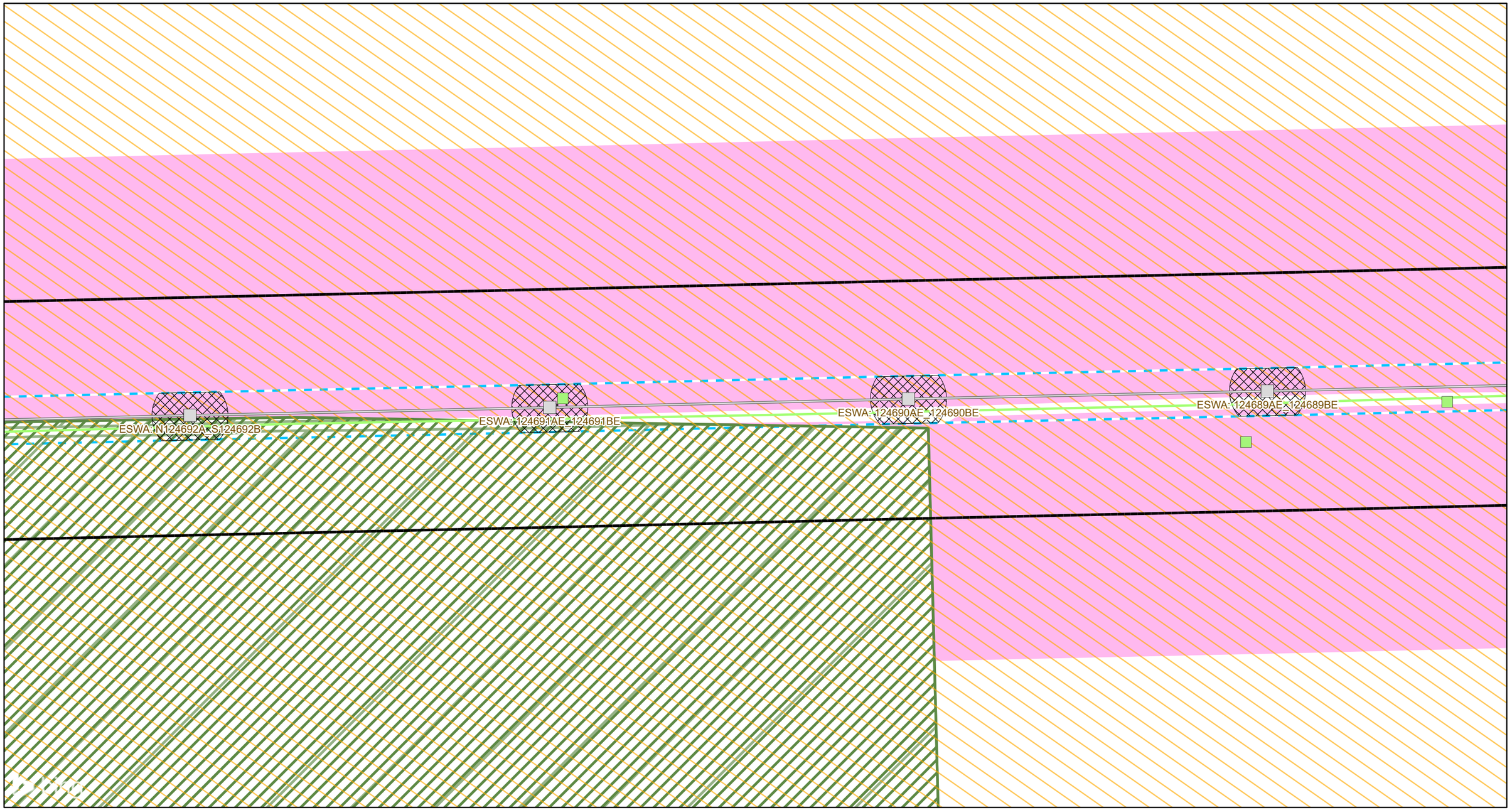
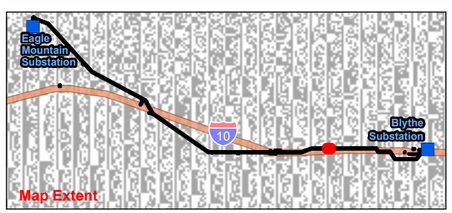
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Suitable Habitat
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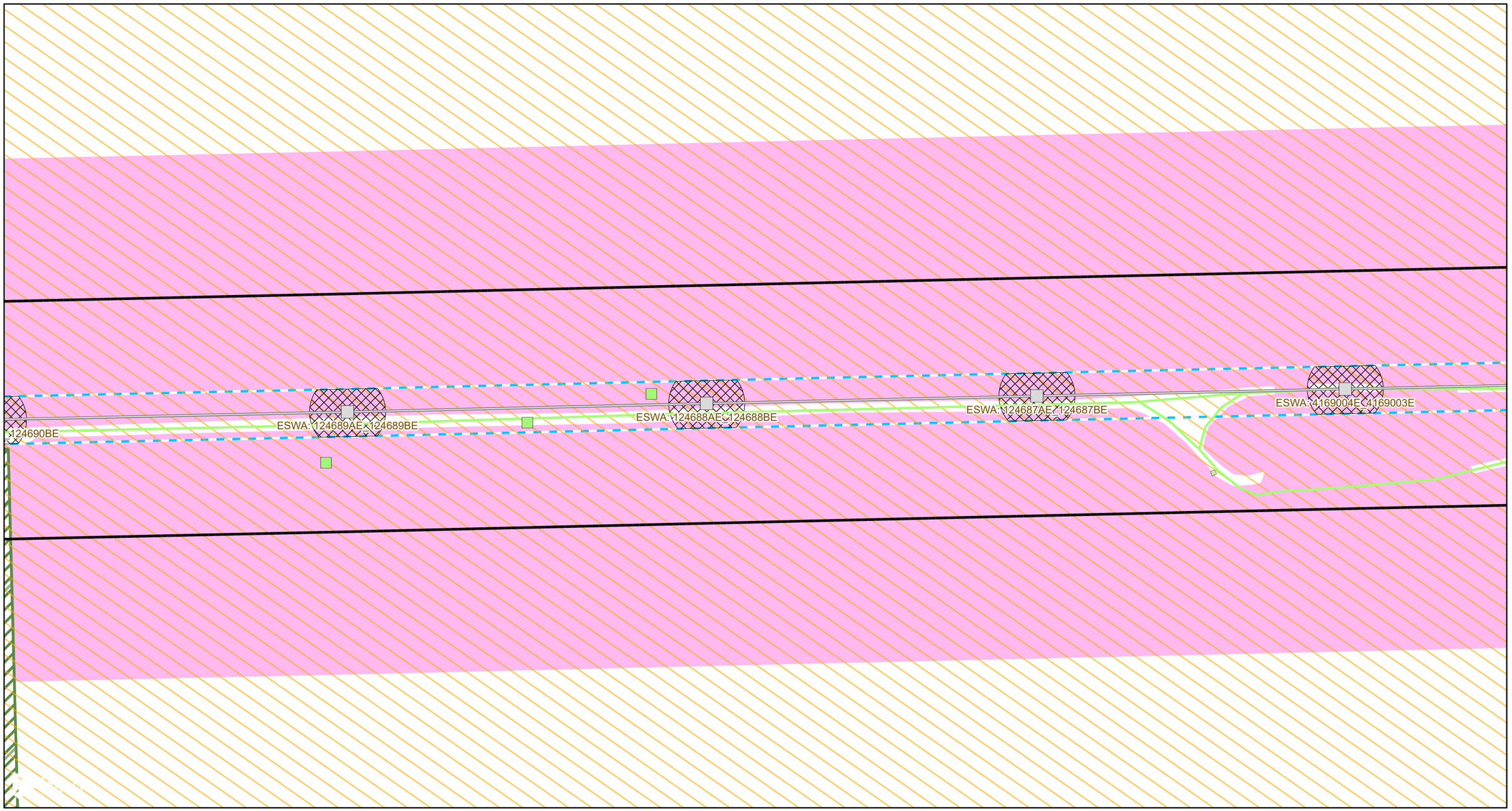
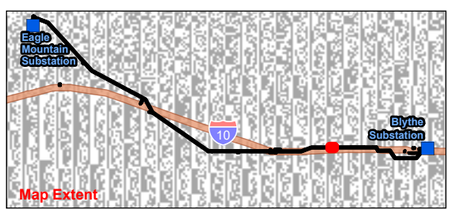
USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Special-Status Plant Point
- Desert unicorn plant

Special-Status Plant Polygon
- Desert unicorn plant

Suitable Habitat
- Desert Tortoise

USFWS Critical Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

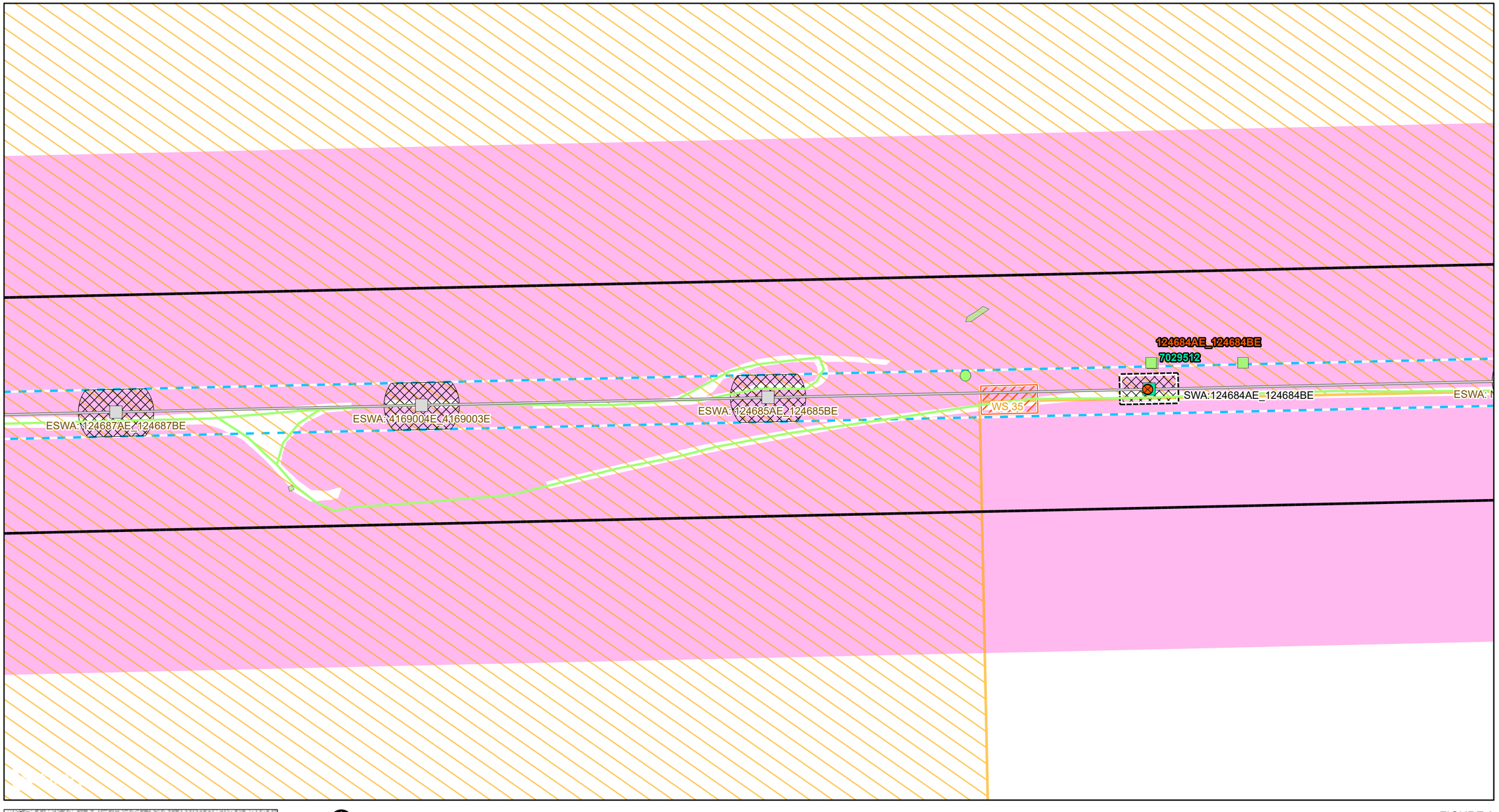
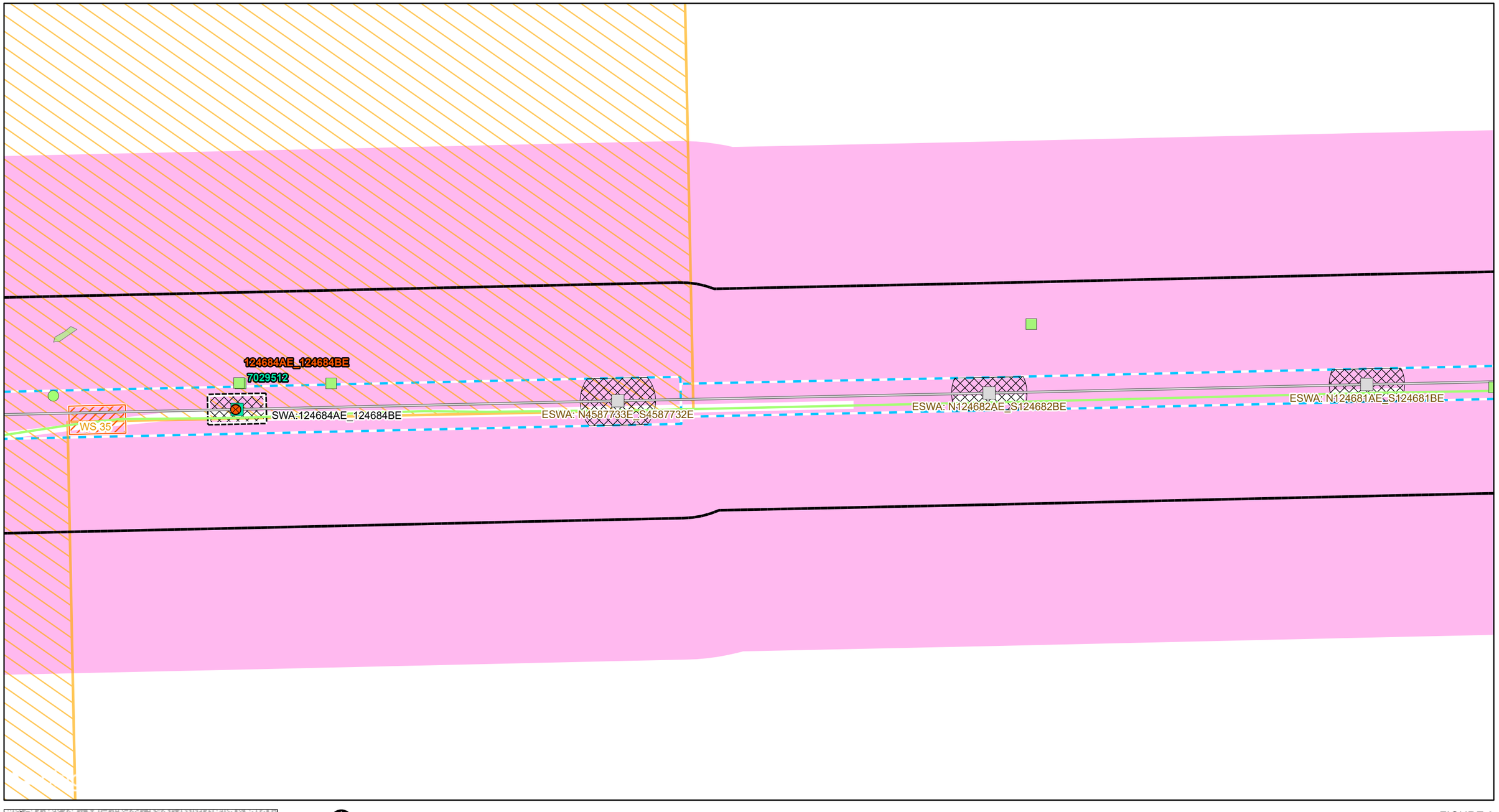
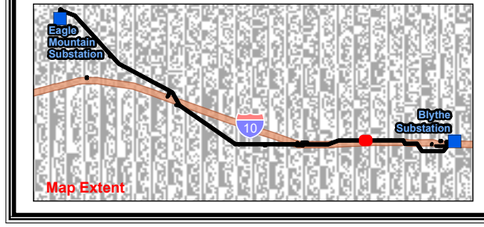


FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Special-Status Plant Point
- Desert unicorn plant

Special-Status Plant Polygon
- Desert unicorn plant

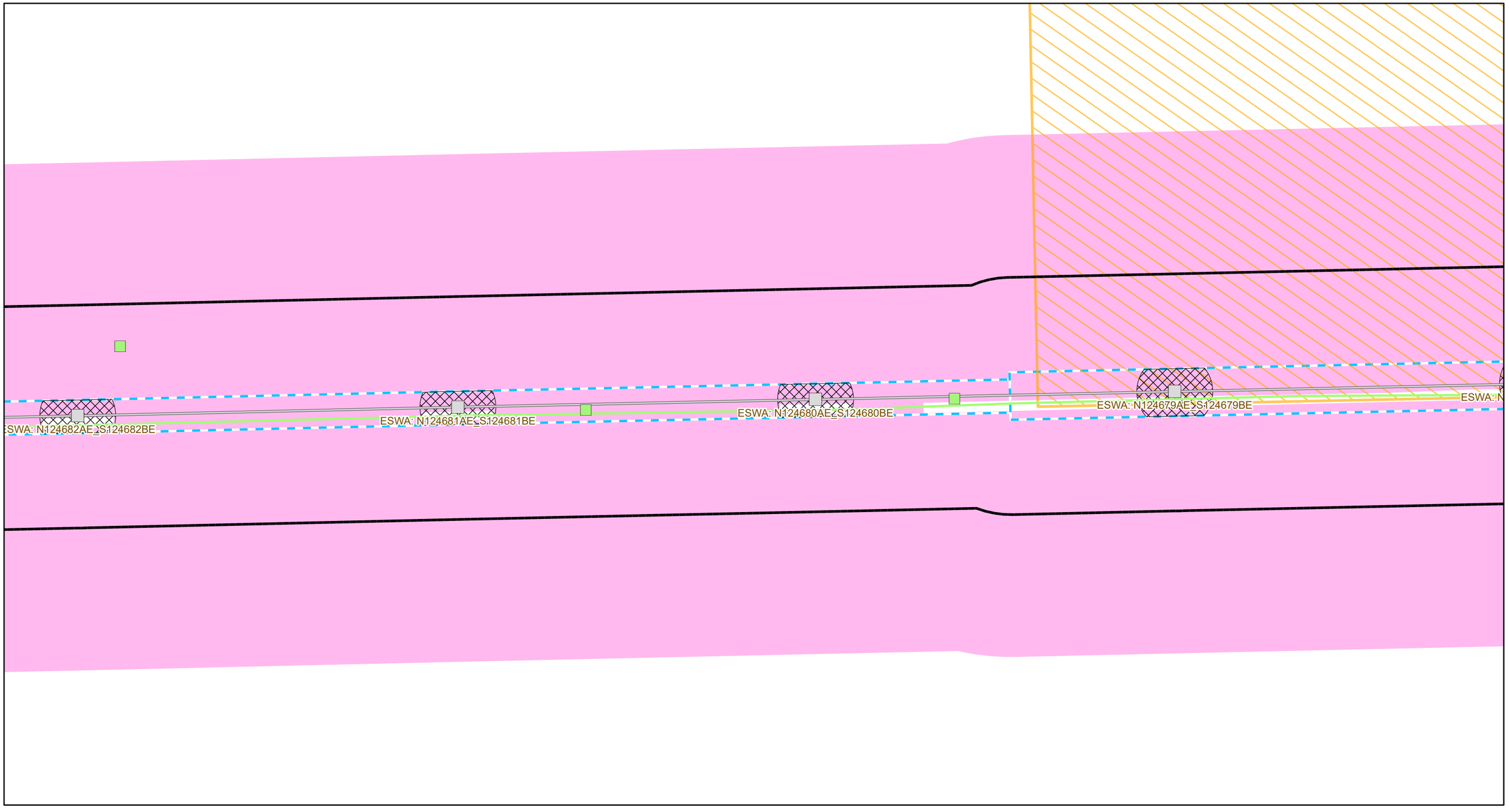
Desert Tortoise Occurrence Type
- Pallet

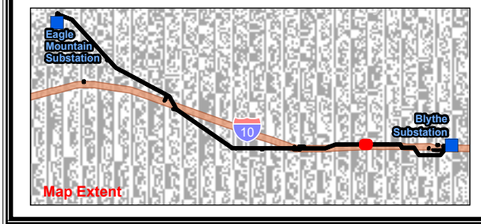
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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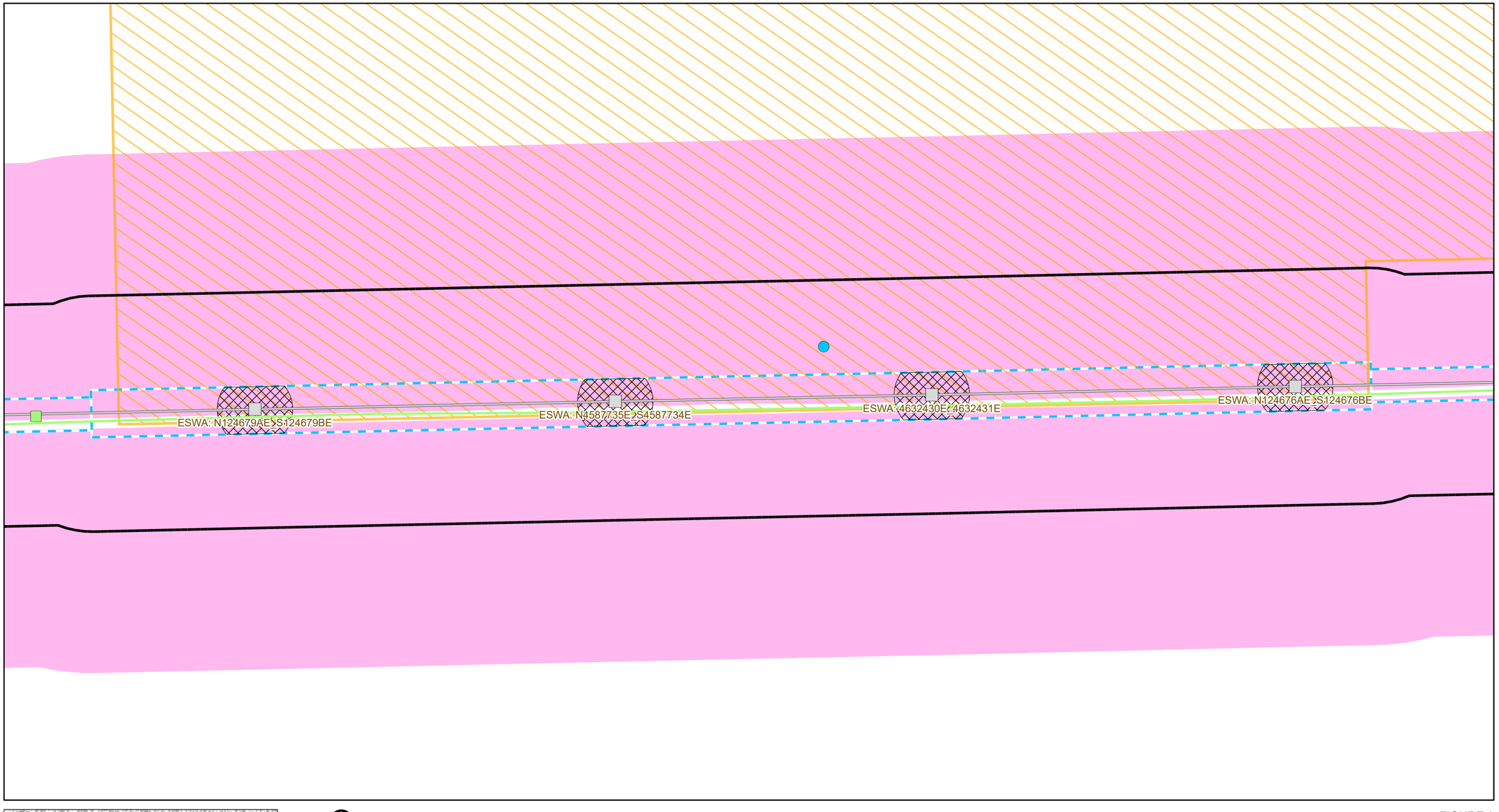
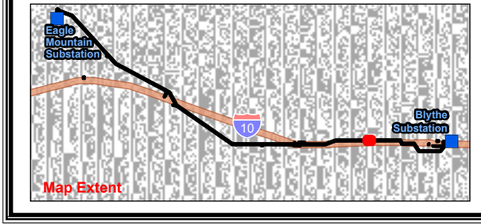
Special-Status Plant Point
- Desert unicorn plant

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
- BLM Land

Special-Status Plant Point
- Desert unicorn plant

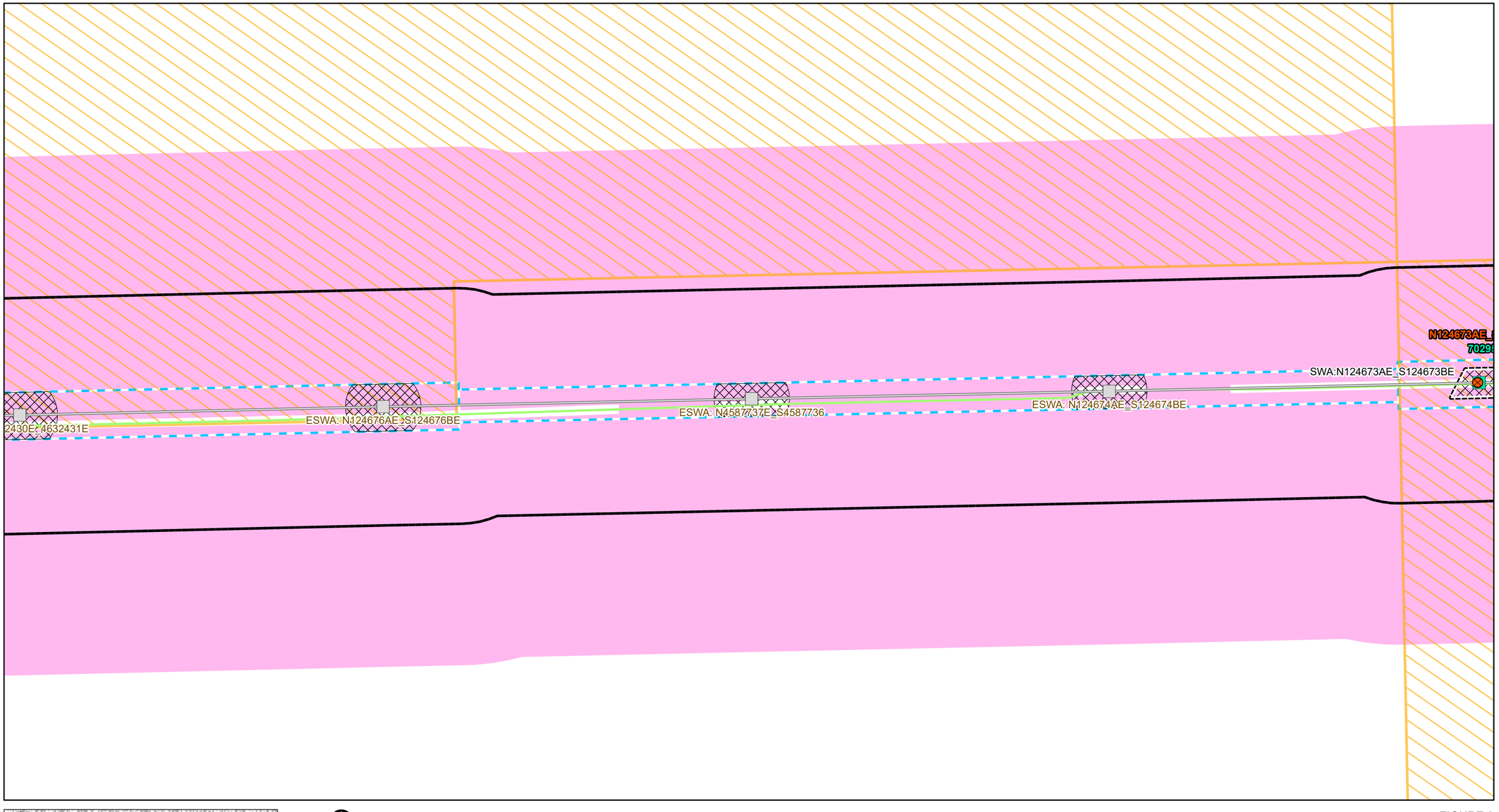
Desert Tortoise Occurrence Type
- Burrow

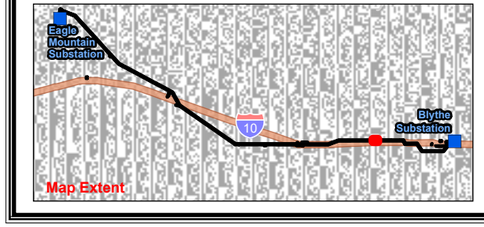
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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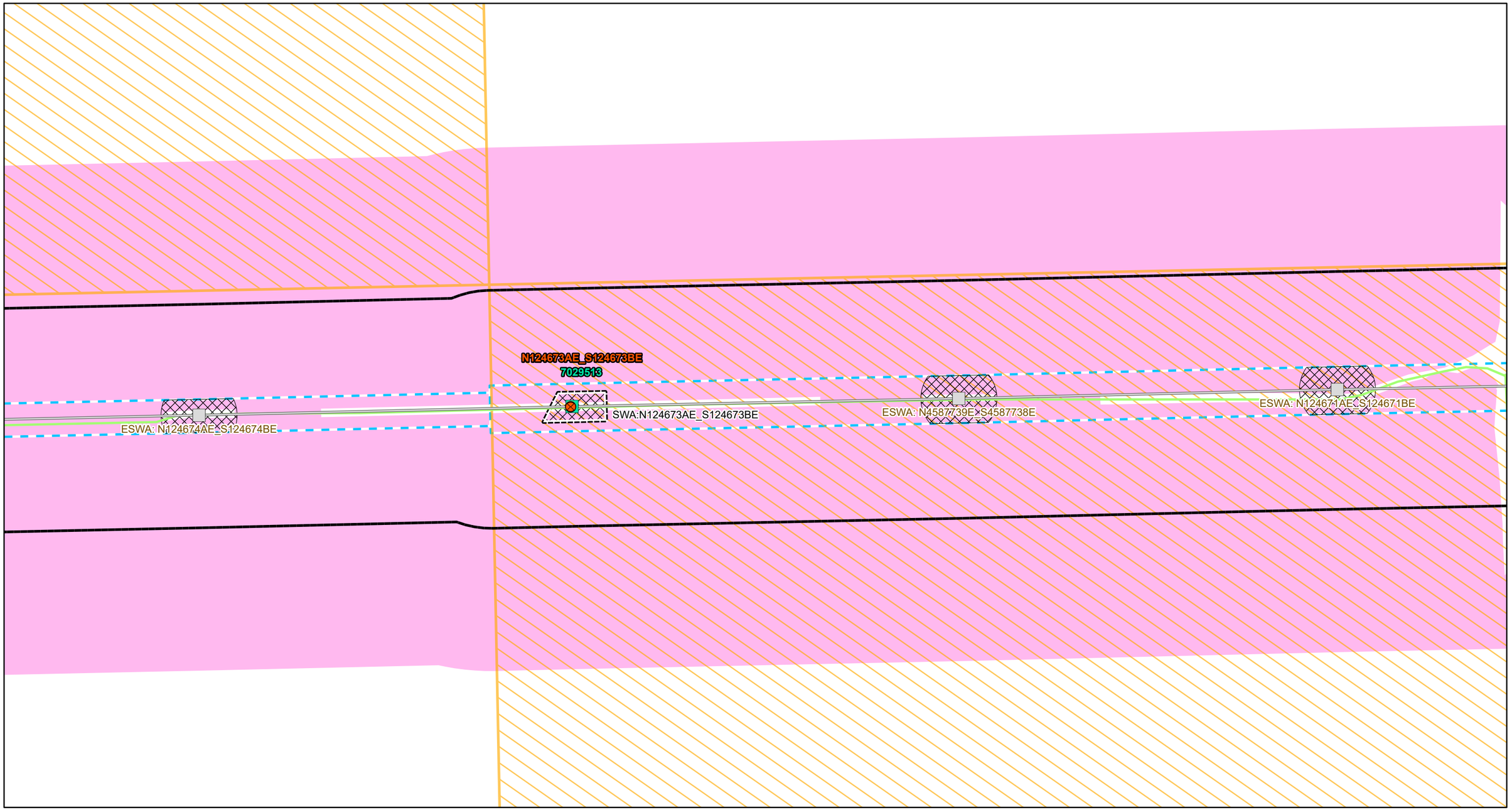
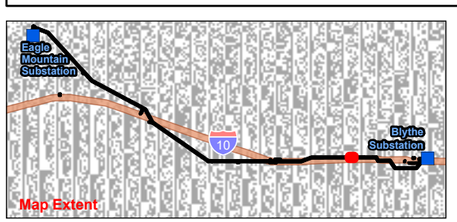
Land Owner
- BLM Land

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
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Suitable Habitat
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FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

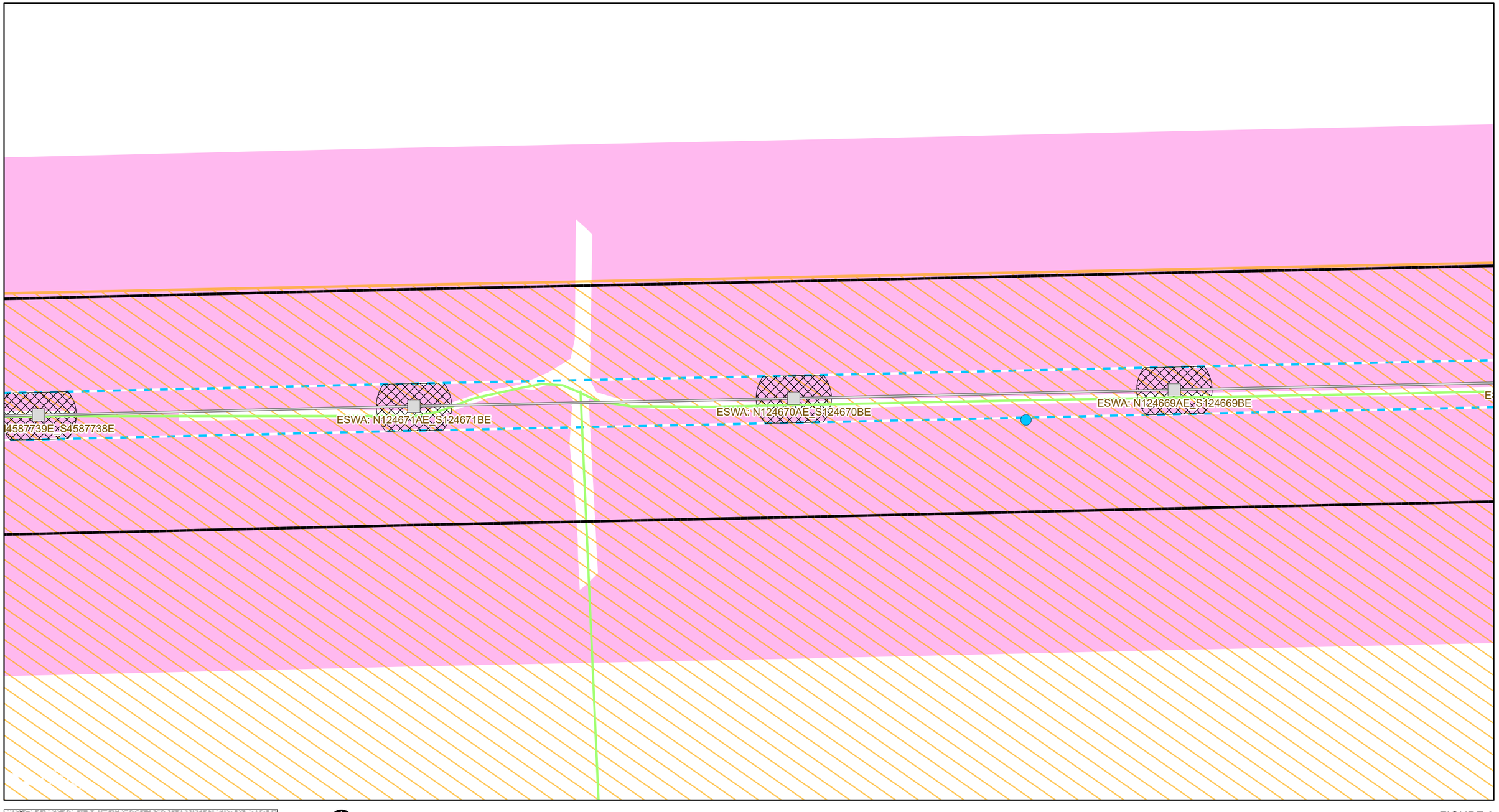
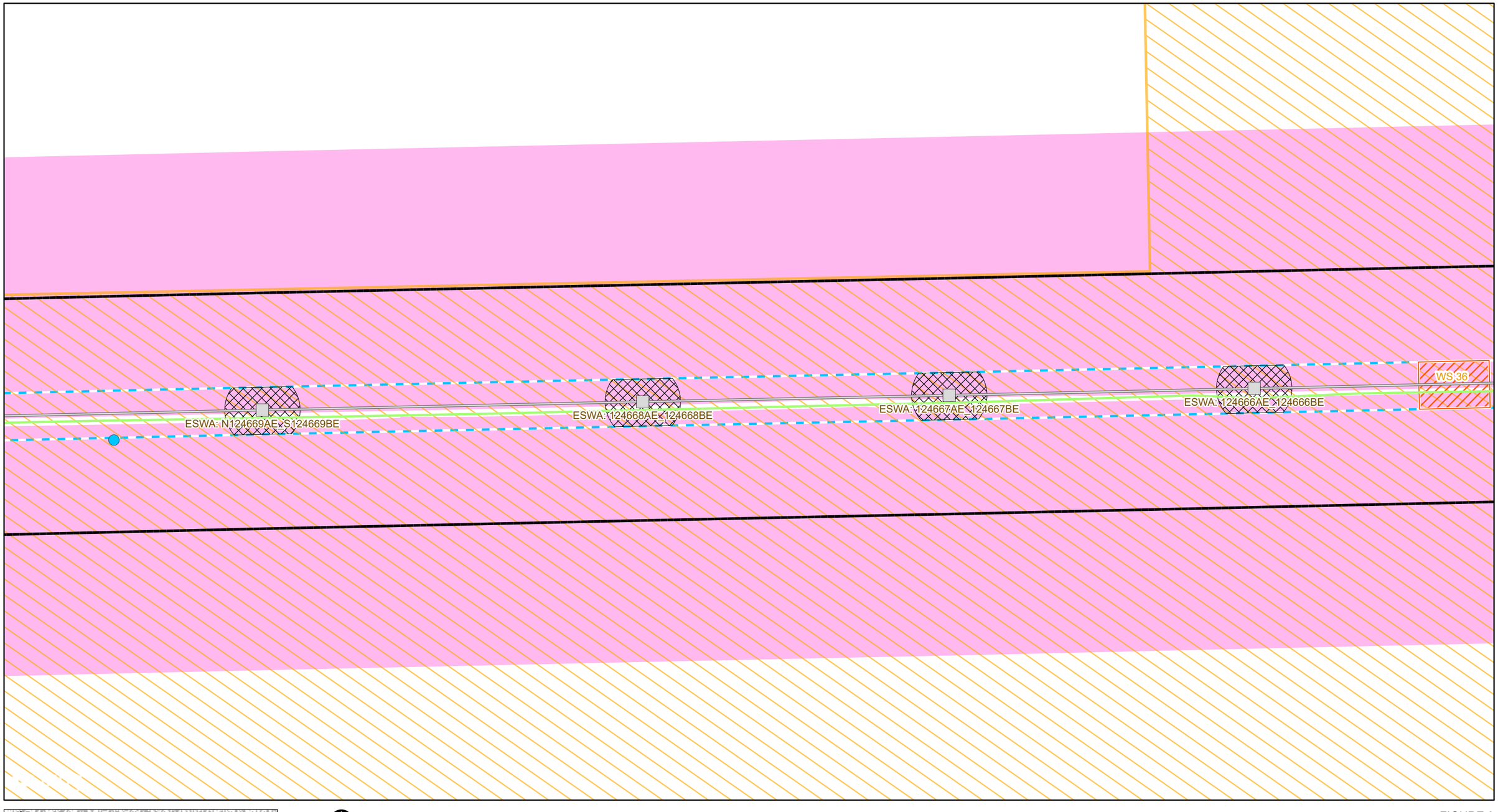
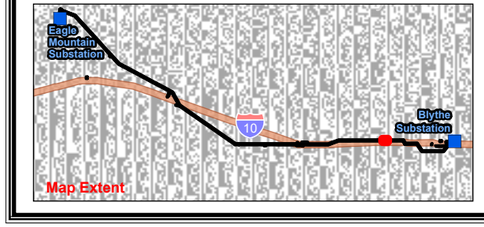


FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Land Owner
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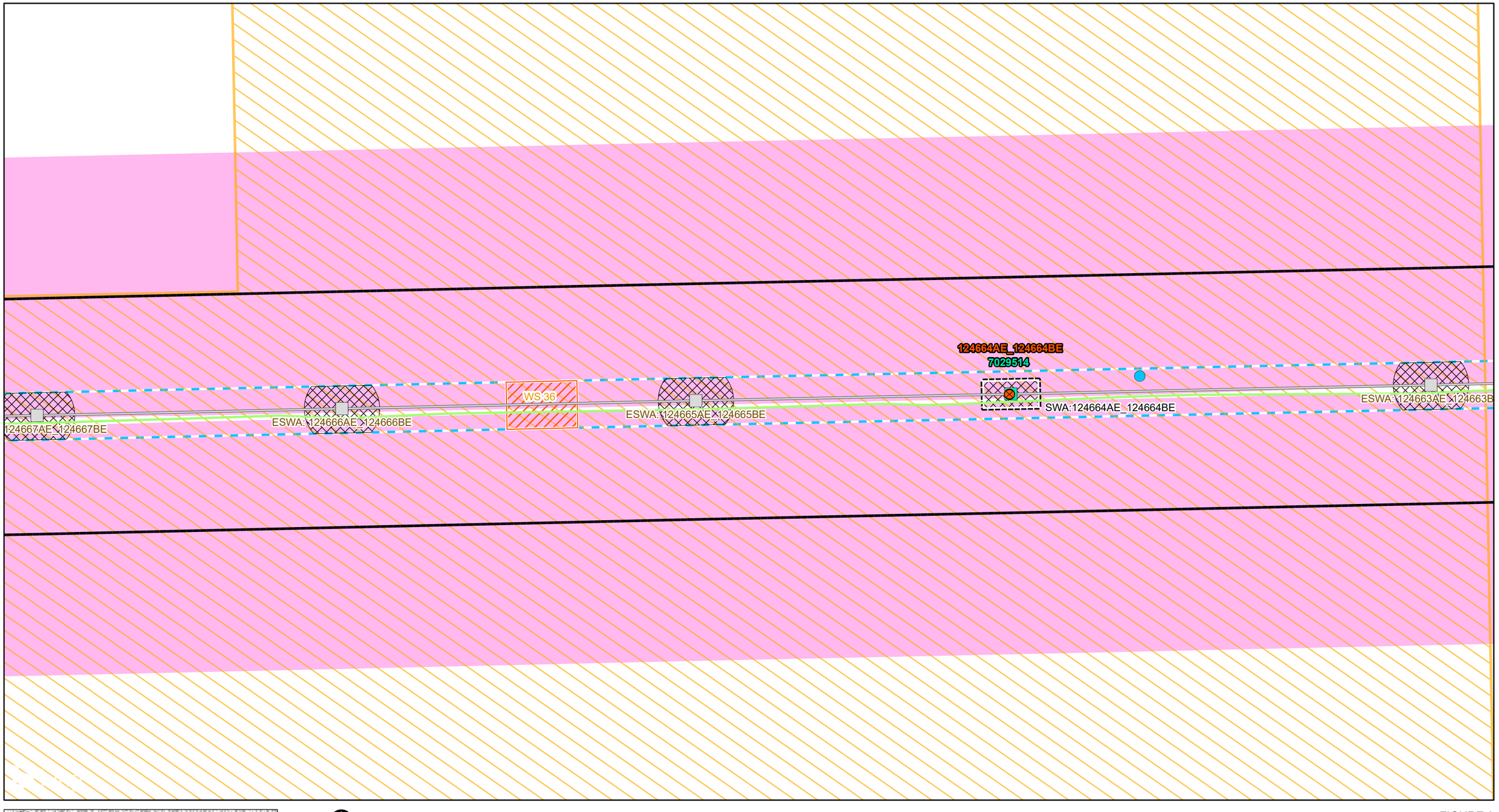
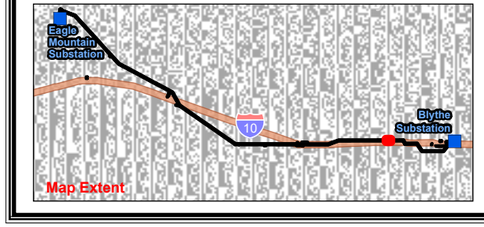
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Suitable Habitat
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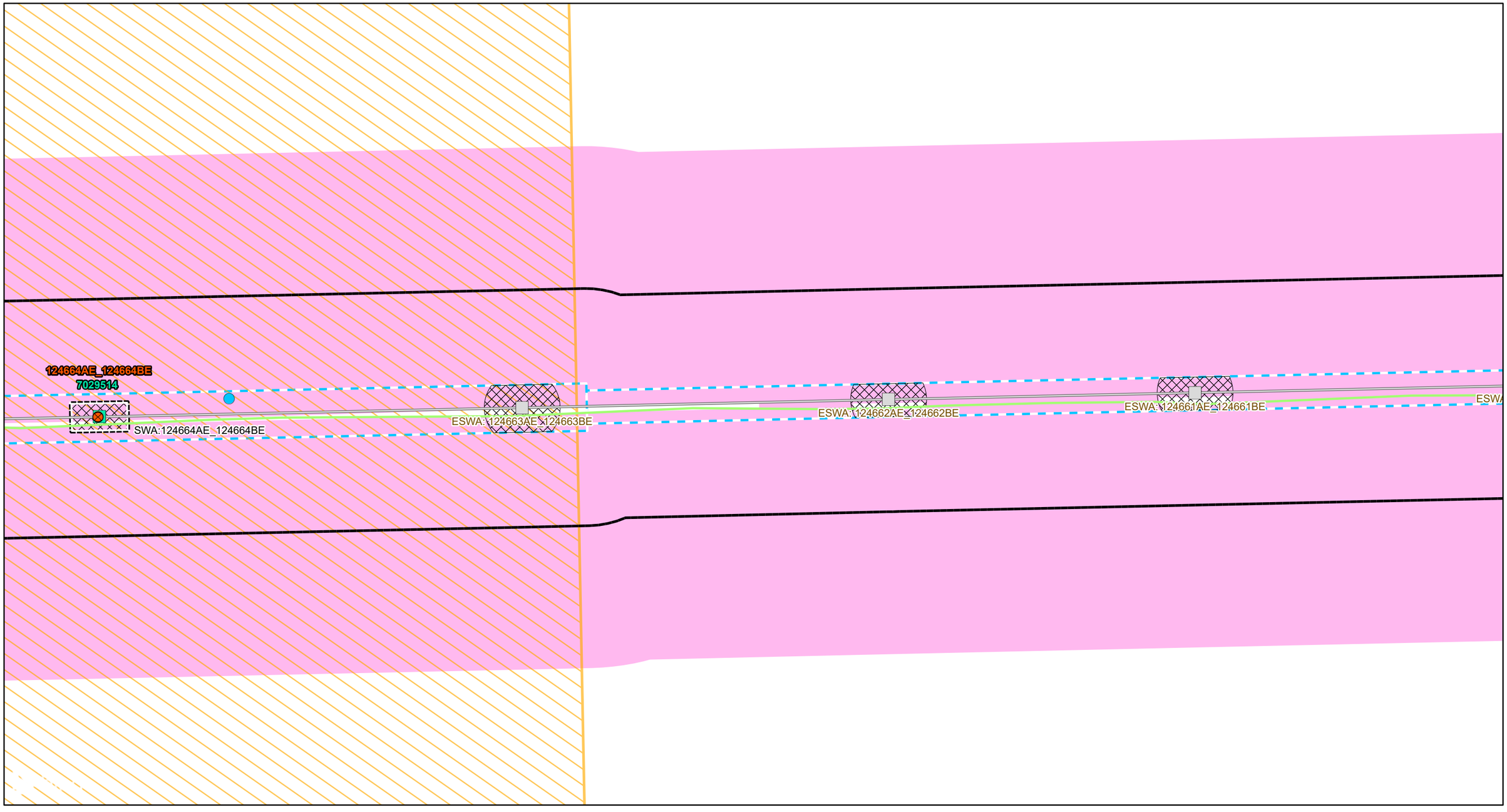
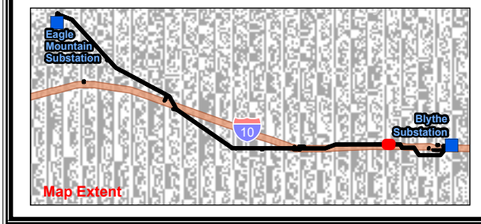
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Desert Tortoise Occurrence Type
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Suitable Habitat
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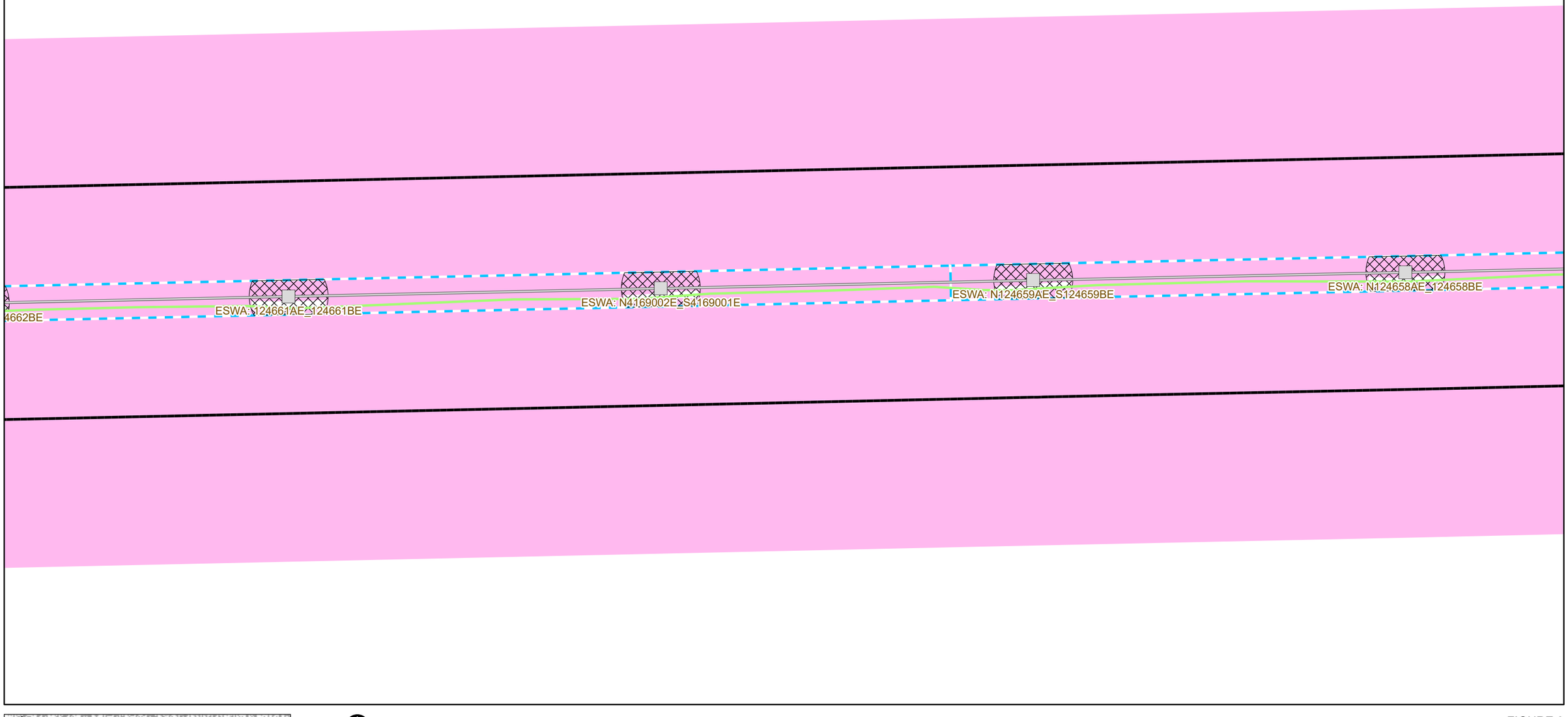
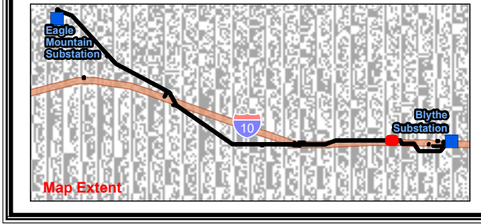
FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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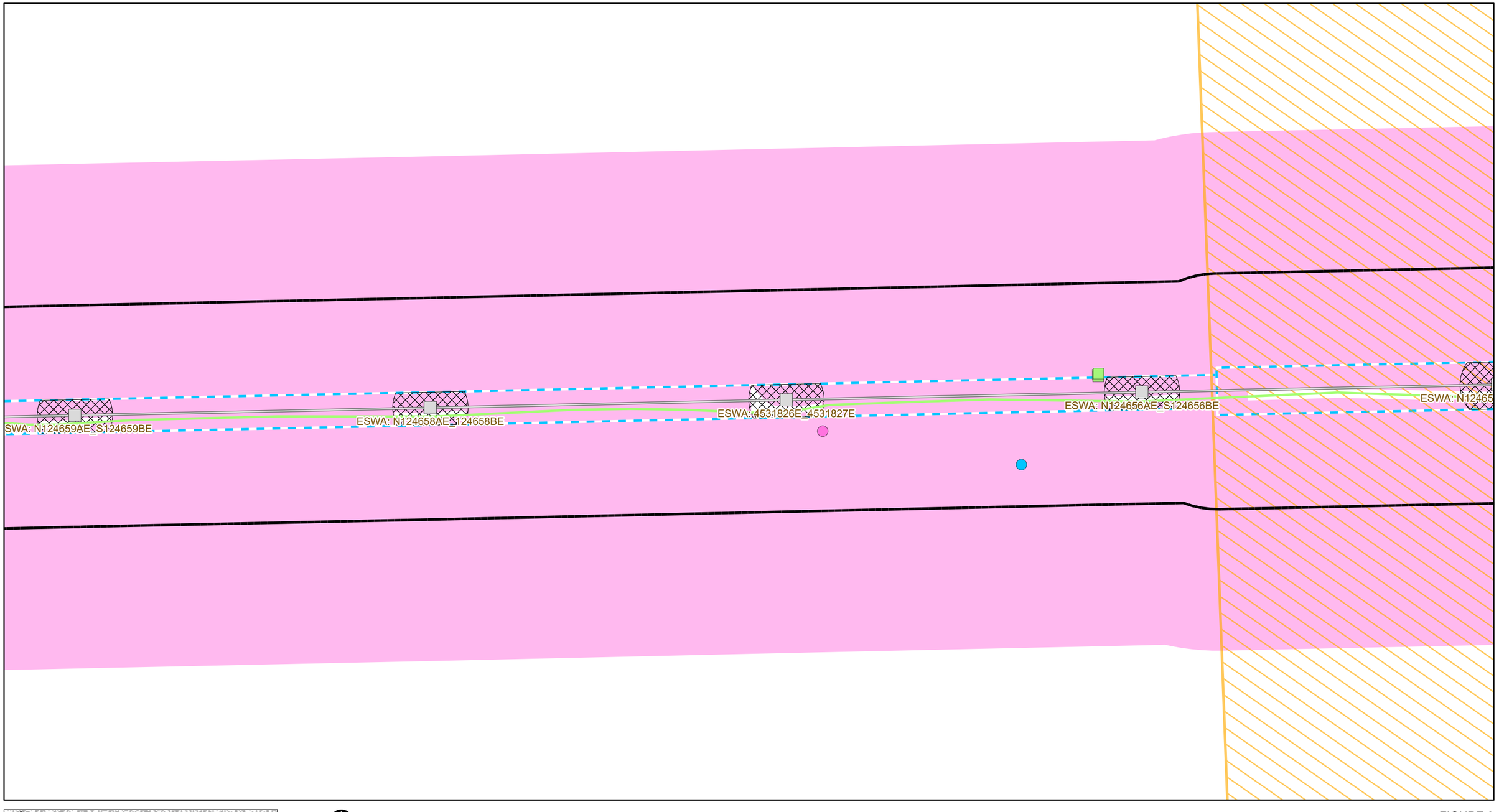
Suitable Habitat

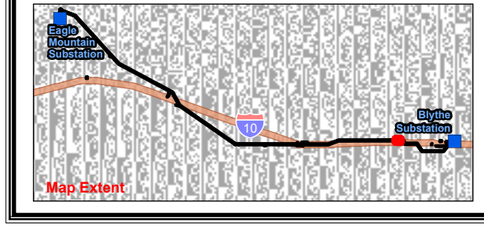
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Plant Point
- Desert unicorn plant

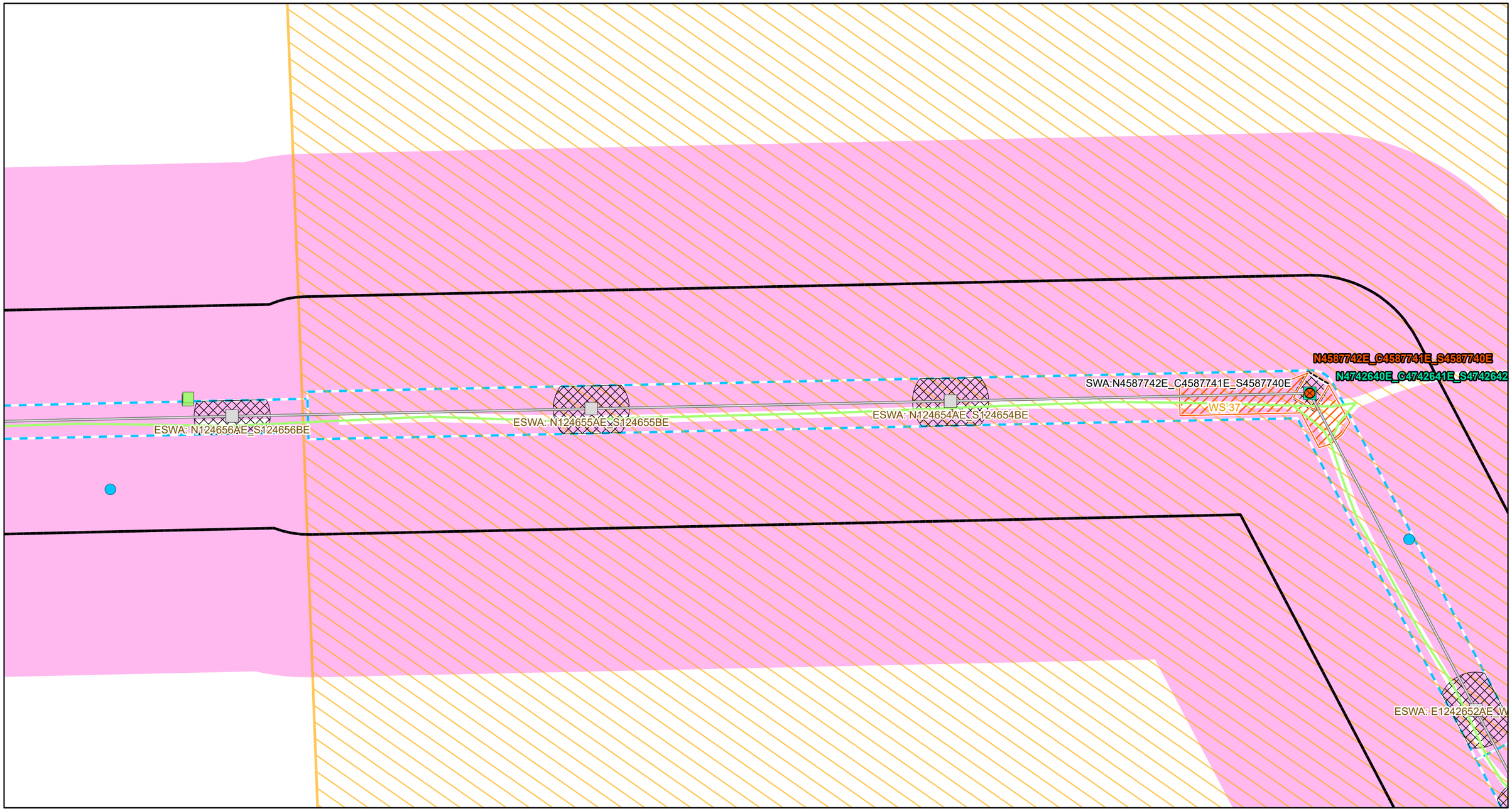
Desert Tortoise Occurrence Type
- Burrow
- Carcass

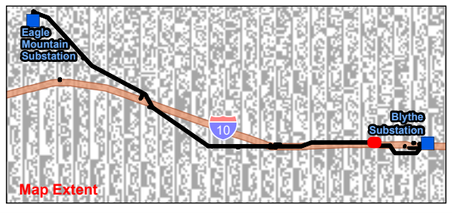
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Plant Point
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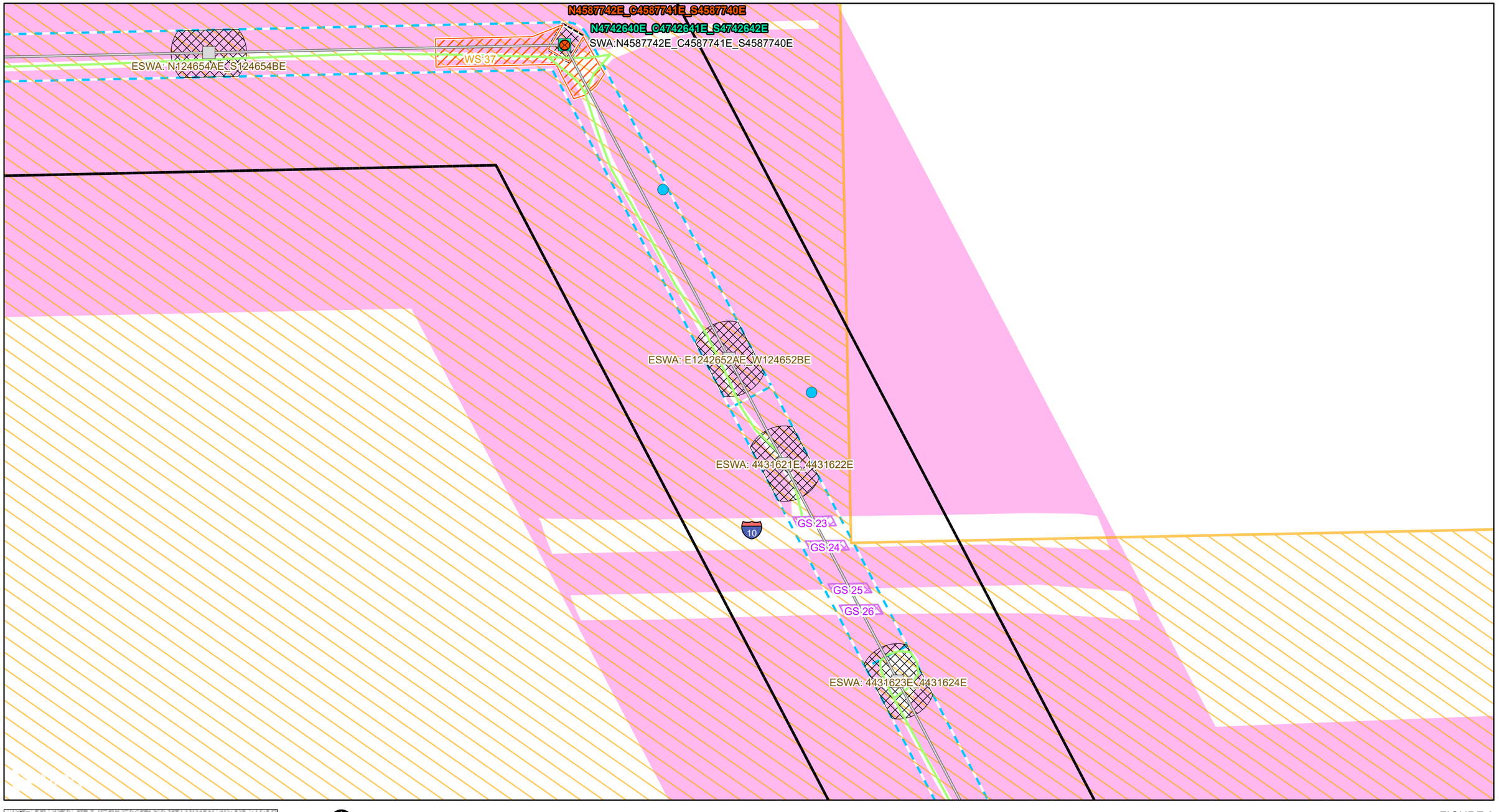
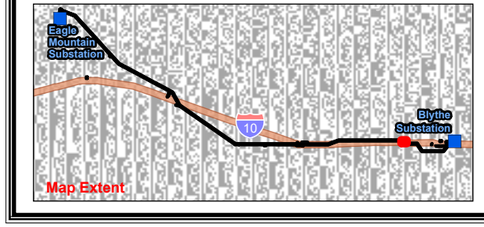
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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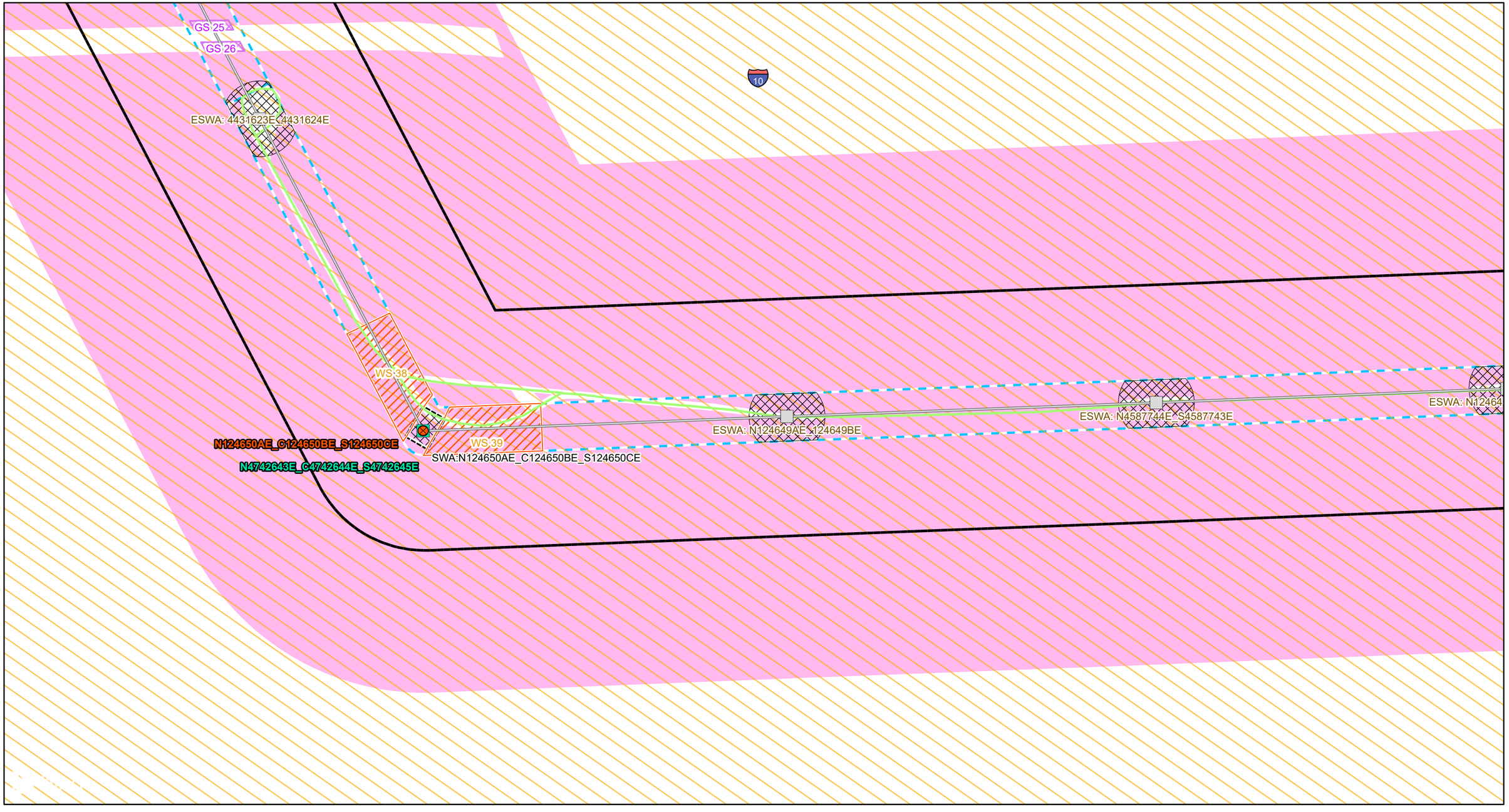
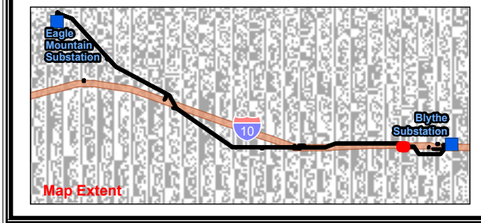
Desert Tortoise Occurrence Type
- Burrow

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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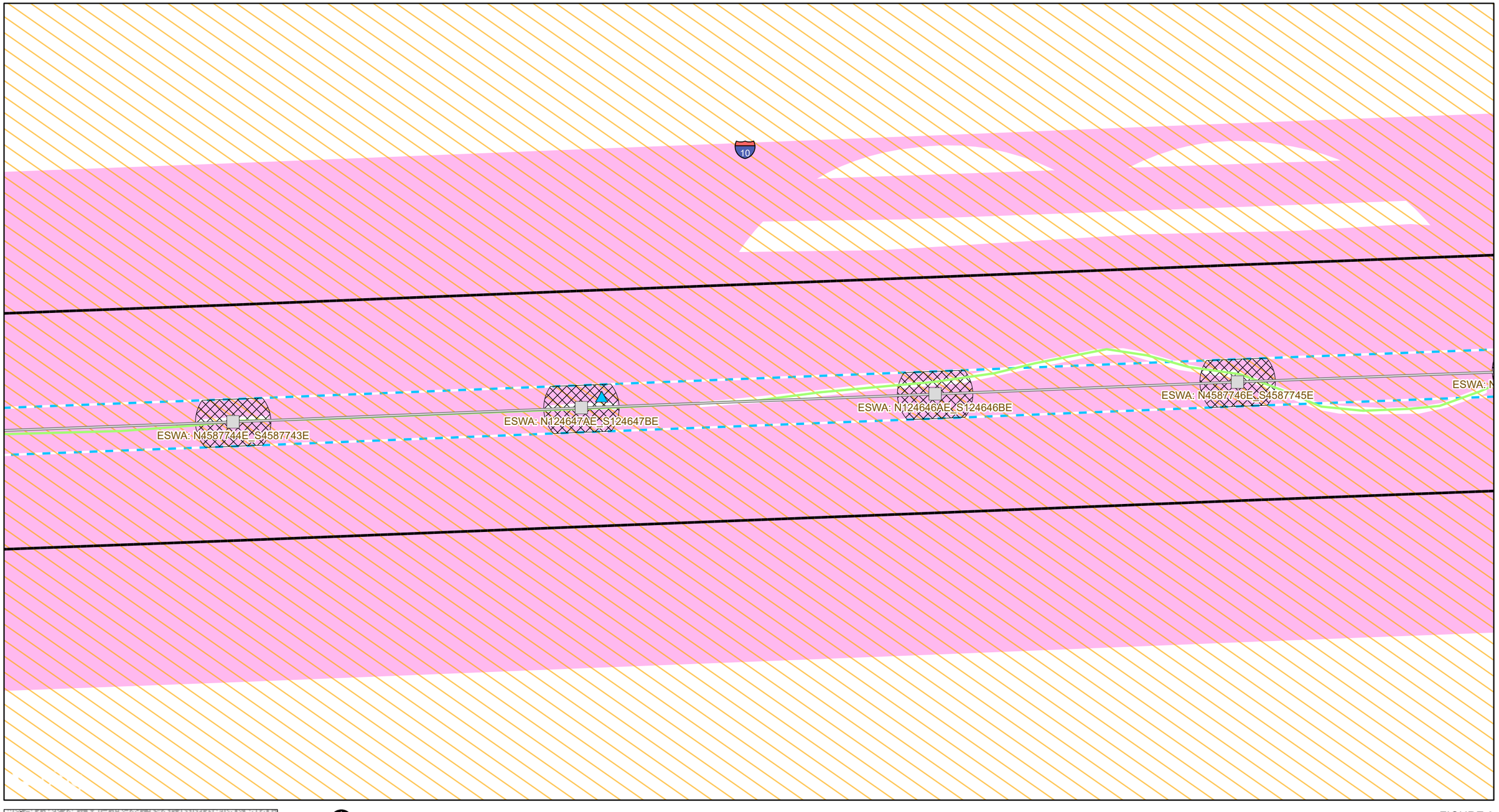
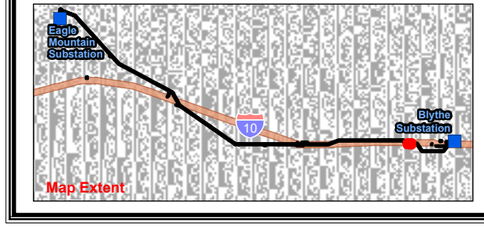
Land Owner
- BLM Land

Suitable Habitat
- Desert Tortoise

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Suitable Habitat
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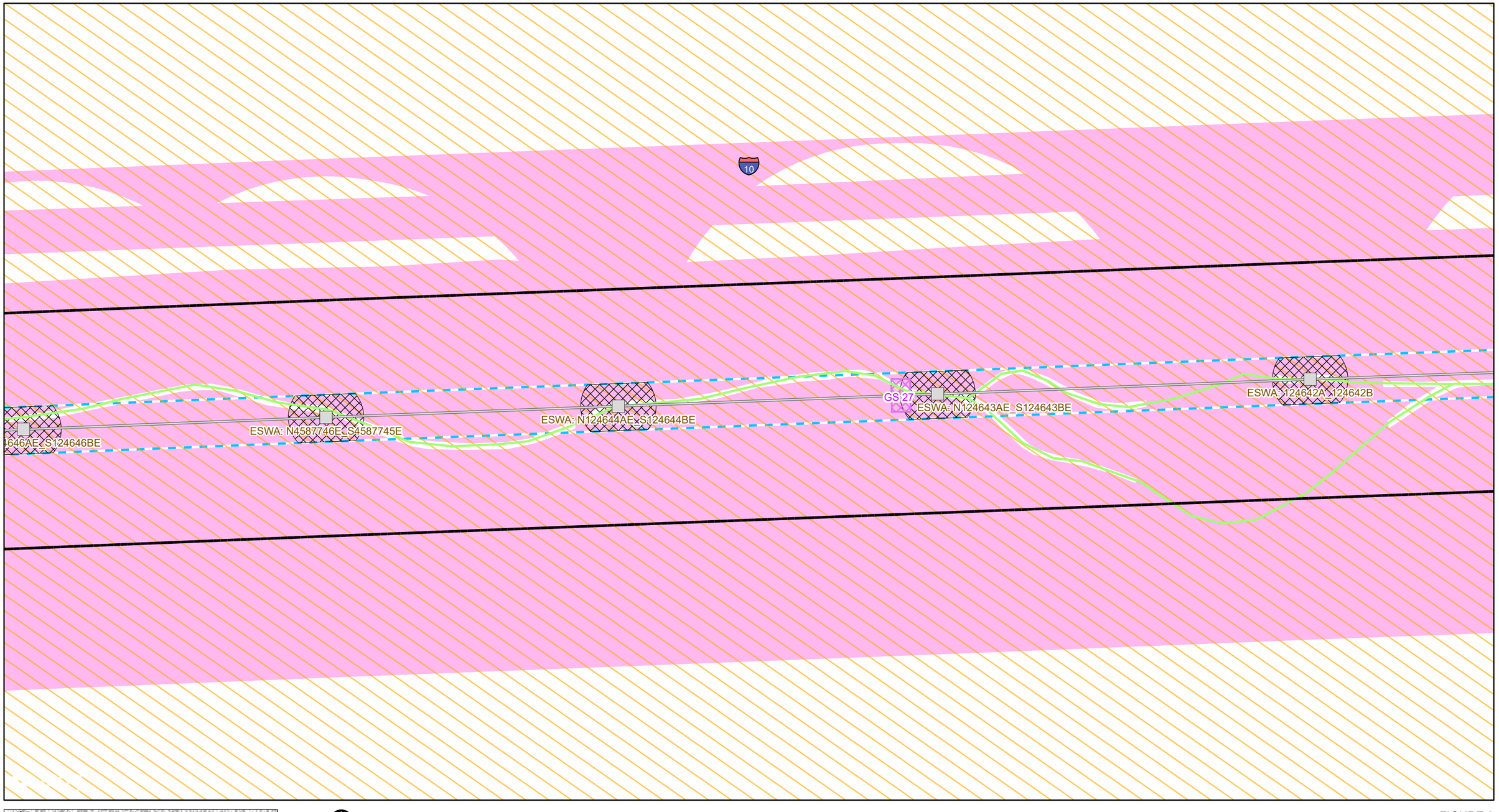
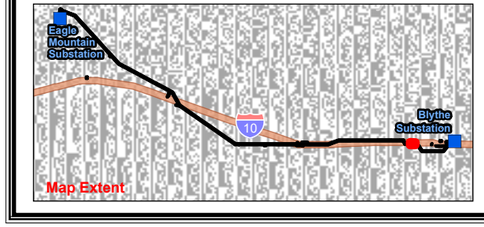
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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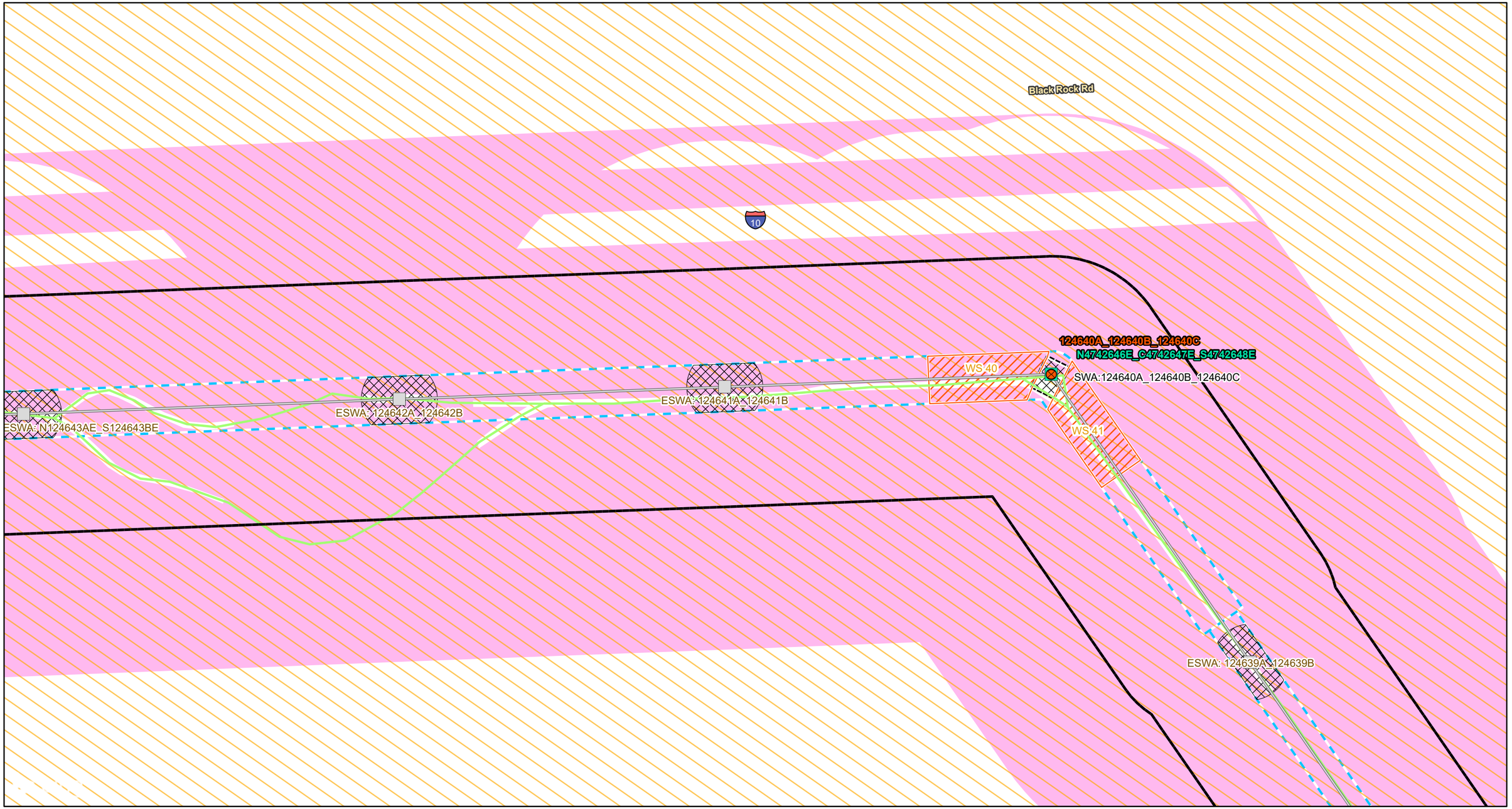

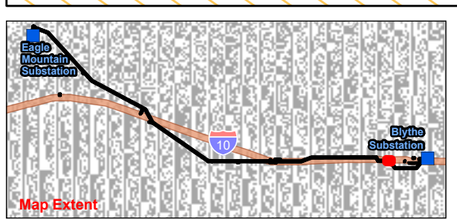

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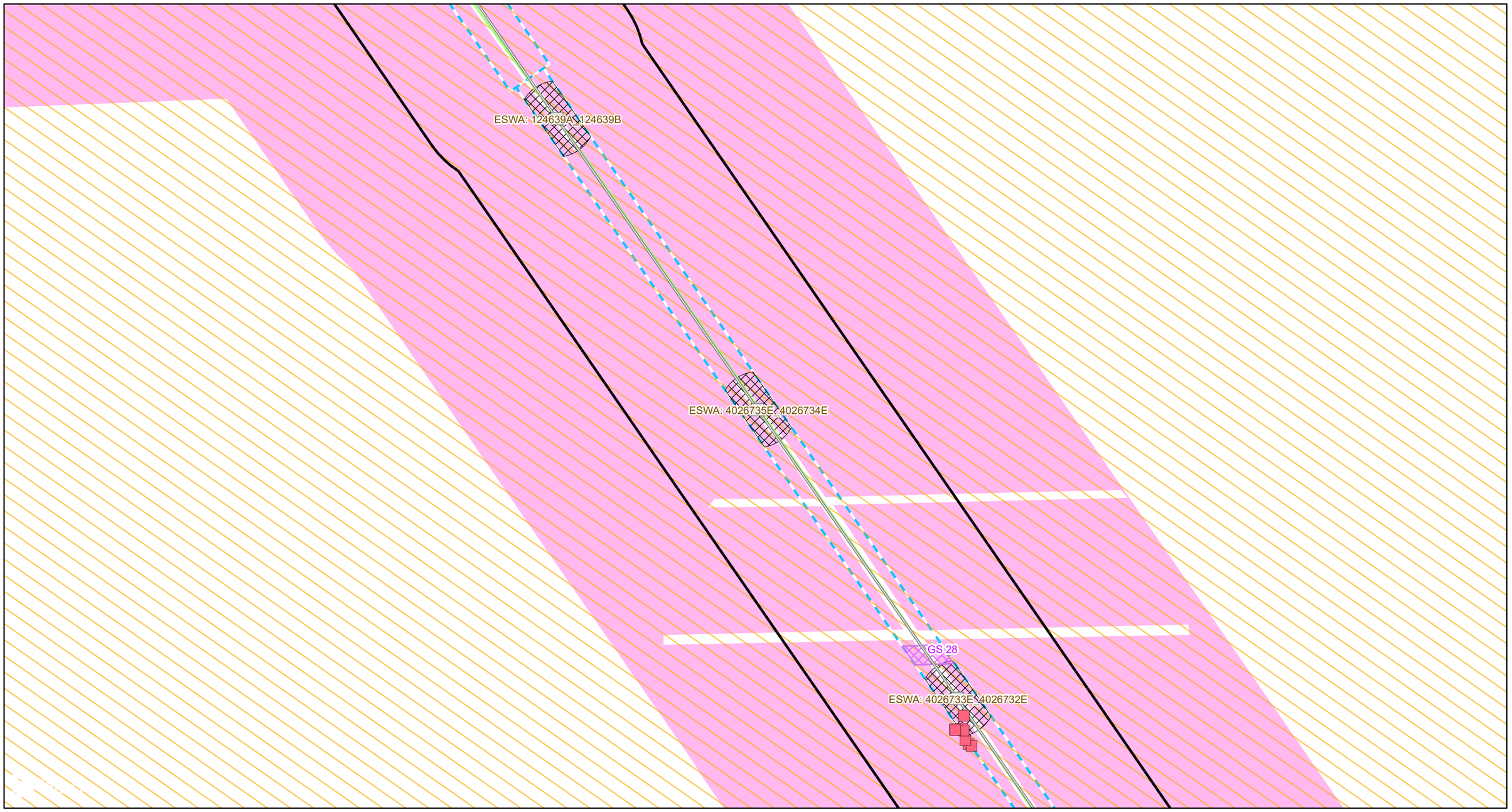

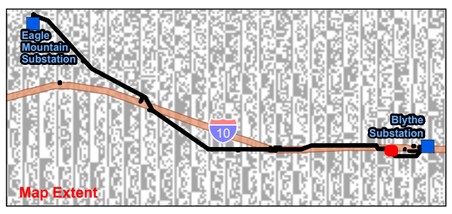

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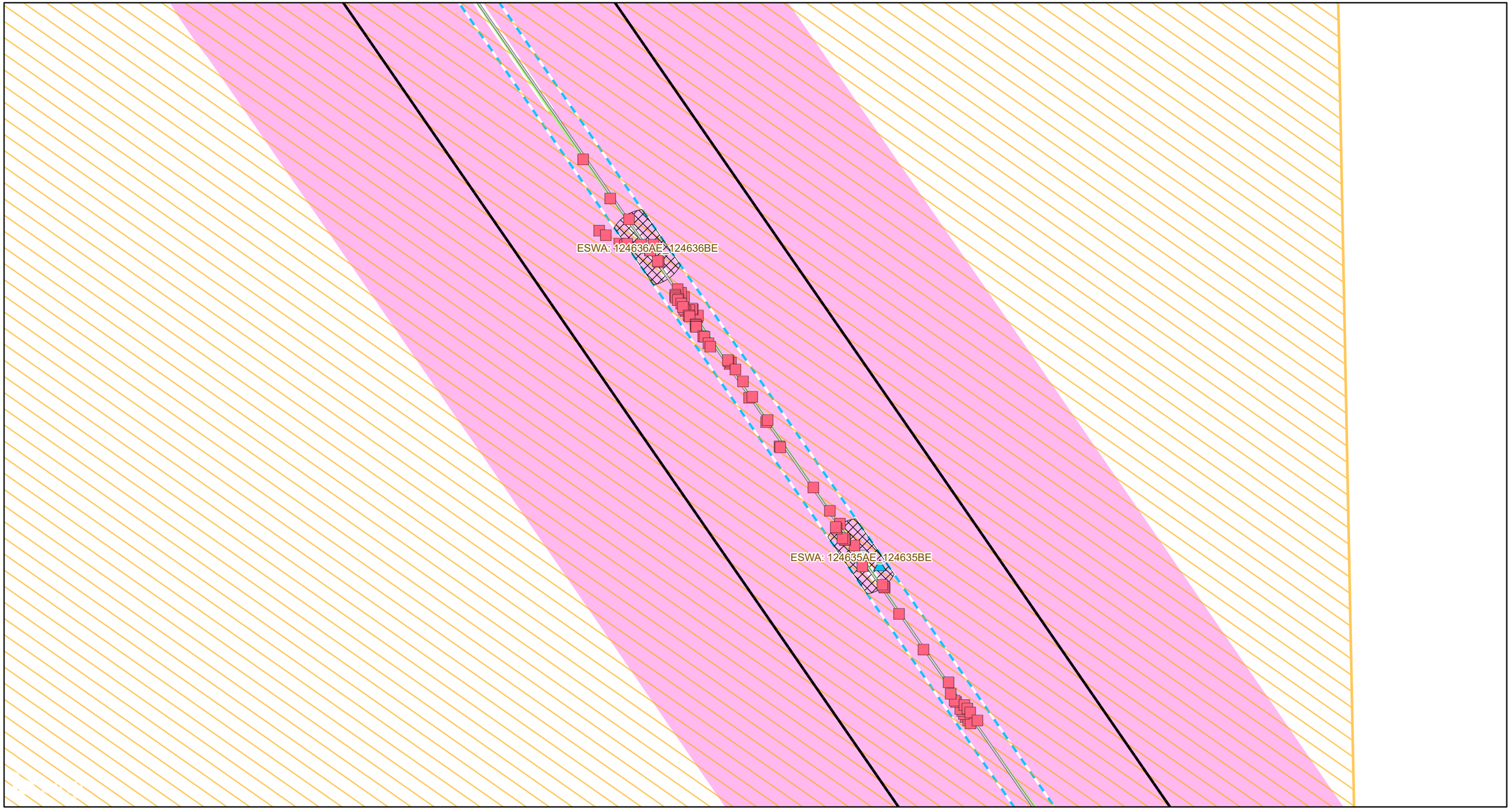
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



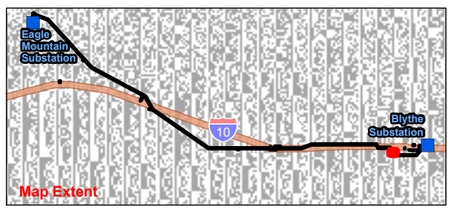


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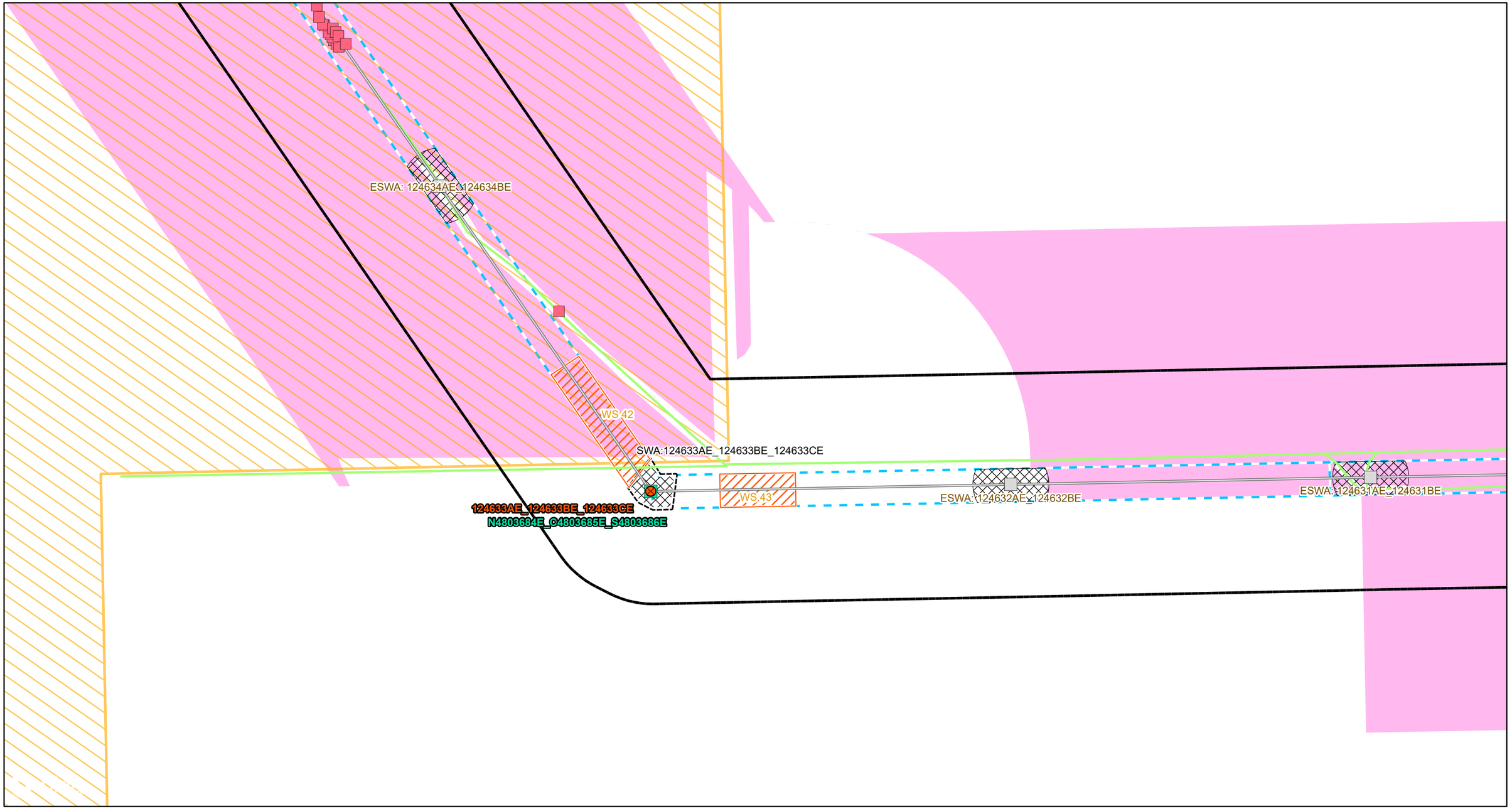
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



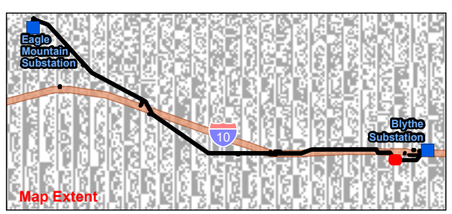


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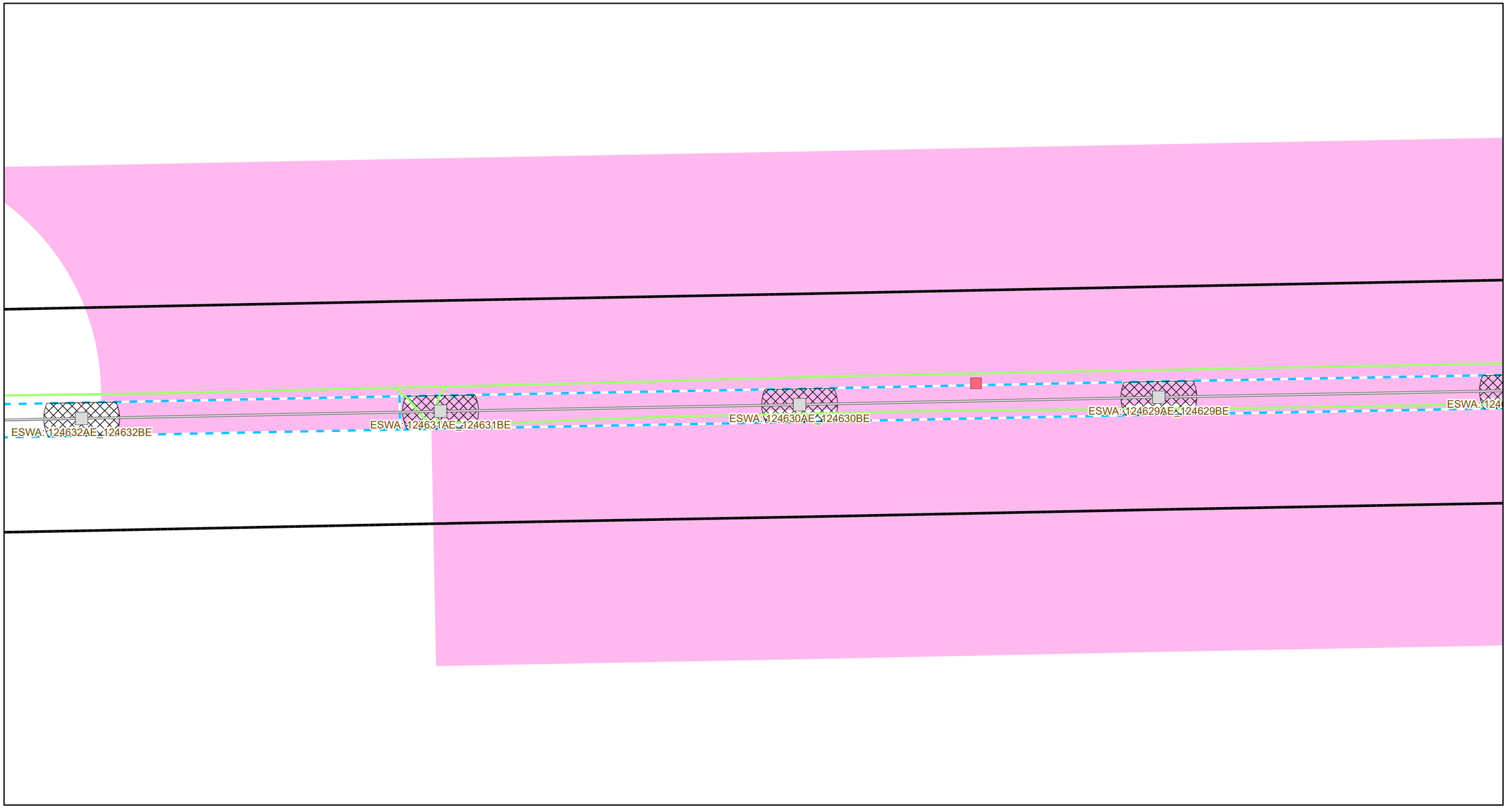
FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



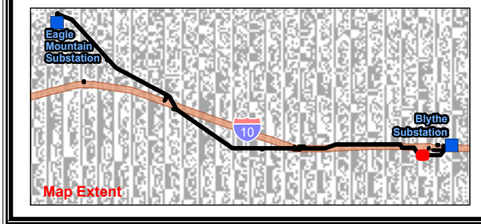


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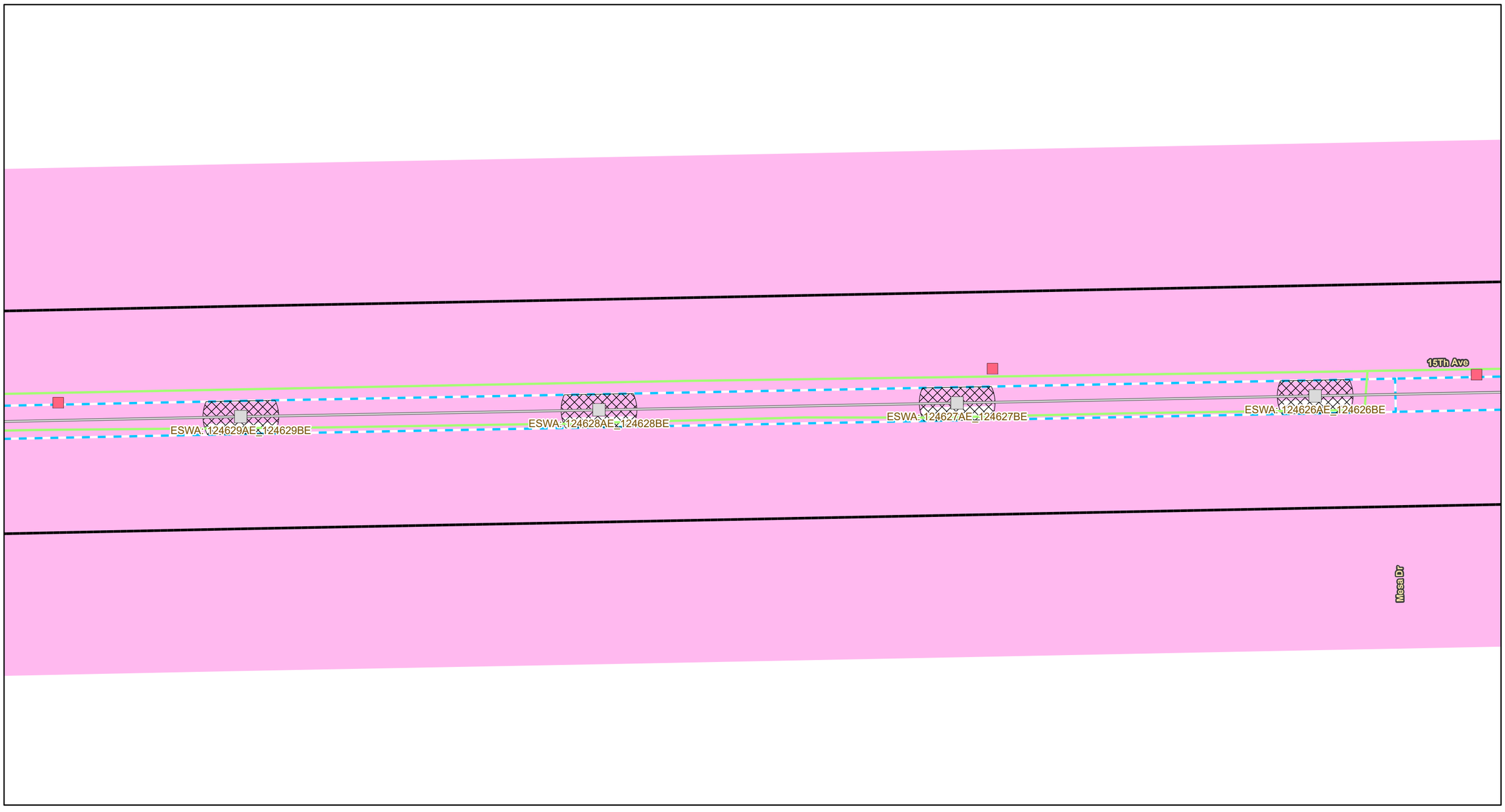
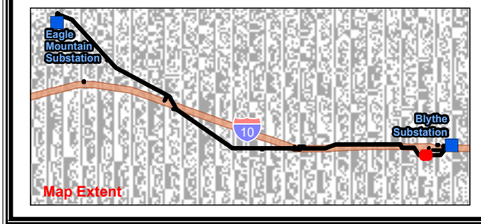
FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Southern California Edison
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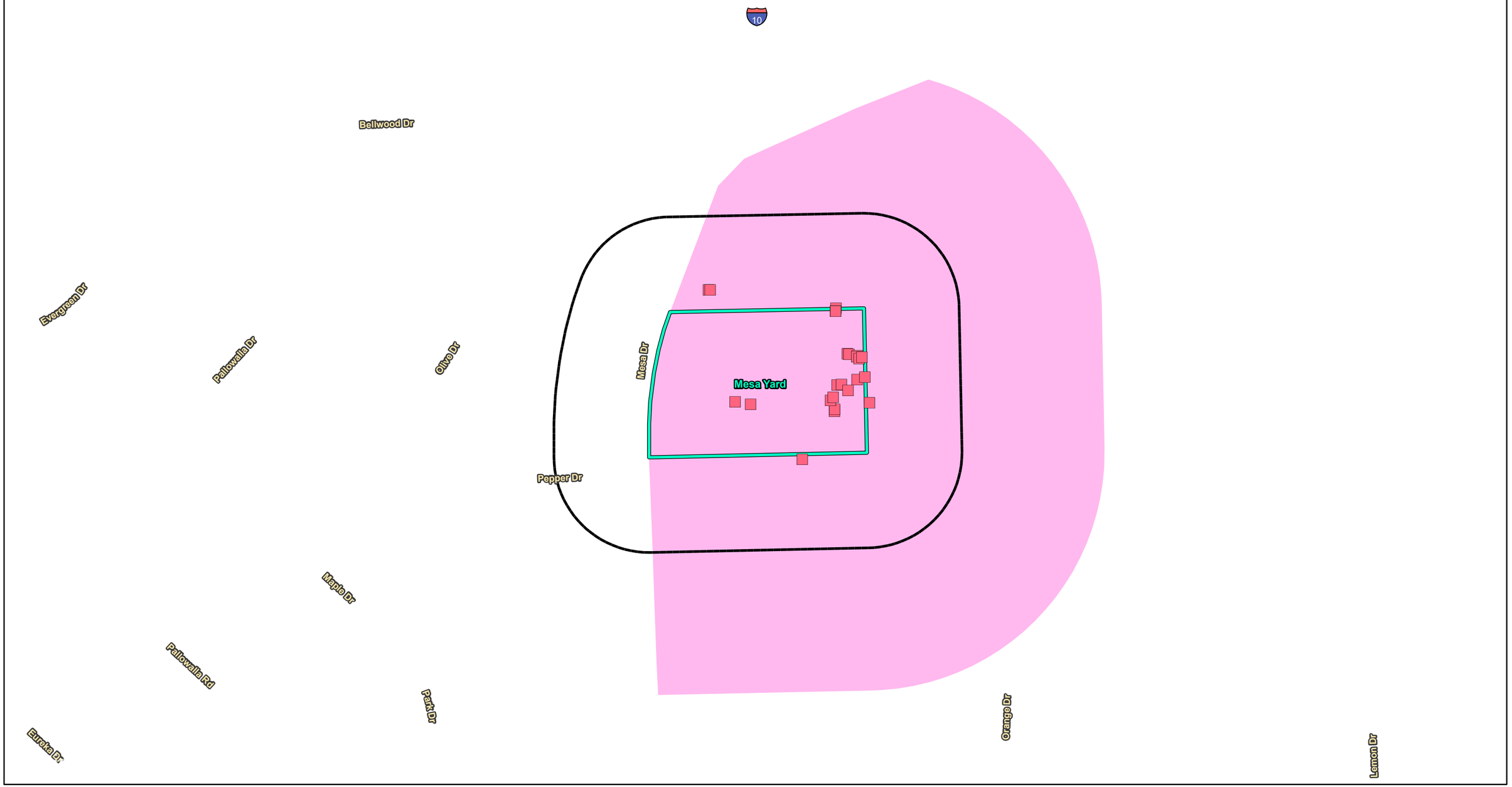

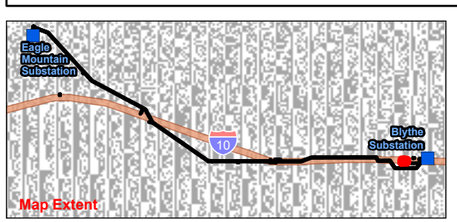

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Study Area
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FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
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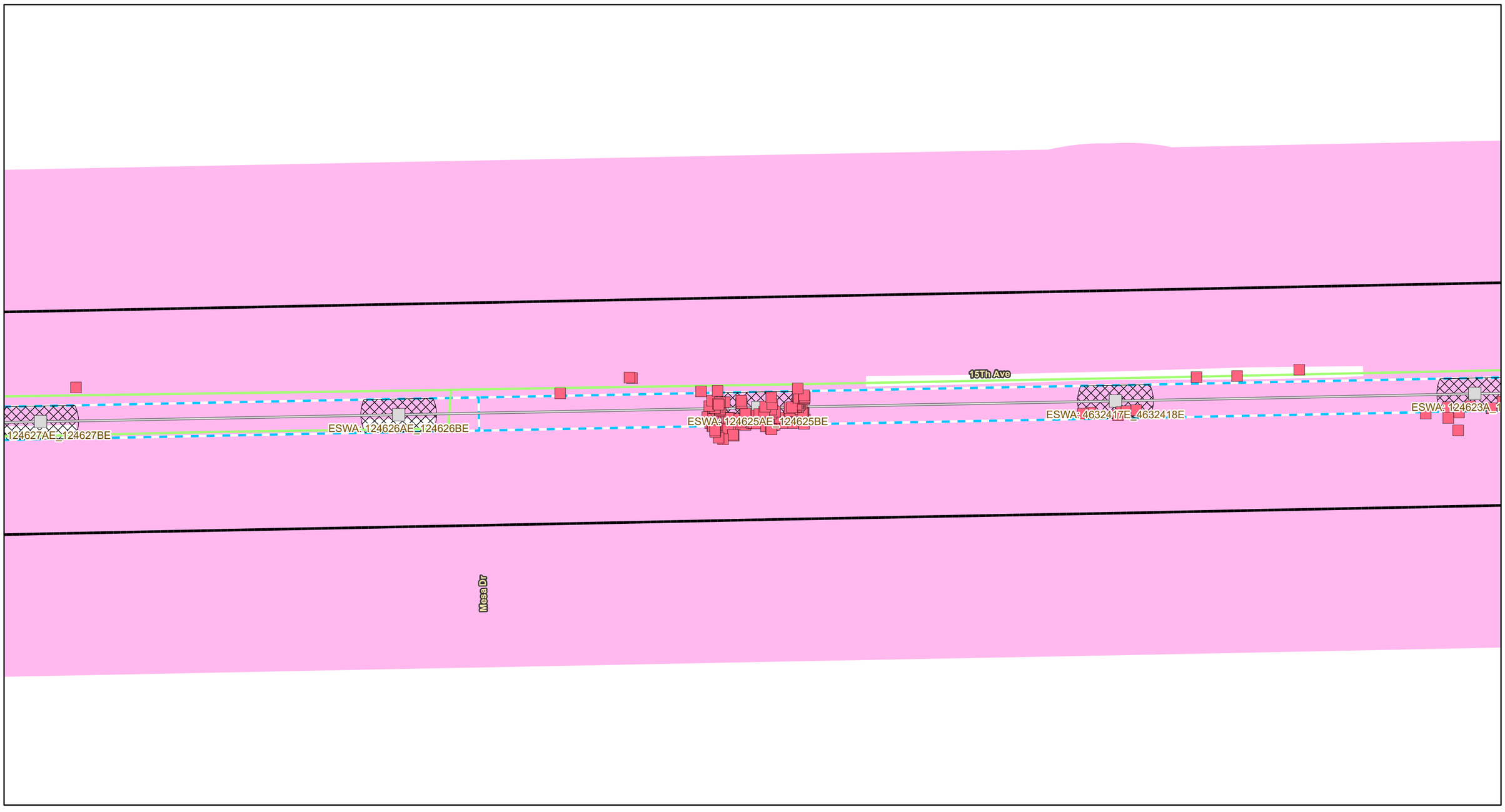

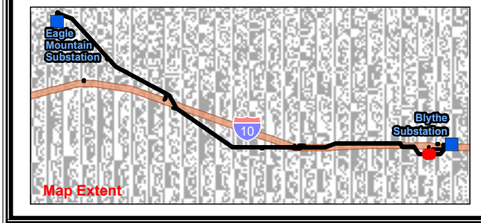

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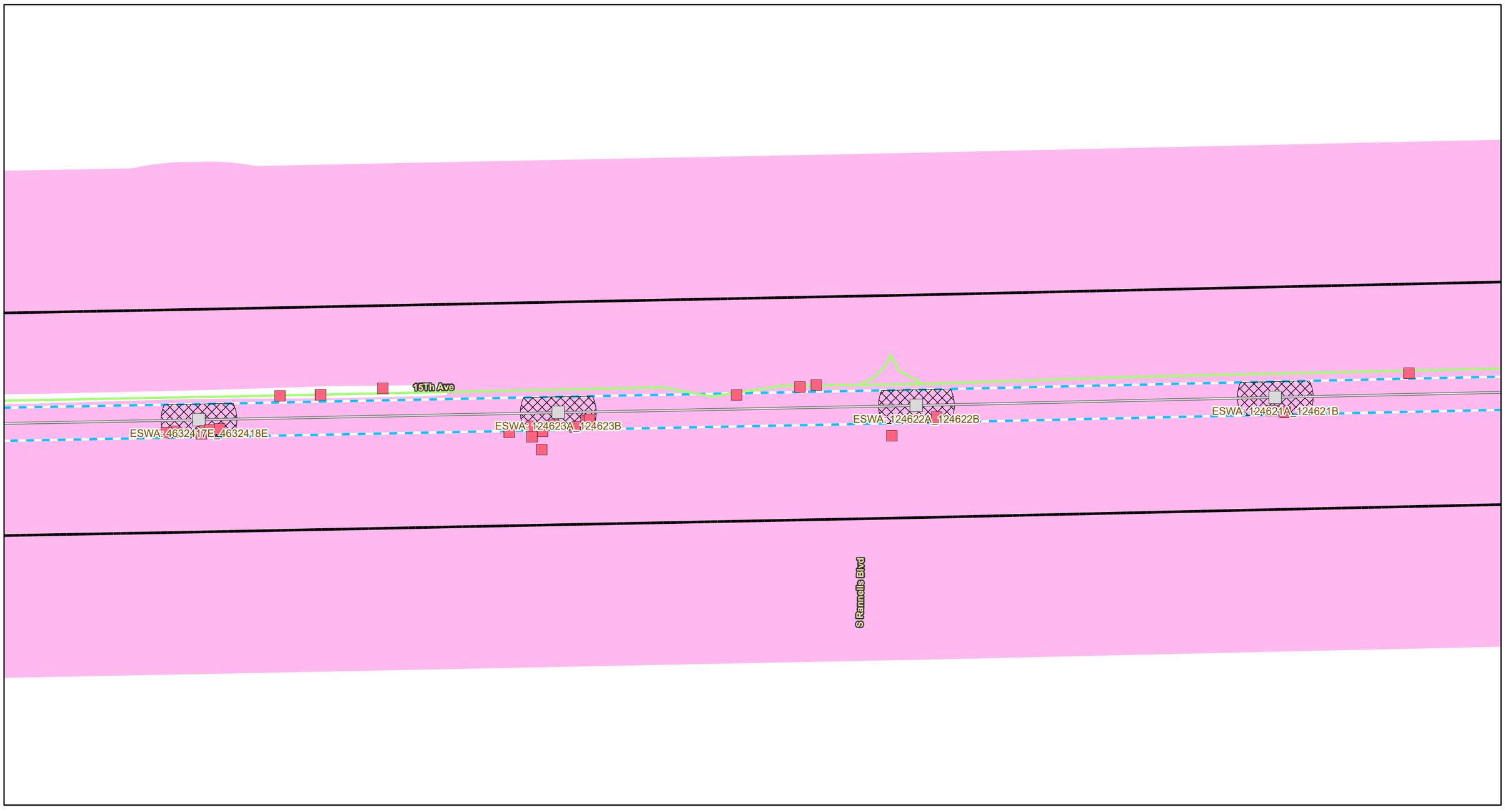
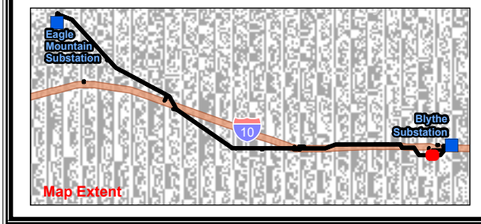
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Special-Status Plants and Wildlife

Southern California Edison
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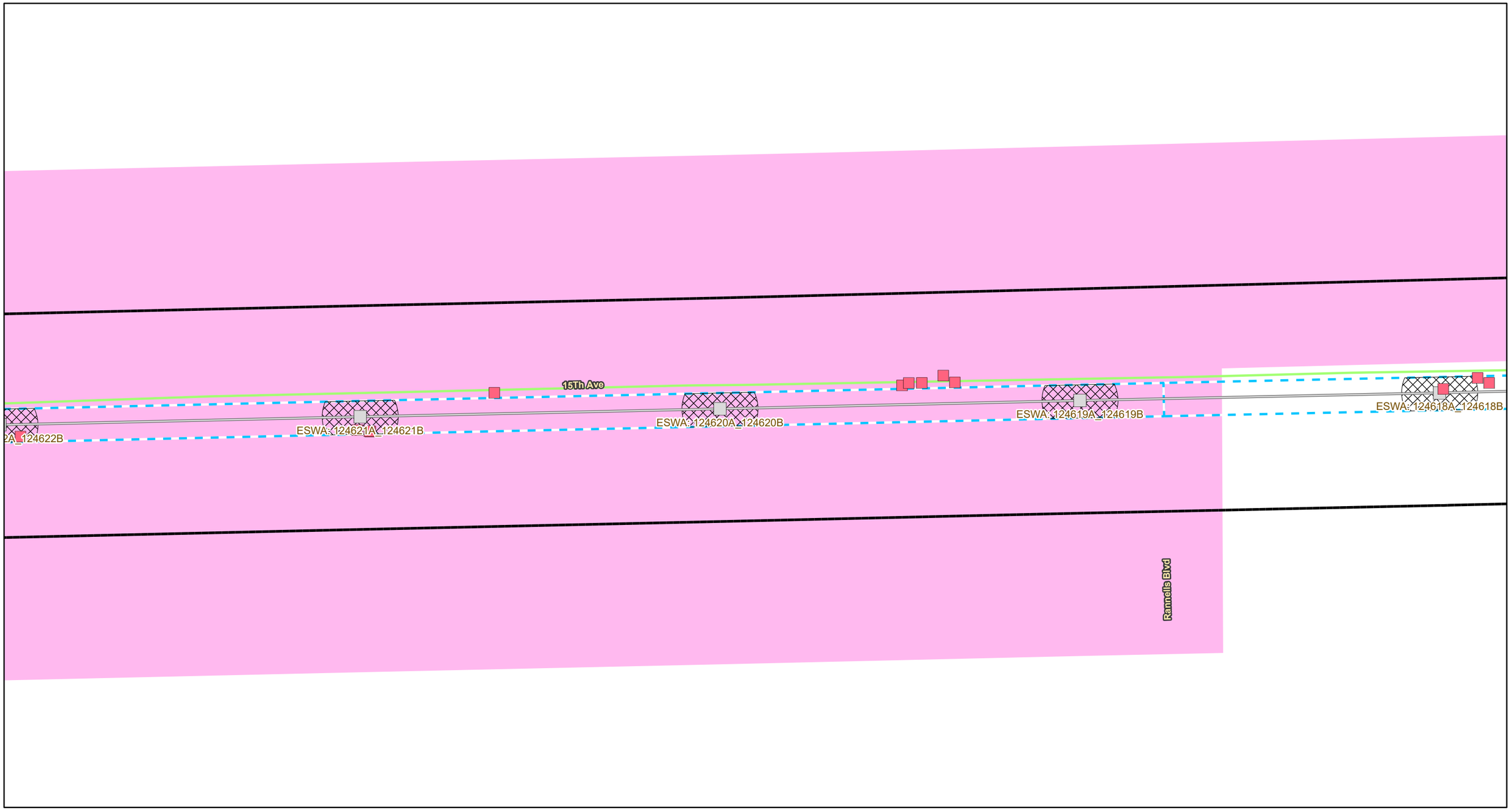

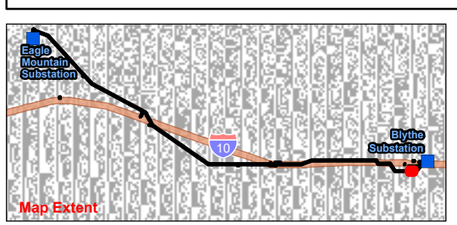

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Southern California Edison
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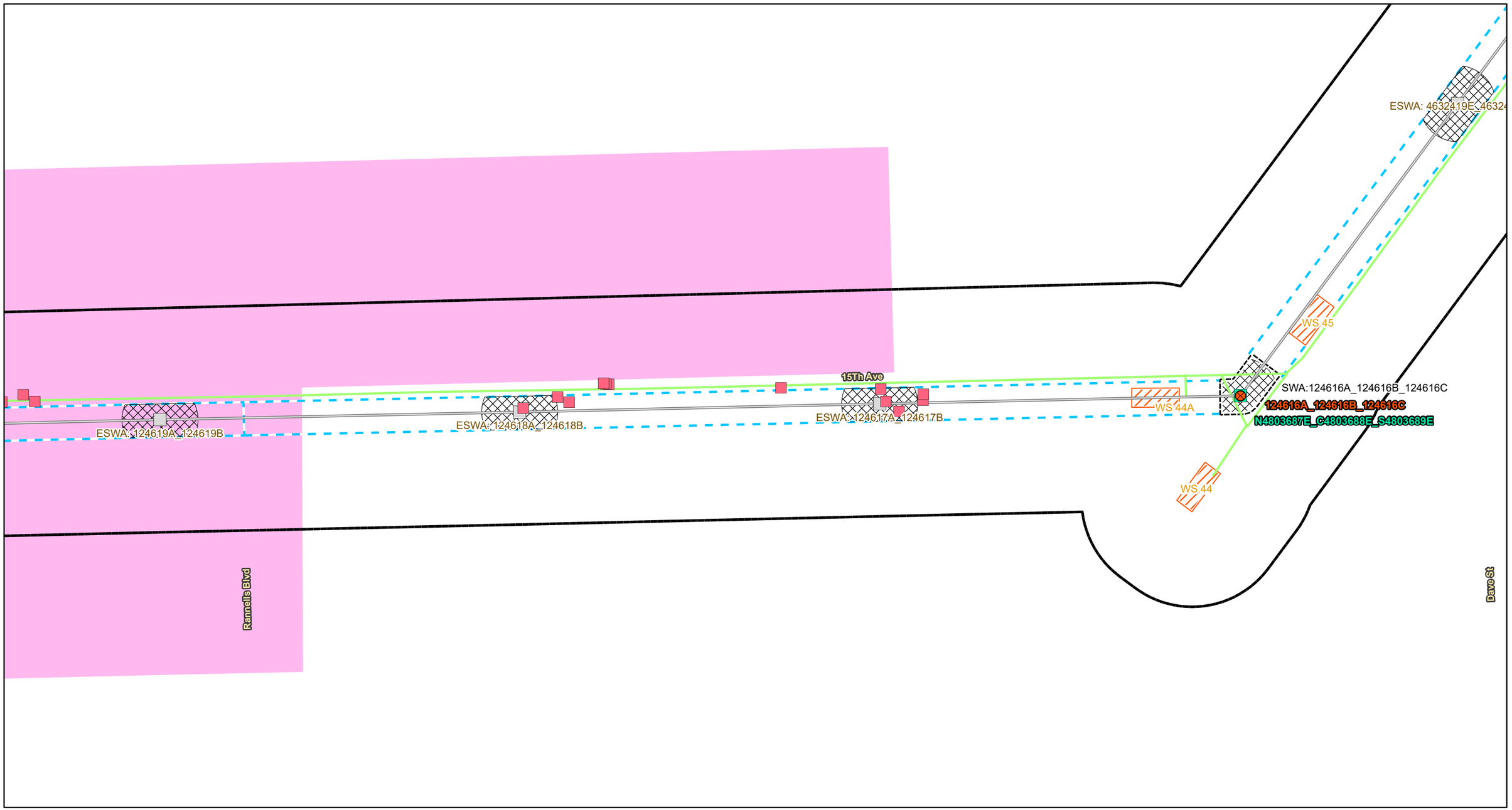

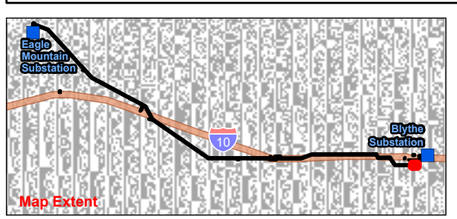

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Southern California Edison
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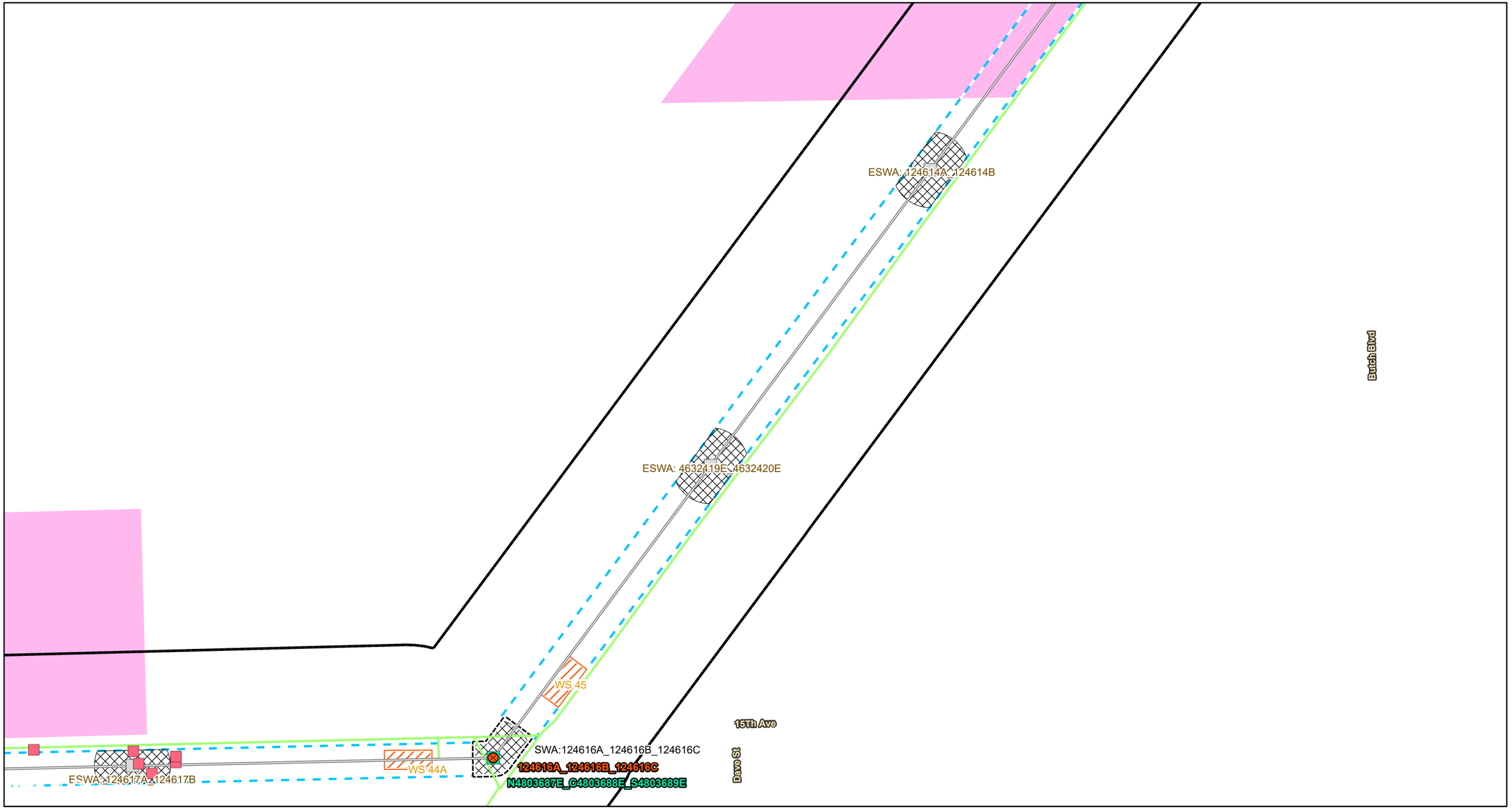

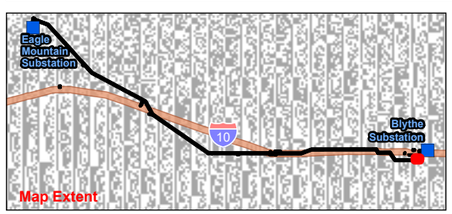

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Southern California Edison
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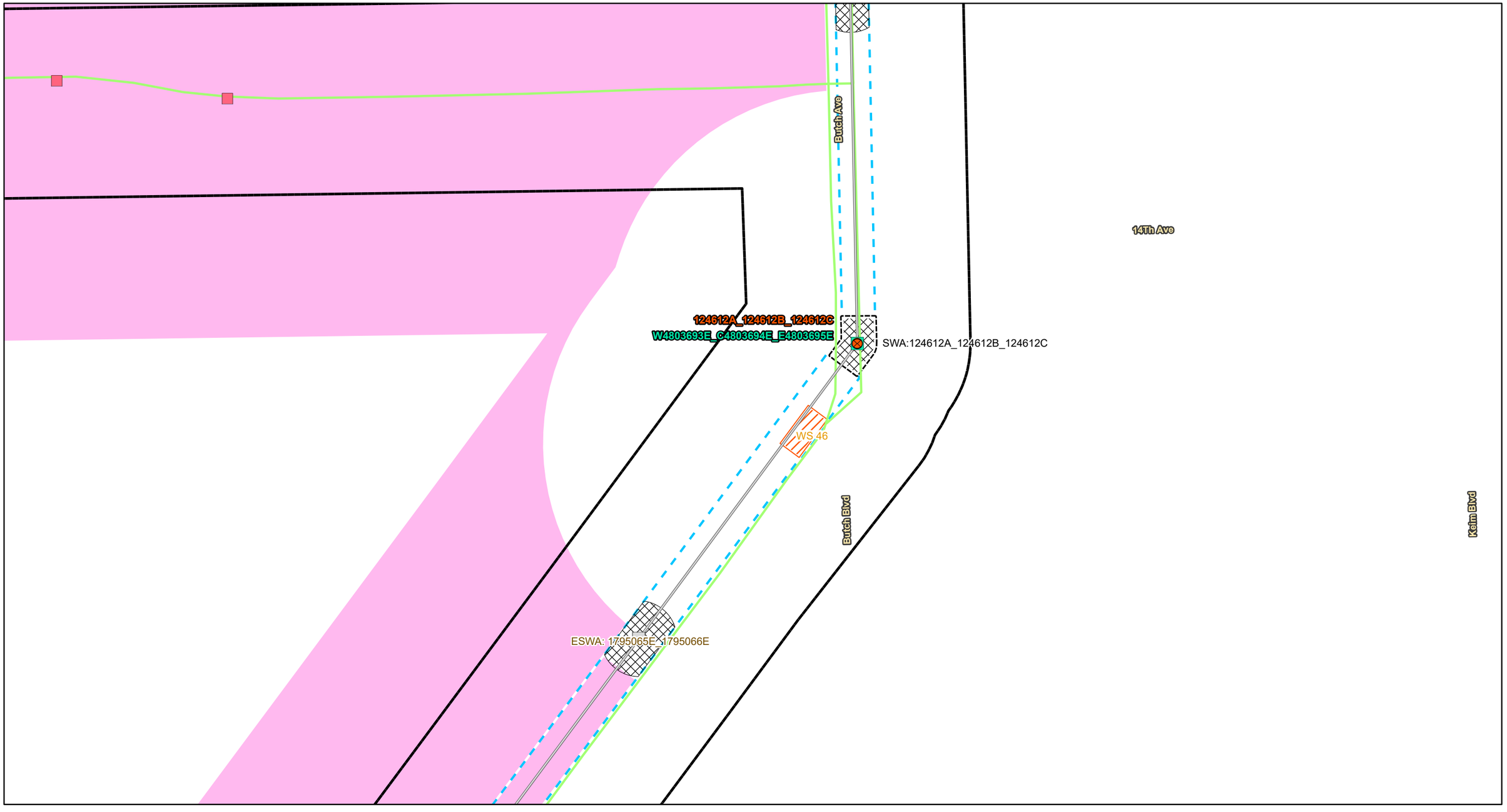

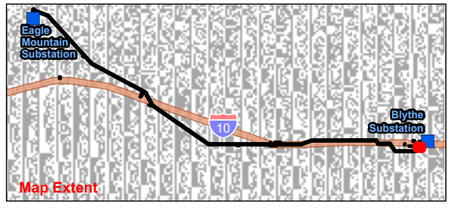

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Southern California Edison
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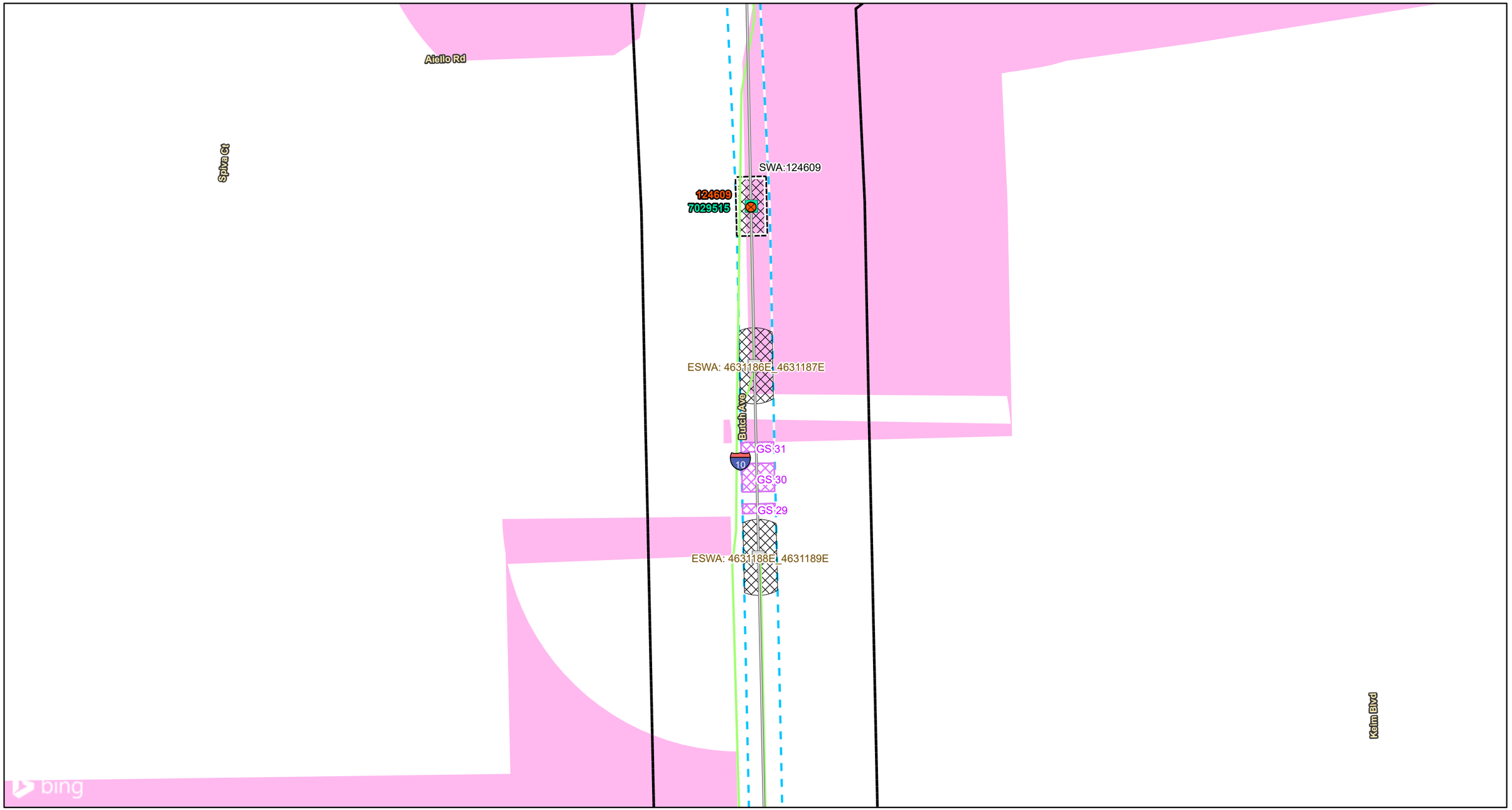

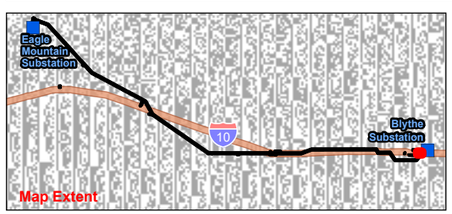

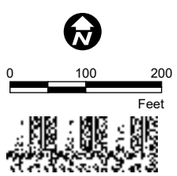

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Special-Status Plants and Wildlife

Southern California Edison
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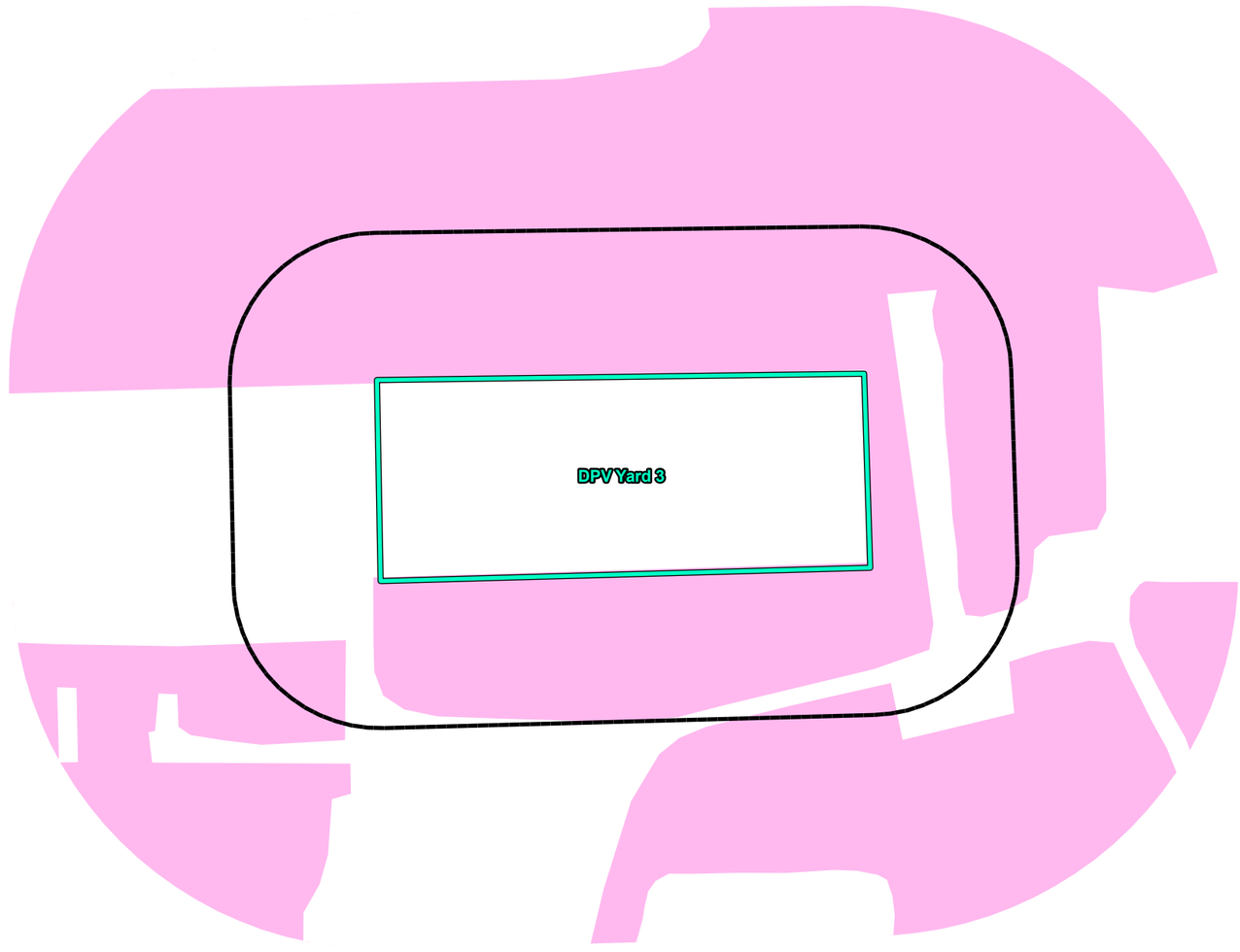

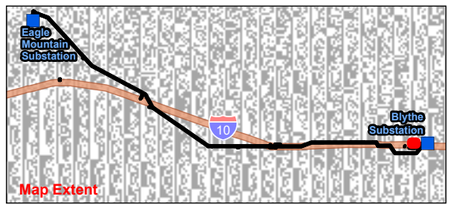

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Suitable Habitat
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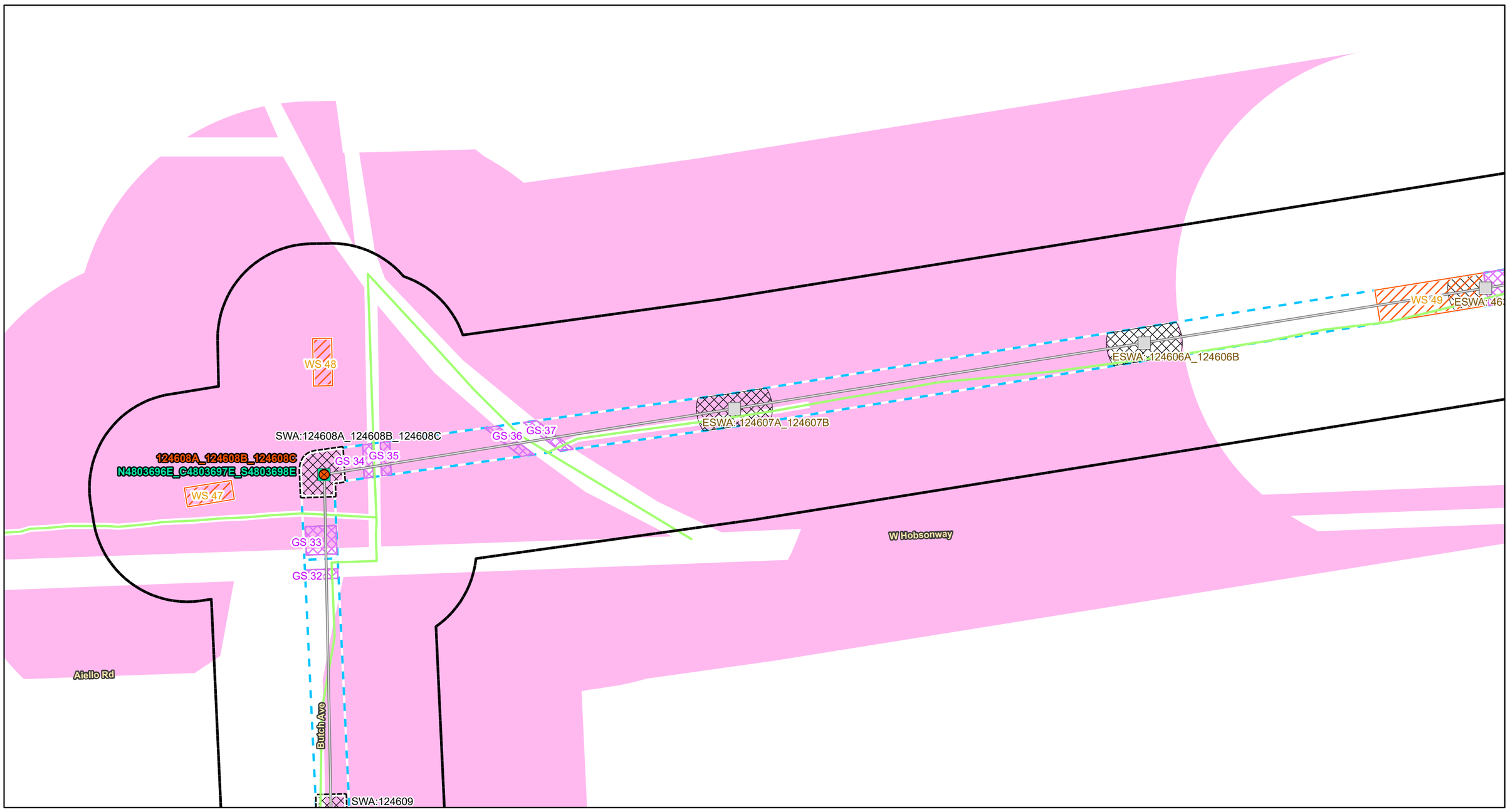
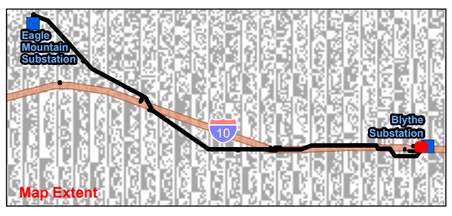
FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





0 100 200
Feet

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- New Structure
- Existing Structure (to be removed)
- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

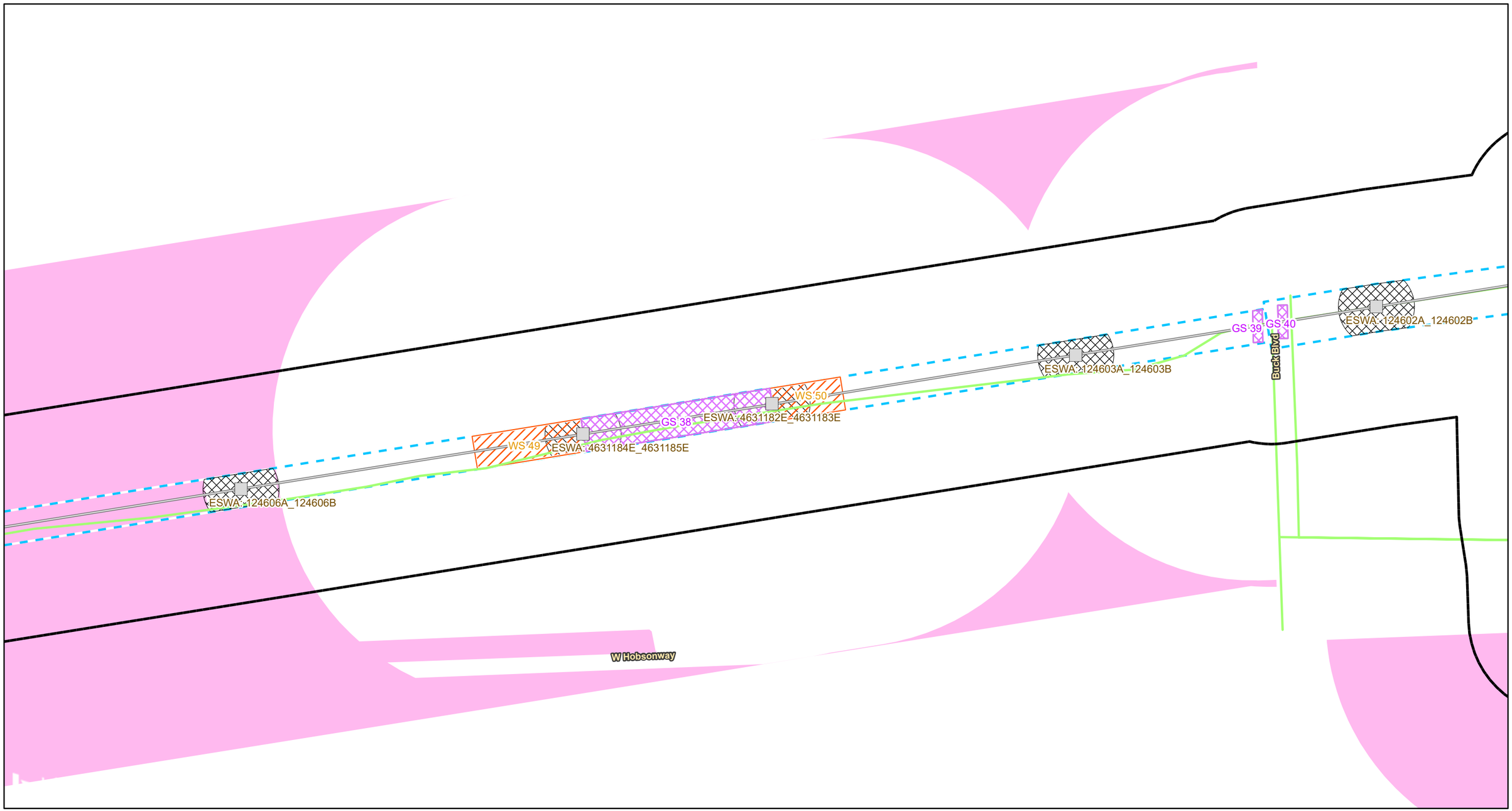
Suitable Habitat

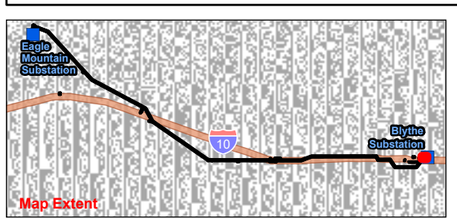
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area

- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

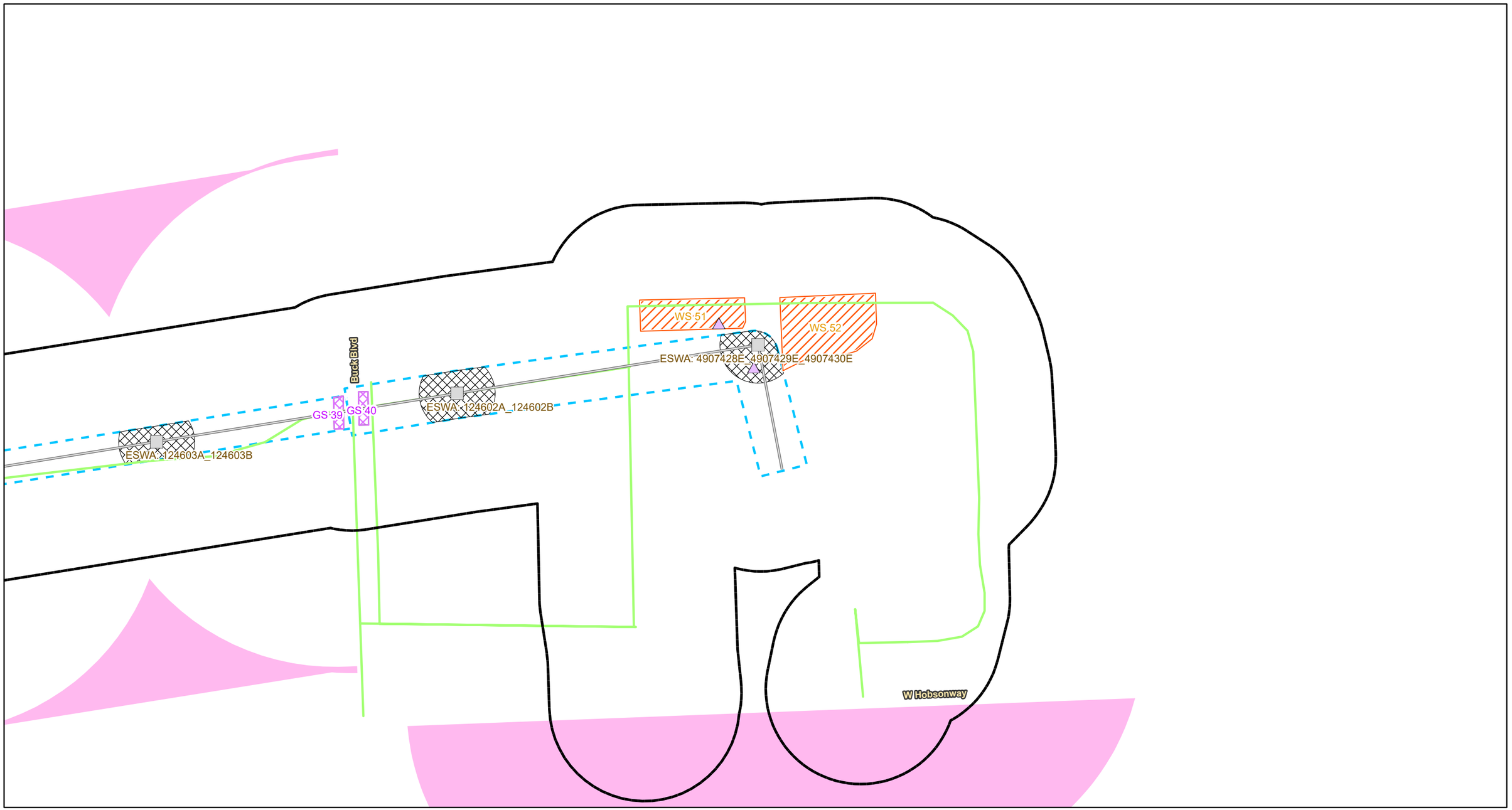
Suitable Habitat

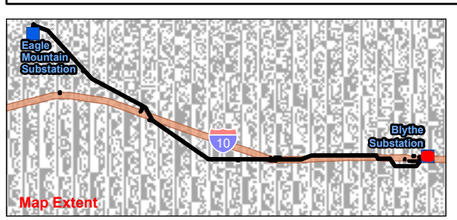
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

Imagery and basemaps provided by ESRI and its licensors © 2023. Additional sources provided by SCE 2023.

- Existing Structure (to remain)
- Existing Circuit
- Access Road
- Study Area
- Existing EM-B Right of Way

Construction Area
- Guard Structure
- Wire Setup
- Structure Work Area
- O&M Area

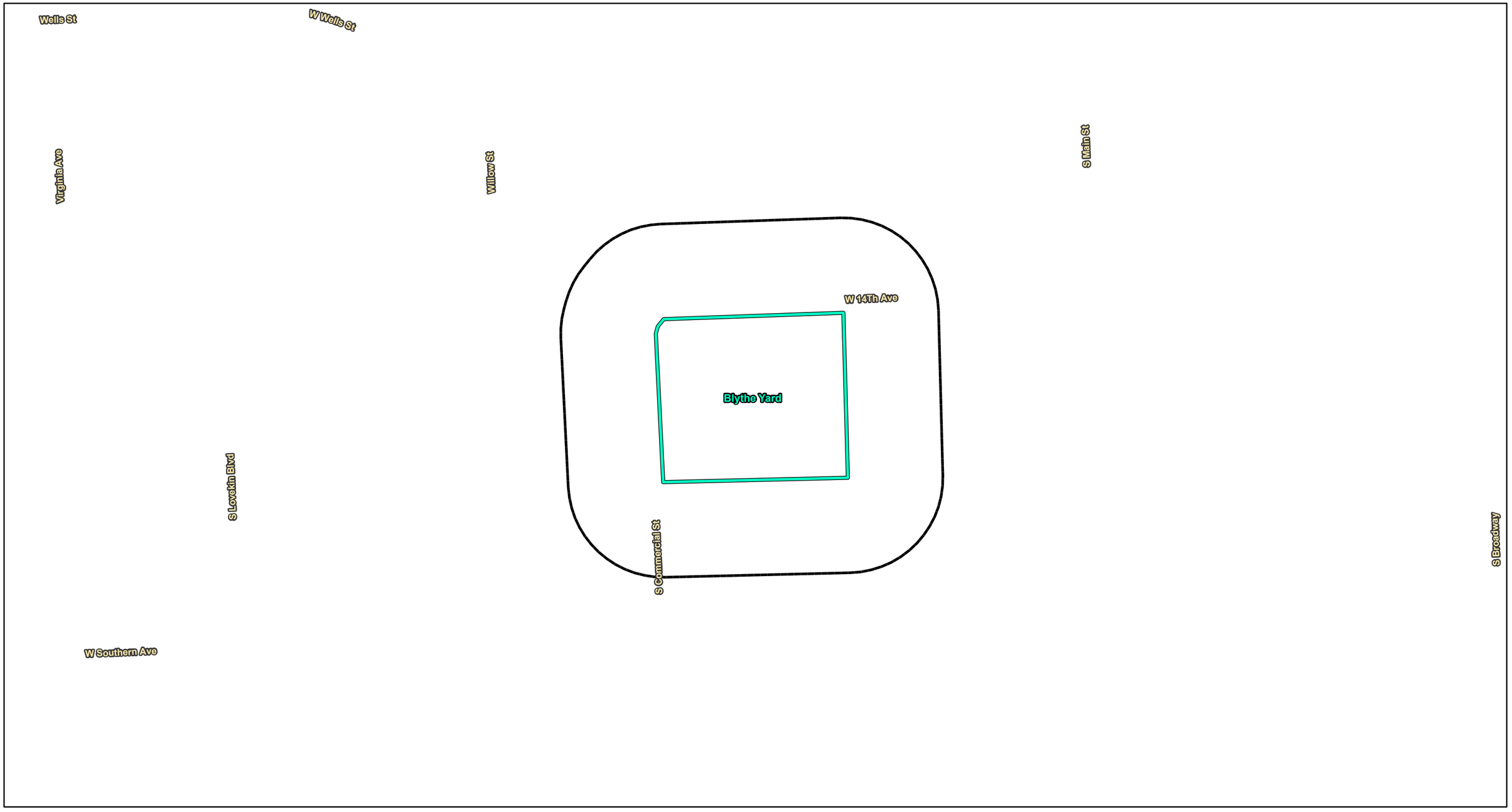
Special-Status Wildlife
- Desert Kit Fox

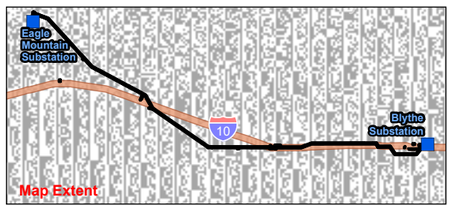
Suitable Habitat
- Desert Tortoise

FIGURE 3

Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





0 100 200
Feet

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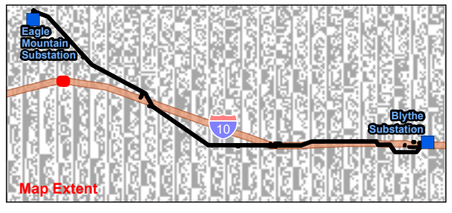
Study Area
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



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Feet

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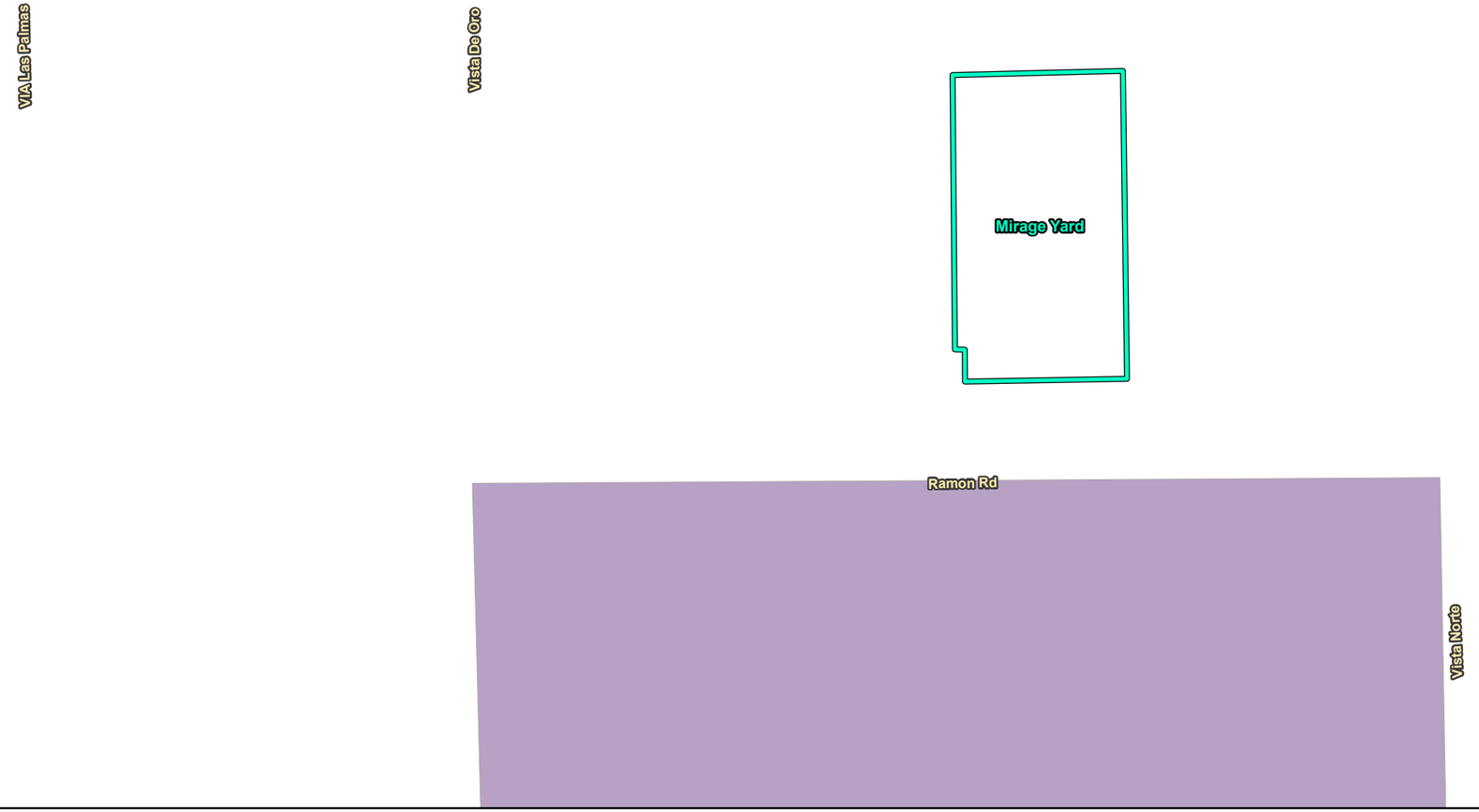
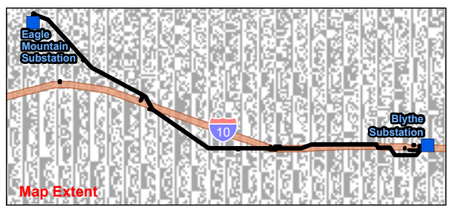
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





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Feet

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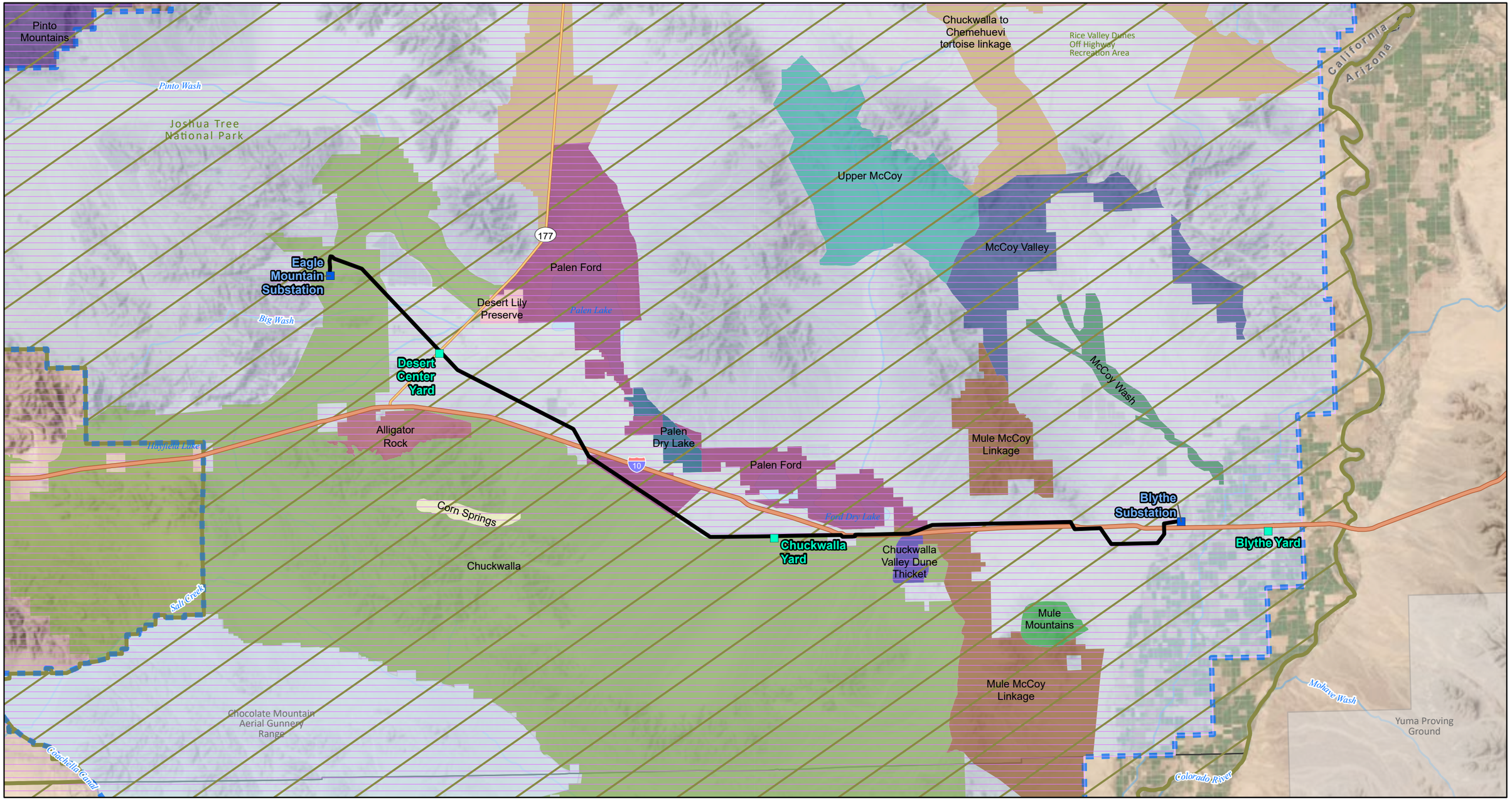
Proposed Laydown Yard
Construction Area
Guard Structure
Wire Setup
Structure Work Area
O&M Area
State Land

FIGURE 3
Special-Status Plants and Wildlife

Southern California Edison
Eagle Mountain-Blythe 161-kV Project



0 2.5 5 Miles

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Additional sources provided by SCE 2023, USGS 2021, BLM 2023.

- Existing Laydown Yard
- Existing Substation
- Existing EM-B Right of Way
- Northern and Eastern Colorado Desert Coordinated Managment (NECO) Plan Boundary
- Desert Renewable Energy Conservation Planning Boundary
- California Desert Conservation Area (CDCA) Plan Boundary

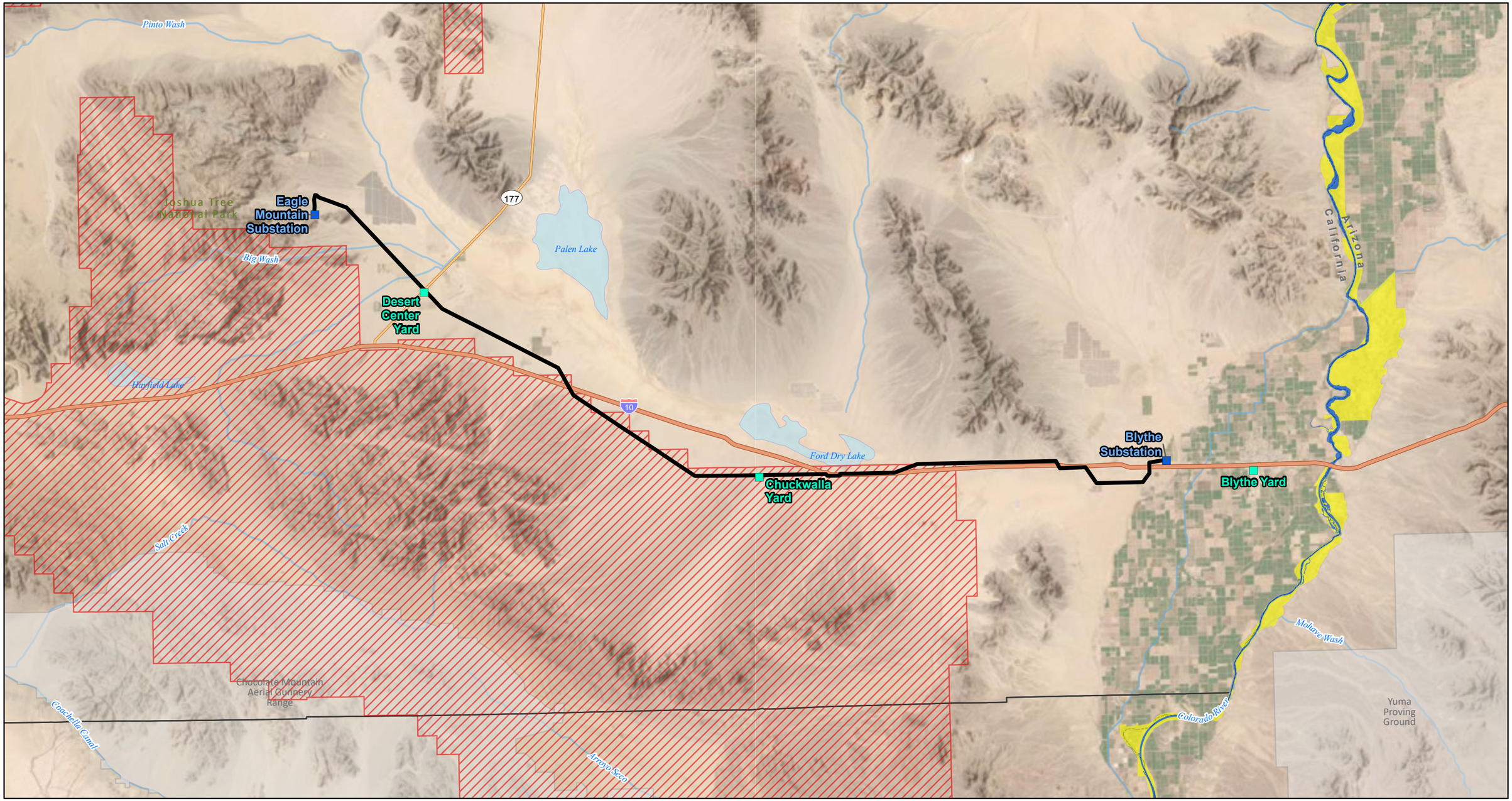
BLM Area of Critical Environmental Concern

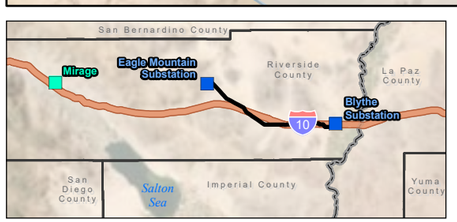
- Alligator Rock
- Chuckwalla
- Chuckwalla Valley Dune Thicket
- Chuckwalla to Chemehuevi tortoise linkage
- Corn Springs
- Desert Lily Preserve
- McCoy Valley
- McCoy Wash
- Mule McCoy Linkage
- Mule Mountains
- Palen Dry Lake
- Palen Ford
- Pinto Mountains
- Upper McCoy

FIGURE 4

Management Plans/ACECs

Southern California Edison
Eagle Mountain-Blythe 161-kV Project





0 2.5 5
Miles

SOUTHERN CALIFORNIA EDISON
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Additional sources provided by SCE 2023, USGS 2021, USFWS 2021.

- Existing Substation
- Existing Laydown Yard
- Existing EM-B Right of Way

USFWS Designated Critical Habitat

- Desert tortoise
- Razorback sucker
- Yellow-billed Cuckoo

FIGURE 5

USFWS Critical Habitat

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Appendix B

Regulatory Framework

Regulatory Framework

Listed species are those taxa that are formally listed as endangered or threatened by the federal government (i.e., U.S. Fish and Wildlife Service [USFWS]) pursuant to the Federal Endangered Species Act (FESA), or listed as endangered, threatened, or rare (for plants only) by the State of California (i.e., California Fish and Game Commission) pursuant to the California Endangered Species Act or the California Native Plant Protection Act. Species that are not formally listed may still have special status if considered rare or sensitive by resource agencies, organizations with biological interests/expertise (e.g., Audubon Society, California Native Plant Society, The Wildlife Society), or the scientific community.

Special-status vegetation communities are vegetation types, associations, or sub-associations that support concentrations of special-status plant or animal species, are of relatively limited distribution, or are of particular value to wildlife.

The following is a brief summary of the regulatory context in which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources in the project site include:

- U.S. Army Corps of Engineers - South Pacific Division (Los Angeles District) (wetlands and other Waters of the United States)
- Region 7 Colorado River Basin RWQCB (Waters of the State)
- U.S. Fish and Wildlife Service (federally listed species and migratory birds)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; Species of Special Concern (SSC); nesting birds)
- Bureau of Land Management (species designated as Sensitive)
- Northern and Eastern Colorado Desert Coordinated Management Plan (NECO)
- Desert Renewable Energy Conservation Plan (DRECP)
- California Desert Conservation Area (CDCA)

Federal Laws, Regulations, and Management Policies

National Environmental Policy Act

Title I of National Environmental Policy Act (NEPA) (42 United States Code [USC] Section 4321) requires federal agencies to incorporate environmental considerations in their planning and decision-making processes. Federal agencies are to prepare Environmental Impact Statements and Environmental Assessments evaluating the environmental impact of and alternatives to federal actions with potential to significantly affect the environment. Title II of NEPA established the Council on Environmental Quality (40 CFR Parts 1500-1508) to oversee NEPA implementation by ensuring that federal agencies meet their obligations under NEPA, overseeing implementation by federal agencies of the environmental impact assessment process, and issuing regulations and other guidance to federal agencies regarding NEPA compliance.

Federal Endangered Species Act

The FESA regulates actions that may result in the take of species federally listed as threatened or endangered. The FESA defines "take" as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The USFWS lists threatened or endangered species that are at risk of extinction and may also designate areas of Critical Habitat that are essential to the conservation of listed species. Section 9 of the FESA prohibits the take of listed animal species without authorization, which may be obtained either through Section 7 consultations (Biological Opinion [BO]), or through a Section 10(a) permit in conjunction with an approved Habitat Conservation Plan (HCP). Under provisions of Section 7(a)(2) of the FESA, a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify designated Critical Habitat.

Clean Water Act

The federal Clean Water Act (CWA) and subsequent amendments establish the basic structure for regulating discharges of pollutants into "waters of the United States" (33 CFR Part 328) and regulating water quality standards for surface waters including lakes, rivers, and wetlands. The boundaries of waters not subject to the ebb and flow of the tide are defined by the Ordinary High Water Mark (OHWM). "Wetlands" are defined in 33 CFR 328.3(b) as areas inundated or saturated by surface or ground water for a frequency and/or duration sufficient to support a prevalence of vegetation adapted to saturated soil conditions.

Section 404 – Wetlands and Waters of the U.S.

Under Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into jurisdictional Waters of the U.S., which include those waters listed in 33 CFR 328.3 (Definitions). During the period in which this BRTR was prepared and the project jurisdictional delineation surveys were performed, the Clean Water Rule: Definition of Waters of the U.S. (2015 Clean Water Rule) was in effect. The 2015 Clean Water Rule was published in the Federal Register (FR) at 80 FR 37054 and became effective August 28, 2015. On July 27, 2017, the U.S. Environmental Protection Agency (EPA) and USACE published a proposed rule to rescind the 2015 Clean Water Rule and re-codify definitions of Waters of the U.S. (82 FR 34899). The U.S. EPA and USACE then issued a final rule on February 6, 2018 designating an applicability date to the 2015 Clean Water Rule of February 6, 2020 while the agencies worked on revising the definitions of waters of the U.S. However, on May 11, 2018, the U.S. District Court for the District of South Carolina issued a ruling in South Carolina Coastal Conservation League, et al. v. Pruitt enjoining the U.S. EPA and USACE from issuing the final rule. Consequently, the 2015 Clean Water Rule remained in effect in 22 states, including California, until February 6, 2020. The U.S. EPA and USACE repealed the 2015 Clean Water Rule on October 22, 2019 (effective December 23, 2019) and issued the Navigable Waters Protection Rule (NWPR) on April 21, 2020 (85 FR 22250). The NWPR became effective on June 22, 2020. USACE is authorized, as delegated by the U.S. EPA, to regulate any activity that would result in the discharge of dredged or fill material into Waters of the U.S. The USACE must determine that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to aquatic resources or if significant degradation would occur to Waters of the U.S. or wetlands. The Project is subject to USACE South Pacific Division (Los Angeles District) jurisdiction.

Section 401 – Water Quality Certification

For discharges to Waters of the U.S., the State Water Resources Control Board (SWRCB) or applicable Regional Water Quality Control Board (RWQCB) must certify that the discharge would comply with state water quality standards, including beneficial uses (23 California Code of Regulations 3830, et seq.). Dredge and fill activities in wetlands and waterways that impact waters of the U.S. require a federal Section 404 permit from the USACE. Before a Section 404 permit can be issued, a Section 401 certification must first be obtained from the RWQCB. The Project is subject to RWQCB Region 7 (Colorado River Basin) jurisdiction.

Executive Order 11990 – Wetlands

On May 24, 1977, President Carter signed Executive Order (EO) 11990, requiring federal agencies to avoid adverse impacts (both long and short term) to wetlands whenever there is a practicable alternative available. The order defines wetlands as areas that are inundated by surface or ground water with a frequency to support a prevalence of vegetative or aquatic life that require saturation or seasonally saturated soil conditions for growth and reproduction.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA, 16 United States Code [U.S.C.] 703–712, as amended) governs take, possession, import, export, transport, selling, purchasing, or bartering of migratory birds, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11). The take of migratory birds is governed by the MBTA through regulation of take for educational, scientific, and recreational purposes, and requirement that harvests be limited to levels that prevent over-utilization. Section 704 of the MBTA authorizes the Secretary of the Interior to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take but ensuring that take is compatible with the protection of the species.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (U.S.C. Title 16, Chapter 5A, Subchapter II, Section 668 a d), as subsequently amended, provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act. The 1978 amendment authorizes the Secretary of the Interior to permit the taking of golden eagle nests that interfere with resource development or recovery operations. (See also the MBTA and FESA) A 1994 Memorandum (59 FR 22953, April 29, 1994) from President Clinton to the heads of Executive Agencies and Departments sets out the policy concerning collection and distribution of eagle feathers for Native American religious purposes.

Invasive Species – Executive Order 13112

On February 3, 1999, President Clinton signed EO 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to a given ecosystem and whose introduction would cause or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. Invasive

plants and noxious weeds are managed on public lands by the BLM under the direction of the multi-agency National Invasive Species Council (NISC) established in 1999. Under this EO, federal agencies whose actions may affect the status of invasive species shall: (1) identify such actions, (2) use relevant programs and authorities to prevent, control, monitor, and research such species, and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere. Additionally, federal agencies shall pursue these duties in consultation with the NISC, consistent with the Invasive Species Management Plan.

Bureau of Land Management Special-Status Species Management Manual

The BLM's Special-Status Species Management Manual 6840 (BLM 2008) identifies BLM special-status species as species designated by the BLM as Sensitive, species listed or proposed for listing under the FESA, and species recognized as requiring special management consideration to lessen the likelihood for future listing. According to Manual 6840, the BLM shall retain in federal ownership habitats that are essential for the conservation of any listed species, particularly those that are part of a broader, logical public land ownership management unit. If a BLM special-status species or any federal candidate or proposed species is delisted, it will be monitored for the five years following its delisting as a BLM Sensitive species.

Federal Land Policy Management Act of 1976

In 1976, Congress passed the Federal Land Policy Management Act (FLPMA), which governs the manner by which public lands administered by the BLM are managed. The FLPMA requires BLM to develop land use plans, also known as Resource Management Plans, to guide BLM's management of public land. Figure 3 displays areas covered by land management plans in the vicinity of the project.

California Desert Conservation Area Plan

Under the FLPMA, the California Desert Conservation Area (CDCA) was established with 12,000,000 acres of public lands administered by the BLM (DOI and BLM 1980). The CDCA plan consists of five recovery units: Upper Virgin River, Eastern Mojave, Northwestern Mojave, Western Mojave, and Colorado Desert. The CDCA gives preservation of endangered species the highest priority, and one of its goals is to provide a system of desert wildlife management areas within the recovery units. In 1994, the CDCA plan established strategies for recovering the desert tortoise: maintain high survivorship of adult desert tortoises; protect existing populations and habitat; institute habitat restoration where necessary; and implement a formal adaptive management program. It provides developers of public and private projects with a streamlined program for compliance with the California Endangered Species Act (CESA) and FESA, reduces delays and expenses, eliminates uncertainty, and applies the costs of compensation and mitigation equitably to all agencies and parties. The project lies entirely within the CDCA area (Figure 3).

Northern and Eastern Colorado Desert Coordinated Management Plan

The NECO is a landscape-scale, mult-iagency plan developed to protect and conserve natural resources while simultaneously balancing human uses of the California portion of the Sonoran Desert ecosystem (DOI and BLM 2001). NECO provides for the conservation and management of habitat for the desert tortoise, integrated ecosystem management for special-status species and natural communities for all federal lands, and regional standards and guidelines for public land health on BLM lands. The planning area encompasses over 5 million acres in the larger CDCA and

includes 60 sensitive plant and animal species. NECO amends the 1980 CDCA Plan (DOI and BLM 2001). The project lies entirely within the NECO area (Figure 3).

One component of the CDCA Plan was the establishment of Areas of Critical Environmental Concern (ACECs) as required under the FLPMA. An ACEC is a special management area designated by BLM to protect significant historical, cultural, and scenic values, or fish and wildlife or other natural resources. ACECs can also be designated to protect human life and safety from natural hazards. In the NECO area, the BLM designated new ACECs known as Desert Wildlife Management Areas (DWMA) for the federally threatened desert tortoise that overlap USFWS-designated desert tortoise critical habitat. BLM also established Wildlife Habitat Management Areas (WHMA), a system of large management areas described by the NECO that provide habitat connectivity and cover 80 percent of known or predicted occurrences of special-status species and natural communities. Two types of WHMAs have been established within the larger NECO area: one for desert bighorn sheep and one for all other special-status species and habitats referred to as multi-species WHMAs. Multi-species WHMAs are complementary to existing ACECs and DWMAs. Portions of the project fall within the Chuckwalla DWMA and the Palen-Ford Multi-species WHMA (Figure 3). These areas are described below.

CHUCKWALLA DWMA

The Chuckwalla DWMA consists of 648,951 acres located in southeastern Riverside County and northeastern Imperial County, California, and encompasses the Orocopia, Chuckwalla, Little Chuckwalla, and Palo Verde Mountains and the intervening alluvial fans, washes, and valleys. The area contains the Chuckwalla Bench, an elevated area of coalescing alluvial fans between the Chuckwalla and Chocolate Mountains, and the extensive Milpitas Wash in Imperial County. The Chuckwalla DWMA contains areas of cultural, scenic, vegetative, and wildlife value. This region historically contained one of the highest-density populations of desert tortoise in either California or the Sonoran Desert. The entire DWMA consists of USFWS-designated critical habitat for the species. The Chuckwalla DWMA is also excellent habitat for burro deer (*Odocoileus hemionus eremicus*) and desert bighorn sheep (*Ovis canadensis*). The extensive microphyll washes serve as excellent habitat for multiple migratory bird species. The Chuckwalla DWMA is home to several endemic plant species.

Goals for the Chuckwalla DWMA are to protect and enhance habitat for sensitive animal and plant species and rare vegetation community alliances while reducing hazards to public safety and providing for compatible public uses. Priority wildlife species include desert tortoise, desert bighorn sheep, and burro deer. Priority plant species include three endemic plant species: Mecca aster (*Xylorhiza cognata*), Orocopia sage (*Salvia greatae*), and Munz's cholla (*Cylindropuntia munzii*). Priority sensitive vegetation community alliances include Blue Palo Verde-Desert Ironwood Woodland and Smoke Tree Woodland. Project overlap with this DWMA occurs both at the western end of the alignment (including Eagle Mountain Substation) and along the central portion (Figure 3).

PALEN-FORD MULTI-SPECIES WHMA

The Palen-Ford Multi-Species WHMA consists of 102,847 acres and encompasses the smaller Palen-Ford Playa Dunes ACEC (established under DRECP; see below). This WHMA was specifically established to protect both sand dune and playa habitat and the Mojave fringe-toed lizard but has relatively fewer restrictions and mitigation requirements. Instead, management emphasis is placed on active management, mitigation, and restoration from authorized allowable uses. Project overlap with this WHMA occurs along the central portion of the alignment (Figure 3).

Desert Renewable Energy Conservation Plan

The DRECP is a collaborative effort between the California Energy Commission, CDFW, BLM, and USFWS to help provide effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects (BLM et al. 2015). The DRECP is focused on 22.5 million acres of public and private lands across Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties. The DRECP amends the 1980 CDCA Plan and serves as an HCP under section 10(a)(1)(B) of the FESA. The project lies entirely within the DRECP area (Figure 3).

As part of the DRECP effort, BLM prepared a Land Use Planning Amendment (LUPA) that amends the CDCA Plan applicable to BLM-managed public lands (BLM 2016). This LUPA identified and mapped areas for renewable energy development and areas for long-term natural resource conservation, consistent with the FLPMA multiple-use and sustained yield requirements. Conservation areas in BLM land under the LUPA for the DRECP include existing, modified, and new ACECs. Portions of the project fall within the Mule-McCoy Linkage ACEC and the Palen-Ford Playa Dunes ACEC (Figure 3). These areas are described below.

MULE-MCCOY LINKAGE ACEC

The Mule-McCoy Linkage ACEC consists of 60,263 acres located in eastern Riverside County and is bordered on the west by the Chuckwalla DWMA, on the south by the Palo-Verde Wilderness Area, and on the north by the Palen-McCoy Wilderness Area. This ACEC protects wildlife linkage habitat between the Chuckwalla DWMA and the two neighboring wilderness areas. This area has been identified as critical for burro deer connectivity in eastern Riverside County. The surrounding Mule, McCoy, and Palo Verde Mountains are designated bighorn sheep WHMAs and are currently identified as unoccupied ranges. Southern portions of the ACEC contain extensive microphyll woodland, which is a NECO sensitive plant community and known habitat for several sensitive wildlife species, including the Gila woodpecker (*Melanerpes uropygialis*). A corridor of sand south of Interstate 10 is the eastern extension of the Palen-Ford Playa Dunes ACEC sand transport corridor and provides habitat for the Mojave fringe-toed lizard (*Uma scoparia*). The adjacent Mule Mountains are known to contain major bat colonies including a maternity roost for California leaf-nosed bats (*Macrotus californicus*).

Goals for the Mule-McCoy Linkage ACEC are to maintain wildlife connectivity between the Chuckwalla DWMA and the Palo Verde and Palen-McCoy Wilderness Areas and maintain the integrity of the sand transport system. Priority wildlife species include burro deer and Mojave fringe-toed lizard. Priority sensitive vegetation communities include microphyll woodland. Project overlap with this ACEC occurs in the eastern portion of the alignment (Figure 3).

PALEN-FORD PLAYA DUNES ACEC

The Palen-Ford Playa Dunes ACEC consists of 54,767 acres and encompasses the entire playa and dune system in the Chuckwalla Valley of eastern Riverside County. The area is bordered on the east by the Palen-McCoy Wilderness Area and on the west by Joshua Tree National Park. This ACEC contains extensive and pristine habitat for the Mojave fringe-toed lizard. The ACEC protects an entire dune ecosystem for this and other dune-dwelling species, including essential habitat and ecological processes (e.g., sand transport system). The Palen-Ford Playa Dunes ACEC also contributes to the overall linking of five currently isolated Wilderness Areas with each other and Joshua Tree National Park. Furthermore, this ACEC provides crucial habitat connectivity for key wildlife species, including the desert tortoise and desert bighorn sheep. Palen-Ford Playa Dunes

ACEC also contains sensitive plant species and vegetation alliances that are associated with dune and playa systems. A goal for the Palen-Ford Playa Dunes ACEC is to maintain the integrity of essential Mojave fringe-toed lizard habitat and essential ecological processes. Project overlap with this ACEC occurs along the central portion of the alignment (Figure 3).

State Laws, Regulations, and Management Policies

California Environmental Quality Act

The California Environmental Quality Act (CEQA) (Public Resources Code Section 15000, et seq.) requires identification of significant environmental effects of proposed projects (including impacts on biological resources) and avoidance (where feasible) or mitigation of the significant effects. CEQA applies to "projects" proposed to be undertaken or requiring approval by state and/or local governmental agencies. "Projects" are activities that have the potential to have a physical impact on the environment (Section 21065). Pursuant to Section 15063 of Title 14 of the California Code of Regulations, if the Lead Agency determines that any aspect of the project, individually or cumulatively, may cause a significant environmental impact, an Environmental Impact Report (EIR) must be prepared. However, if the Lead Agency finds the project would not result in significant environmental impacts, either as proposed or modified to include mitigation measures identified in the Initial Study, a Negative Declaration or Mitigated Negative Declaration, as appropriate, will be prepared instead.

California Fish and Game Code

The California Fish and Game Code (CFGC) includes mandates for persons in the State of California who tamper with, affect, or alter environmental resources. The following sections illustrate the sections of the CFGC that pertain to the project.

CALIFORNIA ENDANGERED SPECIES ACT (CFGC SECTION 2050-2116)

The CESA is administered by the CDFW and prohibits the take of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission. Under the CESA, "take" means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill, and does not include the harm or harassment provisions in the FESA definition. However, Sections 2081 and 2080.1 of the CESA allow the CDFW to authorize exceptions to the prohibition of take of the state listed threatened or endangered plant and animal species for purposes such as public and private development based on a determination that the project or action includes measures sufficient to "fully mitigate" impacts.

FULLY PROTECTED SPECIES (CFGC SECTION 3511, 4700, 5050, AND 5515)

CFGC Sections 3511, 4700, 5050, and 5515 list the bird, mammal, reptile, amphibian, and fish species that are identified as "fully protected." Fully protected wildlife may not be harmed, taken, or possessed. The classification of "fully protected" was California's initial effort to identify and provide additional protection to those wildlife species that were rare or faced possible extinction. Most of the fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations.

MIGRATORY BIRDS (CFGC SECTION 3500-3516, AND 3800)

CFGC Section 3513 furthers the intent of the MBTA by prohibiting any take or possession of birds in California that are designated by the MBTA as migratory non-game birds, except as allowed by federal rules and regulations promulgated pursuant to the MBTA. In addition, CFGC Sections 3503, 3503.5, 3511, and 3800 further protect nesting birds and their parts, including passerine birds, raptors, and state "fully protected" birds. These regulations protect almost all native nesting birds, not just special-status birds.

WATERS AND WETLANDS (CFGC SECTION 1600)

CFGC Sections 1600-1617 require consultation with CDFW if a proposed activity has the potential to detrimentally affect a stream, and thereby wildlife resources that depend on a stream for continued viability. All streams present on a proposed project site must be identified to characterize the potential for adverse project-related impacts on the stream and associated wildlife. Under CFGC Sections 1600 et seq., CDFW regulates activities that would result in (1) any potential detrimental impacts associated with the substantial diversion or the obstruction of the natural flow of a stream, (2) substantial changes to the bed, channel, or banks of a stream, or the use of any material from the bed, channel, or banks, and (3) the disposal of debris or waste materials that may pass into a stream. CDFW jurisdiction can only be applied once stream presence is identified, and a project design is developed to a level of detail adequate to perform impact analysis.

In practice, the CDFW may assert its jurisdiction under CFGC Sections 1600 et seq. over activities to the top of the bank (stream or lake), or to the outer edge of the riparian vegetation, whichever is wider. Determining jurisdiction based on these parameters in the dry desert regions of California is challenging. Therefore, CDFW, in coordination with the California Energy Commission, has developed guidance for determining jurisdictional waters of the State for desert aquatic features. The Project is subject to CDFW Region 6 (Inland Deserts Region) jurisdiction.

NATIVE PLANT PROTECTION ACT (CFGC SECTION 1900-1913)

The Native Plant Protection Act (NPPA) of 1977 gave the California Fish and Game Commission the authority to designate native plants as endangered or rare and to protect these plants from take. Species that are considered by the California Native Plant Society (CNPS) to qualify for this status and meet the definitions of Section 1901, Chapter 10 (NPPA) or Sections 2062 and 2067 (CESA) of the CFGC are included on the California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B. Section 1913(b) of the NPPA states: "Notwithstanding the provisions of Section 1911…the removal of endangered or rare native plants from a…right-of-way by the owner of the land or his agent…or the performance by a public agency or a publicly or privately owned public utility of its obligation to provide service to the public, shall not be restricted by this chapter because of the presence of rare or endangered plants." However, these plants may be addressed in CEQA documents depending on specific site conditions. CRPR definitions are as follows (CNPS 2006):

- 1A: Plants presumed to be extinct because they have not been seen or collected in the wild in California for many years. This rank includes plants that are both presumed extinct and those that are presumed extirpated in California. A plant is extinct if it no longer occurs in or outside of California. A plant that is extirpated from California has been eliminated from California but may still occur elsewhere in its range.
- 1B: Plants that are rare throughout their range with the majority of them endemic to California. Most of the plants of CRPR 1B have declined significantly over the last century.

- 2A: Plants presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California, but more common elsewhere in their range.
- 2B: Plants that are rare throughout their range in California but are common beyond the boundaries of California. CRPR 2B recognizes the importance of protecting the geographic range of widespread species.
- 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.
- 4: A watch list for plants that are of limited distribution or infrequent throughout a broader area in California and their vulnerability or susceptibility to threat appears relatively low at this time.

California Desert Native Plant Act

The California Desert Native Plants Act (CDNPA) (California Food and Agriculture Code Section 80001-80201) protects certain species of California desert native plants from unlawful harvesting on both public and privately owned lands. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. In these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants, or any parts thereof, unless a person has a valid permit or wood receipt and the required tags and seals. The appropriate permits, tags, and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee. The CDPNA does not apply to a public agency or to a publicly or privately owned public utility when acting in the performance of its obligation to provide service to the public (Section 80117). Therefore, SCE, and by extension the project, is exempt from the requirements of the CDNPA.

State and Regional Water Quality Control Board

The SWRCB has jurisdiction throughout California and protects water quality by setting statewide policy and coordinating the nine RWQCBs in California that exercise regulatory activities by basins. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., Waters of the U.S., including any wetlands), and the RWQCB is therefore responsible for the administration of Section 401 of the federal CWA. The RWQCB also asserts authority over Waters of the State under Waste Discharge Requirements (WDR) pursuant to the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne Act). Waters found to be isolated and not subject to CWA regulation are often still regulated by the RWQCB under Porter Cologne. If a CWA Section 404 permit is not required for an action, the RWQCB may still require a permit under Porter-Cologne.

Porter-Cologne Water Quality Control Act

WASTE DISCHARGE REQUIREMENTS

Section 13000 et seq. of the 1969 Porter-Cologne Act authorizes the RWQCB to regulate discharges of waste and fill material to waters of the State, including isolated waters and wetlands. The Porter-Cologne Act requires a “person discharging waste, or proposing to discharge waste, within any region that could affect the quality of waters of the State” (Cal Water Code Section 13260(a)(1)) to file a WDR, unless waived (Cal Water Code Section 13260(b)). “Waste” is broadly defined to include “sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or

processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal" (Cal Water Code Section 13050(d)). "Waters of the State" is also broadly defined to include "any surface water or groundwater, including saline waters, within the boundaries of the state" (Cal Water Code Section 13050(e)). Therefore, any discharge of dredged or fill materials is also required to obtain a WDR or Waiver.

Pursuant to SWRCB Order No. 2003-0017-DWQ, discharges of dredged or fill material that have received 401 Certification are eligible for a Waiver of a WDR under Cal Water Code Section 13269. Projects that are not eligible for a 401 Certification must obtain an individual WDR or Waiver unless a General Order is applicable. For projects with impacts totaling less than 0.2 acre, SWRCB Order No. 2004-0004-DWQ allows a streamlined process for obtaining a WDR for dredged or fill discharges to waters deemed by the USACE to be outside of federal jurisdiction.

WETLAND RIPARIAN AREA PROTECTION POLICY

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State (California Wetland Policy). The California Wetland Policy became effective May 28, 2020, and stipulates additional procedures and requirements for obtaining approval from waters boards for discharge of dredged or fill materials to Waters of the State. These additional requirements may include a detailed compensatory mitigation plan that includes:

- A watershed profile
- An assessment of the overall condition of the aquatic resources proposed to be impacted and their stressors using a method approved by the permitting authority
- A description of how impacts and compensatory mitigation would not cause a net loss of aquatic resources based on the watershed profile
- Ecological performance standards, monitoring, and long-term protection and management
- Timetables for implementing compensatory mitigation
- An assessment of reasonably foreseeable impacts associated with climate change and measures to avoid and minimize those impacts if required by the permitting authority

However, discharges of dredged or fill materials to Waters of the State that are regulated under a General Order are not subject to the requirements of the California Wetland Policy and instructions should be followed for applying under the applicable General Order (SWRCB 2019). RWQCB Region 7 will review and authorize the project pursuant to the Porter-Cologne Act and the California Wetland Policy.

Species of Special Concern

An SSC is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Extirpated from the state or, in the case of birds, extirpated in its primary season or breeding role
- Listed federally, but not by the state, as threatened or endangered; meets the state definition of threatened or endangered but has not formally been listed

- Experiencing, or having formerly experienced, serious noncyclical population declines or unreversed range retractions that, if continued or resumed, could qualify it for state threatened or endangered status
- Naturally small populations exhibiting high susceptibility to risk from any factor(s) that, if realized, could lead to declines that would qualify it for state threatened or endangered status

SSC is an administrative designation, not a legal listing status. The CEQA requires state agencies, local governments, and special districts to evaluate and disclose impacts from projects in the state meeting certain criteria. According to Section 15380 of the *CEQA Guidelines*, SSCs should be included in an analysis of project impacts if they can be shown to meet the sensitivity criteria.

CDFW Burrowing Owl Staff Report

CDFW's 2012 Staff Report on Burrowing Owl Mitigation describes CDFW's comprehensive conservation and mitigation strategy for burrowing owls (*Athene cunicularia*), a California SSC. CDFW determined that reversing declining population and range trends for burrowing owls will require implementing more effective conservation actions, including developing more rigorous burrowing owl survey methods; working to improve the adequacy of impacts assessments; developing clear and effective avoidance and minimization measures; and developing mitigation measures to ensure impacts to the species are effectively addressed at the project, local, and/or regional level. The 2012 Staff Report (CDFW 2012) takes into account the *California Burrowing Owl Consortium's Survey Protocol and Mitigation Guidelines* (CBOC 1993) and supersedes the survey, avoidance, minimization, and mitigation recommendations in the earlier 1995 Staff Report.

Local Laws, Regulations, and Management Practices

County of Riverside General Plan

The Multipurpose Open Space Element of the *County of Riverside General Plan* contains policies and programs that are designed to protect and conserve environmental resources in Riverside County while encouraging economic development and growth and setting the direction for the framework of its transportation system. The Multipurpose Open Space Element includes the protection and preservation of natural resources including following key resources: water, biological, forest, vegetation, agriculture and soils, open space, parks and recreation, regional aesthetics, cultural and paleontological, renewable resources, and non-renewable resources (County of Riverside 2015).

The Multipurpose Open Space Element addresses policies to protect biologically sensitive resources in Riverside County. These project-applicable policies include:

- OS 5.6: Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.
- 0.S. 6.2: Preserve buffer zones around wetlands where feasible and biologically appropriate.
- OS 9.3: Maintain and conserve superior examples of native trees, natural vegetation, stands of established trees, and other features for ecosystem, aesthetic, and water conservation purposes.
- OS 9.6: Conserve important traditional Native American plant gathering resource areas.
- OS 18.3: Prohibit the planting or introduction of invasive, non-native species to watercourses, their banks, riparian areas, or buffering setbacks.

- O.S. 18.4b: Use only "open" fencing that permits the movement of wildlife, and limit fencing to locations outside of setbacks surrounding watercourses. No fencing is permitted to cross the banks or channel of a watercourse, unless no other option is available.
- O.S. 18.4c: Allow fuel modification only outside of riparian vegetation and vegetation on slopes that buffer a watercourse from erosion and storm water pollution.
- O.S. 18.4d: No planting of non-native invasive species is permitted.
- O.S. 18.4e: No lighting of watercourse area is permitted.

County of Riverside General Plan: Desert Center Area Plan

The County of Riverside prepared the *County of Riverside General Plan: Desert Center Area Plan,* which was adopted in October 2011. The following light pollution, vehicle use, and wildlife habitat policies are applicable to the project (County of Riverside 2011a):

- DCAP 5.1: When outdoor lighting is used, require the use of fixtures that would minimize effects on the nighttime sky and wildlife habitat areas, except as necessary for security reasons.
- DCAP 10.2: Work to limit off-road vehicle use within the Desert Center planning area.
- DCAP 10.3: Require new development to conform to Desert Tortoise Critical Habitat designation requirements.

County of Riverside General Plan: Palo Verde Valley General Plan

The County of Riverside prepared the *County of Riverside General Plan: Palo Verde Valley Area Plan*, which was adopted in October 2011. The following biological resource conservation policies are applicable to the project (County of Riverside 2011b):

- PVVAP 11.1: Protect the Colorado River watershed and habitat and provide recreational opportunities and flood protection through adherence to the Open Space, Habitat, and Natural Resource Preservation section of the General Plan Land Use Element and the Water Resources and Watershed Management sections of the Multipurpose Open Space Element, as well as through use of Best Management Practices.
- PVVAP 12.1: Protect biological resources in the Palo Verde Valley planning area through adherence to the Sensitive Environmental Land and Watershed Management sections of the General Plan Multipurpose Open Space Element.

City of Blythe General Plan 2025

The Open Space and Conservation Elements of the *City of Blythe General Plan 2025* contain policies and programs that encourage sustainable development and seek to balance growth and conservation in Blythe, California. The Open Space and Conservation Elements aim to preserve and enhance the natural environment through the implementation of policies for open space lands and the conservation of natural resources. The following project-applicable policies (City of Blythe 2007) include:

- Policy 15: Protect habitats that are sensitive, rare, declining, unique, or represent valuable biological resources in the Planning Area.
- Policy 16: Preserve and protect populations and supporting habitat of special-status species in the Planning Area, including species that are state or federally-listed as rare, threatened, or

endangered, all federal “candidate” species for listing, other species on officially adopted federal and/or state listings, and all California SSCs.

- Policy 17: Minimize impacts to sensitive natural habitats throughout the Planning Area. In new developments, emphasis should be placed on protecting and preserving valuable and sensitive natural habitats. The comprehensive habitat mapping and biological resource inventory prepared as part of Plan preparations shall be consulted when reviewing development applications.
- Policy 18: Preserve and protect areas determined to function as regional wildlife corridors, particularly those areas that provide natural connections permitting wildlife movement between sensitive habitats and areas being considered for future conservation because of their high value.
- Policy 19: Cause no net loss of overall wetland acreage. Where such losses may be unavoidable at the project level, require mitigation that meets the goal of no net loss.

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Appendix C

Habitat and Resource Assessment Report (AECOM 2016)

Habitat and Resource Assessment Report for the Southern California Edison Eagle Mountain Blythe 161kV Project

Prepared for:

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December 2016

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ACRONYMS

ACEC	Area of Critical Environmental Concern
ACOE	U.S. Army Corps of Engineers
AJD	approved JD
amsl	above mean sea level
BA	Biological Assessment
BLM	Bureau of Land Management
BO	Biological Opinion
CCH	Consortium of California Herbaria
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DOI	U.S. Department of the Interior
DPV2	Devers-Palo Verde No. 2
DWMA	Desert Wildlife Management Area
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
DRECP	Desert Renewable Energy Conservation Plan
FESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FP	Fully Protected
FR	Federal Register
FT	Federally Threatened
GIS	Geographic Information Systems
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HU	Hydrologic Unit
I-10	Interstate 10
ITP	incidental take permit
JD	jurisdictional delineation
kV	kilovolt(s)
LSAA	Lake and Streambed Alteration Agreement
m	meter(s)

MBTA	Migratory Bird Treaty Act
MCV	*A Manual for California Vegetation* (Sawyer et al. 2009)
mph	miles per hour
NECO	Northern and Eastern Colorado Coordinated Management Plan
NMFS	National Marine Fisheries Service
Notification	LSAA notification
PBO	Programmatic Biological Opinion
PJD	preliminary JD
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCE	Southern California Edison
SSC	species of special concern
ST	State Threatened
TSP	tubular steel pole
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
°F	degrees Fahrenheit

1.0 INTRODUCTION

1.1 Project Description

The Southern California Edison (SCE) Eagle Mountain Blythe 161kV Project (Project) consists of replacing 53 circuit miles of the Eagle Mountain – Blythe 161 kilovolt (kV) circuit, adjusting hardware and circuits arrangements on 24 steel poles, replacing 19 wood three-pole deadend structures with three-pole tubular steel poles (TSPs), replacing 27 deteriorated wood h-frame structures with light-weight steel h-frame structures, and replacing one single wood pole with a single pole TSP. The project will involve 201 structure work areas, 53 wire setup areas, six material staging yards, 45 guard sites, 15 overland travel routes, and 30 boring locations. The Project right-of-way (ROW) between the Eagle Mountain and Blythe Substations includes approximately 53 miles and 581 acres; approximately 34 miles occur on Bureau of Land Management (BLM)-administered land and approximately 19 miles occur on private land. The Project ROW is approximately 100 feet wide on BLM land and 70 feet wide on private land.

1.2 Project Locations

The Project includes replacing 53 circuit miles of the Eagle Mountain – Blythe 161kV circuit and associated upgrades. The Project components, including a 500-foot biological survey buffer (buffer), are located within the Chuckwalla Valley, from Desert Center to Blythe, Riverside County, California (Figure 1 and Figure 2). The Project falls within the Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, and Ripley 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles. Elevation along the Project averages approximately 536 feet above mean sea level (amsl) with a minimum and maximum elevation of 332 feet and 995 feet amsl, respectively.

1.3 Purpose of the Report

The purpose of this report is to identify potential licensing issues early in the Project process, so that SCE can approach BLM to determine the best path forward for the Project. Licensing issues arise when the Project has the potential to impact resources resulting in the need for permitting under Section 7 of the Federal Endangered Species Act (FESA), Section 2081 of the California Fish and Game Code (CFGC), Sections 404 and 401 of the Clean Water Act (CWA), Section 1602 of the CFGC, or local or county ordinances (i.e. California Desert Native Plants Act [CDNPA], Northern and Eastern Colorado Coordinated Management Plan [NECO], California Desert Conservation Area [CDCA] Plan, and Desert Renewable Energy Conservation Plan [DRECP]). This report organizes the results of the desktop analysis and habitat and resource assessment in order to recognize potential triggers for licensing issues.

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2.0 METHODS AND SURVEY LIMITATIONS

2.1 Literature and Geographic Information System Data Search

Prior to the field survey, species occurrences from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) RareFind3 (CDFW 2016a) and the California Native Plant Society (CNPS) online *Inventory of Rare and Endangered Plants* (CNPS 2016a) were queried for the topographic quadrangles wherein the Project lies and a 5-mile buffer. The following 7.5-minute USGS topographic quadrangles were used as the center of the 5-mile query within both the CNDDB and the CNPS database to determine which sensitive plant and wildlife species needed to be analyzed for the potential of occurrence within the Project areas:

- Victory Pass
- East of Victory Pass
- Corn Spring
- Sidewinder Well
- Aztec Mines
- East od Aztec Mines
- Hopkins Well
- Roosevelt Mine
- Ripley

The 28 additional surrounding topographic quadrangles within the Project area database queries are:

- Placer Canyon
- Pinto Wells
- Coxcomb Mountains
- West of Palen Pass
- Buzzard Spring
- Palen Lake
- Palen Mountains
- Hayfield Spring
- Desert Center
- Ford Dry Lake
- McCoy Spring
- McCoy Peak
- McCoy Wash
- Blythe NE
- Red Cloud Canyon
- Pilot Mountain
- Blythe
- Augustine Pass
- Chuckwalla Spring
- Little Chuckwalla Mountains
- Wileys Well
- Thumb Peak
- Palo Verde
- Mule Wash
- La Paz Mountain
- Dome Rock Mountains SW
- East of Red Canyon
- North Trigo Peaks

In addition, the Consortium of California Herbaria (CCH) was queried for all records of CNPS-listed species within the geographic area bounded by the following points, which encompasses a minimum distance of approximately 8 miles from the Project area.

Corner	Latitude	Longitude
Northwest	33.89901	-115.539
Northeast	33.89901	-114.585
Southwest	33.51944	-115.539
Southeast	33.51944	-114.585

The CNDDB, CNPS, and CCH reports produced a listing of special-status wildlife, plants, and plant communities (Figure 3) that are known to occur in the 7.5-minute USGS topographic quadrangles, including federal endangered or threatened species, state endangered or threatened species, and species on the California Rare Plant Rank (CRPR) Lists 1 through 4. All plants produced in the query were considered to occur within the geographic range of the species. For plants listed by Jepson (Baldwin et. al. 2012)as occurring with the "Sonoran Desert" bioregion, but for which there are no CCH collection records within 50 miles of the Project area, the Project was considered to fall outside of the geographic range of the species.

Occurrences for the CNDDB are submitted by individuals (i.e., biologists, agencies, museums, herbaria, etc.) to CDFW where the occurrence will be documented in the database. However, even if a particular species is *not* shown to occur after consulting the CNDDB, the species still has the potential to occur in the area if suitable habitat is found within its anticipated range and elevation.

The CNPS is a non-governmental agency that uses a system of organization based upon scientific research to study the rarity of particular species. The CNPS has created four "lists" in an effort to rank plant species in terms of degrees of conservation concern (CNPS 2016b).

Geographic Information System (GIS) data on sensitive biological resources were derived and consulted from the following sources:

- CDFW CNDDB (CDFW 2016a)
- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2016)

In addition to publicly available sources, data gathered from other SCE projects within the 5-mile buffer of the Project area were also reviewed. These projects included:

- Palo Verde-Devers 500kV Transmission Line Project
- Devers-Palo Verde No. 2 (DPV2) Transmission Line Project
- Desert Sunlight Solar Farm Project
- Red Bluff Substation Project
- Blythe Mesa Solar Project
- Colorado River Substation Expansion
- Desert Quartzite Solar Project

Various documents and GIS data previously prepared in support of these projects were reviewed as part of the desktop analysis and literature review to inform the potential for occurrence of species for the Project. Any special-status species observed while conducting assessments of these projects were included in the potential for occurrence analysis for the Project. The documents and GIS data reviewed included the following:

- DPV 500 kV Transmission Line Project Environmental Impact Statement (EIS) (DOI-BLM 1979)
- DPV2 Transmission Line Project Proponent's Environmental Assessment (SCE 2005)
- Biological Assessment DPV2 500 kV Transmission Line Project (Environmental Planning Group 2007)
- Final Environmental Impact Report/Environmental Impact Statement for the Devers-Palo Verde No.2 Transmission Project (SCE. 2006)
- Amended Biological Assessment DPV2 500 kV Transmission Line Project (SCE 2010)

- Supplemental Information for the Genesis Solar Energy Project (Tetra Tech EC, Inc. 2010)
- DPV2 500 kV Transmission Line Project Telecommunication System Route Biological Review (CH2MHILL 2010)
- Report for Vegetation Community Mapping for the DPV2 Project and Errata (Dudek 2010a)
- Jurisdictional Determination Report for the DPV2 500 kV Transmission Line Project (Dudek 2010b)
- Biological Resources Technical Report for the Desert Sunlight Solar Farm Project (Ironwood 2010)
- DPV2 Transmission Line Project Environmental Impact Report (EIR)/EIS (Aspen Environmental Group 2011),
- Section 7 and Conference Opinion on the DPV2 Transmission Line Project (USFWS 2011a)
- Biological Opinion on the Desert Sunlight Solar Farm Project (USFWS 2011b)
- DPV2 500 kV Transmission Line Project Coachella Valley Milk-vetch Avoidance and Protection Plan (CH2MHILL 2011a)
- DPV2 Transmission Line Project Sensitive Biological Resources Avoidance Report (CH2MHILL 2011b)
- Colorado River Substation Special-status Plant Impact Avoidance and Minimization Plan (CH2MHILL 2011c)
- Desert Sunlight Solar Farm Project California Desert Conservation Area Plan Amendment and FEIS (DOI-BLM 2011)
- Desert Tortoise Translocation Plan Desert Sunlight Solar Farm Project and Red Bluff Station (Ironwood 2011a)
- Identification and Delineation of Areas Potentially Subject to Jurisdiction under the CDFW Lake and Streambed Alteration Program for Desert Sunlight Solar Farm Project (Ironwood 2011b)
- 2011 Annual Report for Biological Resources Monitoring for the Red Bluff Substation (Ironwood 2012)
- Annual Reports for Biological Resources Monitoring for the Red Bluff Substation from 2012 to 2015 (CH2MHILL 2013, 2014, 2015a, 2015b)
- Survey reports for California gnatcatcher completed for the DPV2 Transmission Line Project (CH2MHILL 2012a)
- DPV2 Transmission Line Project Special-status Plant Impact, Avoidance, Minimization, Salvage, and Reintroduction Plan (CH2MHILL 2012b)
- DPV2 500 kV Transmission Line Project Right-of-Way Plan of Development (SCE 2012)
- Various regulatory permit application packages for the DPV2 Transmission Line Project (ACOE 2012; RWQCB 2012, 2013; CDFW 2011)
- DPV2 Operations and Maintenance Plans (SCE 2015)
- Blythe Mesa Solar Project DEIR and technical appendices (DOI-BLM 2014)
- Plan of Development Desert Quartzite Solar Project (First Solar Development, Inc. 2014
- Blythe Mesa Solar Project FEIR/Environmental Assessment (POWER Engineers, Inc. 2015)

Based on the review of these sources, a list of potentially occurring special-status plants and animals and sensitive plant communities was prepared for the Project and is described in Sections 2.4 and 2.5. The CNDDB Special Animals List (October 2016) occasionally has comments regarding the status of a species, e.g., “Swainson’s Hawk (nesting).” These comments were included in the analysis except when another regulatory agency’s designation of the

species' status supersedes that comment, e.g., the BLM designation of "Sensitive" for Swainson's hawk does not consider nesting vs. non-nesting. Therefore, the potential for occurrence is designated as "Swainson's Hawk" without the (nesting) comment. Plant and animal taxa were considered to be special-status species if they were classified as one or more of the following:

- Officially listed by California or the federal government as endangered, threatened, or rare;
- A candidate for state or federal listing as endangered, threatened, or rare;
- Taxa listed in the CNPS Online Inventory of Rare and Endangered Plants of California;
- A species covered by NECO, DRECP, or CDCA;
- A species designated special-status by BLM or CDFW; and
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines.

2.2 Sensitive Plant and Wildlife Potential for Occurrence

The sensitive plant and wildlife species that have the potential to occur in and near the Project were tabulated using the SCE species determination flow chart (Appendix A). Appendix B contains the table of sensitive plant species and Appendix C contains the table of sensitive wildlife species. These two tables list the sensitive plant and wildlife species results from the literature and GIS data consulted (refer back to Section 2.1). For both tables, research on each species was performed and preferred habitat was described in the table. From these preferred habitat descriptions, the table also includes the specific plant communities evaluated in this report that have the potential to support each species. These plant communities correspond to descriptions provided in Section 3.2.

In both tables in Appendices B and C, each species was ranked for its mapped potential for occurrence within the Project based upon the distance and age of the CNDDB/CCH records within 5 miles of the Project, plant communities within the study area, and field survey notes and observations, and from photographs. The potential for occurrence ranking criteria are as follows:

Occurs – The species and/or conclusive sign was observed on-site during the survey.

Does Not Occur – This species is not expected to occur in the Project area. Suitable habitat was not observed in the Project area during the survey. The Project area is outside of the currently known range of the species.

Likely – This species is expected to occur in the Project areas based on presence of suitable habitat, and/or based on professional expertise specific to the site or species, and nearby, recent (in the last decade) recorded occurrences for the species.

Unlikely – This species may have been recorded in the Project vicinity, but the Project is on the periphery of the species range, or there are older records (greater than 10 years) on/near the Project site, but there is currently marginal suitable habitat on-site (habitat is highly disturbed, degraded, or limited).

2.3 Field Survey Methodology

A botanist and wildlife biologist conducted a comprehensive field survey composed of a pedestrian assessment of the Project survey area, which encompassed the Project plus a 500-foot buffer. The SCE DPV2 has an 8-mile overlap with the Project. Data from DPV2 were used and those overlap areas were not visited by the field team. Areas that were not accessible were

assessed from an adjacent area using binoculars to document as many species as possible. The surveys were intended to assess habitat suitability for each of the sensitive plant and wildlife species with the potential to occur in the vicinity of the proposed staging areas as well as to determine and map the plant communities within the survey area. The habitat suitability surveys did not constitute a protocol-level presence/absence survey; however, if a sensitive species was observed during the field effort, its presence was recorded as an incidental observation. Species were either observed directly (physical sightings, tracks, or scats) or indirectly (calls and vocalizations). Data were collected using hand-held global positioning system (GPS) units, photographs, and aerial field maps. A plant and wildlife compendium is contained in Appendix D. Locations of incidental sensitive species observations were collected with GPS units during the field effort and are included in Figure 4.

2.4 Plant Community Mapping

Plant community types (subset of species habitats) were assessed using the CNPS/CDFW Protocol for Combined Vegetation Rapid Assessment (CNPS 2016c). Field maps were created prior to field visits that depicted the aerial view of the Project survey area. Plant community types are discussed and defined in Section 3.2 of this report.

All potential riparian/wetland areas detected on the aerial photographs were physically visited to assess plant community type when accessible. Areas that were not accessible were assessed from a distance using binoculars. Upland areas within the Project were surveyed physically. During the field surveys, an assessment was made as to the suitability for the presence of sensitive species within the plant communities.

Plant community mapping occurred in two stages. Prior to fieldwork, draft plant community polygons were assessed based upon aerial imagery and a review of the documents prepared for prior projects in the vicinity. When this draft mapping of the plant communities was complete, the polygons were ground-truthed and verified in the field. Previous assessments of the area described the plant communities using Holland (1986). The previous assessments did not include the use of the *A Manual for California Vegetation* (MCV) (Sawyer et al. 2009), which is the current preferred reference for plant community mapping/analysis under SCE data collection methods. Therefore, in addition to ground-truthing, the field assessment's primary purpose was to conduct a "Rapid Assessment" of each area to determine the MCV alliance for each plant community. The MCV provides a cross-reference to older vegetation classification names (such as Holland's); therefore, the field determination using the Rapid Assessment was cross-referenced with previous naming conventions, including those used to describe the areas in previous project reports.

The minimum mapping unit for non-sensitive plant communities is 1 acre. Sensitive plant communities and/or habitat features (i.e., vernal pools, wet meadows) were individually mapped at a scale appropriate to determine avoidance/minimization and management of that resource.

2.5 Limitations

2.5.1 Desktop Analysis

The desktop analysis used resources that may not contain all the plant species, sensitive plant communities, or wildlife species present within the Project. Additionally, the SCE Species Determination Flow Chart (Appendix A) may exclude species that are potentially "likely" to occur. Knowledge of the region and professional judgement are used to reclassify species as

appropriate. For example, the Species Determination Flow Chart placed long-eared owl (*Asio otus*) as "unlikely" to occur; however, using knowledge of the region and professional judgment, long-eared owl was changed to "likely" to occur.

2.5.2 Habitat and Resource Assessment

The November 2016 habitat and resource assessment of the Project was generally performed outside of the peak blooming season for most early spring and summer annual plant species; therefore, identification was limited. In addition, due to the reconnaissance level of effort of the surveys, it is understood that more plant and wildlife species than detected could use the survey areas. Areas inaccessible by foot, such as private property, were scanned with binoculars. Plant communities within the DPV2 overlap area were not verified in the field and data collected for DPV2 were collected using Holland (1986) and converted to plant communities described by the MCV (Sawyer et al. 2009).

2.5.3 Potential Jurisdictional Features

Information about the potential jurisdictional water/wetland features identified within this document was gathered as part of a desktop analysis and preliminary in-field verification. Plant community, cover type, and incidental species information was collected as part of the in-field verification. A formal jurisdictional delineation (JD) was not conducted.

3.0 SURVEY RESULTS AND EXISTING CONDITIONS

On November 14-17, 2016, Artemis Environmental Services Biologists Ed Kettner and Linette Davenport performed an overview-level assessment of biological resources along the Project survey areas. The field surveys were performed to confirm the anticipated potential for biological resources within the survey areas and their 500-foot buffers.

Table 3-1 summarizes the environmental conditions recorded for the survey.

Table 3-1. Environmental Conditions

Date	Surveyor	Time	Temp. (ºF)	Wind Speed (mph)	Cloud Cover (%)	Precip.
11/14/2016	EK, LD	0600-1615	57-80	0-0	0-0	0
11/15/2016	EK, LD	0600-1630	58-78	0-1	0-35	0
11/16/2016	EK, LD	0600-1700	63-76	1-1	0-0	0
11/17/2016	EK, LD	0615-1315	53-67	6-0	0-0	0

°F = degrees Fahrenheit; mph = miles per hour
Surveyors: Ed Kettner (EK) and Linette Davenport (LD)

3.1 Physical Environment

3.1.1 Climate

The proposed staging areas are located within a desert climate region consisting of hot, dry summers and mild, dry winters. In summer, temperatures often reach 110 degrees Fahrenheit (ºF) and winter temperatures fall into the 40s, with an occasional freeze. Average annual temperature ranges are fairly moderate for the area, ranging from 59.7º F to 87.7º F.

The Blythe AP, California Station (No. 040927) is the closest weather station to the Project site with reliable monthly rainfall totals for the duration of the Project (i.e., no missing days during this period). Rainy season (September through May) precipitation data for the duration of biological studies are provided in Table 3-2 (Western Regional Climate Center 2016). Average total precipitation for the area is approximately 3.49 inches per year.

Table 3-2. Monthly Precipitation (Inches)

Rain Season	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Total
2015/2016	0.04	0.84	0.05	0.00	0.56	0.00	0.00	0.14	0.00	1.63

3.1.2 Topography

Elevation along the Project averages approximately 536 feet amsl with a minimum and maximum elevation of 332 feet and 995 feet amsl, respectively. The Project runs primarily along the desert valley floor with elevation greatest in the west and at its lowest in the east with an average slope of 0.6 percent.

3.1.3 Hydrology

The Project overlays several watershed units as defined by the Regional Water Quality Control Board (RWQCB) Region 7; these are shown in Table 3-3 along with their unit codes (California Department of Transportation 2016):

Table 3-3. Watershed Units

Hydrologic Unit	Hydrologic Area	Hydrologic Subarea(s)
Chuckwalla Hydrologic Unit	Palen Hydrologic Area	Undefined Hydrologic Subarea (717.20)
	Ford Hydrologic Area	Undefined Hydrologic Subarea (717.10)
Colorado Hydrologic Unit	Palo Verde Hydrologic Area	Undefined Hydrologic Subarea (715.40)

3.1.4 Soils

The majority of the Project falls within an area with no available digital soil data. The data available show the Project falls within Aco Gravelly Loamy Sand, Aco Sandy Loam, Deprave-Rockhound-Rizzo Complex (2–4 percent slope), Gravel Pits, Orita Fine Sand, Orita Gravelly Fine Sandy Loam, Orita Gravelly Loamy Sands, Rizzo Complex (2–8 percent slope), Rock Outcrop-Blackeagle Complex, Rositas Fine Sand (0–2 percent slope), Rositas Fine Sand (2–9 percent slope), and Rositas Gravelly Loamy Sand (0–2 percent slope) (U.S. Department of Agriculture 2016).

3.1.5 Land Use Designations and Ownership

Portions of the Project fall within BLM Areas of Critical Environmental Concern (ACECs) as described in the CDCA Plan and the NECO. The Project is also within the DRECP.

Bureau of Land Management Areas of Critical Environmental Concern

An ACEC is a special management area designated by BLM to protect significant historic, cultural, or scenic values; fish and wildlife resources; natural process or systems; and/or natural hazards. The Project falls within one ACEC: the Chuckwalla Desert Wildlife Management Area (DWMA); and adjacent to one ACEC: the Chuckwalla Valley Dune Thicket.

The Chuckwalla DWMA consists of 797,670 acres located in southeastern Riverside County and northeastern Imperial County, and encompasses the Orocopia, Chuckwalla, Little Chuckwalla, and Palo Verde Mountains and the intervening alluvial fans, washes, and valleys. The area contains the Chuckwalla Bench, an elevated area of coalescing alluvial fans between the Chuckwalla and Chocolate Mountains, and the extensive Milpitas Wash in Imperial County. The Chuckwalla DWMA contains cultural, scenic, vegetative, and wildlife values. One of the highest density populations of the federally threatened desert tortoise (*Gopherus agassizii*) is in the Sonoran Desert. It is also excellent habitat for burro deer (*Odocoileus hemionus eremicus*) and desert bighorn sheep (*Ovis canadensis*). The extensive microphyll washes serve as excellent habitat for multiple migratory bird species. Goals for the Chuckwalla DWMA are to protect and enhance habitat for sensitive animal and plant species and rare plant community alliances within the ACEC while reducing hazards to public safety and providing for compatible public uses. Priority wildlife species include desert tortoise, desert bighorn sheep, and burro deer. Priority plant

species include three endemic plant species: Mecca aster (*Xylorhiza cognata*), Orocopia sage (*Salvia greatae*), and Munz's cholla (*Cylindropuntia munzii*). Priority rare plant community alliances include Blue Paloverde-Desert Ironwood Woodland and Smoketree Woodland. A total of 5.050 acres of the Chuckwalla DWMA occurs within the Project ROW and 0.065 of those acres falls within proposed work areas for the Project. Additionally, 5.020 acres of the Chuckwalla DWMA falls within material staging yards for the Project (Figure 5).

The Chuckwalla Valley Dune Thicket consists of 2,200 acres located within Eastern Riverside County, South of Interstate-10 (I-10), and 18 miles west of Blythe. This ACEC is within the Chuckwalla DWMA ACEC. The Chuckwalla Valley Dune Thicket is characterized by unusually dense pockets of palo verde woodland. The dense vegetation is the result of sand dunes damming several small washes and creating wetter soil conditions. It is noted for having the highest density winter bird populations in the California Desert. It is also noted for dense mammal and reptile populations. The diversity of habitats within this ACEC provides a unique mix of species in a very small area. This area also contains various cultural values. Goals for the Chuckwalla Valley Dune Thicket are to protect cultural and wildlife resource values while providing for compatible public uses. The Chuckwalla Valley Dune Thicket does not fall within the Project ROW, any potential work areas, or material staging yards (Figure 5).

California Desert Conservation Area Plan

Per Title 43 Code of Federal Regulations Section 1610.5-3, BLM must manage the land within its jurisdiction in compliance with a Resource Management Plan. The CDCA Plan serves as a guide for the management of all BLM-administered lands in three desert areas: the Mojave, the Sonoran, and a small portion of the Great Basin. The CDCA Plan covers approximately 25 million acres, of which 12 million acres is public lands. The primary goal of the CDCA Plan is to provide overall maintenance of the land while planning for multiple uses and balancing the needs of people with the protection of the natural environment (Figure 5).

Northern and Eastern Colorado Desert Coordinated Management Plan

The Federal Land Policy and Management Act (FLPMA) requires BLM to develop land use plans, also known as Resource Management Plans, to guide BLM's management of public land. BLM is required to determine conformity of the Project developments with the CDCA, including NECO (DOI-BLM 2001). NECO is a landscape-scale, multiagency planning effort that protects and conserves natural resources while simultaneously balancing human uses of the California portion of the Sonoran Desert ecosystem. This plan was prepared under the regulations implementing the FLPMA of 1976. NECO provides reserve management for desert tortoise, integrated ecosystem management for special-status species and natural communities for all federal lands, and regional standards and guidelines for public land health for BLM lands. The planning area encompasses over 5 million acres and includes 60 sensitive plant and animal species. NECO amends the 1980 CDCA Plan (DOI-BLM 2001) (Figure 6).

Desert Renewable Energy Conservation Plan

The DRECP is a collaborative effort between the California Energy Commission, CDFW, BLM, and USFWS to help provide effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The DRECP is focused on 22.5 million acres across Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties (Figure 7).

3.2 Plant Community Types

The plant communities identified within the additional proposed staging areas are described below and are mapped in Figure 4. Characterization of plant communities follows the MCV (Sawyer et al. 2009). Provided are the descriptions of Alliances by the MCV (Sawyer et al. 2009) based on the Rapid Assessments conducted in the field. Included in the description is the CDFW California Natural Community Code, a unique 7-digit code used as part of a nationally standardized coding system. Areas devoid of vegetation were classified into one of eight categories (desert pavement, playa, active agriculture, barren-not developed, developed, open water, ornamental/landscaped, and ruderal wetland). Representative photographs of plant communities can be found in Appendix E and their locations are depicted in Figure 8.

3.2.1 Description of Plant Community Types

3.2.1.1 Allscale Scrub

Allscale Scrub alliance (Atriplex Polycarpa Shrubland) (36.340.00) is dominated by allscale (*Atriplex polycarpa*) and is composed of a shrub canopy containing white bursage (*Ambrosia dumosa*), cheesebush (*A. salsola*), four wing saltbush (*Atriplex canescens*), red brome (*Bromus rubens*), smallseed sandmat (*Chamaesyce polycarpa*), bladderpod (*Cleome isomeris*), alkali goldenbush (*Isocoma acradenia*), and creosote bush (*Larrea tridentate*). This alliance consists of an open to continuous shrub canopy less than 3 meters (m) in height and a herbaceous layer including seasonal annuals. Allscale Scrub alliance occurs within washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces, and edges of large, low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams (Sawyer et al. 2009). This alliance occurs within the Project ROW and work areas (Table 3-4).

3.2.1.2 Big Galleta Shrub-steppe

Big Galleta Shrub-steppe alliance (Pleuraphis rigida Herbaceous) (41.030.00) is dominated by big galleta (*Pleuraphis rigida*) or co-dominant with Indian ricegrass (*Achnatherum hymenoides*), black grama (*Bouteloua eriopoda*), red brome, soft prairie clover (*Dalea mollissima*), snakeweed (*Gutierrezia sarothrae*), desert panicgrass (*Panicum urvilleanum*), Thurber's sandpaper plant (*Petalonyx thurberi*) and desert globemallow (*Sphaeralcea ambigua*). Emergent trees and shrubs may be present at low cover, including catclaw acacia (*Acacia greggii*), white bursage, cheesebush, four wing saltbush, buck thorn cholla (*Cylindropuntia acanthocarpa*), California jointfir (*Ephedra californica*), Nevada ephedra (*E. nevadensis*), creosote bush, water-jacket (*Lycium andersonii*), Mojave yucca (*Yucca schidigera*), desert willow (*Chilopsis linearis*), and Joshua tree (*Y. brevifolia*). This alliance consists of an herb layer less than 1 m in height with seasonal annuals. Big galleta shrub-steppe occurs within flat ridges, lower bajadas, slopes, dune aprons, and stabilized dunes. Soils may be clayey, sandy, or rocky (Sawyer et al. 2009). This alliance occurs within the Project ROW (Table 3-4).

3.2.1.3 Blue Palo Verde – Ironwood Woodland

Blue Palo Verde – Ironwood Woodland alliance (Parkinsonia florida – Olneya tesota Woodland) (61.545.00) is dominated by either blue palo verde (*Parkinsonia florida*) or ironwood (*Olneya tesota*). This alliance consists of an open to continuous canopy less than 14 m in height, an intermittent or open shrub layer, and seasonal annuals. Blue Palo Verde – Ironwood Woodland occurs within desert arroyo margins, seasonal watercourses and washes, bottomlands, middle and upper bajadas and alluvial fans, and lower slopes. Soils consist of sandy, well-drained,

alluvium or colluvium (Sawyer et al. 2009). Plant communities mapped as Blue Palo Verde – Ironwood – Smoke Tree Woodland and Ironwood Woodland for the DPV2 project have been included in the Blue Palo Verde – Ironwood Woodland alliance. This alliance occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

3.2.1.4 Cheesebush Scrub

Cheesebush Scrub alliance (Ambrosia salsola Shrubland) (33.200.00) is dominated by cheesebush or co-dominant in the shrub canopy with silver cholla (*Cylindropuntia echinocarpa*), brittlebush (*Encelia farinose*), California jointfir, desert rabbitbrush (*Ericameria paniculata*), California buckwheat (*Eriogonum fasciculatum*), sticky snakeweed (*Gutierrezia microcephala*), white rhatany (*Krameria grayi*), creosote bush, beavertail cactus (*Opuntia basilaris*), Thurber's sandpaper plant, Schott's pygmy-cedar (*Peucephyllum schottii*), desert Christmas tree (*Pholisma arenarium*), bladder sage (*Salazaria mexicana*), purple sage (*Salvia dorrii*), spiny senna (*Senna armata*), and desert globemallow (*Sphaeralcea ambigua*). This alliance consists of an open to intermittent shrub canopy less than 2 m in height and a sparse or seasonally present herbaceous layer. Cheesebush scrub occurs within valleys, flats, rarely flooded low-gradient deposits, arroyos, and intermittent channels and washes. Soils consist of sandy and gravelly alluvium and disturbed desert pavement (Sawyer et al. 2009). This alliance occurs within the Project ROW (Table 3-4).

3.2.1.5 Creosote Bush Scrub

Creosote Bush Scrub alliance (Larrea tridentate Shrubland) (33.010.00) is dominated by creosote bush or co-dominant in the shrub canopy with Shockley's goldenhead (*Acamptopappus shockleyi*), rayless goldenhead (*A. sphaerocephalus*), white bursage, cheesebush, evergreen shrub (*Atriplex confertifolia*), desert holly (*A. hymenelytra*), allscale), woolly brickellbush (*Brickellia incana*), brittlebush, California jointfir, Nevada ephedra, and water-jacket. This alliance consists of an intermittent to open shrub canopy less than 3 m in height and an intermittent to open herbaceous layer with seasonal annuals or perennial grasses. Creosote bush scrub occurs within alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained and sometimes with desert pavement (Sawyer et al. 2009). Plant communities mapped as Creosote Bush – Cheesebush Scrub and Creosote Bush – Big Galleta for the DPV2 project have been included in the Creosote Bush Scrub alliance. This alliance occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

3.2.1.6 Creosote Bush – White Bursage Scrub

Creosote Bush – White Bursage Scrub alliance (Larrea tridentate – Ambrosia dumosa Shrubland) (33.140.00) is dominated by creosote bush and white bursage with co-dominants of cheesebush, chaffbush (*Amphipappus fremontii*), evergreen shrub, desert holly, allscale, sweetbush (*Bebbia juncea*), California croton (*Croton californicus*), buck horn cholla, diamond cholla (*C. ramosissima*), soft prairie clover, cotton top cactus (*Echinocactus polycephalus*), brittlebush, virgin river brittlebush (*E. virginensis*), joint-pine (*Ephedra* spp.), California buckwheat, Rhatany (*Krameria* spp.), desert pepperweed (*Lepidium fremontii*), water-jacket, indigo bush (*Psorothamnus* spp.), bladder sage, spiny senna, Parish goldeneye (*Viguiera parishii*), and Mojave yucca. This alliance consists of an open to intermittent two-tiered shrub canopy less than 3 m in height and an open to intermittent herbaceous layer with seasonal annuals. Creosote bush – white bursage scrub occurs within minor washes and rills, alluvial fans, bajadas, and upland slopes. Soils are well drained, alluvial, colluvial, sandy, and

sometimes underlain by a hardpan that may be calcareous and/or covered with desert pavement (Sawyer et al. 2009). This alliance occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

3.2.1.7 Desert Dunes

Desert Dunes alliance (22.100.00) contains scattered plants with a combined absolute cover of usually >2 percent and <10 percent. Vegetative cover is composed of Indian ricegrass, white bursage, creosote bush, desert panicgrass, big galleta, and Eureka dunegrass (*Swallenia alexandrae*). Desert Dunes occurs within active dunes, partially stabilized dunes, stabilized dunes, and sand fields. Soils are fine to moderately coarse sand (Sawyer et al. 2009). This alliance occurs within the Project ROW and work areas (Table 3-4).

3.2.1.8 Desert Pavement

Desert Pavement are natural areas of closely packed, interlocking angular or rounded rock fragments of pebble and cobble size devoid of vegetation, not associated with disturbance or development. This alliance occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

3.2.1.9 Mesquite Bosque, Mesquite Thicket

Mesquite Bosque, Mesquite Thicket alliance (Prosopis glandulosa Woodland) (61.512.00) is dominated by honey mesquite (*Prosopis glandulosa*) or co-dominated in the tree canopy with sandbar willow (*Salix exigua*), arroyo willow (*S. lasiolepis*), and black elder (*Sambucus nigra*) and shrubs may include iodine bush (*Allenrolfea occidentalis*), white bursage, four wing saltbush, allscale, sweetbush, Thurbur's sandpaper plant, arrowweed (*Pluchea sericea*), sugar sumac (*Rhus ovata*), or Mojave seablite (*Suaeda moquinii*). This alliance consists of tree canopy less than 10 m in height and an open to intermittent shrub and herbaceous layer. Mesquite Bosque, Mesquite Thicket occurs within the fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and sand dunes (Sawyer et al. 2009). This alliance occurs within the Project ROW and work areas (Table 3-4).

3.2.1.10 Playa

Playas (dry lake) are natural areas of fine-grained sediments infused with alkali salts devoid of vegetation, not associated with disturbance or development. This alliance occurs within the Project ROW and work areas (Table 3-4).

3.2.1.11 Smoke Tree Woodland

Smoke Tree Woodland alliance (Psorothamnus spinosus Woodland) (61.570.00) is dominated by smoke tree (*Psorothamnus spinosus*) or co-dominated with desert willow, ironwood, or blue palo verde. This alliance consists of an open to intermittent canopy less than 8 m in height, an open to intermittent shrub layer, and a sparse to seasonally abundant herbaceous layer with seasonal annuals. Smoke tree Woodland occurs within arroyos, intermittently flooded channels, and washes. Soils are sandy and well drained, moderately acidic or slightly saline (Sawyer et al. 2009). This alliance occurs within the Project ROW (Table 3-4).

3.2.1.12 Tamarisk Thickets

Tamarisk Thickets alliance (Tamarisk spp. Semi-natural Shrubland Stands) (63.810.00) is dominated by either saltcedar (*Tamarix ramosissima*) or another *Tamarix* species. Emergent trees may be present at low cover, including Fremont's cottonwood (*Populus fremontii*) or willow (*Salix* spp.). This alliance consists of a continuous or open canopy less than 8 m in height and a sparse herbaceous layer. Tamarisk Thickets occurs within arroyo margins, lake margins, ditches, washes, rivers, and other watercourses (Sawyer et al. 2009). This alliance occurs within the Project ROW and work areas (Table 3-4).

3.2.1.13 White Bursage Scrub

White Bursage Scrub alliance (Ambrosia dumosa herbaceous) (33.060.00) is dominated by white bursage with co-dominants of rayless goldenhead, four wing saltbush, shadescale (*Atriplex confertifolia*), desert holly, blackbrush (*Coleogyne ramosissima*), buck horn cholla, teddy bear cholla (*Cylindropuntia bigelovii*), cotton top cactus, brittlebush, Death Valley jointfir (*Ephedra funereal*), ocotillo (*Fouquieria splendens*), creosote bush, beavertail cactus, and big galleta. This alliance consists of an open to intermittent shrub canopy less than 1 m in height and an open to intermittent herbaceous layer with seasonal annuals. White bursage scrub occurs within older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized and stabilized sand fields, and upland slopes. Soils are sandy, clay-rich, or calcareous and may have pavement surfaces (Sawyer et al. 2009). This alliance occurs within the transmission material staging yards (Table 3-4).

3.2.1.14 Developed/Disturbed

This community includes homes, businesses, parks, cemeteries, and similar developed lands, including their associated landscape plantings. It may also include roads and lands that have been highly disturbed by past or current human activity. This classification also includes agriculture as well as open pavement (described below).

Active Agriculture

Active Agricultural lands are described as areas consisting of annually replanted crops. These lands consist of both active and formerly active agriculture. Active Agriculture occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

Barren-Not Developed

Barren-Not Developed areas are areas of disturbed unvegetated and undeveloped lands. Barren-Not Developed land occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

Developed

Developed areas include homes, businesses, cemeteries, and similar developed lands, including their associated landscape plantings. It may also include roads and lands that have been highly disturbed by past or current human activity. Plant communities mapped as Disturbed Land and Open Pavement for the DPV2 project have been included in the Developed lands. Developed land occurs within the Project ROW, work areas, and material staging yards (Table 3-4).

Open Water

Open Water includes constructed evaporation ponds or holding ponds of some kind. Open Water was mapped within the survey area for the Project; however, it does not occur within the Project ROW, work areas, or material staging yards.

Ornamental/Landscaped

Ornamental/Landscaped areas include hedge rows of oleander, unknown citrus trees, other landscape ornamentals, and city parks. Ornamental/Landscaped areas occur within the Project ROW and work areas (Table 3-4).

Ruderal Wetland

Ruderal Wetland includes artificial drainage basins dominated by Bermuda grass (*Cynodon dactylon*). Ruderal Wetland was mapped within the survey area for the Project; however, it does not occur within the Project ROW, work areas, or material staging yards.

Table 3-4 shows the plant communities within the Project ROW, potential work areas, and material staging yards.

Table 3-4. Plant Communities

Plant Community	Acreage within ROW	Acreage within Work Areas	Acreage within Material Staging Yards
Allscale Scrub	0.112 acres	0.004 acres	--
Big Galleta Shrub-steppe	0.218 acres	--	--
Blue Palo Verde – Ironwood Woodland	98.510 acres	2.128 acres	0.380 acres
Cheesebush Scrub	0.838 acres	--	--
Creosote Bush Scrub	92.991 acres	2.910 acres	3.090 acres
Creosote Bush – White Bursage Scrub	78.211 acres	2.469 acres	4.380 acres
Desert Dunes	0.835 acres	0.063 acres	--
Desert Pavement	10.793 acres	0.346 acres	0.260 acres
Mesquite Bosque, Mesquite Thicket	1.171 acres	0.105 acres	--
Playa	7.179 acres	0.747 acres	--
Smoke Tree Woodland	0.421 acres	--	--
Tamarisk Thickets	0.571 acres	0.034 acres	--
White Bursage Scrub	--	--	0.120 acres
MCV Communities Total	**291.850 acres**	**8.806 acres**	**8.230 acres**
Developed/Disturbed:			
Active Agriculture	16.374 acres	0.829 acres	9.700 acres
Barren-Not Developed	7.446 acres	1.750 acres	7.050 acres
Developed	73.222 acres	3.611 acres	4.770 acres
Open Water	--	--	--
Ornamental/ Landscaped	0.051 acres	0.032 acres	--

Table 3-4. Plant Communities

Plant Community	Acreage within ROW	Acreage within Work Areas	Acreage within Material Staging Yards
Ruderal Wetlands	--	--	--
Developed/Disturbed Total	**97.093 acres**	**6.222 acres**	**21.520 acres**
Total Project Acreage	**388.943 acres**	**15.028 acres**	**29.750 acres**

3.3 Regulated Plants, Plant Communities, and Wildlife

3.3.1 Regulated Plants

Regulated plant species include CNPS CRPR 1–4 listed plants; BLM sensitive plants; California Endangered Species Act (CESA) threatened, endangered, or candidate species; FESA threatened, endangered, or candidate species; CDFW special vascular plants, bryophytes, and lichens; CDFW S1, S2, and S3 ranked plant communities; and species covered by the NECO, DRECP, and CDCA (CDFW 2016b; DOI-BLM 1980, 2001, 2015,). The CNPS listing is sanctioned by CDFW and serves essentially as the list of candidate plant species for state listing. CNPS' CRPR 1B and 2 species are considered eligible for state listing as endangered or threatened. Additionally, CDFW, under the California Desert Native Plants Act, protects native plants from unlawful harvesting on both public and privately owned lands (CDFW 1981). A complete list of regulated plants with the potential to occur within the Project as a result of the desktop analysis can be found in Appendix B. Additionally, a plant compendium compiled during the habitat and resource field efforts can be found in Appendix D

3.3.2 Regulated Plant Communities

Sensitive natural communities are those that are designated as rare in the region by the CNDDB, support special-status plant or wildlife species, or receive regulatory protection (i.e., Section 404 of the CWA and/or Sections 1600 et seq. of the CFGC). Rare communities are given the highest inventory priority (Holland 1986; CDFW 2010). Based on a review of the CNDDB for the Project region, one sensitive vegetative community has been recorded, Southern Cottonwood Willow Riparian Forest (Holland 1986). This community is documented in the CNDDB more than 3 miles to the southeast of the Project and does not occur within the Project. These riparian habitats are identified by CDFW as special communities that are known or believed to be of high priority for inventory in the CNDDB. Furthermore, these sensitive communities fall under jurisdiction of the US Army Corps of Engineers (ACOE), CDFW, and RWQCB; as a result, this community receives federal and state regulatory protection.

NECO is a comprehensive plan for managing species and habitats, on federal lands managed by BLM, the eastern half of Joshua Tree National Park, and the Chocolate Mountains Aerial Gunnery Range. NECO recognizes four additional sensitive plant communities not recognized by the CNDDB. These four sensitive plant communities are desert dry wash woodland, playas, desert dunes, and desert chenopod scrub. Two of these sensitive plant communities, playas and desert dunes, occur within the Project area (DOI-BLM 2001).

3.3.3 Regulated Wildlife

Regulated wildlife species include BLM sensitive species; CESA threatened, endangered, or candidate species; FESA threatened, endangered, or candidate species; CDFW fully protected or

species of special concern (SSC); raptors protected by the Bald and Golden Eagle Protection Act; migratory birds protected by the Migratory Bird Treaty Act (MBTA); and species covered by NECO, DRECP, and CDCA.

3.4 Sensitive Plants and Wildlife

This section contains discussions of the occurrence of sensitive plant and wildlife species within the Project survey areas and 500-foot buffer. Sensitive species may also be referred to as special-status species due to their "status" and recognition by regulatory or institutional entities with authority in determining rarity, endangerment, or declining populations.

A total of 68 sensitive plant species have been documented within the vicinity of the Project (Appendix B). Of those 68 sensitive plant species, two species had either a federal and/or state listing as an endangered, threatened, or SSC.

A total of 60 sensitive wildlife species were documented within the vicinity of the Project (Appendix C). This total includes one fish species, two amphibian species, five reptile species, 34 bird species, and 18 mammal species. Of those 60 sensitive wildlife species documented, 44 species had either a federal, state, or combination of both listings as endangered, threatened, and/or SSC.

3.4.1 Sensitive Plants with the Potential to Occur

Ten sensitive plant species from the CNDDB and CCH were determined to have at least some potential to occur or were observed within Project: Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*) (CRPR 2B.2, NECO); Emory's crucifixion-thorn (*Castela emoryi*) (CRPR 2B.2, NECO); Las Animas colubrine (*Colubrina californica*) (CRPR 2B.3, NECO, CDCA); foxtail cactus (*Coryphantha alversonii*) (CRPR 4.3, NECO, CDCA); ribbed cryptantha (*Cryptantha costata*) (CRPR 4.3); California ditaxis (*Ditaxis serrata* var. *californic*a) (CRPR 3.2, NECO, CDCA); Abram's spurge (*Euphorbia abramsiana*) (CRPR 2B.2); slender-spined all thorn (*Koeberlinia spinosa* var. *tenuispina*) (CRPR 2B.2, NECO); roughstalk witch grass (*Panicum hirticaule* subsp. *hirticaule*) (CRPR 2B.1); and desert unicorn plant (*Proboscidea althaeifolia*) (CRPR 4.3, NECO) (CDFW 2016a; CNPS 2016a).

Harwood's milk-vetch was observed within the DPV2 overlap area.

Emory's crucifixion-thorn and foxtail cactus were observed during the implementation of the Red Bluff Substation Project within the Project survey area.

3.4.2 Sensitive Plant Species Incidental Observations

Three sensitive plant species were observed during the site habitat assessment: Emory's crucifixion-thorn, foxtail cactus, and desert unicorn plant. The locations are illustrated in Figure 4. Emory's crucifixion-thorn was observed northwest of Desert Center within Blue Palo Verde – Ironwood Woodland. Foxtail cactus was observed approximately 350 feet northeast of the Eagle Mountain Substation within Blue Palo Verde – Ironwood Woodland. Desert unicorn was observed north of I-10, approximately 1 mile east of the Wiley's Well Road exit within Blue Palo Verde – Ironwood Woodland and Creosote Bush Scrub.

3.4.3 Sensitive Wildlife Species with the Potential to Occur

Fifteen wildlife species were found to have some potential to occur or were present within the Project area (this includes only the avian species with suitable nesting habitat).

Amphibians

Only one sensitive amphibian species, Couch's spadefoot (*Scaphiopus couchii*) (SSC, BLM-S, NECO), has the potential to occur (Appendix C). Couch's spadefoot are found in temporary desert rain pools that last at least 7 days. The Project survey area contains 6.61 acres of suitable habitat for Couch's spadefoot.

Reptiles

The Project has the potential to support three sensitive reptile species: desert tortoise (FT, ST, NECO, CDCA, DRECP), chuckwalla (*Sauromalus ater*) (NECO), and Mojave fringe-toed lizard (*Uma scoparia*) (SSC, BLM-S, NECO, DRECP) (Appendix C).

There is approximately 298.674 acres of desert tortoise habitat within the Project ROW and material staging yards, which includes 213.360 acres of critical habitat for desert tortoise within the Project ROW that is assumed to be potentially occupied by desert tortoise. Desert tortoise suitable habitat for the Project consists of: Allscale Scrub, Big Galleta Shrub-steppe, Blue Palo Verde – Ironwood Woodland, Cheesebush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Desert Pavement, Mesquite Bosque, Mesquite Thicket, Playa, Smoke Tree Woodland, and White Bursage Scrub.

Desert tortoise burrows were observed within the DPV2 overlap areas.

A desert tortoise carcass was observed during the implementation of the Red Bluff Substation Project within the Project survey area.

Chuckwalla are found in rocky outcrops with crevices. The Project survey area contains 0.56 acre of suitable habitat for chuckwalla.

Approximately 99 acres of Mojave fringe-toed lizard habitat within the Project ROW is assumed potentially occupied by Mojave fringe-toed lizard. Suitable habitat for Mojave fringe-toed lizard includes Desert Dunes and other areas of fine, windblown sand.

Birds

The Project has the potential to support nine sensitive avian species: short-eared owl (*Asio flammeus*) (SSC), long-eared owl (*A. otus*) (SSC), burrowing owl (*Athene cunicularia*) (SSC, BLM-S, NECO, DRECP), Swainson's hawk (*Buteo swainsoni*) (ST, BLM-S, DRECP), northern harrier (*Circus cyaneus*) (SSC), prairie falcon (*Falco mexicanus*) (WL, NECO), loggerhead shrike (*Lanius ludovicianus*) (SSC), black-tailed gnatcatcher (*Polioptila melanura*) (WL), and Le Conte's thrasher (*Toxostoma lecontei*) (SSC, BLM –S, NECO) (Appendix C). Suitable nesting habitat is present within the Project for four of these species; burrowing owl, loggerhead shrike, black-tailed gnatcatcher, and Le Conte's thrasher; while the Project only contains wintering or migratory habitat for short-eared owl, Swainson's hawk, prairie falcon, and northern harrier.

Swainson's hawk and prairie falcon were observed during the implementation of the Red Bluff Substation Project within the Project survey area.

Approximately 24.38 acres of long-eared owl habitat within the Project ROW is assumed potentially occupied by long-eared owl. Suitable nesting habitat for long-eared owl includes conifer, oak, riparian, pinyon-juniper, and desert woodlands (including tamarisk) that are either open or adjacent to grasslands, meadows, or shrublands.

Approximately 364.745 acres of burrowing owl habitat within the Project ROW and material staging yards is assumed potentially occupied by burrowing owl. Suitable habitat for burrowing owl includes Allscale Scrub, Big Galleta Shrub-steppe, Blue Palo Verde – Ironwood Woodland, Cheesebush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Desert Pavement, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, White Bursage Scrub, Active Agriculture, Barren-Not Developed, and some Developed.

Approximately 306.229 acres of loggerhead shrike habitat is within the Project ROW and material staging yards. Loggerhead shrike occur regionally in the area. Suitable habitat for loggerhead shrike includes Allscale Scrub, Blue Palo Verde – Ironwood Woodland, Cheesebush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, Active Agriculture, and Ornamental/Landscaped.

Several loggerhead shrikes were observed during the implementation of the Red Bluff Substation Project within the Project survey area.

Approximately 279.266 acres of black-tailed gnatcatcher and Le Conte's thrasher habitat within the Project ROW and material staging yards is assumed potentially occupied by black-tailed gnatcatcher and Le Conte's thrasher. Black-tailed gnatcatcher occur regionally in the area. Suitable habitat for black-tailed gnatcatcher and Le Conte's thrasher includes Allscale Scrub, Blue Palo Verde – Ironwood Woodland, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Mesquite Bosque, Mesquite Thicket, and Smoke Tree Woodland.

Mammals

Six sensitive mammal species have the potential to use the Project area: California leaf-nosed bat (*Macrotus californicus*) (SSC, BLM-S, NECO, DRECP), cave myotis (*Myotis velifer*) (SSC, BLM-S, NECO), burro deer (*Odocoileus hemioniis eremicus*) (NECO, DRECP), desert bighorn sheep (*Ovis Canadensis nelsoni*) (FP, BLM-S, NECO, CDCA, DRECP), American badger (*Taxidea taxus*) (SSC), and desert kit fox (*Vulpes macrotis arsipus*) (DRECP) (Appendix C).

Night roost habitat for California leaf-nosed bat and cave myotis is potentially present within the Project survey area. The potential night roost habitat consists of I-10 bridges. There is 280.442 acres of foraging habitat for the California leaf-nosed bat and cave myotis within the Project ROW and material staging yards, including Allscale Scrub, Big Galleta Shrub-steppe, Blue Palo Verde – Ironwood Woodland, Cheesebush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, and White Bursage Scrub.

There is 279.943 acres of burro deer habitat within the Project ROW and material staging yards, including Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Blue Palo Verde – Ironwood Woodland, Big Galleta Shrub-steppe, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, and Tamarisk Thickets.

Approximately 217.7 acres of desert bighorn sheep habitat within the Project ROW is assumed potentially occupied by desert bighorn sheep. Suitable foraging habitat for desert bighorn sheep includes alluvial fan areas at the base of the Eagle Mountains when annuals are present.

There is 280.442 acres of American badger and desert kit fox habitat within the Project ROW and material staging yards, including Allscale Scrub, Big Galleta Shrub-steppe, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Blue Palo Verde – Ironwood Woodland, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, and White Bursage Scrub.

Desert kit fox burrows were observed within the DPV2 overlap area.

3.4.4 Sensitive Wildlife Species Incidental Observations

Three sensitive wildlife species were observed during the site habitat assessment: loggerhead shrike, black-tailed gnatcatcher, and burro deer. The locations are illustrated in Figure 4.

One loggerhead shrike was observed northwest of Desert Center within Blue Palo Verde – Ironwood Woodland. Three black-tailed gnatcatchers were observed; one was northwest of Desert Center within Creosote Bush – White Bursage Scrub, and the other two were observed north of I-10 between Blythe and Wiley's Well Road within Blue Palo Verde – Ironwood Woodland. Burro deer sign (three observations of tracks and two observations of scat) was observed between Desert Center and Blythe at the base of the valley within Blue Palo Verde – Ironwood Woodland, Creosote Bush Scrub, Desert Pavement, Mesquite Bosque, Mesquite Thicket, and Developed habitats. A heavily used corridor by burro deer was observed under I-10 composed of Blue Palo Verde – Ironwood Woodland.

3.5 U.S. Fish and Wildlife Service Designated Critical Habitat

A desktop review of critical habitat boundaries (73 FR 45236-45238) indicates that USFWS-designated critical habitat for the federally endangered desert tortoise coincides with the Project area. A total of 213.360 acres of designated critical habitat for desert tortoise occurs within the Project ROW and 4.930 of those acres falls within proposed work areas for the Project. Additionally, 5.020 acres of the designated critical habitat falls within material staging yards for the Project (Figure 9).

Critical habitat for two other federally listed species occurs approximately 3 miles east of the Project area. These two species are the endangered razorback sucker (*Xyraunchen texanus*) and the threatened yellow-billed cuckoo (*Coccyzus americanus*). Critical habitat for both species occurs along the Colorado River, east of Blythe, California.

Desert Tortoise

According to 73 FR 45236-45238, desert tortoise is typically found in a variety of habitats ranging from flats and slopes dominated by creosote bush scrub at lower elevations, to rocky slopes in blackbrush (*Coleogyne ramosissima*) scrub and juniper (*Juniperus* spp.) woodland at higher elevations. Desert tortoises are generally found in gently sloped terrain in elevations between 1,000–3,000 feet amsl with friable sandy-gravel soils suitable for burrows and sparse vegetative cover that is highly diverse in both perennial and annual plants. Primary constituent elements (PCEs) are physical and biological habitat attributes that designate areas as critical habitat for a species. The PCEs for desert tortoise include sufficient space for individual and population growth and normal behavior, which can range anywhere from 100–200 acres; food, water, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproducing, and rearing of offspring; and habitats that are protected from disturbance or representative of the historic geographical and ecological distribution of a species (55 FR 12178-12191).

Razorback Sucker

The razorback sucker was once abundant in the Colorado River Basin (Basin); however, due to large-scale water development and the introduction of non-native species; it is now rare to find this species in the Basin. The razorback sucker is most commonly found in the Lower Basin of the Colorado River located from the Grand Canyon to the Mexican border. A large population of razorback suckers can be found in Lake Mohave, estimated at 25,000 individuals. The PCEs for the razorback sucker include adequate space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from human disturbance or are representative of the historical geographical and ecological distribution of a species (75 FR 19549). Critical habitat for this species does not occur within or adjacent to the Project area. The closest critical habitat for this species is located along the Colorado River east of Blythe, California, approximately 3 miles to the east.

Yellow-billed Cuckoo

The yellow-billed cuckoo prefers riparian habitat along rivers and streams, and in open riverine valleys. Yellow-billed cuckoo relies on riparian woodlands consisting of cottonwood and willow, with dense understory to forage and breed successfully (79 FR 48547-48652). Historically, the species was common in riparian habitat throughout lowland California. Presently, smaller populations exist sporadically in other riparian systems throughout the state. Yellow-billed cuckoo can be found along the Colorado River with the highest concentration of the population found in the Palos Verde Ecological Reserve located northeast of the Project area (Parametrix 2016). The closest critical habitat for this species is located along the Colorado River east of Blythe, California, approximately 3 miles away.

3.6 Potentially Jurisdictional Water/Wetland Features

A preliminary site assessment was conducted to identify potential jurisdictional waters and wetland features that occur within or within proximity to Project work areas. Data collected from this assessment serves only for determining avoidance measures at this time and does not constitute a formal JD. Potential features identified occur within two major watersheds: the Chuckwalla Hydrologic Unit (HU) and the Colorado HU. The watersheds and their subareas are listed in Table 3-3.

Through examination of wetland and waters data from the USFWS National Wetlands Inventory and data collected from the site assessment, it appears that all drainage courses within the Chuckwalla HU flow into an unnamed ephemeral lake (EL-1) at the mouth of a valley between the Coxcomb Mountains and Palen Mountains. All drainage courses within the Colorado HU appear to flow into an unnamed ephemeral lake (EL-2) at the mouth of a valley between the Palen Mountains and the McCoy Mountains. At bankfull, EL-1 appears to flow downstream along the southern base of the Palen Mountains, joining with other drainages along the way, into the west end of EL-2. At bankfull, EL-2 appears to flow downstream along the southern base of the McCoy Mountains, joining with other drainages along the way, towards the west end of Blythe. Presumably, flows are piped through Blythe and any flow that is not intercepted and used for municipal or agricultural purposes ultimately makes it to the Colorado River.

Numerous potential jurisdictional water and wetland features were identified within and around the Project ROW; these features are shown as lines and polygons in the GIS data (Figure 10). Lines represent linear features that have an origin, typically starting at higher elevations, and a

terminus, i.e., a larger body of water, or connect with a water course downstream. They include vegetated streambeds, unvegetated streambeds, man-made ditches/canals, and depositional alluvial areas. Polygons represent closed features, typically man-made or lacking perennial connectivity but do not initially appear to be isolated; they include closed vegetated streambeds (linear depressions), retention/detention basins, playas (natural sinks), closed depositional alluvial areas, and closed ditches/canals. These features have been compiled into Table 3-5 (Linear Features) and Table 3-6 (Non-Linear Features). A unique ID has been assigned to each feature for ease of reference. Columns featured in Table 3-5 and Table 3-6 are the following: ID, feature type, the HU and Hydrological Area the feature falls within, work area intersected, and whether the feature or its 50-foot buffer intersects a work area (typical buffer distance used in avoidance measures).

Table 3-5. Linear Potential Waters/Wetland Features

Unique ID	Feature Type	Hydrologic Unit/ Hydrological Area	Work Area Intersected	Feature within Work area?	Feature 50-foot Buffer within Work Area?
L_3	Vegetated Streambed	Colorado River/ Palo Verde	SWA 186	No	Yes
L_12	Vegetated Streambed	Chuckwalla/Ford	SWA 167	No	Yes
L_15	Vegetated Streambed	Chuckwalla/Ford	SWA 166	No	Yes
L_23	Vegetated Streambed	Chuckwalla/Ford	SWA 157	No	Yes
L_36	Vegetated Streambed	Chuckwalla/Ford	SWA 102	No	Yes
L_40	Vegetated Streambed	Chuckwalla/Ford	SWA 96	No	Yes
L_53	Vegetated Streambed	Chuckwalla/Palen	SWA 44	No	Yes
L_56	Vegetated Streambed	Chuckwalla/Palen	WS 9	No	Yes
L_72	Vegetated Streambed	Chuckwalla/Palen	SWA 6	No	Yes
L_73	Vegetated Streambed	Chuckwalla/Palen	WS 6	No	Yes
L_81	Vegetated Streambed	Chuckwalla/Palen	SWA 82	No	Yes
L_85	Vegetated Streambed	Chuckwalla/Palen	WS 4	Yes	--
L_101	Vegetated Streambed	Chuckwalla/Ford	SWA 164	Yes	--
L_102	Vegetated Streambed	Chuckwalla/Ford	SWA 152	Yes	--
L_105	Vegetated Streambed	Chuckwalla/Ford	GS 24	No	Yes
L_120	Vegetated Streambed	Chuckwalla/Palen	SWA 54	No	Yes

Table 3-5. Linear Potential Waters/Wetland Features

Unique ID	Feature Type	Hydrologic Unit/ Hydrological Area	Work Area Intersected	Feature within Work area?	Feature 50-foot Buffer within Work Area?
L_125	Vegetated Streambed	Chuckwalla/Palen	SWA 60	No	Yes
L_126	Vegetated Streambed	Chuckwalla/Palen	SWA 61	No	Yes
L_129	Vegetated Streambed	Chuckwalla/Palen	SWA 64	No	Yes
L_130	Ditch/ Canal	Chuckwalla/Palen	GS 15	No	Yes
L_137	Vegetated Streambed	Chuckwalla/Palen	SWA 11	No	Yes
L_148	Vegetated Streambed	Chuckwalla/Palen	WS 7	No	Yes
L_149	Vegetated Streambed	Chuckwalla/Palen	GS 8	Yes	--
			GS 7	Yes	--
L_153	Vegetated Streambed	Chuckwalla/Palen	SWA 3	No	Yes
L_155	Vegetated Streambed	Chuckwalla/Palen	WS 6	No	Yes
L_158	Ditch/ Canal	Chuckwalla/Palen	GS 2	No	Yes
L_159	Vegetated Streambed	Chuckwalla/Palen and Ford	SWA 69	Yes	--

Table 3-6. Non-Linear Potential Waters/Wetland Features

Unique ID	Feature Type	Hydrological Unit/ Hydrological Area	Work Area Intersected	Feature within Work Area?	Feature 50-foot Buffer within Work Area?
P_3	Playa	Chuckwalla/Ford	WS 33	No	Yes
P_5	Vegetated Streambed	Colorado River/Palo Verde	SWA 182	No	Yes
P_7	Vegetated Streambed	Chuckwalla/Palen	WS 7	Yes	--
P_8	Vegetated Streambed	Chuckwalla/Palen	WS 5	Yes	--
			WS 6	Yes	--
			SWA 5	Yes	--
			GS 6	Yes	--
P_9	Vegetated Streambed	Chuckwalla/Palen	SWA 4	No	Yes
P_10	Alluvial	Chuckwalla/Palen	GS 3	No	Yes
			GS 4	No	Yes
			SWA 2	Yes	--
			GS 5	Yes	--
			SWA 1	Yes	--

Table 3-6. Non-Linear Potential Waters/Wetland Features

Unique ID	Feature Type	Hydrological Unit/ Hydrological Area	Work Area Intersected	Feature within Work Area?	Feature 50-foot Buffer within Work Area?
P_22	Basin	Colorado River/Palo Verde	GS 43	Yes	--
			WS 50	Yes	--
P_23	Basin	Colorado River/Palo Verde	GS 43	No	Yes
			WS 51	No	Yes
P_26	Vegetated Streambed	Colorado River/Palo Verde	SWA 191	No	Yes
P_28	Vegetated Streambed	Colorado River/Palo Verde	SWA 190	No	Yes
P_31	Unvegetated Streambed	Colorado River/Palo Verde	SWA 186	No	Yes
			GS 27	Yes	--
			SWA 187	Yes	--
P_36	Vegetated Streambed	Colorado River/Palo Verde	SWA 182	No	Yes
P_42	Unvegetated Streambed	Colorado River/Palo Verde	SWA 181	No	Yes
P_44	Vegetated Streambed	Colorado River/Palo Verde	WS 37	Yes	--
P_46	Vegetated Streambed	Colorado River/Palo Verde	SWA 180	No	Yes
P_49	Vegetated Streambed	Chuckwalla/Ford	SWA 178	No	Yes
P_53	Vegetated Streambed	Chuckwalla/Ford	SWA 176	No	Yes
P_64	Vegetated Streambed	Chuckwalla/Ford	SWA 173	Yes	--
P_70	Vegetated Streambed	Chuckwalla/Ford	SWA 171	Yes	--
P_74	Ditch/Canal	Chuckwalla/Ford	SWA 167	Yes	--
			SWA 166	Yes	--
			WS 36	Yes	--
			SWA 168	No	Yes
P_81	Basin	Chuckwalla/Ford	GS 25	No	Yes
			GS 24	No	Yes
P_85	Playa	Chuckwalla/Ford	WS 31	Yes	--
			WS 32	Yes	--
			SWA 144	Yes	--
			SWA 143	Yes	--
			WS 28	Yes	--
P_86	Vegetated Streambed	Chuckwalla/Ford	SWA 144	No	Yes
P_87	Playa	Chuckwalla/Ford	WS 33	Yes	--
P_89	Vegetated Streambed	Chuckwalla/Ford	SWA 100	Yes	--

Table 3-6. Non-Linear Potential Waters/Wetland Features

Unique ID	Feature Type	Hydrological Unit/ Hydrological Area	Work Area Intersected	Feature within Work Area?	Feature 50-foot Buffer within Work Area?
P_92	Vegetated Streambed	Chuckwalla/Palen	SWA 56	Yes	--
			SWA 57	Yes	--
P_94	Alluvial	Chuckwalla/Ford	SWA 145	No	Yes
P_97	Playa	Chuckwalla/Ford	SWA 140	Yes	--
P_106	Vegetated Streambed	Chuckwalla/Ford	SWA 110	No	Yes
P_108	Vegetated Streambed	Chuckwalla/Ford	WS 17	No	Yes
P_110	Vegetated Streambed	Chuckwalla/Palen	WS 15	Yes	--
P_112	Vegetated Streambed	Chuckwalla/Palen	SWA 71	Yes	--
P_113	Vegetated Streambed	Chuckwalla/Palen	SWA 73	Yes	--
P_117	Playa	Chuckwalla/Ford	SWA 146	Yes	--
P_118	Playa	Chuckwalla/Ford	WS 30	Yes	--
			WS 29	Yes	--
			SWA 141	Yes	--
			WS 27	No	Yes
P_120	Playa	Chuckwalla/Ford	SWA 145	Yes	--
P_121	Playa	Chuckwalla/Ford	WS 25	Yes	--
			GS 18	No	Yes
			SWA 136	No	Yes
			GS 19	No	Yes
P_122	Playa	Chuckwalla/Ford	SWA 138	Yes	--
P_123	Playa	Chuckwalla/Ford	WS 26	No	Yes
P_124	Playa	Chuckwalla/Ford	SWA 137	Yes	--
P_125	Playa	Chuckwalla/Ford	SWA 139	No	Yes

4.0 RECOMMENDATIONS

4.1 Potential Licensing Issues

4.1.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions.

Initial meetings between SCE and BLM resulted in BLM stating that, as long as SCE restricted their activities to within the existing Project ROW on BLM managed land, there would be no need for NEPA review. If activities are conducted outside of the existing Project ROW on BLM land, it would trigger the need for NEPA review, including the preparation of an Environmental Assessment and Finding of No Significant Impact.

There are four temporary work areas, within BLM managed land, proposed outside of the existing Project ROW. All four temporary work areas are wire setup sites associated with the alignment crossing of I-10 and less than 0.10 acre each (0.09 acre) (see Figure 4, map page 26).

4.1.2 Section 7 of the Endangered Species Act

If impacts to the federally threatened desert tortoise and/or desert tortoise critical habitat are unavoidable, Section 7 consultation with USFWS may be required. This may be informal in nature if impacts are small and are mitigated for through minimization and avoidance measures. If it is determined after the literature review and Project meetings that BLM and USFWS agree that the Project "may affect, but not likely to adversely affect" desert tortoise, then informal (rather than formal) consultation would be needed.

If concurrence from USFWS of "may affect, but not likely to adversely affect" is received, a Biological Assessment (BA) is required as a part of NEPA.

4.1.3 Section 2080.1 and 2081of the California Fish and Game Code

If Section 7 consultation with USFWS is required for desert tortoise; then the Project can request a 2080.1 Consistency Determination from the Director of CDFW. A Consistency Determination means the Director of CDFW finds the federal documents (Section 7) consistent with CESA and, thus, the species is adequately covered under Section 7.

If impacts to the federally threatened desert tortoise are unavoidable and a 2080.1 Consistency Determination is denied, an incidental take permit (ITP) under Section 2081 of the CFGC may be requested. Obtaining an ITP under Section 2081 is never a "requirement." CDFW can only recommend whether a project needs an ITP. If a project decides not to pursue an ITP, the project can still be implemented, but it will be "at risk" for suffering all of the legal ramifications if the project "takes" a CESA-listed species.

The Project can also request an ITP from CDFW independent of the USFWS Section 7 consultation if state coverage is needed but federal coverage is not.

4.1.4 California Department of Fish and Wildlife Fully Protected Species

The classification of Fully Protected (FP) was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Most of the species on these lists have subsequently been listed under the CESA and/or FESA. The CFGC sections dealing with FP species state that these species "...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized for necessary scientific research. This language arguably makes the "Fully Protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with FP species were amended to allow the California Department of Fish and Game (now CDFW) to authorize take resulting from recovery activities for state-listed species (CDFW 2016c). Desert bighorn sheep are a CDFW FP species and are protected as described above.

4.1.5 Section 404 and 401of the Clean Water Act

If impacts to waters of the U.S. as a result of the Project are unavoidable, a Section 404 Permit and Section 401 Certification under the CWA may be required. With temporary impacts, a detailed description of the Project activities will inform the agency's decision as to whether a permit/certification is required. Certain temporary impacts may not require permits/certification if the impacts do not constitute the discharge of fill material to a water of the U.S. Generally, the use of tracked equipment will necessitate obtaining permits/certifications. In addition, the ACOE may consider each Project site a separate Project and may not take jurisdiction over the Project in its entirety.

4.1.6 Section 1602 of the California Fish and Game Code

If impacts to waters/wetlands of the state as a result of the Project are unavoidable, a Lake and Streambed Alteration Agreement (LSAA) under Section 1602 of the CFGC may be required. Under CFGC Sections 1600-1616, CDFW regulates activities that would result in (1) any potential detrimental impacts associated with the substantial diversion or the obstruction of the natural flow of a stream; (2) substantial changes to the bed, channel, or banks of a stream, or the use of any material from the bed, channel, or banks; and (3) the disposal of debris or waste materials that may pass into a stream. Impacts to waters of the state resulting from the Proposed Project may affect SSCs, including Couch's spadefoot, Mojave fringe-toed lizard, short-eared owl, long-eared owl, burrowing owl, northern harrier, loggerhead shrike, Le Conte's thrasher, California leaf-nosed bat, cave myotis, American badger, and desert kit fox.

An LSAA notification (Notification) would need to be prepared in support of an LSAA or CDFW concurrence that temporary impacts "will not substantially adversely affect an existing fish and wildlife resource, and that [SCE] may commence the activity without an agreement." If an LSAA is obtained, the Project work would need to be implemented per the terms of the LSAA and an amendment would be required if the Project work was revised. If CDFW concurrence is granted and the Project's temporary impacts are not considered "substantial," then the Project could be implemented per the Project description within the Notification. If the Project description described within the Notification required revision, the Notification process would need to be reinitiated.

4.1.7 California Porter-Cologne Water Quality Control Act

Section 13260 of the 1969 Porter-Cologne Water Quality Act (Porter-Cologne) authorizes the RWQCB to regulate discharges of waste and fill material to waters of the state, including isolated waters and wetlands. Project activities that constitute the discharge of waste to waters of the state that are not also waters of the U.S. (i.e., isolated waters) may require issuance of individual waste discharge requirements from the RWQCB or enrollment in general waste discharge requirements for discharge of fill material to isolated state waters.

4.1.8 Bureau of Land Management Right-of-Way Grant

The existing BLM ROW Grant is authorization to use a specific piece of public land for the Project and would likely address BLM Sensitive Species such as Couch's spadefoot, Mojave fringe-toed lizard, burrowing owl, Swainson's hawk, Le Conte's thrasher, California leaf-nosed bat, and cave myotis.

4.1.9 Local or County Ordinances

4.1.9.1 California Desert Native Plants Act

The CDNPA protects non-listed native plants from unlawful harvesting on both public and private lands. A permit is required to destroy, dig up, mutilate, harvest, transport, sell, or possess the following plant species: smoke tree, all species of the genus *Prosopis* (mesquite), all species of the family *Agavaceae* (century plants, nolinas, yuccas), all species of cactus, creosote rings 10 feet in diameter or greater, and all Joshua trees.

4.1.9.2 California Desert Conservation Area Plan

The CDCA Plan provides for the use of the public lands and resources of the CDCA, including economic, educational, scientific, and recreational uses, in a manner that enhances wherever possible – and which does not diminish, on balance–the environmental, cultural, and aesthetic values of the California Desert and its future productivity (DOI-BLM 1980). The following plants and wildlife are included in the CDCA Plan: Las Animas colubrina, foxtail cactus, California ditaxis, desert tortoise, and desert bighorn sheep. Guidance for managing impacts to these species can be found within the CDCA Plan in Chapter 3, Wildlife Element and Vegetation Element (DOI-BLM 1980).

4.1.9.3 Northern and Eastern Colorado Coordinated Management Plan

NECO is a landscape-scale, multiagency planning effort that protects and conserves natural resources while simultaneously balancing human uses of the California portion of the Sonoran Desert ecosystem. This plan provides reserve management for the desert tortoise, integrated ecosystem management for special-status species and natural communities for all federal lands, and regional standards and guidelines for public land health for BLM lands. The following plants and wildlife are included in NECO: Harwood's milk-vetch, Emory's crucifixion-thorn, Las Animas colubrina, foxtail cactus, California ditaxis, slender-spined all thorn, desert unicorn plant, Couch's spadefoot, desert tortoise, chuckwalla, Mohave fringe-toed lizard, burrowing owl, Le Conte's thrasher, California leaf-nosed bat, cave myotis, burro deer, and desert bighorn sheep. Guidance for managing impacts to these species can be found within NECO (DOI-BLM 2001).

4.1.9.4 Desert Renewable Energy Conservation Plan

The DRECP is a collaborative effort between the California Energy Commission, CDFW, BLM, and USFWS to help provide effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The following wildlife is included in the DRECP: desert tortoise, Mohave fringe-toed lizard, burrowing owl, California leaf-nosed bat, burro deer, desert bighorn sheep, and desert kit fox. Guidance for managing impacts to these species can be found within the DRECP (DOI-BLM 2015).

4.2 Focused Surveys

Using the information collected during the desktop analysis and the habitat and resource assessment field survey, it is recommended that focused surveys be conducted for rare plants, desert tortoise, Mojave fringe-toed lizard, burrowing owl, and desert bighorn sheep. A formal JD for waters/wetlands with the potential to be impacted by the Project should be conducted.

4.2.1 Rare Plants

It is recommended that focused surveys for the species listed in Section 3.4.1 be conducted in the spring, summer, and fall by qualified botanists with experience in the identification of species and botanical phenology within the Project vicinity. Focused surveys should follow accepted protocol such as *Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). Species listed in Appendix B were considered during this analysis; however, for species considered not likely to occur within or adjacent to the Project alignment, no focused surveys are recommended.

4.2.2 Desert Tortoise

Approximately 298.674 acres of desert tortoise habitat is present within the Project ROW and material staging yards, which includes 213.360 acres of critical habitat for desert tortoise within the Project ROW that is assumed potentially occupied by desert tortoise. Suitable habitat for desert tortoise includes Allscale Scrub, Big Galleta Shrub-steppe, Blue Palo Verde – Ironwood Woodland, Cheesebush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Desert Pavement, Mesquite Bosque, Mesquite Thicket, Playa, Smoke Tree Woodland, and White Bursage Scrub. It is recommended that focused surveys for desert tortoise be conducted for the Project within suitable habitat per the USFWS *Desert Tortoise (Mojave Population) Field Manual* (USFWS 2009). Surveys for desert tortoise should be conducted during the most active periods (April through May and September through October) to increase probability of detection.

Generally, pre-construction surveys would be conducted to determine if there were any suitable, potentially suitable, or active desert tortoise burrows, or desert tortoise within the Project work areas. If any burrows are found within the Project work areas, they will be completely avoided. Any live desert tortoise found within Project work areas will be allowed to leave on their own. A qualified desert tortoise biologist will be available to monitor activities, if necessary.

4.2.2.1 American Badger and Desert Kit Fox

There is the potential to impact American badger and desert kit fox within native and disturbed plant communities within the Project. American badger and desert kit fox incidental observations, including burrow locations, will be recorded during the focused desert tortoise surveys. Pre-construction surveys in suitable habitat and proper avoidance measures should be implemented to avoid impacts to American badger and desert kit fox.

4.2.3 Mojave Fringe-toed Lizard

Approximately 99 acres of Mojave fringe-toed lizard habitat within the Project ROW is assumed potentially occupied by Mojave fringe-toed lizard. Suitable habitat for Mojave fringe-toed lizard includes Desert Dunes and other areas of fine, windblown sand. It is recommended that focused surveys for Mojave fringe-toed lizard be conducted for the Project within suitable habitat per agency approved survey methods. Surveys for Mojave fringe-toed lizard should be conducted during the breeding season, peak active periods (March through July), to increase probability of detection.

Generally, pre-construction surveys would be conducted to determine if Mojave fringe-toed lizard are present within the Project work areas. Any live Mojave fringe-toed lizard found within Project work areas will be allowed to leave on their own. A qualified biologist will be available to monitor activities, if necessary.

4.2.4 Burrowing Owl

Approximately 364.745 acres of burrowing owl habitat within the Project ROW and material staging yards is assumed potentially occupied by burrowing owl. Suitable habitat for burrowing owl includes Allscale Scrub, Big Galleta Shrub-steppe, Blue Palo Verde – Ironwood Woodland, Cheesebush Scrub, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Desert Pavement, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, White Bursage Scrub, Active Agriculture, Barren-Not Developed, and some Developed. It is recommended that focused surveys for burrowing owl be conducted for the Project within suitable habitat per the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Surveys for burrowing owl should be conducted during breeding season (March 1 through August 31).

Generally, pre-construction surveys would be conducted to determine if burrowing owl are present within the Project work areas. Any live burrowing owl found within Project work areas will be allowed to leave on their own. A qualified biologist will be available to monitor activities, if necessary.

4.2.5 Desert Bighorn Sheep

Approximately 217.7 acres of desert bighorn sheep habitat within the Project ROW is assumed potentially occupied by desert bighorn sheep. Suitable habitat for desert bighorn sheep includes alluvial fan areas at the base of the Eagle Mountains when annuals are present. It is recommended that focused surveys for desert bighorn sheep be conducted for the Project within suitable habitat per agency approved survey methods.

Generally, pre-construction surveys would be conducted to determine if desert bighorn sheep are present within the Project work areas. Any live desert bighorn sheep found within Project work areas will be allowed to leave on their own. A qualified biologist will be available to monitor activities, if necessary.

4.2.6 Jurisdictional Delineation

Based on the desktop analysis and habitat and resource field survey, 28 potential jurisdictional features fall within one or more of the Project work areas and an additional 40 potential jurisdictional features are located within 50 feet of one or more of the Project work areas. It is recommended that these potential jurisdictional features be avoided to the maximum extent

possible. If avoidance of a feature is not feasible, then a formal JD will be required as well as appropriate permitting under Section 401/404 of the CWA, Section 1600 of the CFGC, and Section 13260 of Porter-Cologne, if required.

Once the formal JD is completed, a permit strategy can be developed and determination of whether a preliminary JD (PJD) or Approved JD (AJD) should be prepared. AJDs and PJDs are tools used by ACOE to help implement Section 404 of the CWA.

When ACOE provides a PJD, or authorizes an activity through a general or individual permit relying on an issued PJD, ACOE is making no legally binding determination of any type regarding whether jurisdiction exists over the particular aquatic resource in question (ACOE 2016). A PJD is "preliminary" in the sense that a recipient of a PJD can later request and obtain an AJD if that becomes necessary or appropriate during the permit process or during the administrative appeal process (ACOE 2016).

If there is benefit in identifying a feature as isolated, an AJD would be prepared. An AJD is a definitive, official determination that there are, or that there are not, jurisdictional aquatic resources on a parcel and the identification of the geographic limits of jurisdictional aquatic resources on a parcel can only be made by means of an AJD (ACOE 2016).

4.3 Pre-Construction Surveys

In addition to focused species surveys, pre-construction surveys for nesting birds protected by the MBTA, Couch's spadefoot, chuckwalla, American badger, desert kit fox, and burro deer are recommended prior to the initiation of construction activities.

4.3.1 Couch's Spadefoot

There is the potential to impact Couch's spadefoot within native and disturbed plant communities within the study area. Pre-construction surveys in suitable habitat and proper avoidance measures should be implemented to avoid impacts to resources necessary to Couch's spadefoot.

4.3.2 Chuckwalla

There is the potential to impact chuckwalla within rocky outcrops within the Project. Chuckwalla are found in rocky outcrops with crevices. Pre-construction surveys in suitable habitat and proper avoidance measures should be implemented to avoid impacts to chuckwalla.

4.3.3 Nesting Birds

There is the potential to impact nesting birds (e.g., loggerhead shrike, black-tailed gnatcatcher, Le Conte's thrasher) within native and disturbed plant communities within the Project. The nests of native non-game birds are protected by federal and state laws and regulations (e.g., the MBTA and Section 3503 of the CFGC). Pre-construction nesting bird surveys in suitable habitat and proper avoidance measures should be implemented to avoid impacts to nesting birds.

4.3.4 Burro Deer

There is the potential to impact burro deer within Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Blue Palo Verde – Ironwood Woodland, Big Galleta Shrub-steppe, Mesquite Bosque, Mesquite Thicket, Smoke Tree Woodland, and Tamarisk Thickets within the Project. Pre-

construction burrow deer surveys in suitable habitat and proper avoidance measures should be implemented to avoid impacts to burro deer.

4.4 Endangered Species Act Permitting Strategy

The compliance activities and authorizations listed below are a general recommendation for permitting strategy approach:

1. **Avoidance.** Once the recommended focused protocol surveys have been completed, develop avoidance measures to eliminate adverse impacts to a species or habitat:

   a. Restrictions or limitations on a particular Project action; for example, a timing restriction on construction within areas adjacent to suitable habitat for burrowing owl during breeding season.

   b. Recommend refinements to an action; for example, engineer the Project to avoid adverse impacts to habitat occupied by a species.

2. **Minimization.** Develop minimization measures designed to reduce adverse effects to a species or habitat that cannot be avoided; for example, specific suggestions for dust suppression during Project activities in a manner that reduces impacts to occupied adjacent known sensitive plant populations.

3. **Find a Federal Nexus and Lead Agency to ensure timely processing of ESA permits.** Examples include a scenario where the Project proponent impacts jurisdictional waters/wetlands on-site. Such actions would be regulated under the purview of ACOE and may create a federal nexus allowing Section 7 consultation under FESA.

   Section 7 Consultation

   For Projects occurring in jurisdictional waters (those regulated under the CWA and within the purview of ACOE), the Section 7 consultation process would include the following activities/reports: species-specific surveys for federally and state-listed species, biological assessment, and compliance with applicable Habitat Conservation Plan (HCP) process (see below). Some “non-federal” portions of the Project may or may not be applicable to the Section 7 process; in this case, Section 10 may apply (see Section 10 discussion below).

   In this situation, not all potential impacts would be within ACOE’s scope of analysis. The Section 7 process would not accommodate desert tortoise. On the other hand, Section 7 may accommodate both the desert tortoise (upland species) and jurisdictional features if both are within ACOE’s scope of analysis. Estimated timeline to complete Section 7 consultation is 12 months: including a minimum of 3 months for preparation of the BA, 3 months for preparing for the Section 7 consultation package (concurrently with preparing permit applications to ACOE, CDFW, RWQCB), and a minimum of 145 days for the actual consultation to occur. The overall process is outlined in the Section 7 Consultation Handbook produced by USFWS (USFWS/NMFS 1998).

   Another possibility is to revise an existing programmatic or Project specific Biological Opinion (e.g., a Programmatic Biological Opinion [PBO] that addresses operations and maintenance activities or the existing DPV2 project to address the overlap areas). BLM is developing a PBO for “take” authorization that could be used for the Project. However, there is a potential the Project would be delayed until the PBO is issued.

4. Alternative to a Federal Nexus.

Section 10

For the Section 10 process, where upland projects do not have a nexus to CWA (outside of ACOE's scope of analysis), required activities/reports include species-specific surveys for federally and state-listed species, and compliance with the applicable HCP processes. Estimated timeline is 12 months, which includes 3 months for preparation of the BA, 3 months for preparation of the Section 10 process (concurrently with permit preparation), and 6 additional months for implementation of the Section 10 process. The start time for the Section 10 process should precede that of the Section 7 process. Early informal consultation would be required in order to meet a reasonable timeline; alternatively, the Section 10 process could extend beyond the estimated timeframe by months or even years. In general, the Section 10 process is a longer process than Section 7 and will likely include more regulatory uncertainty.

5. Offset Mitigation. Develop specific mitigation measures to offset those adverse impacts to a species or habitat that cannot be avoided. Such measures may include the establishment and management of permanent preserves and restoration of degraded habitat. An example could include the purchase of adjacent suitable habitat, contiguous with already established conservation areas, to be used as desert tortoise mitigation banking for activities specifically associated with Project activities.

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FIGURES

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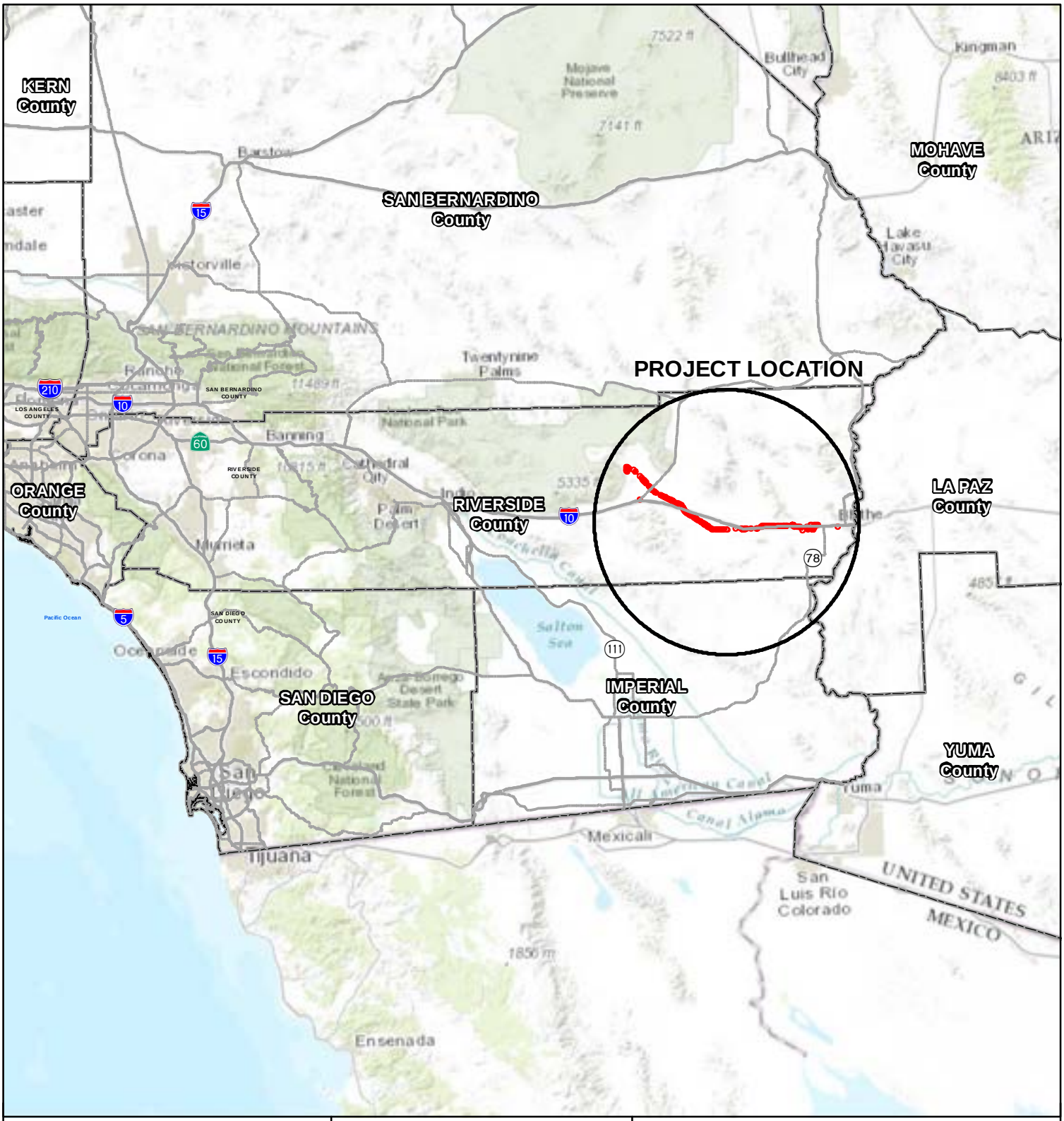


Figure 1
Regional Location

December, 2016

AECOM

EAGLE MOUNTAIN SUBSTATION

Desert Center Yard

Desert Center

DPV Yard 2

Chuckwalla Yard

Mesa Yard

DPV Yard 3

BLYTHE SUBSTATION

City of Blythe

Blythe Yard

Riverside County

Imperial County

177

10

95

78

Legend

- Substation Point
- Project Access Roads
- Freeway
- Contractor Material Yard
- Project Right-of-Way
- City Boundary
- County Boundary

Land Ownership

- Bureau of Land Management
- Military
- National Park Service
- State Land
- Unclassified

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

Projected Coordinate System:
NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 3 6 Miles

N

Figure 2
Site Vicinity Map

AECOM

December, 2016

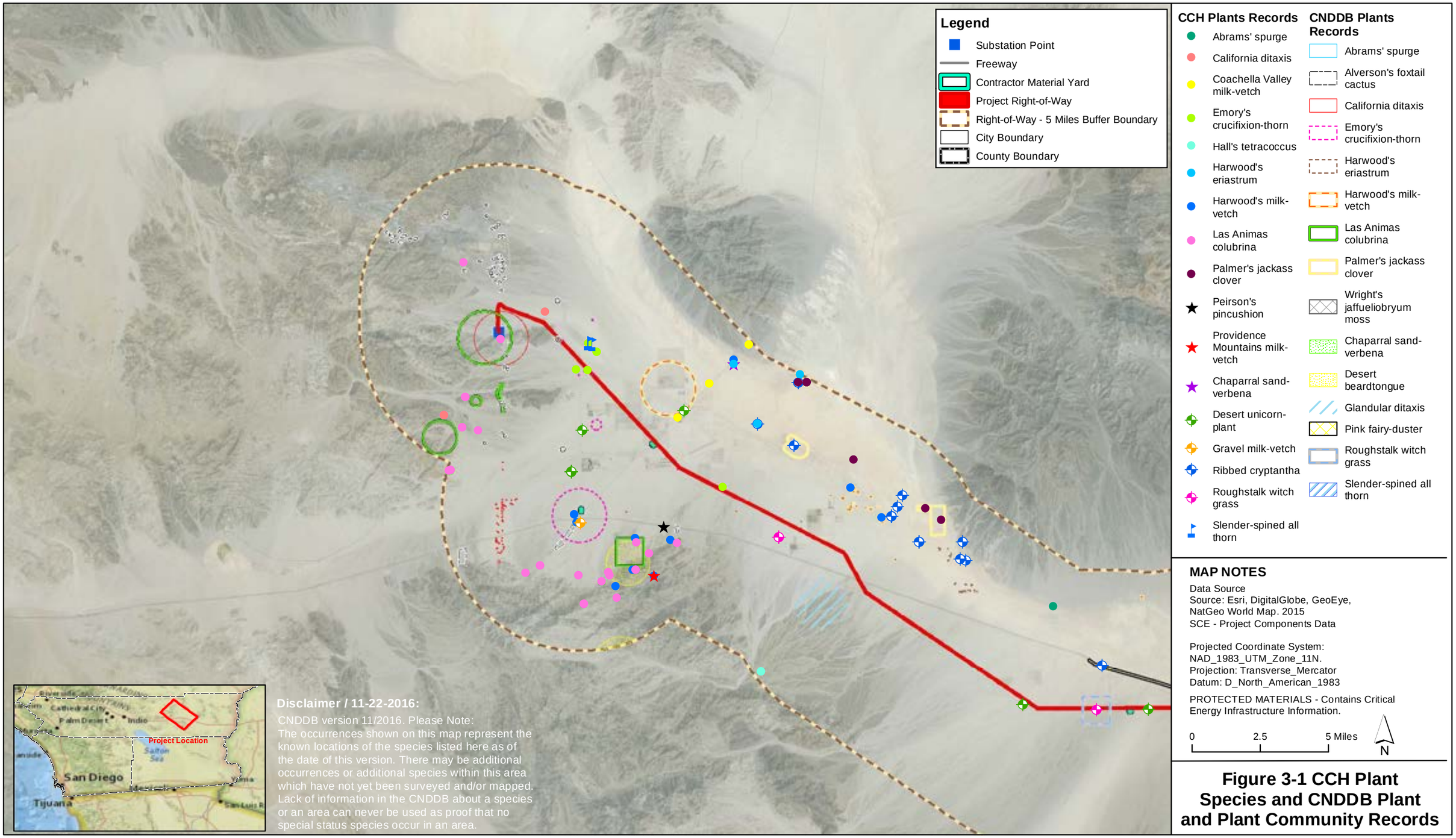
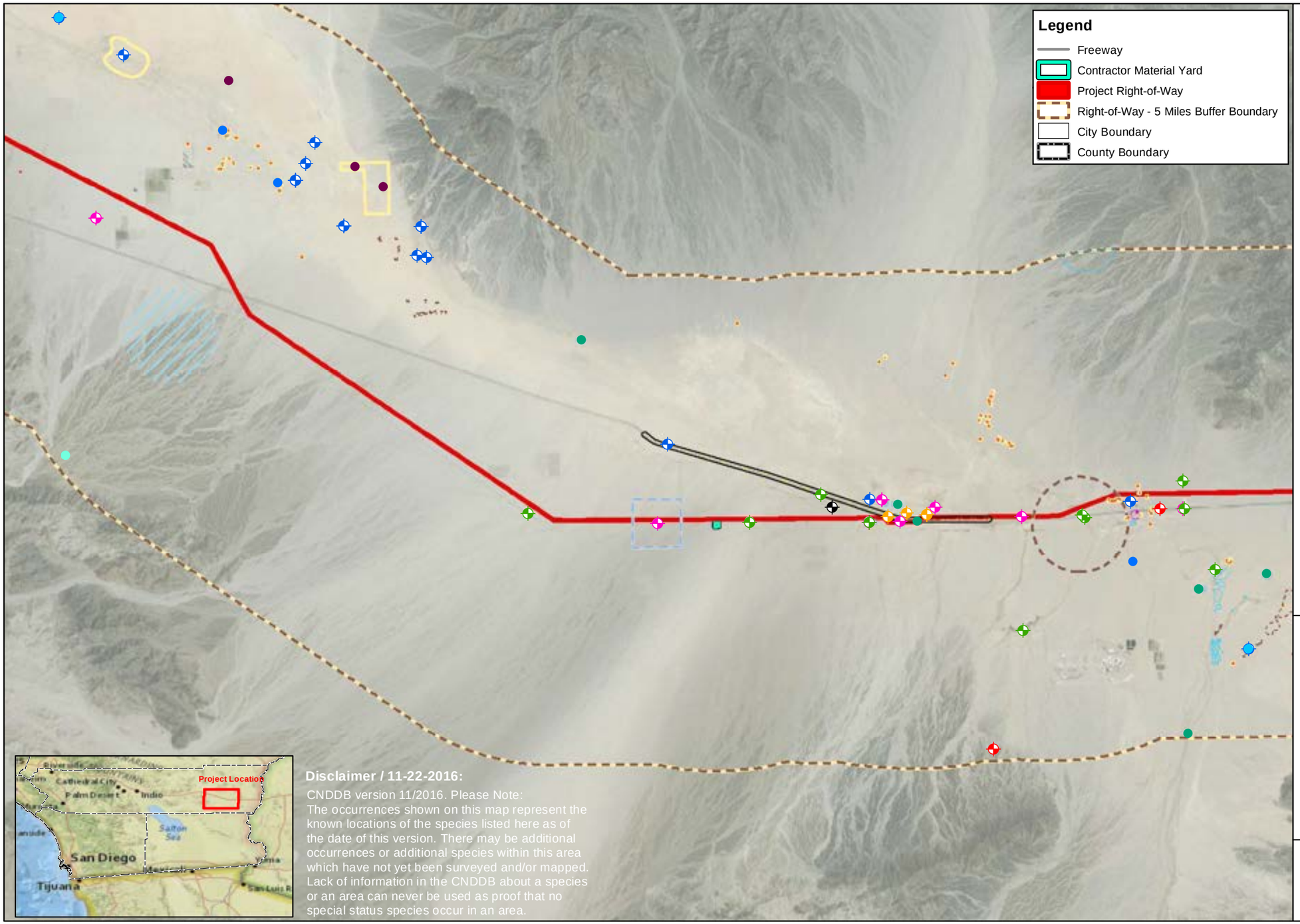


Figure 3-1 CCH Plant Species and CNDDB Plant and Plant Community Records

AECOM

December, 2016



CCH Plants Records

- Abrams' spurge
- Hall's tetracoccus
- Harwood's eriastrum
- Harwood's milk-vetch
- Palmer's jackass clover
- Desert unicorn-plant
- Dwarf germander
- Gravel milk-vetch
- Pink fairy-duster
- Ribbed cryptantha
- Roughstalk witch grass

CNDDB Plants Records

- Abrams' spurge
- California ditaxis
- Harwood's eriastrum
- Harwood's milk-vetch
- Palmer's jackass clover
- Dwarf germander
- Glandular ditaxis
- Gravel milk-vetch
- Pink fairy-duster
- Roughstalk witch grass

Disclaimer / 11-22-2016:

CNDDB version 11/2016. Please Note:
The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

Projected Coordinate System:
NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 1.5 3 Miles

N

Figure 3-1 CCH Plant Species and CNDDB Plant and Plant Community Records

AECOM

December, 2016

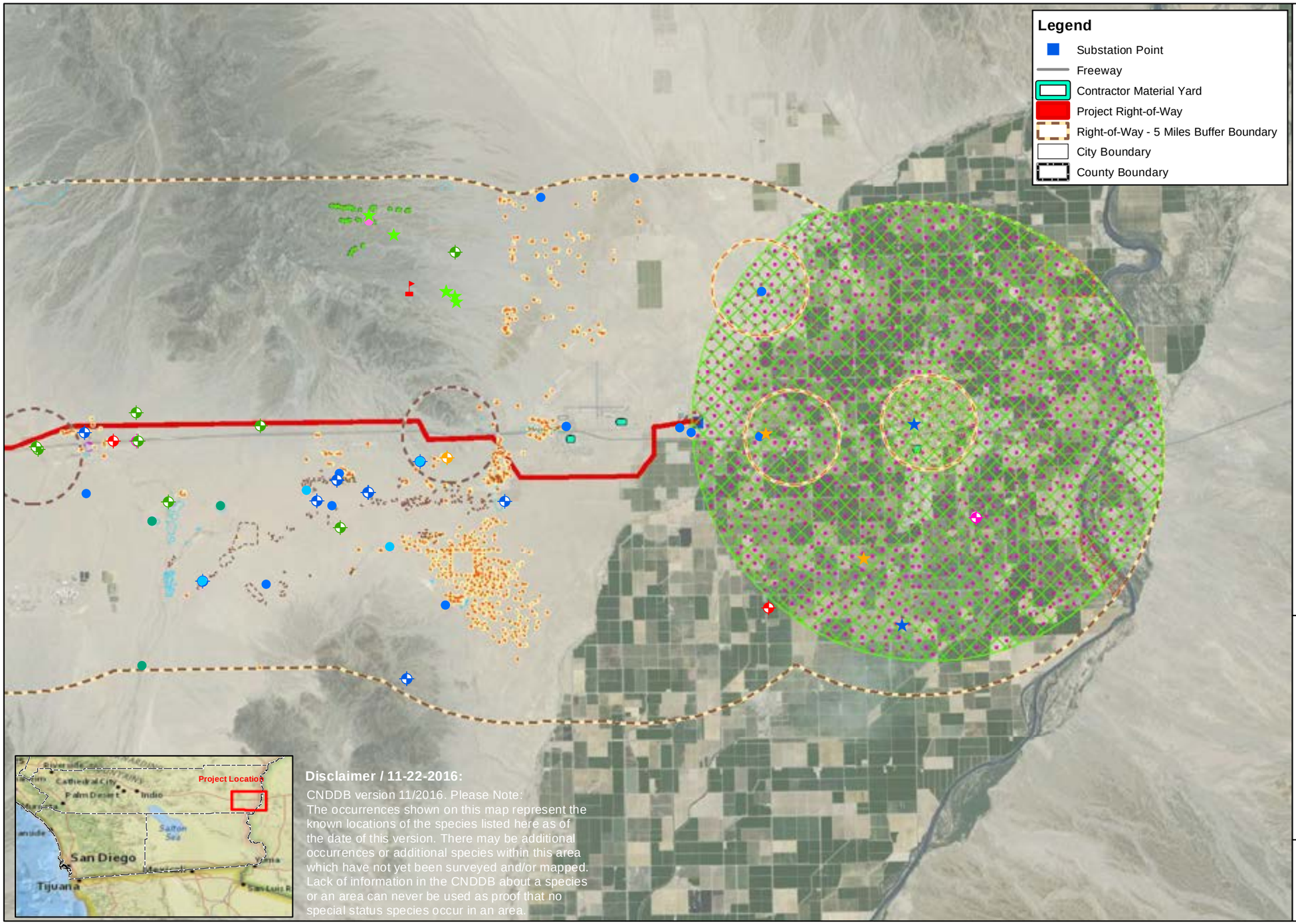
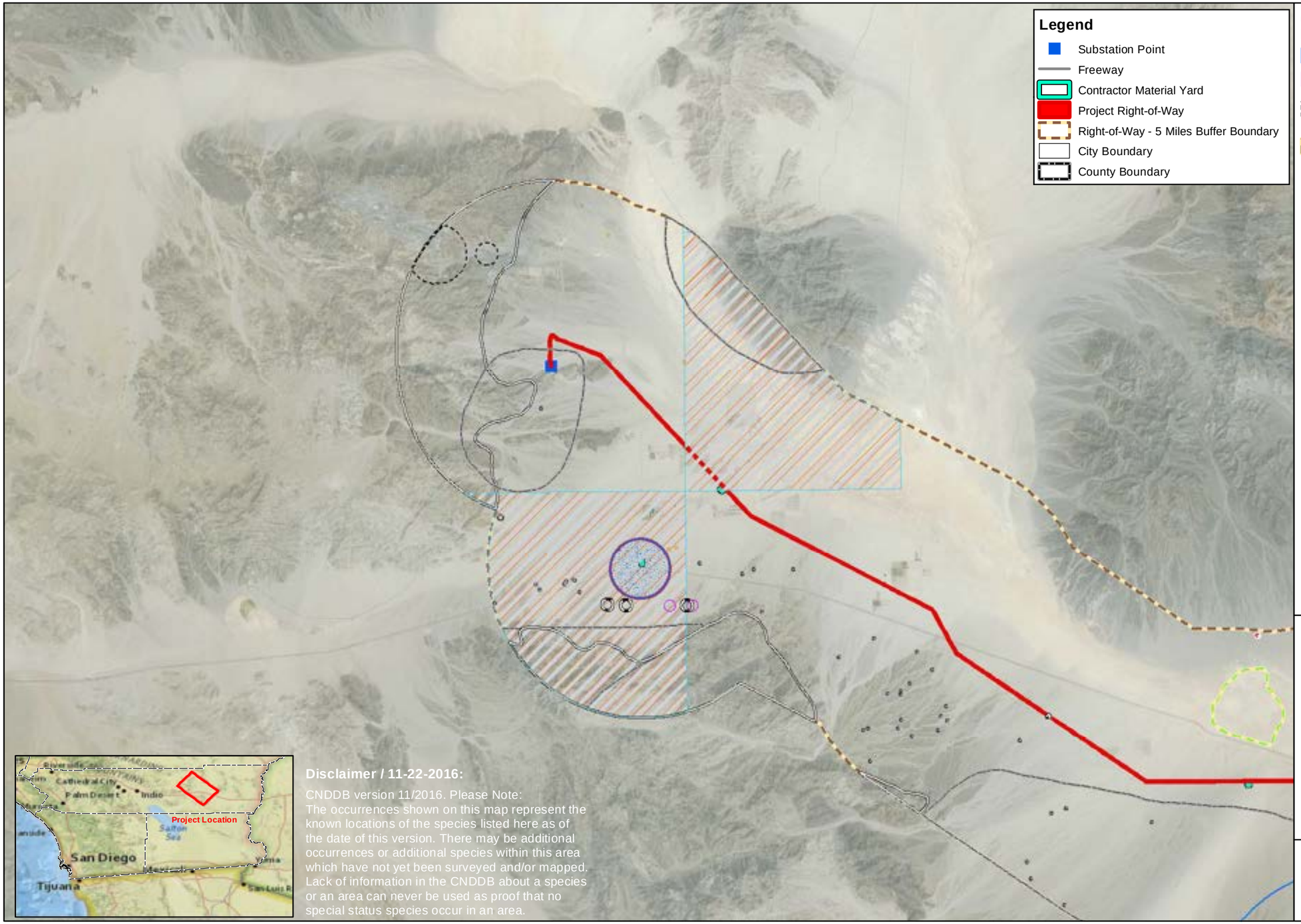


Figure 3-1 CCH Plant Species and CNDDB Plant and Plant Community Records

AECOM

December, 2016



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

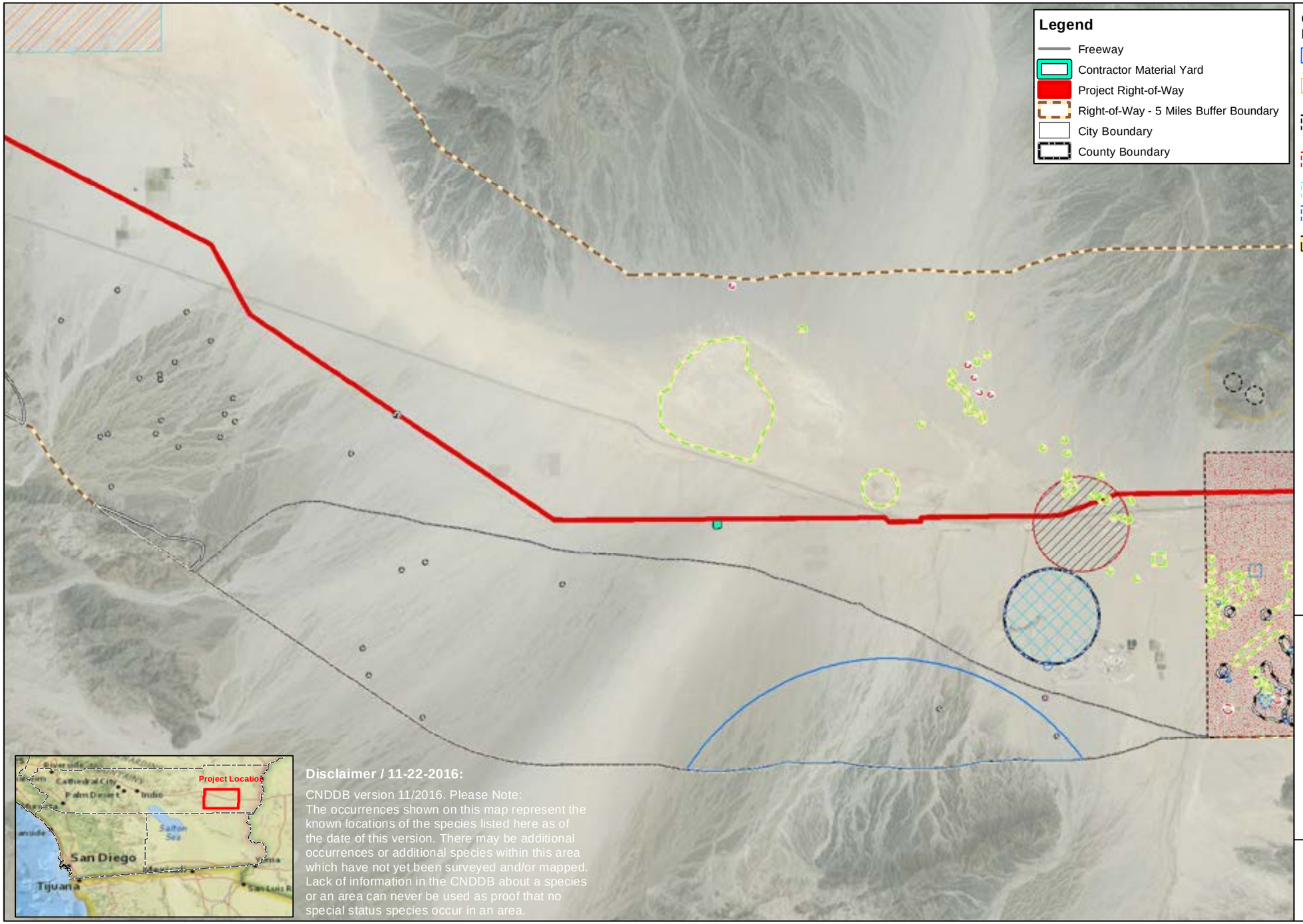
0 2.5 5 Miles

N

Figure 3-2
CNDDB Wildlife Species Records

AECOM

December, 2016



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Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

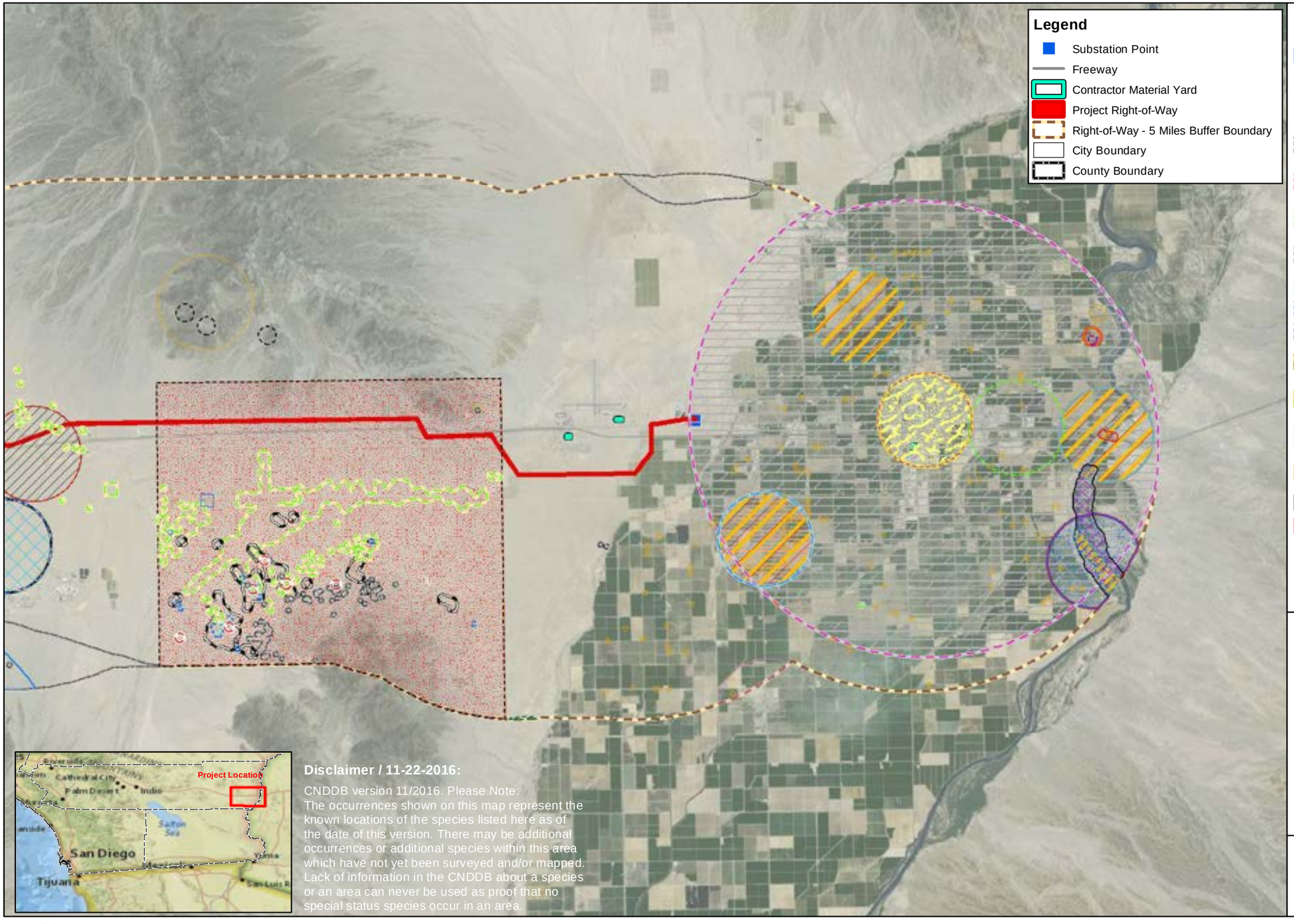
0 1.5 3 Miles

N

Figure 3-2
CNDDB Wildlife Species Records

AECOM

December, 2016



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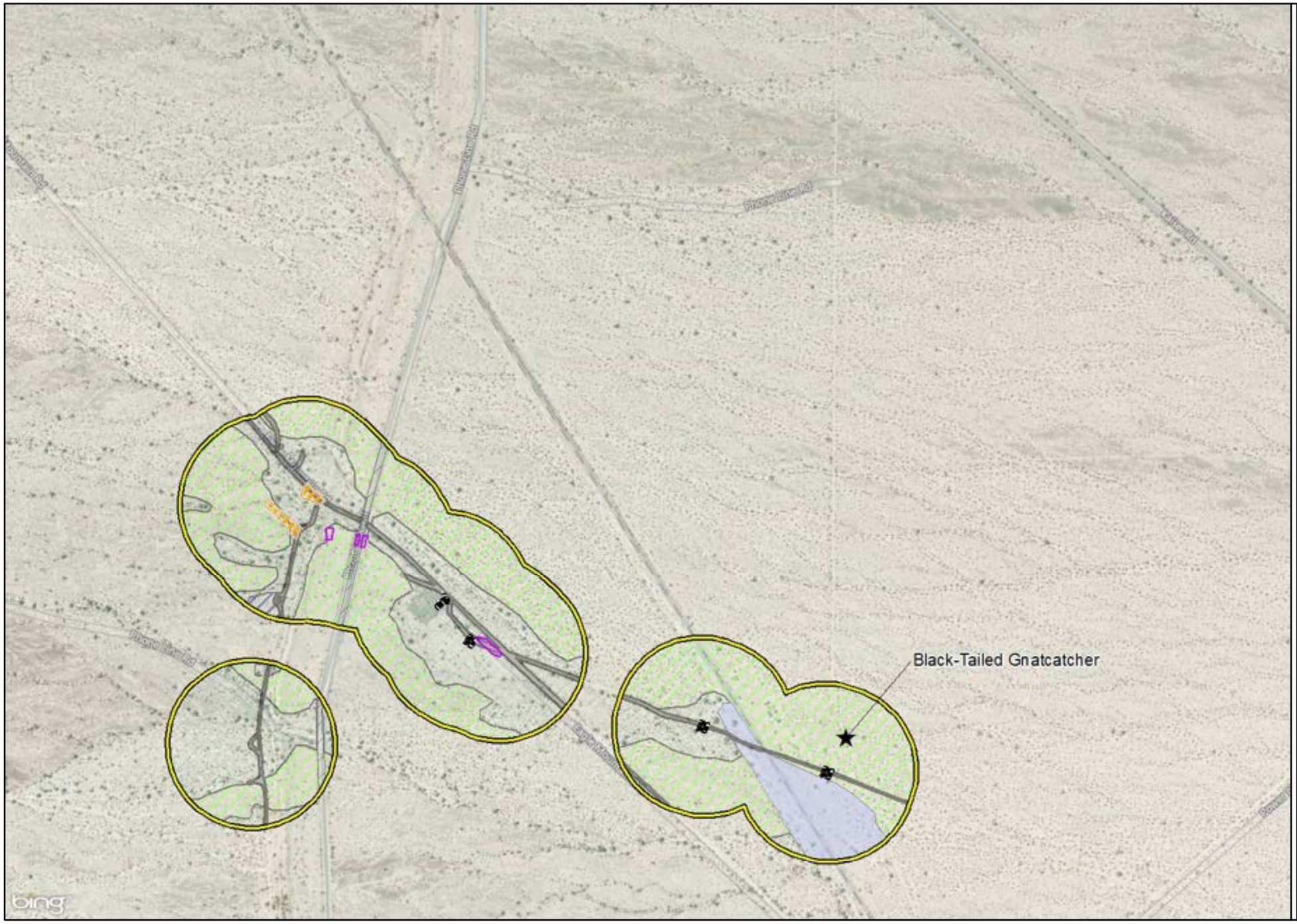
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 1.5 3 Miles

N

Figure 3-2
CNDDB Wildlife Species Records



Incidental Observation

Construction Areas

Guard Pole

Structure Work

Wire Setup

Bio Survey Area

Vegetation Communities

Ambrosia salsola Shrubland

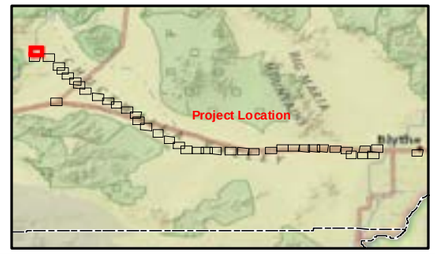
Developed

Disturbed Land

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



MAP NOTES

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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Species Name

Foxtail cactus

Construction Areas

Guard Pole

Wire Setup

Bio Survey Area

Vegetation Communities

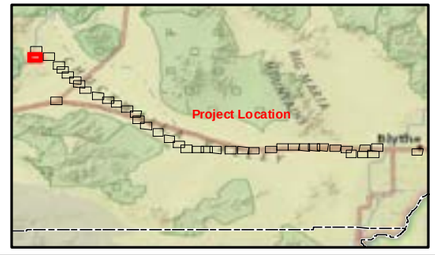
Developed

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland

Psorothamnus spinosus Woodland



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

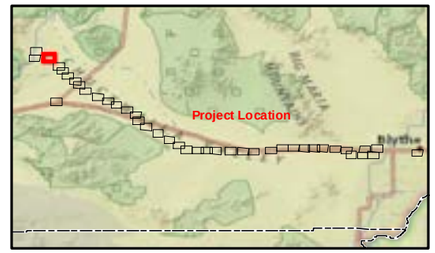
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Guard Pole
- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



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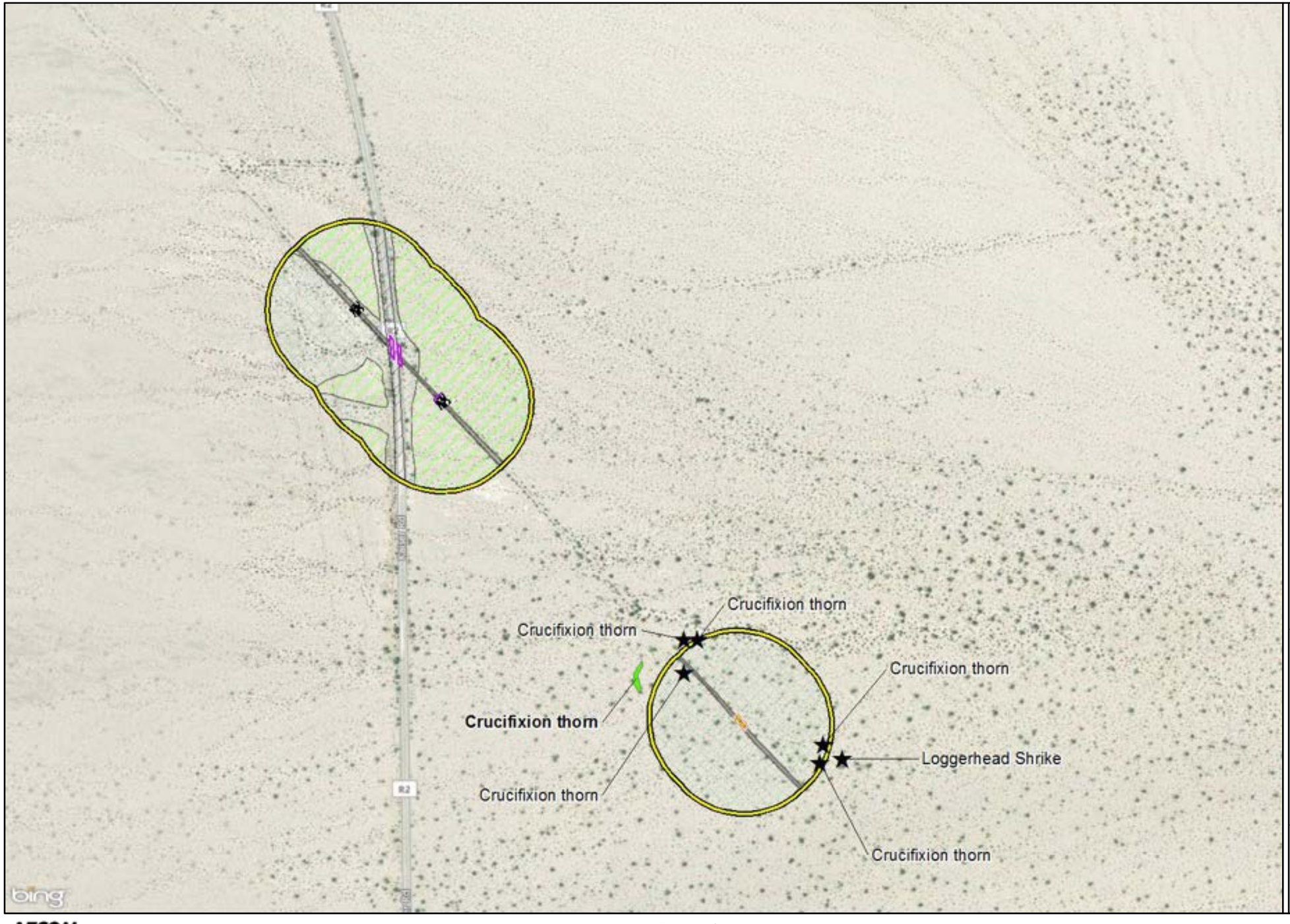
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Incidental Observation

Species Name

Crucifixion thorn

Construction Areas

Guard Pole

Structure Work Area

Wire Setup

Bio Survey Area

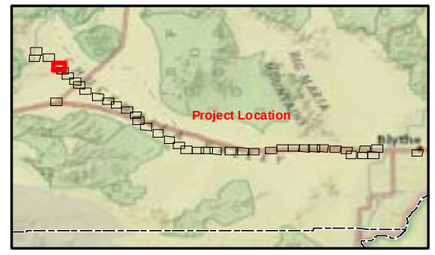
Vegetation Communities

Developed

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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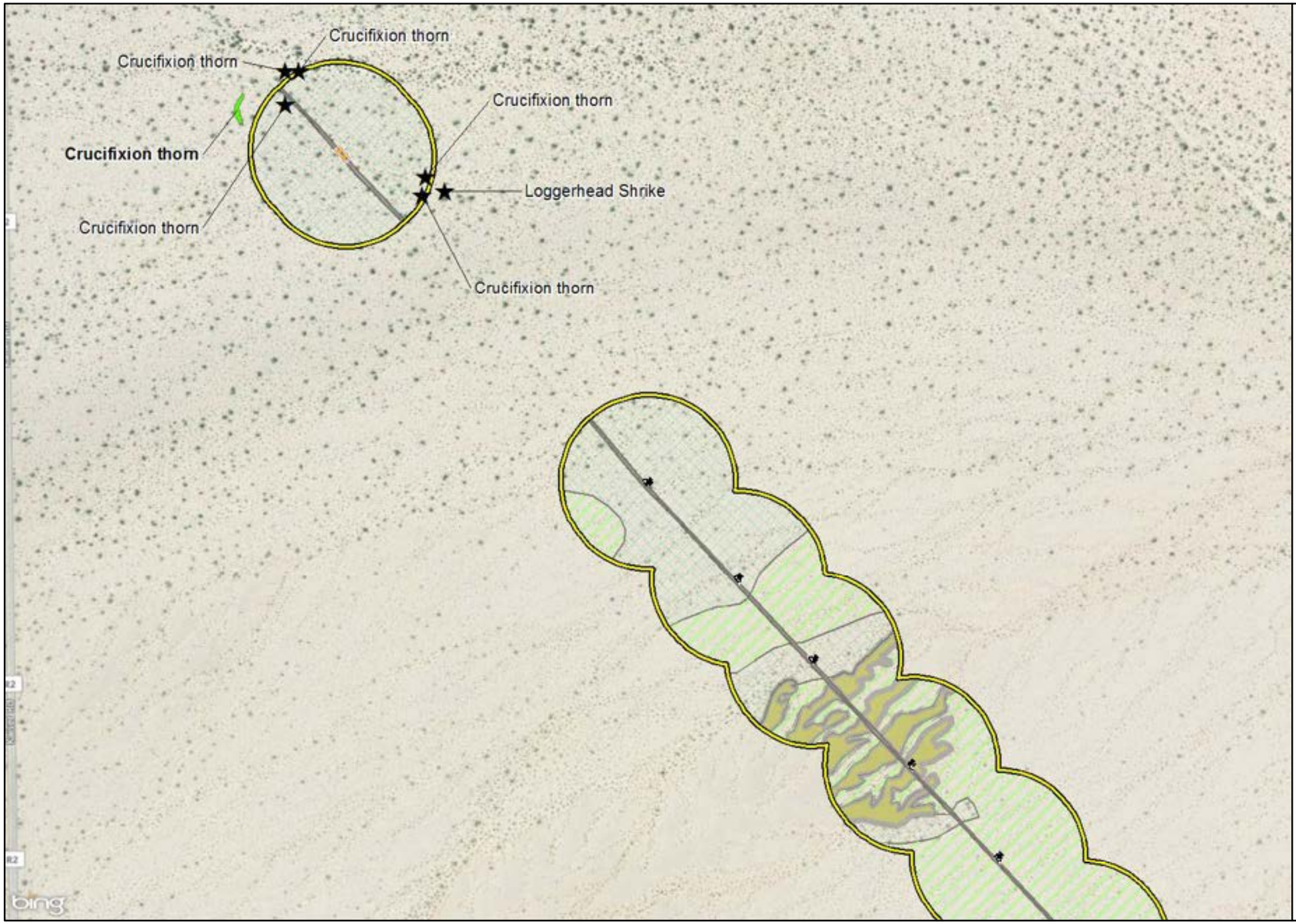
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Incidental Observation

Species Name

Crucifixion thorn

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area

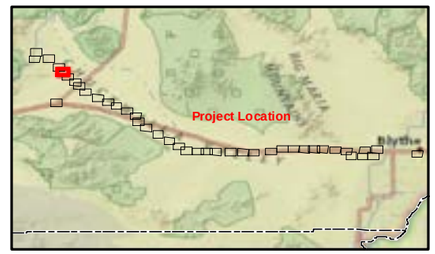
Vegetation Communities

Desert Pavement

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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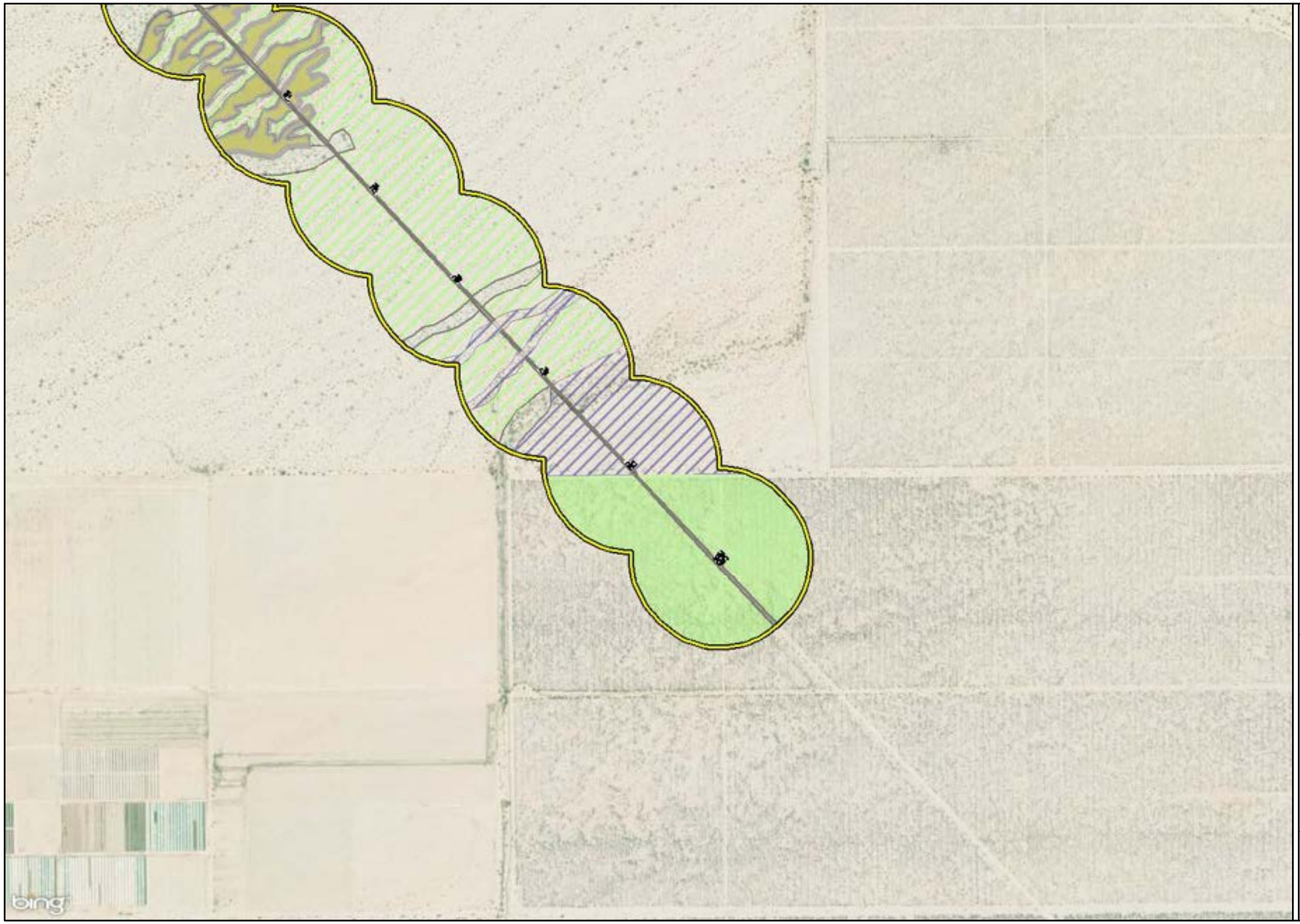
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Construction Areas

Structure Work Area

Bio Survey Area

Vegetation Communities

Active Agriculture

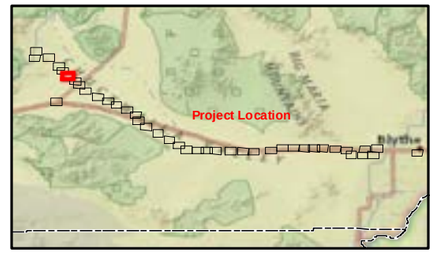
Desert Pavement

Disturbed Land

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

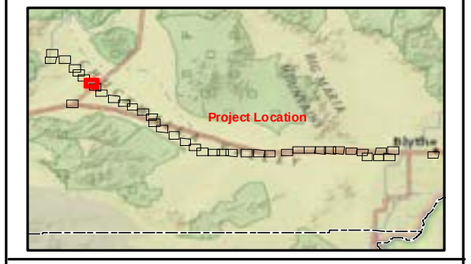
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Active Agriculture**
- **Ambrosia salsola Shrubland**
- **Barren-Not Developed**
- **Developed**
- **Disturbed Land**
- **Parkinsonia florida - Olneya tesota Woodland**
- **Psorothamnus spinosus Woodland**
- **Tamarix spp. Semi-natural Shrubland Stands**



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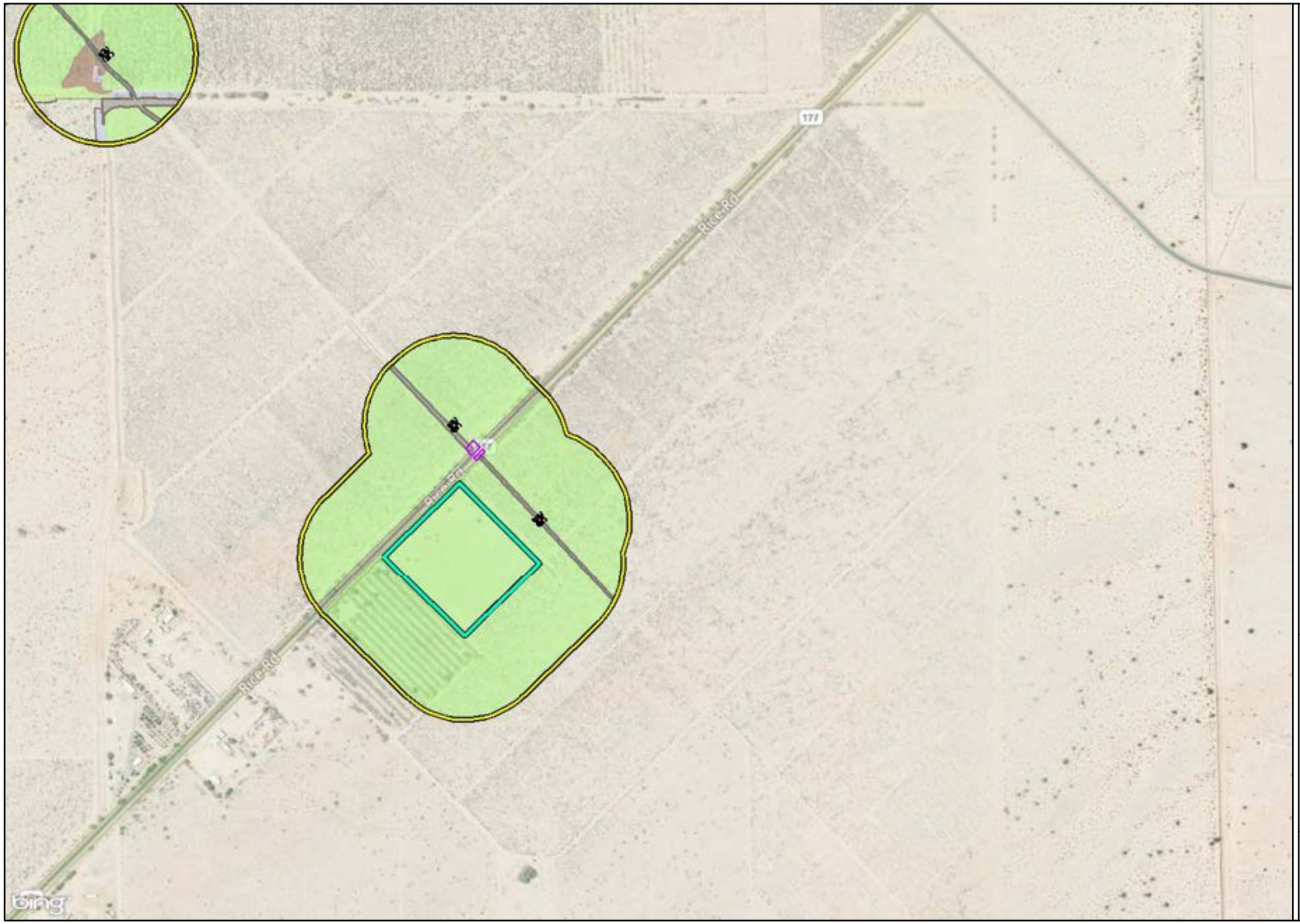
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Contractor Material Yard

Construction Areas

Guard Pole

Structure Work Area

Bio Survey Area

Vegetation Communities

Active Agriculture

Ambrosia salsola Shrubland

Barren-Not Developed

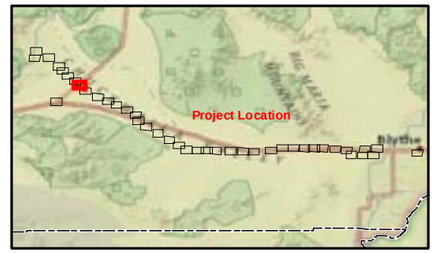
Developed

Disturbed Land

Parkinsonia florida - Olneya tesota Woodland

Psorothamnus spinosus Woodland

Tamarix spp. Semi-natural Shrubland Stands



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

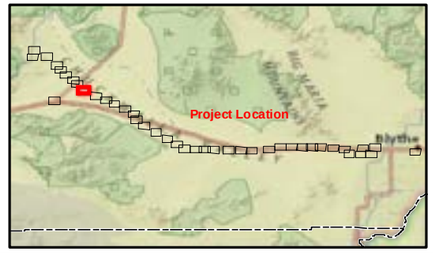
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Active Agriculture**
- **Barren-Not Developed**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Contractor Material Yard

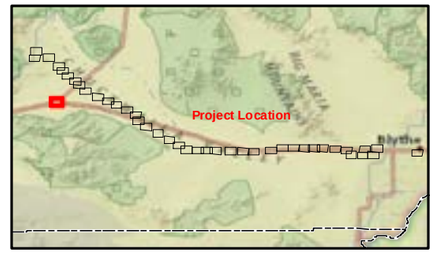
Bio Survey Area

Vegetation Communities

Developed

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

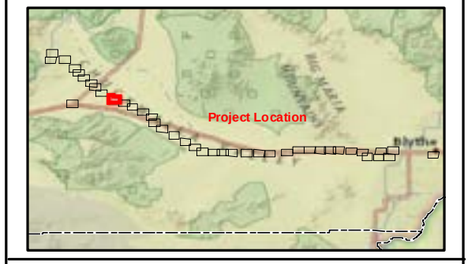
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Active Agriculture**
- **Ambrosia salsola Shrubland**
- **Desert Pavement**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



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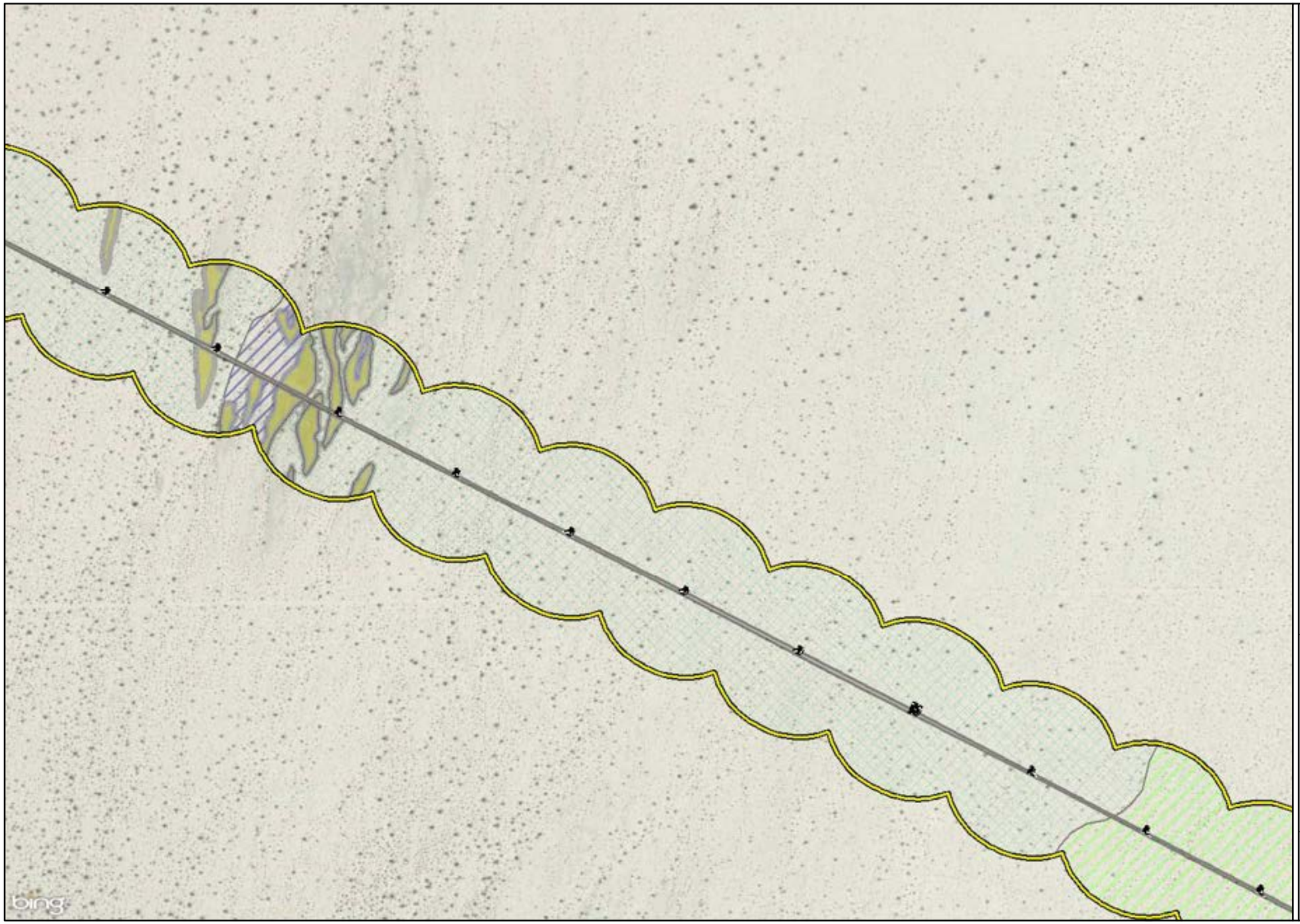
0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Construction Areas

Structure Work

Bio Survey Area

Vegetation Communities

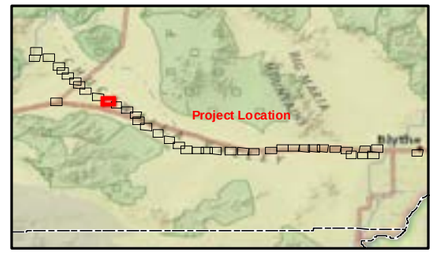
Desert Pavement

Disturbed Land

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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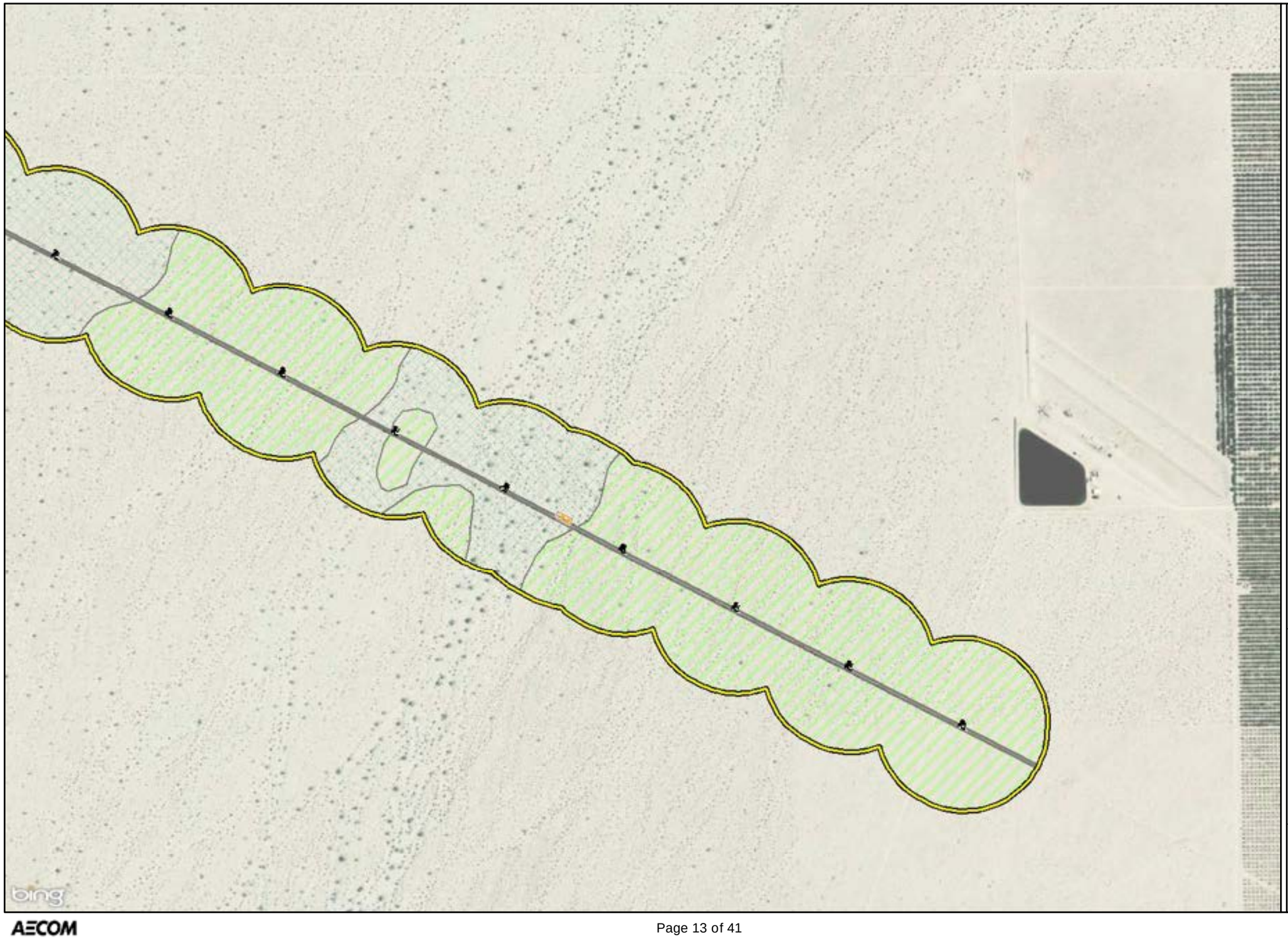
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Construction Areas

Structure Work Area

Wire Setup

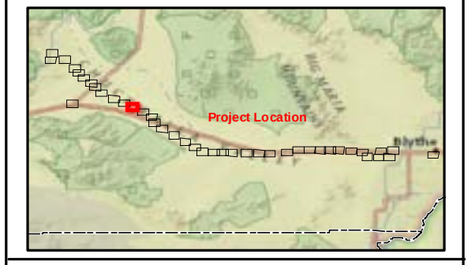
Bio Survey Area

Vegetation Communities

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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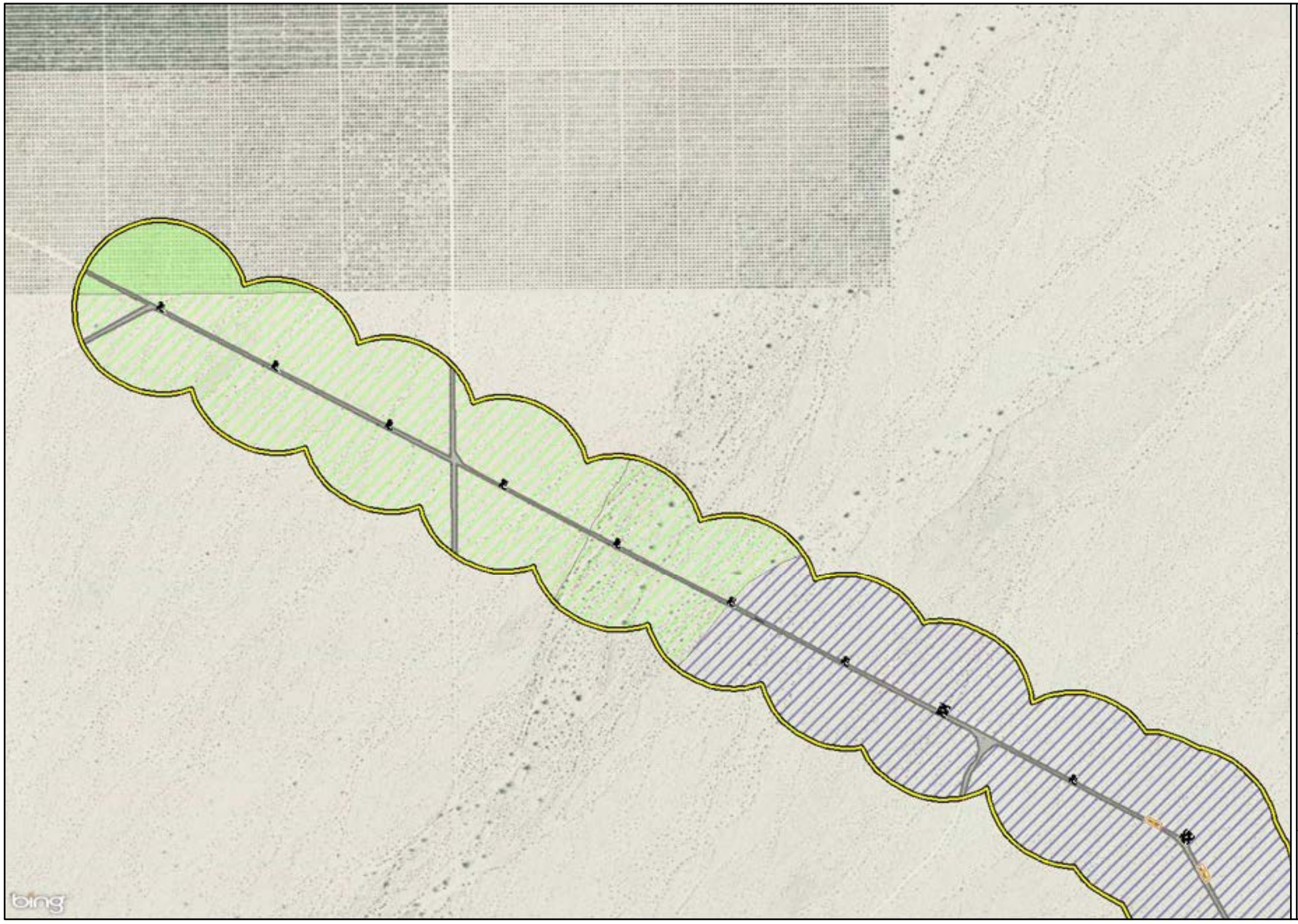
0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

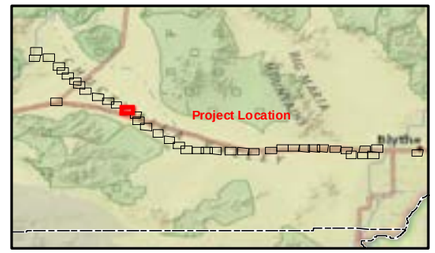


Construction Areas

- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Active Agriculture**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**



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SCE - Project Components Data
Projected Coordinate System: NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

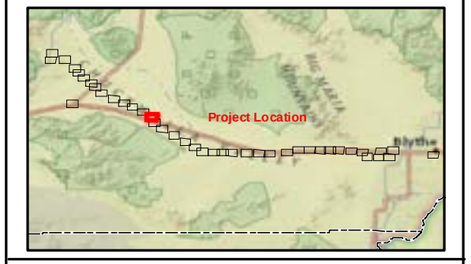
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Structure Work
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



MAP NOTES

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SCE - Project Components Data
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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

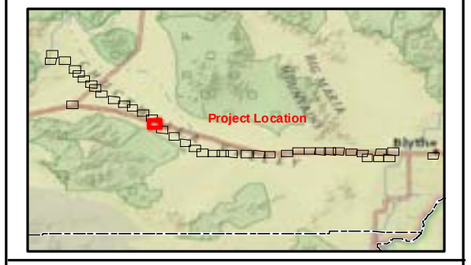
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction

- Guard Pole
- Structure Work
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Ambrosia salsola Shrubland**
- **Desert Pavement**
- **Developed**
- **Disturbed Land**
- **Ironwood Woodland**
- **Larrea tridentata Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



MAP NOTES

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0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

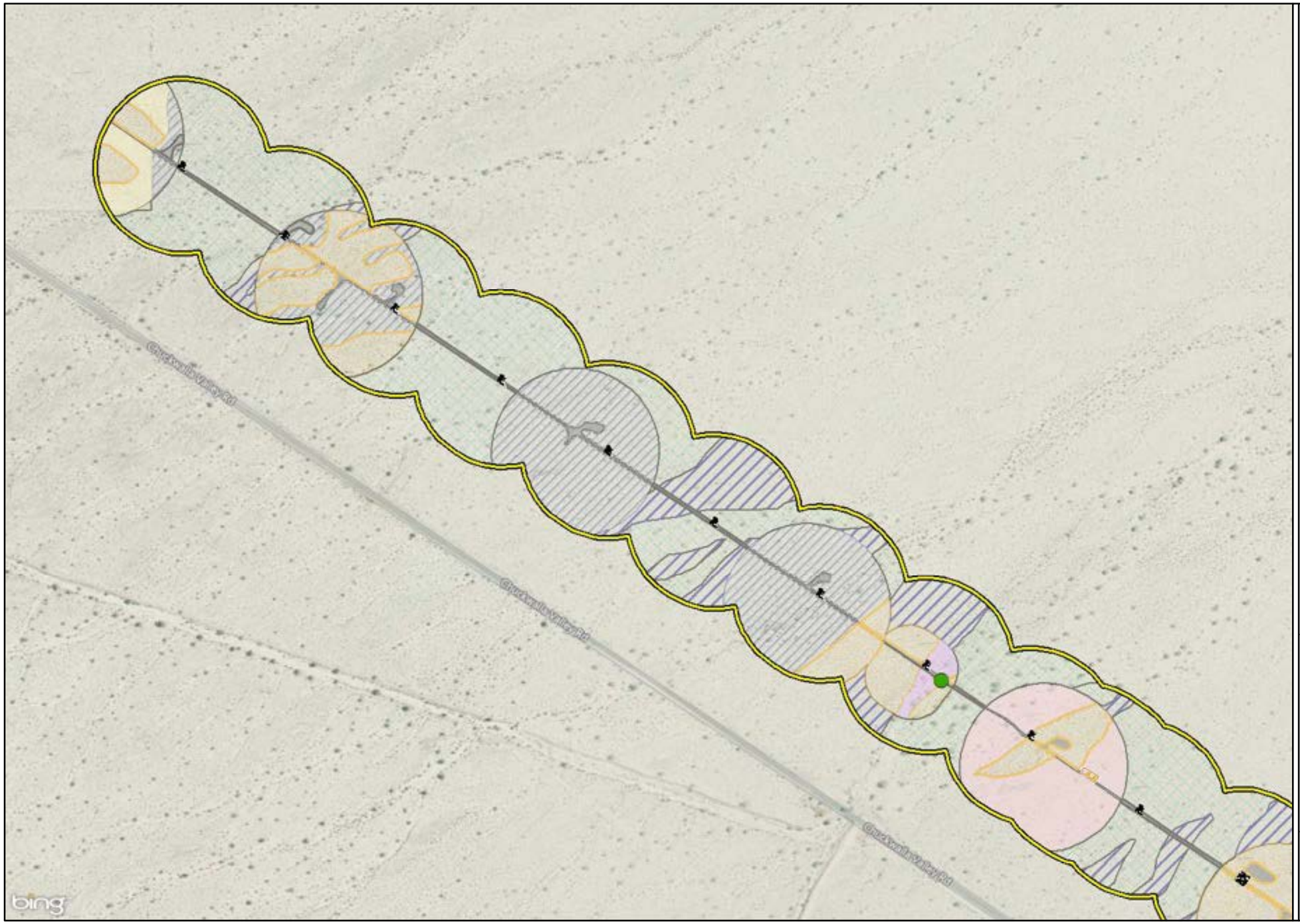


Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

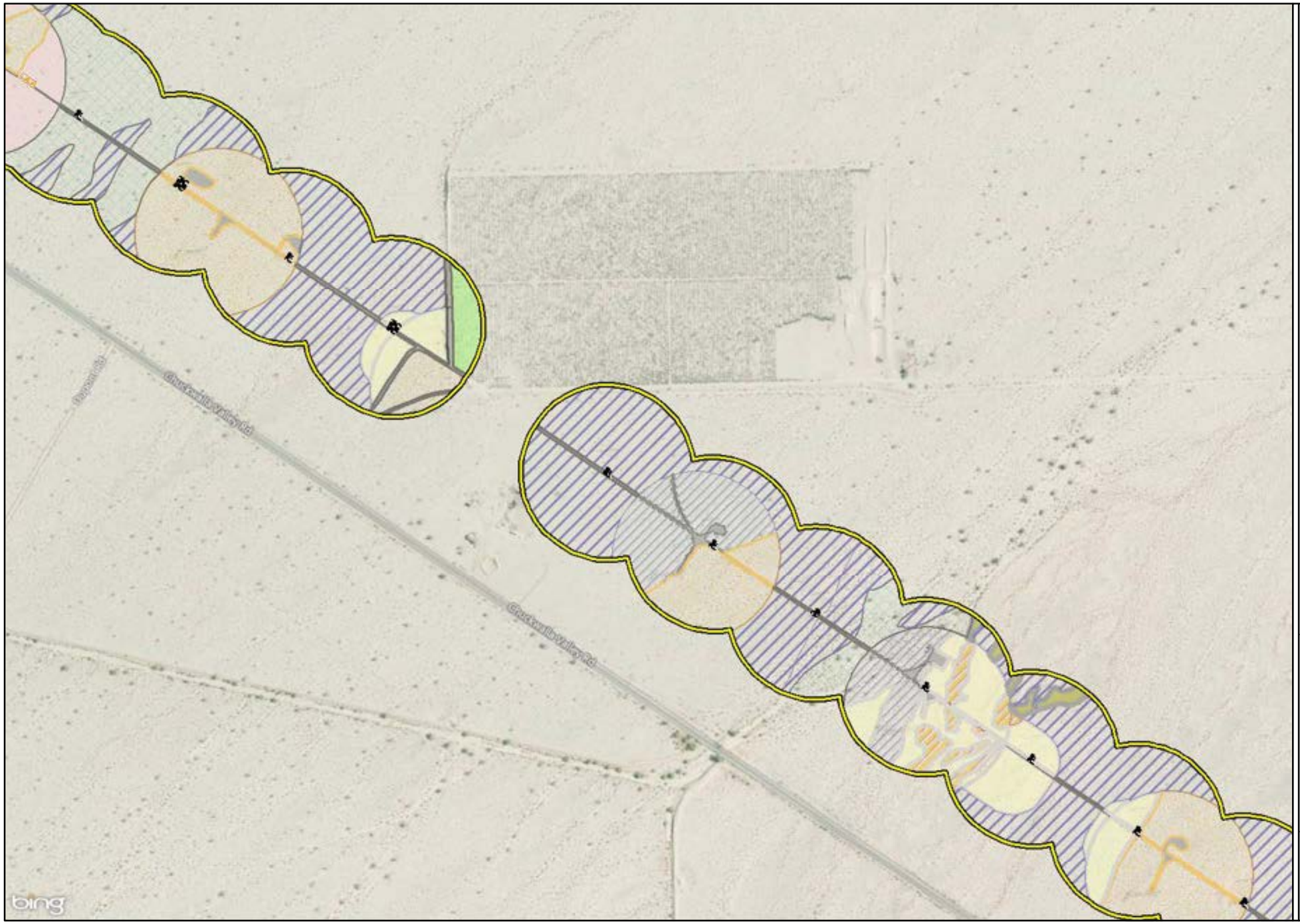
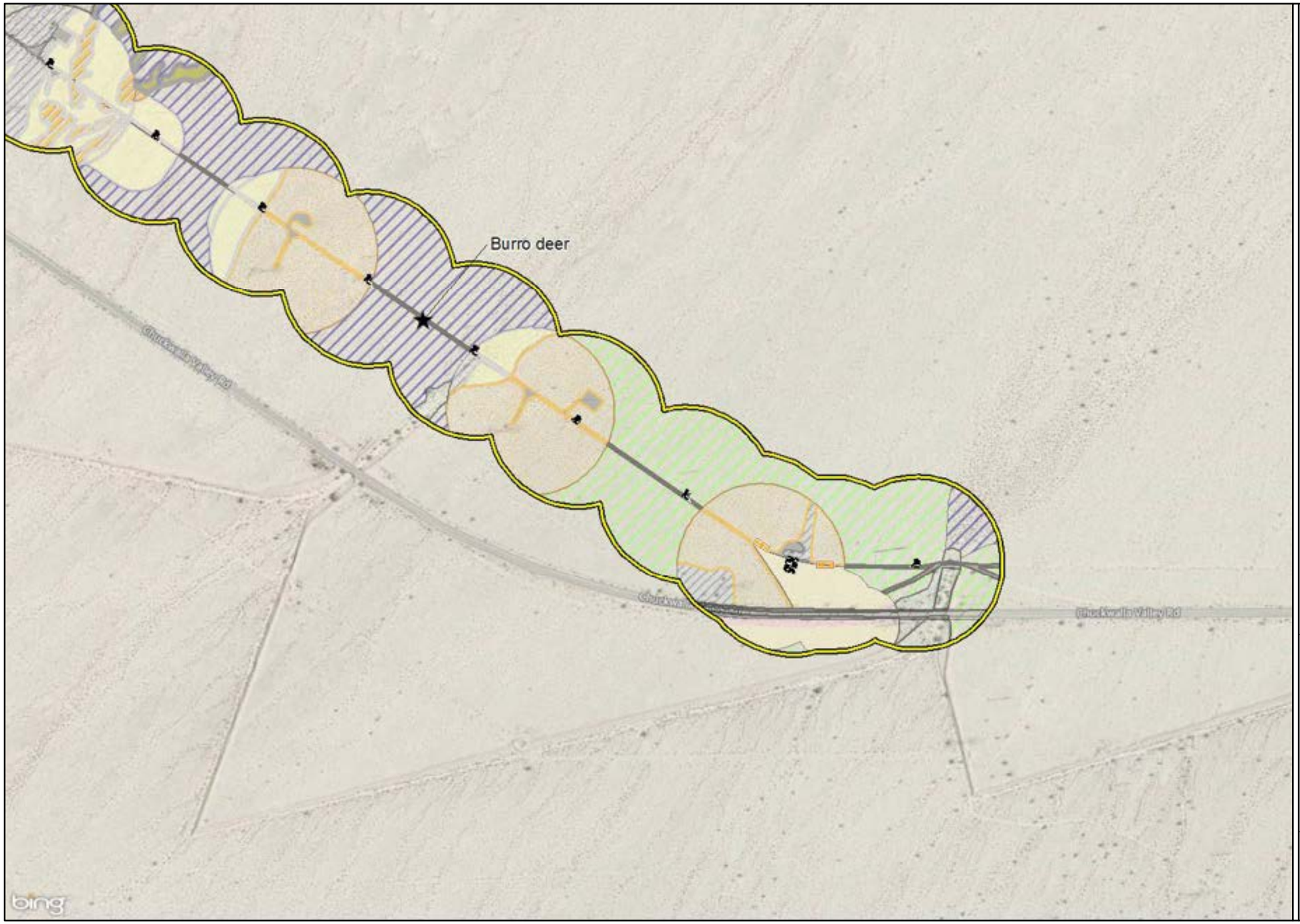


Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Incidental Observation

Construction Areas

Structure Work

Wire Setup

Bio Survey Area

Vegetation Communities

Blue Palo Verde - Ironwood Woodland

Creosote Bush - White Bursage Scrub

Creosote Bush Scrub

Creosote Bush Scrub - Big Galleta

Desert Pavement

Developed

Disturbed Land

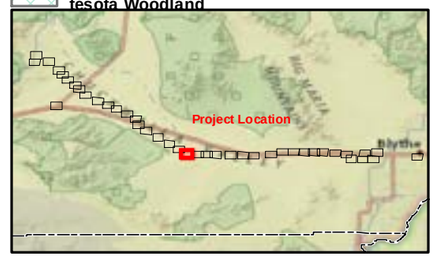
Ironwood Woodland

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Open Pavement

Parkinsonia florida - Olneya tesota Woodland



MAP NOTES

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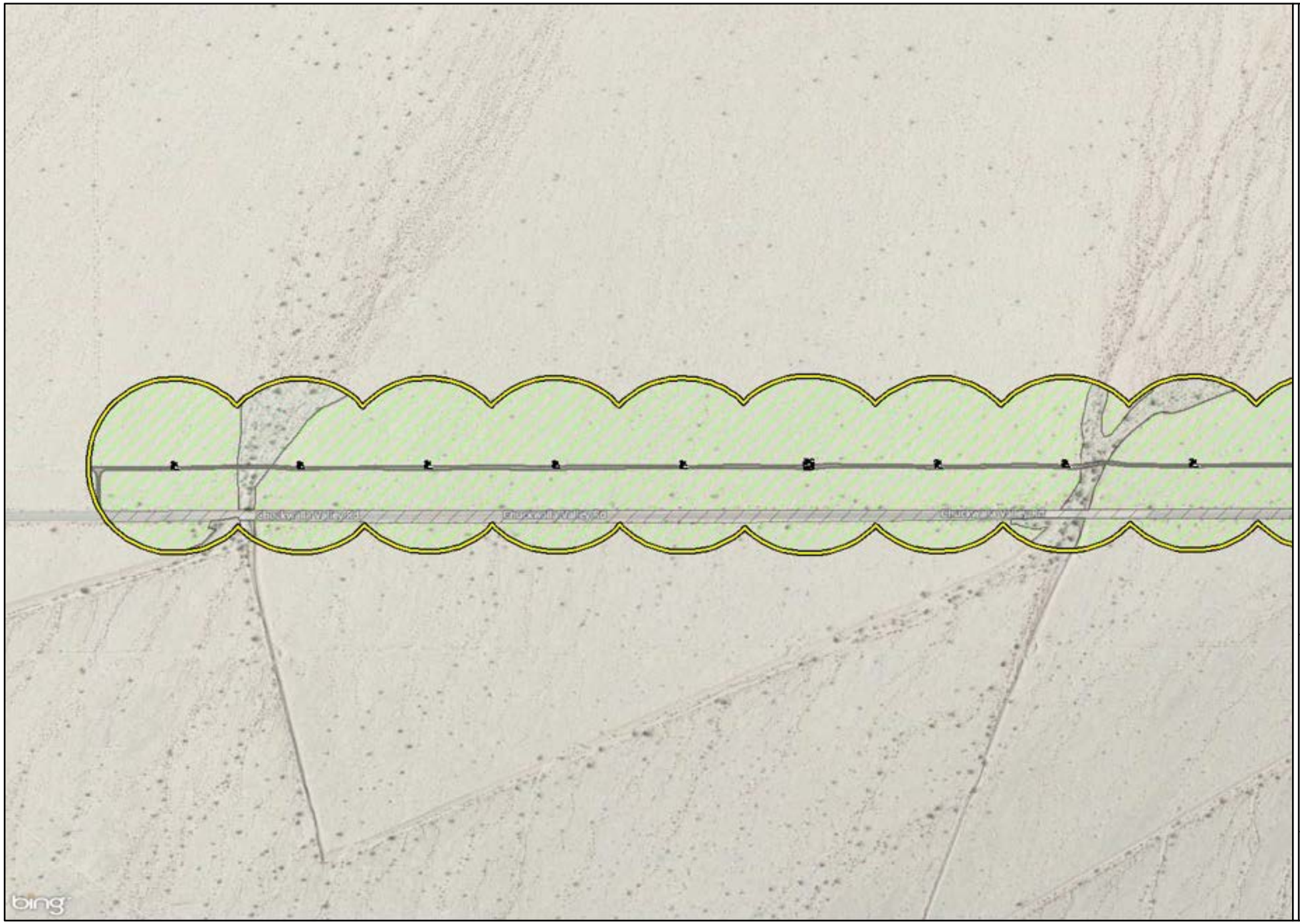
0 0.08 0.16 Miles

N

Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Construction Areas

Structure Work

Bio Survey Area

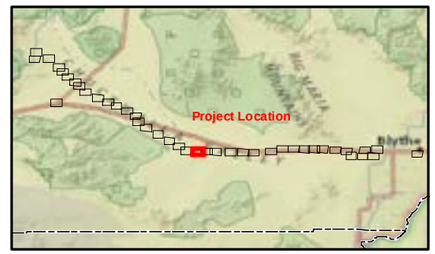
Vegetation Communities

Developed

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Incidental Observation

Contractor Material Yard

Bio Survey Area

Vegetation Communities

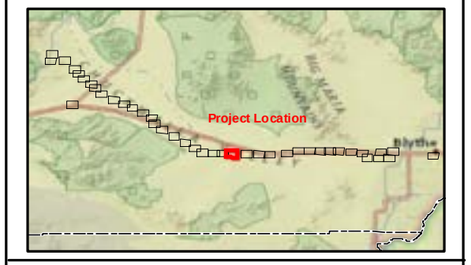
Desert Pavement

Developed

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Incidental Observation

Construction Areas

Wire Setup

Bio Survey Area

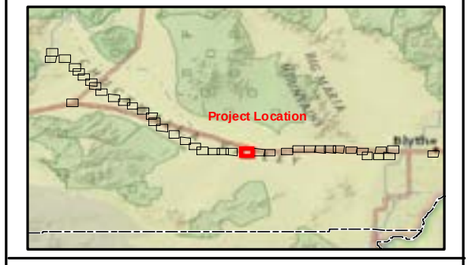
Vegetation Communities

Desert Pavement

Developed

Disturbed Land

Larrea tridentata-Ambrosia dumosa Shrubland



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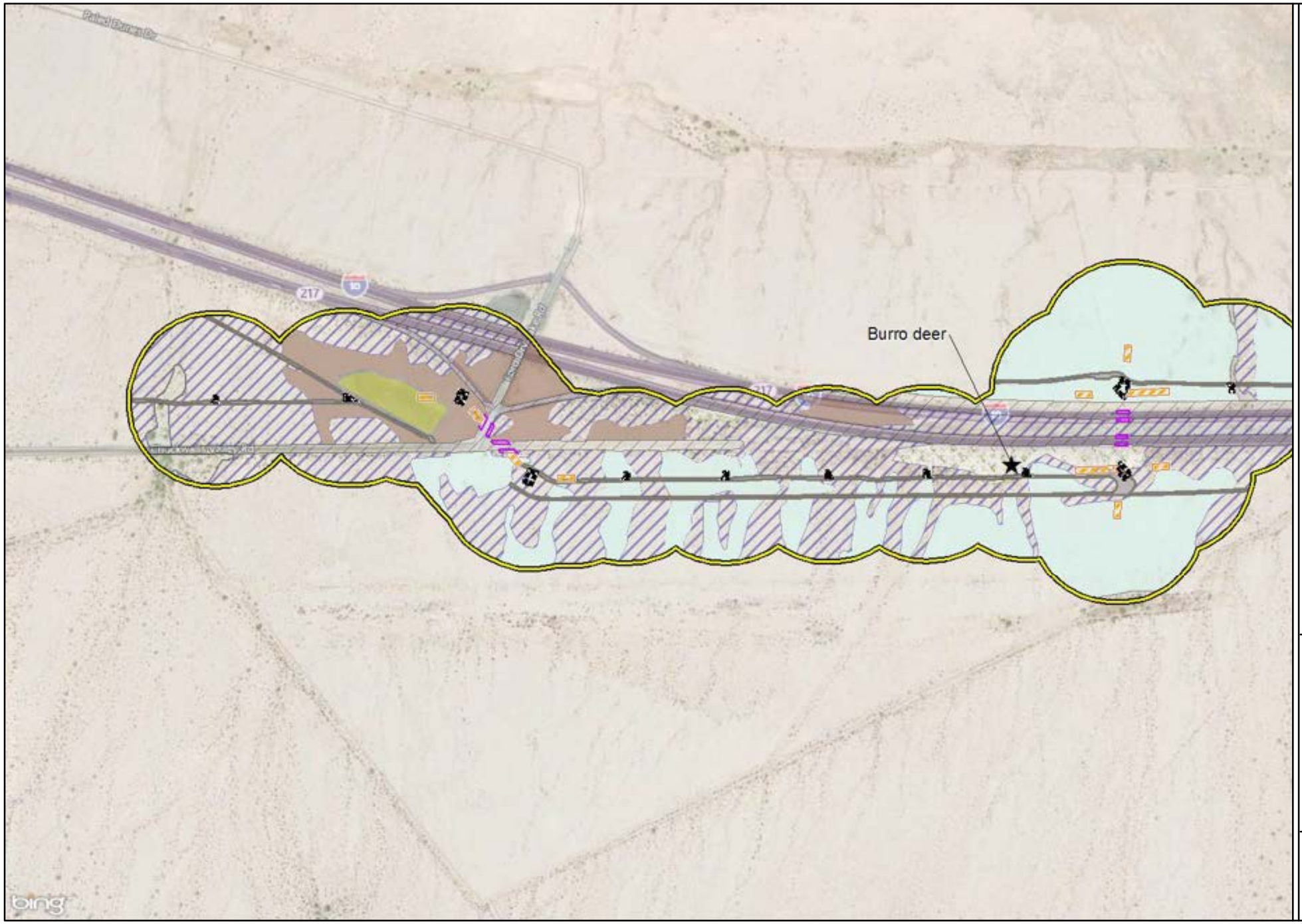
0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



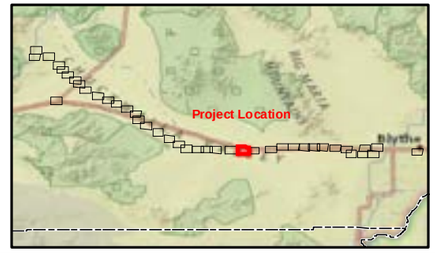
Incidental Observation

Construction Areas

- Guard Pole
- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Atriplex polycarpa Shrubland**
- **Barren-Not Developed**
- **Desert Pavement**
- **Developed**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**
- **Playa**
- **Prosopis glandulosa Woodland**



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Desert Tortoise Pallet

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area

Vegetation Communities

Atriplex polycarpa Shrubland

Desert Dunes

Developed

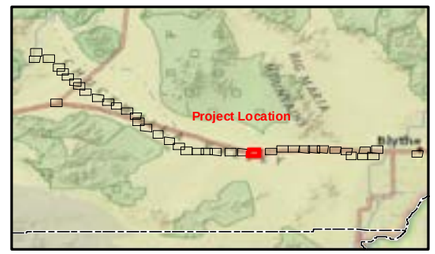
Disturbed Land

Larrea tridentata Shrubland

Parkinsonia florida - Olneya tesota Woodland

Playa

Prosopis glandulosa Woodland



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

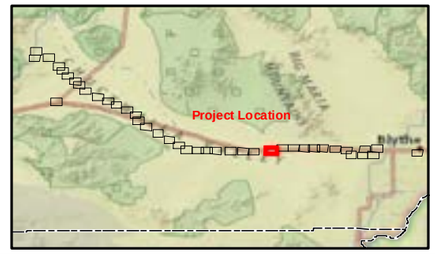
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Structure Work Area
- **Bio Survey Area**

Vegetation Communities

- **Developed**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Playa**



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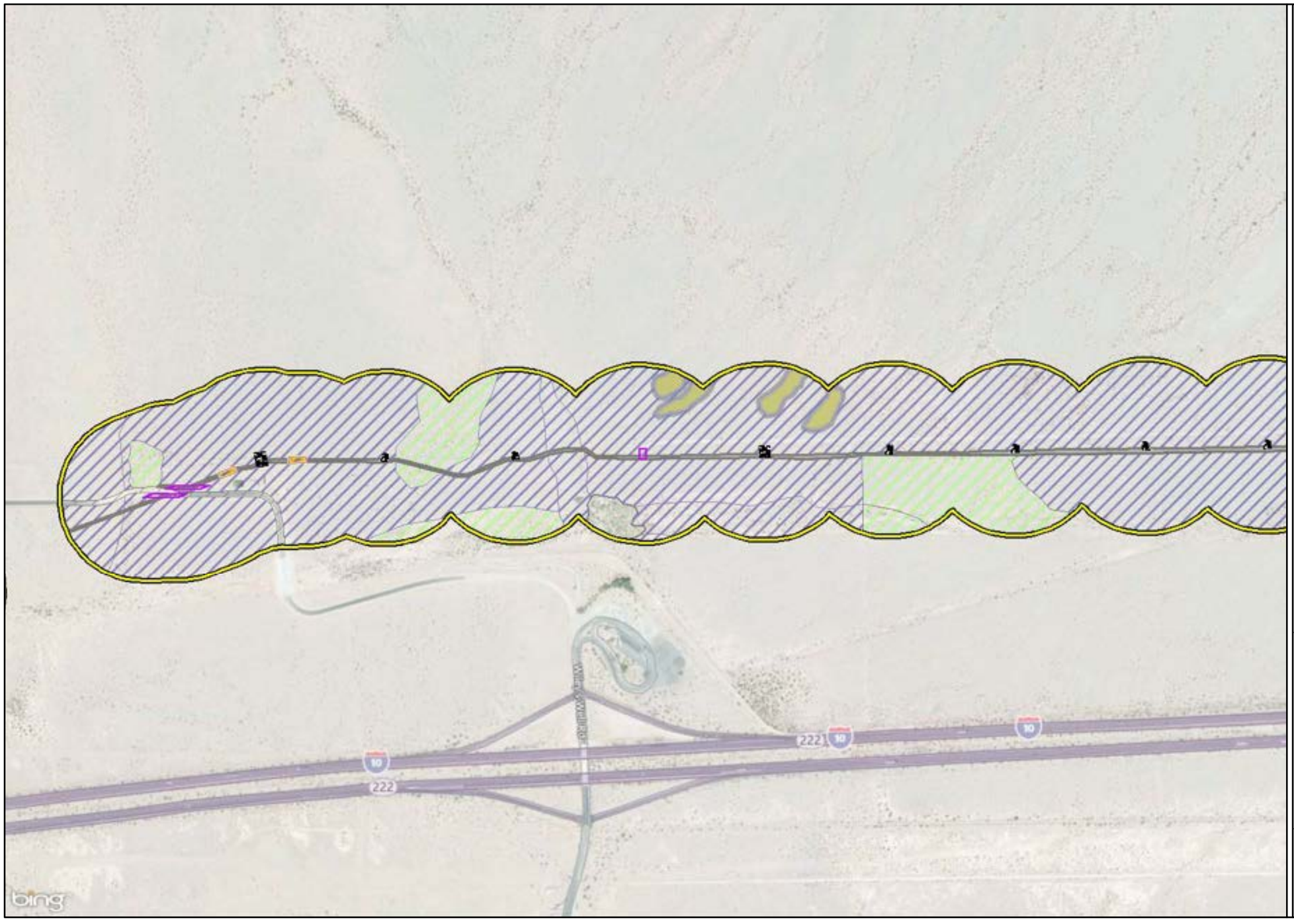
N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

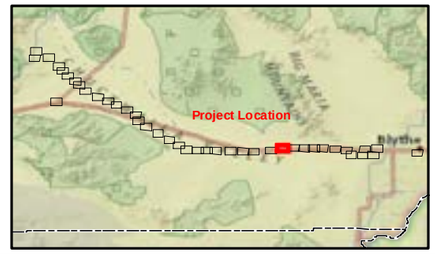


Construction Areas

- Guard Pole
- Structure Work
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Desert Pavement**
- **Developed**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



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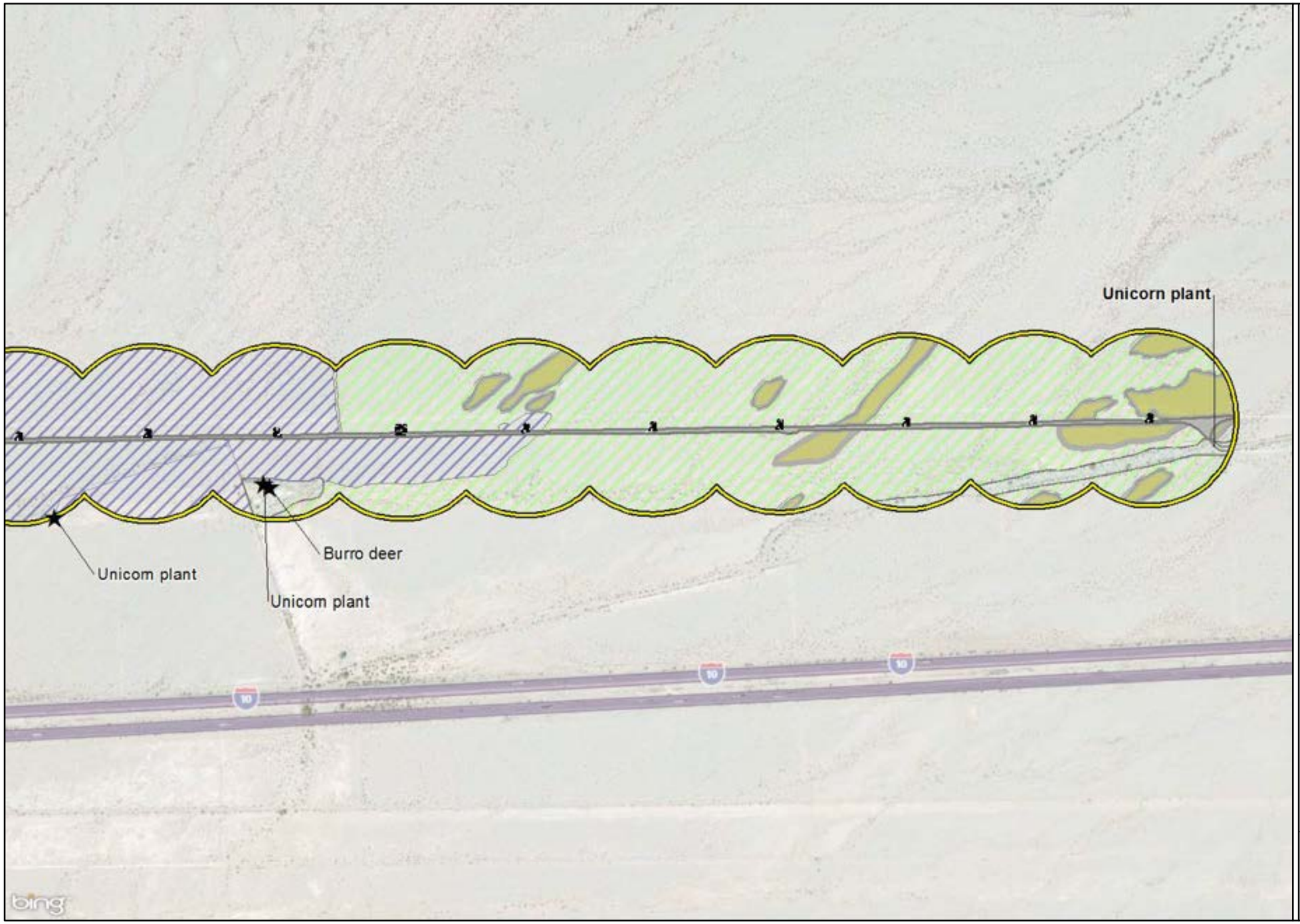
0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Incidental Observation

Species Name

Unicorn plant

Construction Areas

Structure Work Area

Bio Survey Area

Vegetation Communities

Desert Pavement

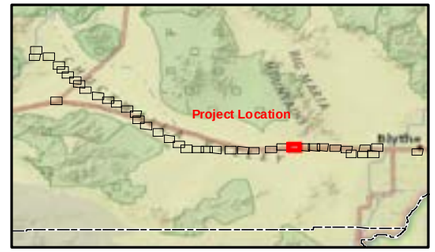
Developed

Disturbed Land

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



MAP NOTES

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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Incidental Observation

Desert Tortoise Pallet

Species Name

Unicorn plant

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area

Vegetation Communities

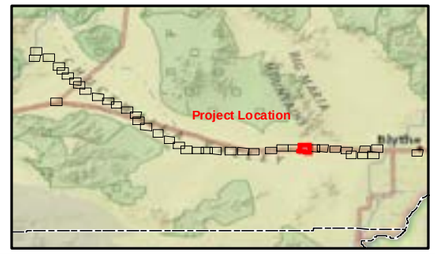
Desert Pavement

Disturbed Land

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

★ Incidental Observation

Construction Areas

Structure Work Area

Bio Survey Area

Vegetation Communities

Desert Pavement

Disturbed Land

Larrea tridentata Shrubland

Larrea tridentata-Ambrosia dumosa Shrubland

Parkinsonia florida - Olneya tesota Woodland

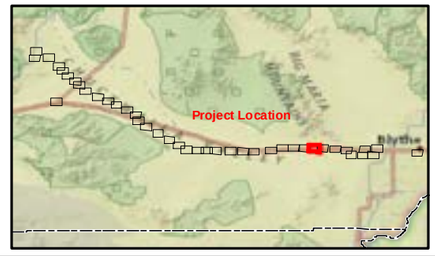

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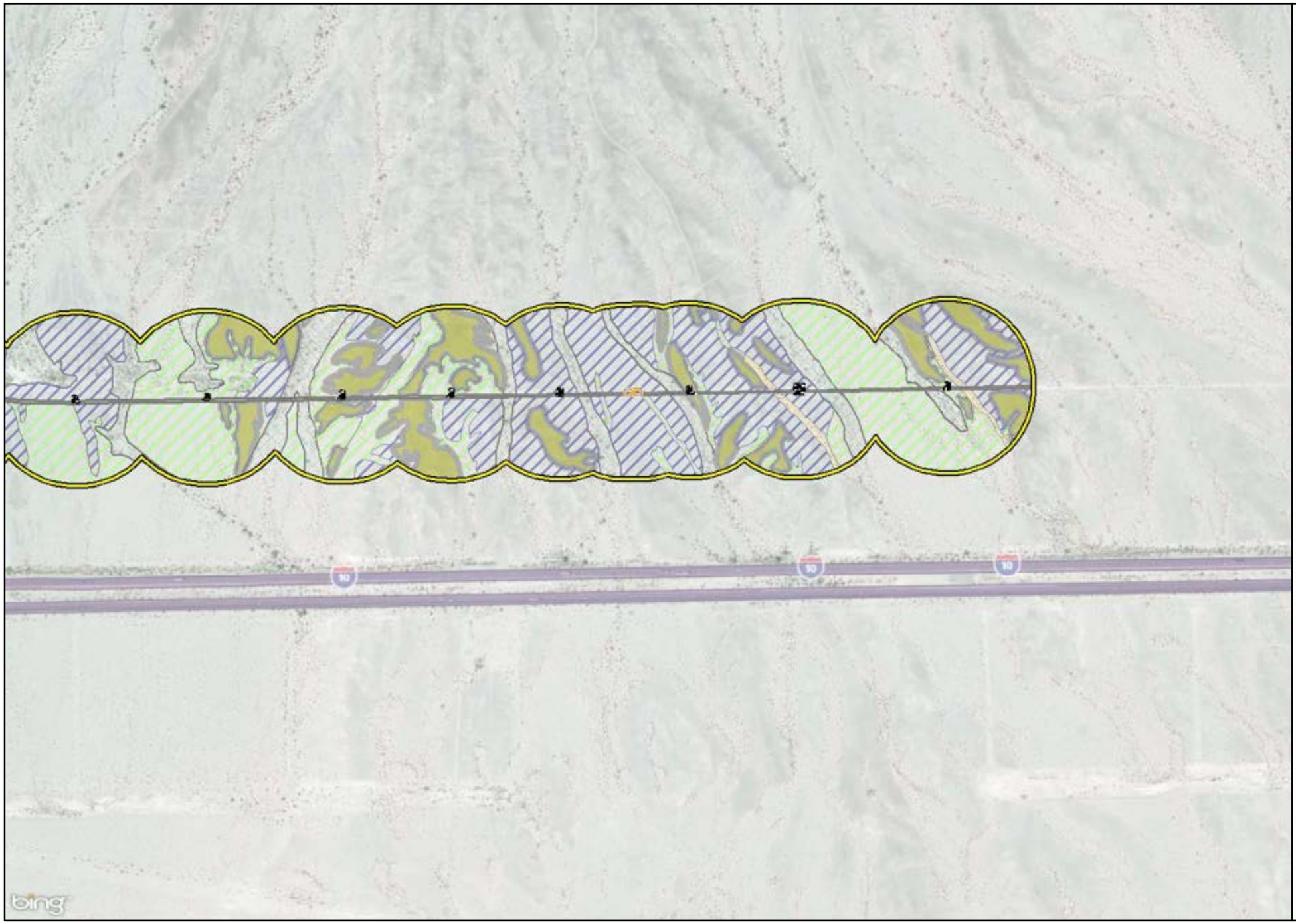
Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

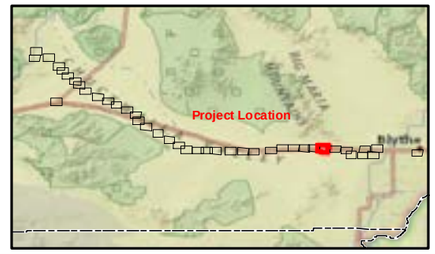


Construction Areas

- Structure Work
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Desert Pavement**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**
- **Pleuraphis rigida Herbaceous**



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N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Guard Pole
- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Desert Pavement**
- **Developed**
- **Disturbed Land**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**

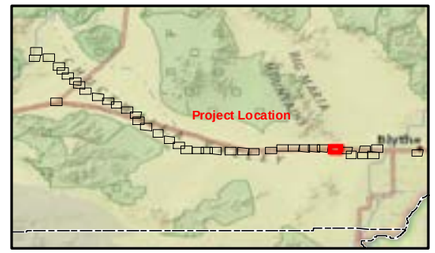

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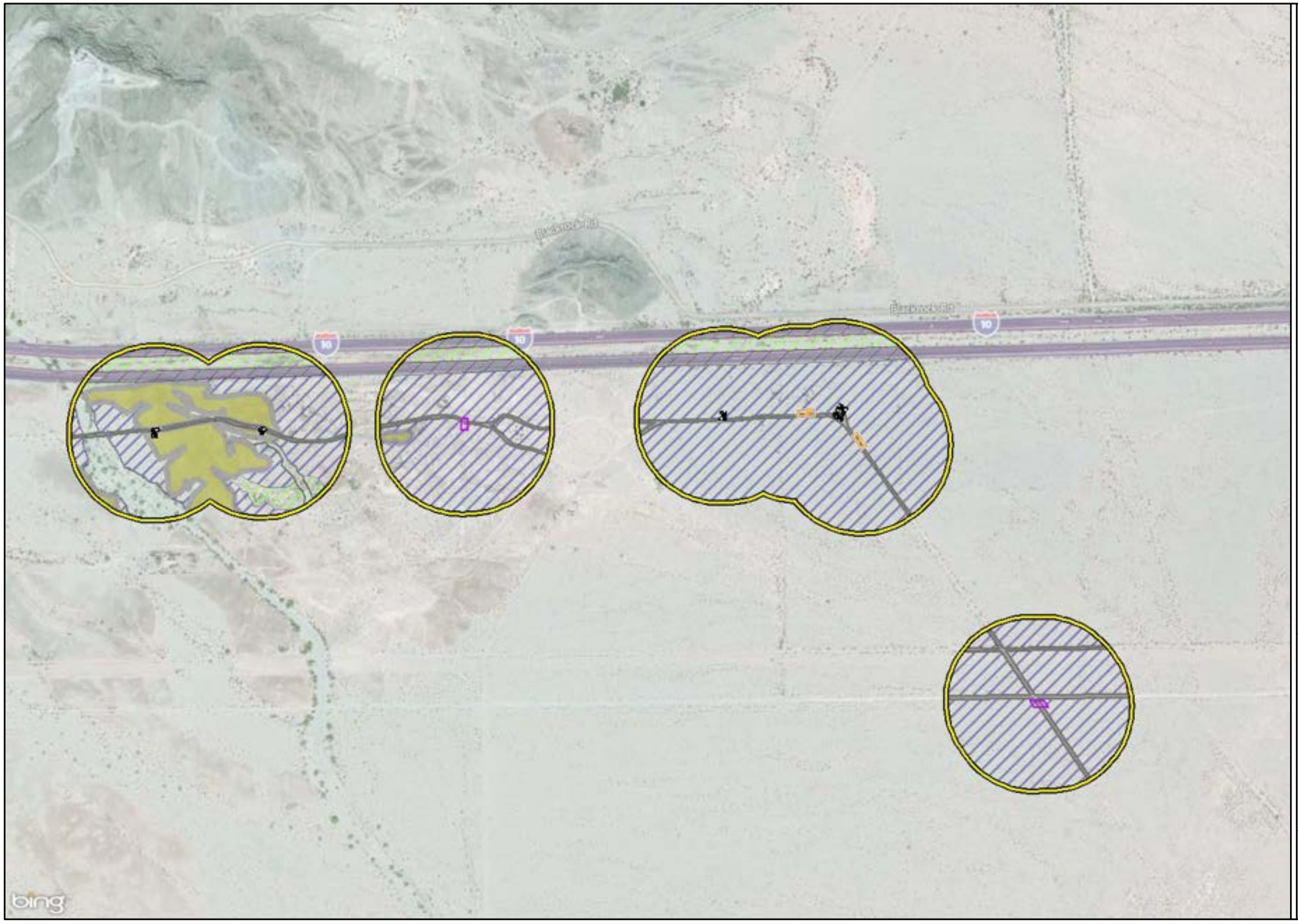
Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

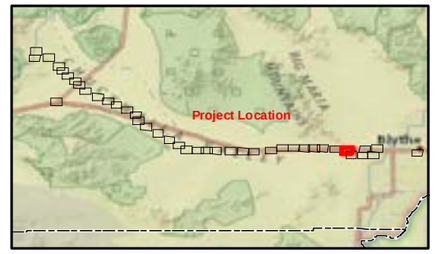


Construction Areas

- Guard Pole
- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Desert Pavement**
- **Developed**
- **Disturbed Land**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Parkinsonia florida - Olneya tesota Woodland**



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

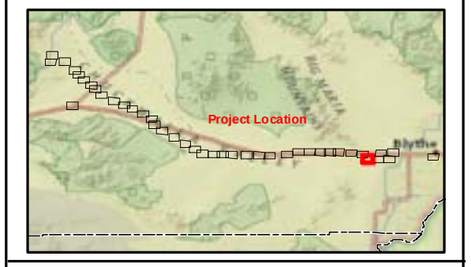
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Guard Pole
- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Barren-Not Developed**
- **Developed**
- **Disturbed Land**
- **Larrea tridentata Shrubland**



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0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

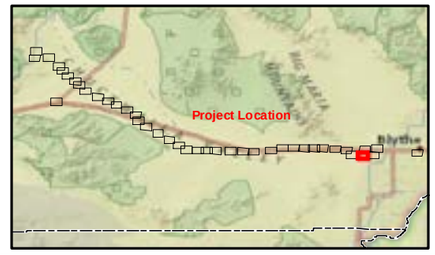
Structure Work Area

Bio Survey Area

Vegetation Communities

Developed

Larrea tridentata-Ambrosia dumosa Shrubland



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

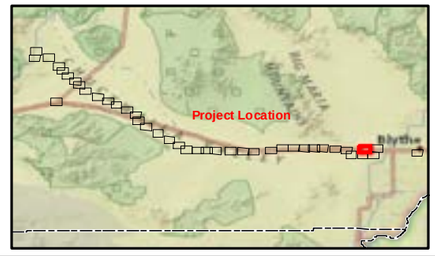
Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Contractor Material Yard

Bio Survey Area

Vegetation Communities

- **Ambrosia dumosa Herbaceous**
- **Barren-Not Developed**
- **Developed**
- **Larrea tridentata Shrubland**
- **Larrea tridentata-Ambrosia dumosa Shrubland**



MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data
Projected Coordinate System: NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

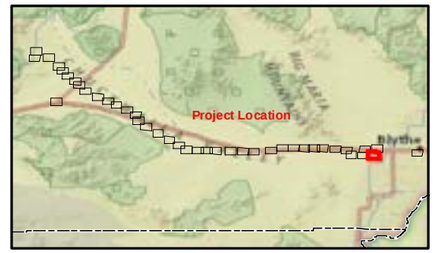
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Structure Work Area
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Active Agriculture**
- **Barren-Not Developed**
- **Ornamental/Landscaped**
- **Tamarix spp. Semi-natural Shrubland Stands**



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

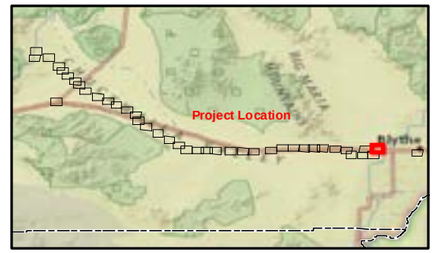
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)

Construction Areas

- Guard Pole
- Structure Work
- Wire Setup
- **Bio Survey Area**

Vegetation Communities

- **Active Agriculture**
- **Barren-Not Developed**
- **Developed**
- **Larrea tridentata-Ambrosia dumosa Shrubland**
- **Open Water**
- **Ornamental/Landscaped**
- **Tamarix spp. Semi-natural Shrubland Stands**



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Projection: Transverse_Mercator
Datum: D_North_American_1983

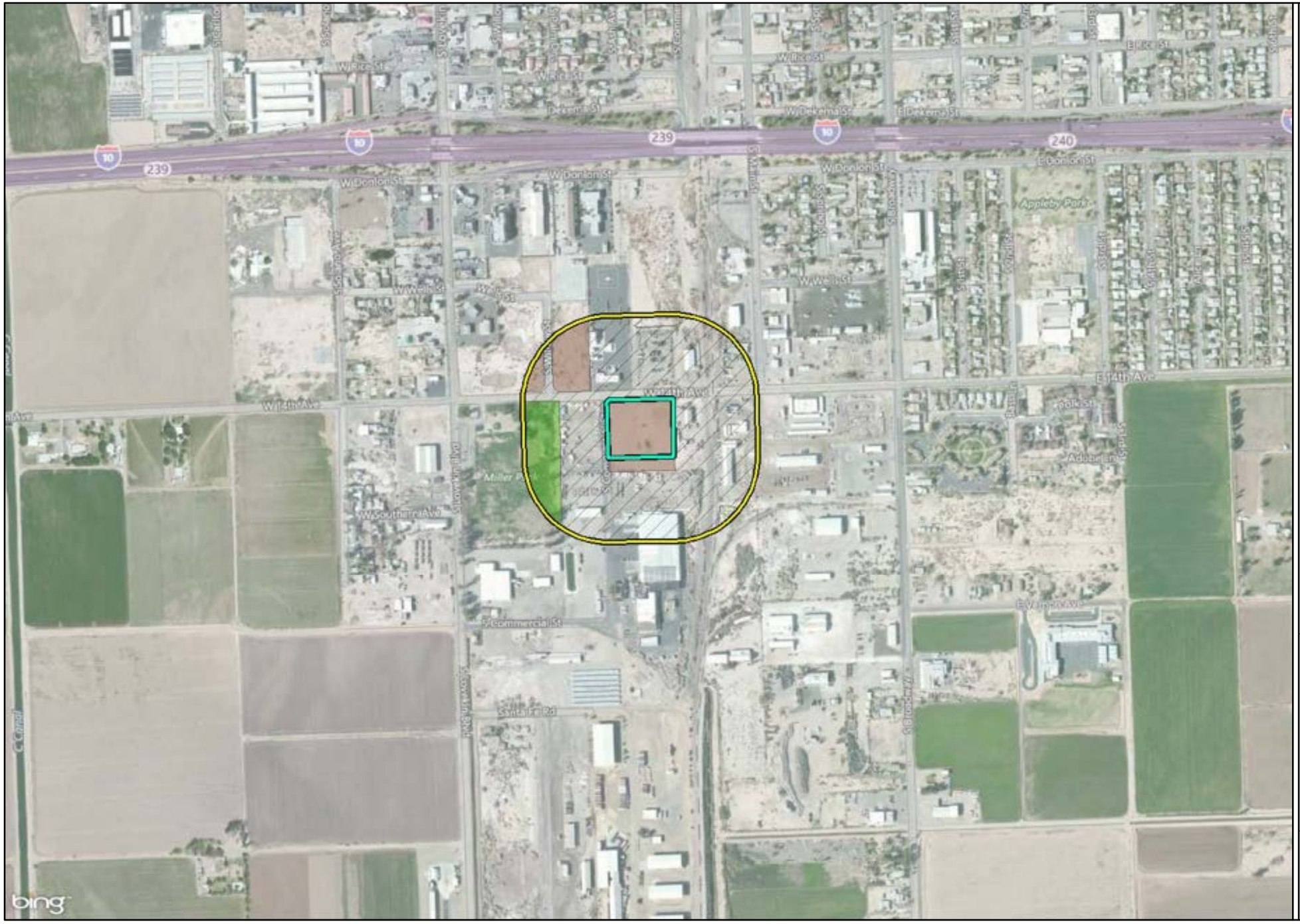
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results

Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



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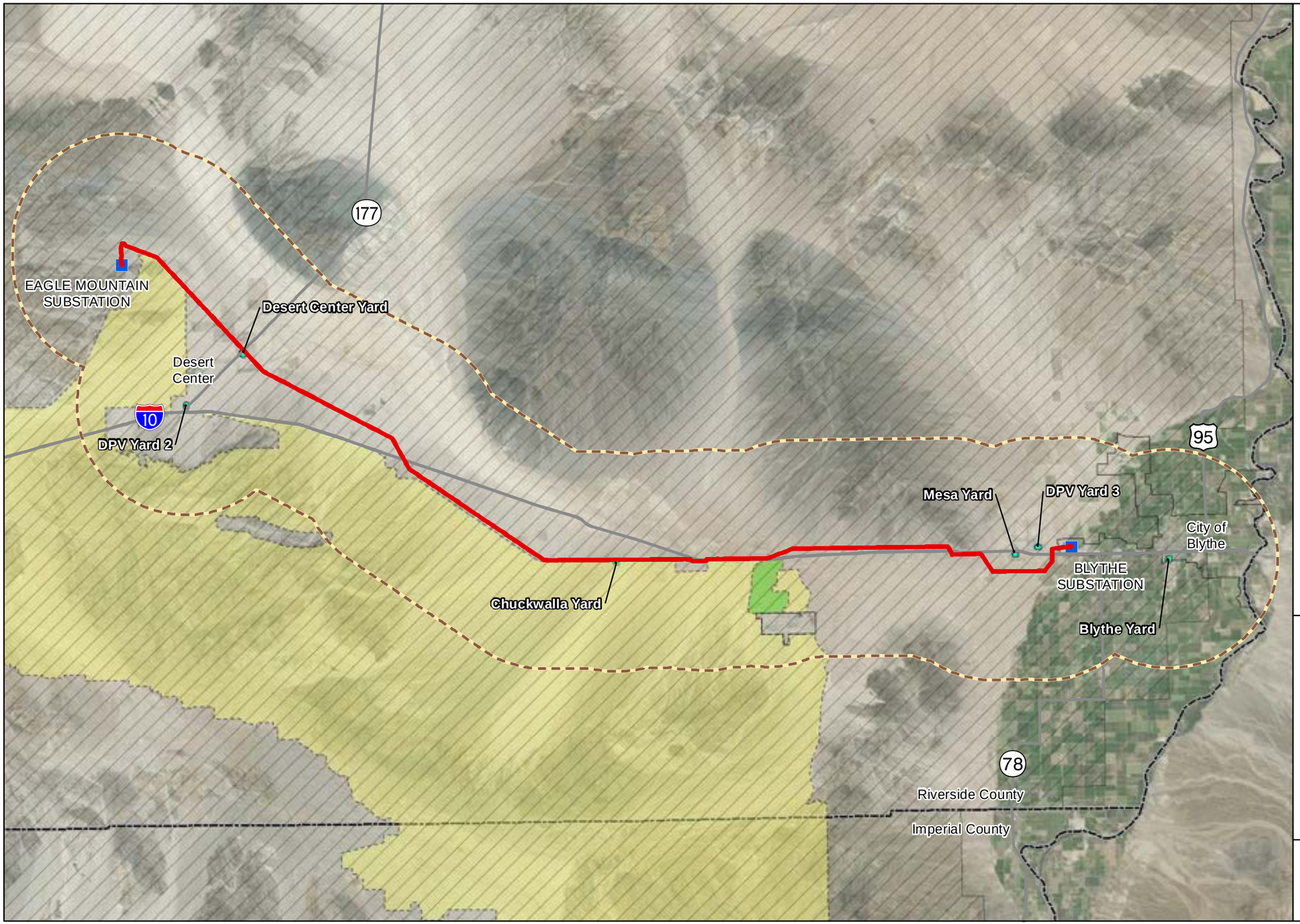
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 4
Survey Results
Vegetation Communities, Incidental Observations, Bird Nests, Desert Tortoise)



Legend

- Substation Point
- Freeway
- Contractor Material Yard
- Project Right-of-Way
- Desktop Analysis Study Area - 5-mile buffer
- City Boundary
- County Boundary
- California Desert Conservation Area

BLM Areas of Critical Environmental concern

- Chuckwalla Valley Dune Thicket
- Chuckwalla Desert Wildlife Management Area

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 3 6 Miles

N

Figure 5
California Desert Conservation Area

AECOM

December, 2016

Legend

- Substation Point
- Freeway
- Contractor Material Yard
- Project Right-of-Way
- Desktop Analysis Study Area - 5-mile buffer
- City Boundary
- County Boundary
- Northern and Eastern Colorado Desert Coordinated Management Plan Area (CMPA)

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

Projected Coordinate System:
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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 3 6 Miles

N

Figure 6
Northern and Eastern Colorado Desert CMPA

AECOM

December, 2016

Legend

- Substation Point
- Freeway
- Contractor Material Yard
- Project Right-of-Way
- Desktop Analysis Study Area - 5-mile buffer
- City Boundary
- County Boundary
- Desert Renewable Energy Conservation Plan

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

Projected Coordinate System:
NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 3 6 Miles

N

Figure 7
Desert Renewable Energy Conservation Plan Area

AECOM

December, 2016

Legend

- Photo Location
- Substation Point
- Photo Direction
- Freeway
- Contractor Material Yard
- Project Right-of-Way
- City Boundary
- County Boundary
- 11 Photo ID

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

Projected Coordinate System:
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Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

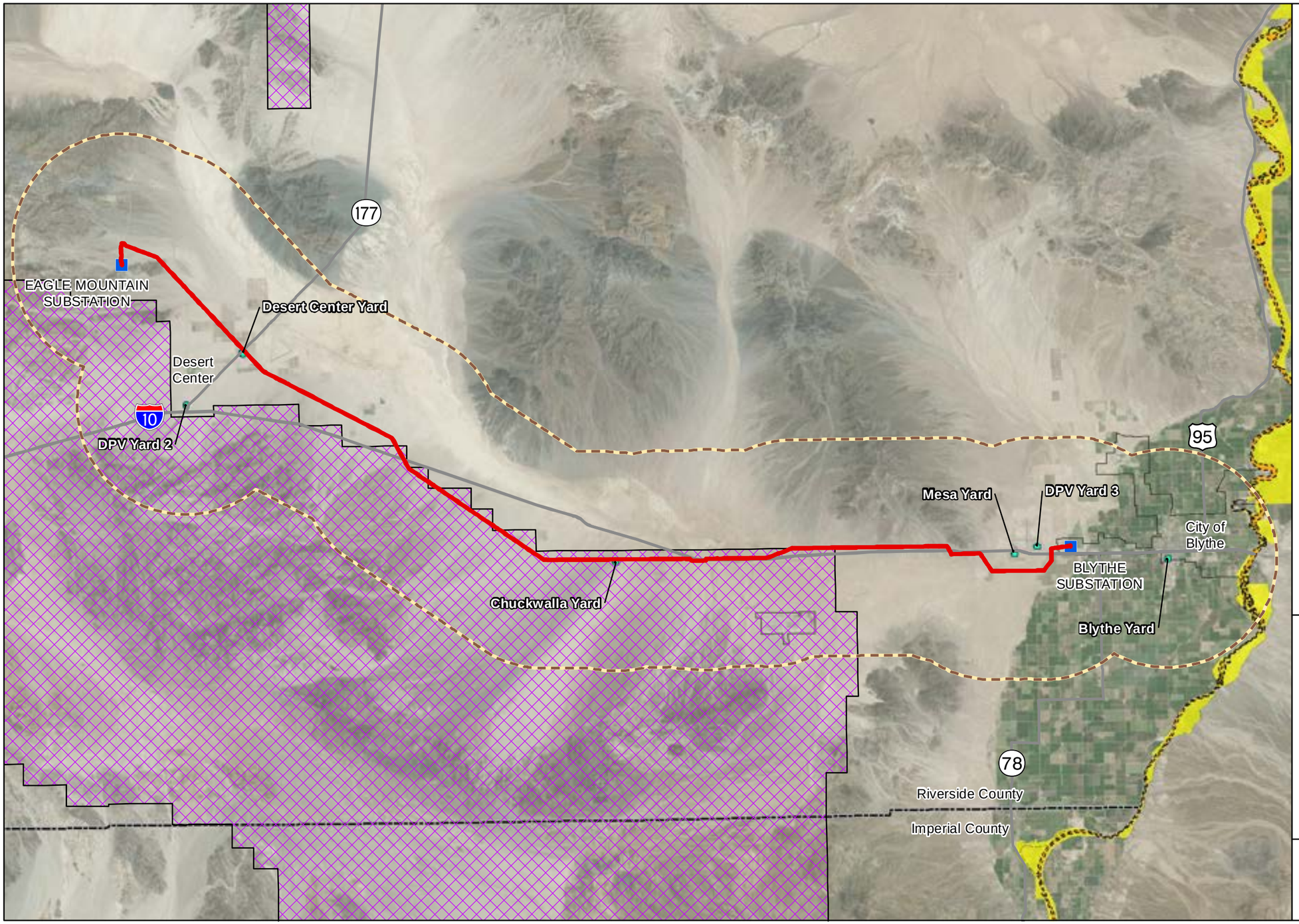
0 3 6 Miles

N

Figure 8
Photo Locations Map

AECOM

December, 2016



Legend

- Substation Point
- Freeway
- Contractor Material Yard
- Project Right-of-Way
- Desktop Analysis Study Area - 5-mile buffer
- City Boundary
- County Boundary

USFWS Designated Critical Habitat

- Desert Tortoise
- Razorback Sucker
- Yellow-Billed Cuckoo

MAP NOTES

Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data

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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

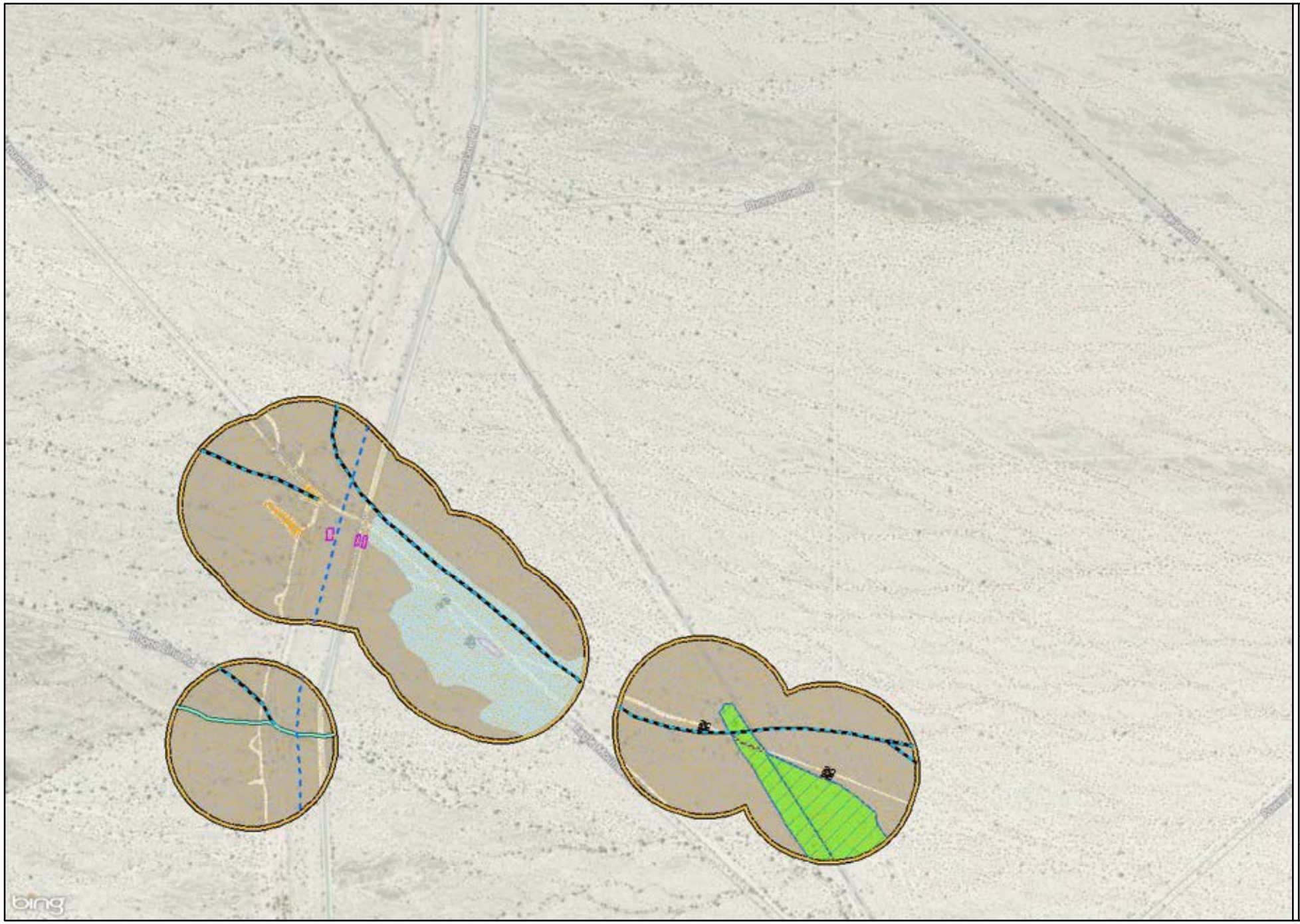
0 3 6 Miles

N

Figure 9
USFWS Designated Critical Habitat

AECOM

December, 2016



Potential Jurisdictional

- Alluvial
- Ditch/Canal
- Streambed Veg

Delineated Jurisdictional Waters

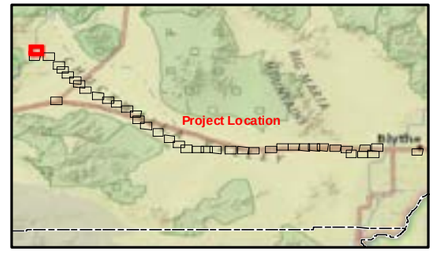
- Alluvial
- Vegetated Streambed

Habitat Type

- Desert Bighorn Sheep
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Guard Pole
- Structure Work
- Wire Setup
- Bio Survey



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat

Potential Jurisdictional

Ditch/Canal

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Habitat Type

Desert Bighorn Sheep

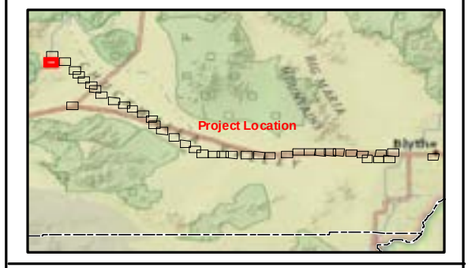
Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Guard Pole

Wire Setup

Bio Survey



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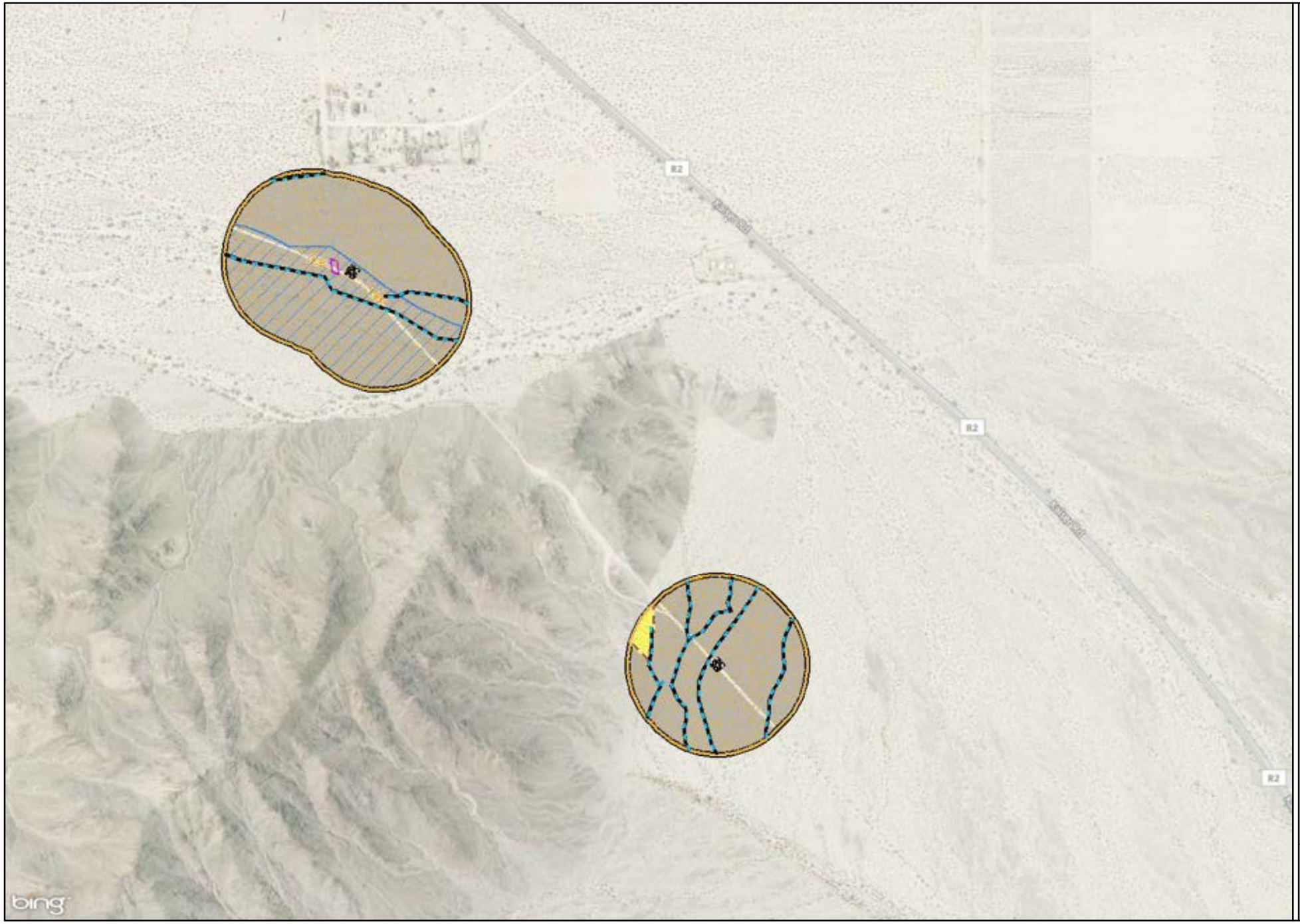
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Potential Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Habitat Type

Chuckwalla

Desert Bighorn Sheep

Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

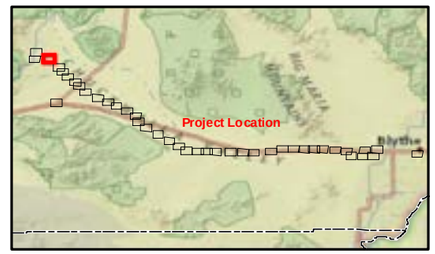
Construction Areas

Guard Pole

Structure Work

Wire Setup

Bio Survey Area



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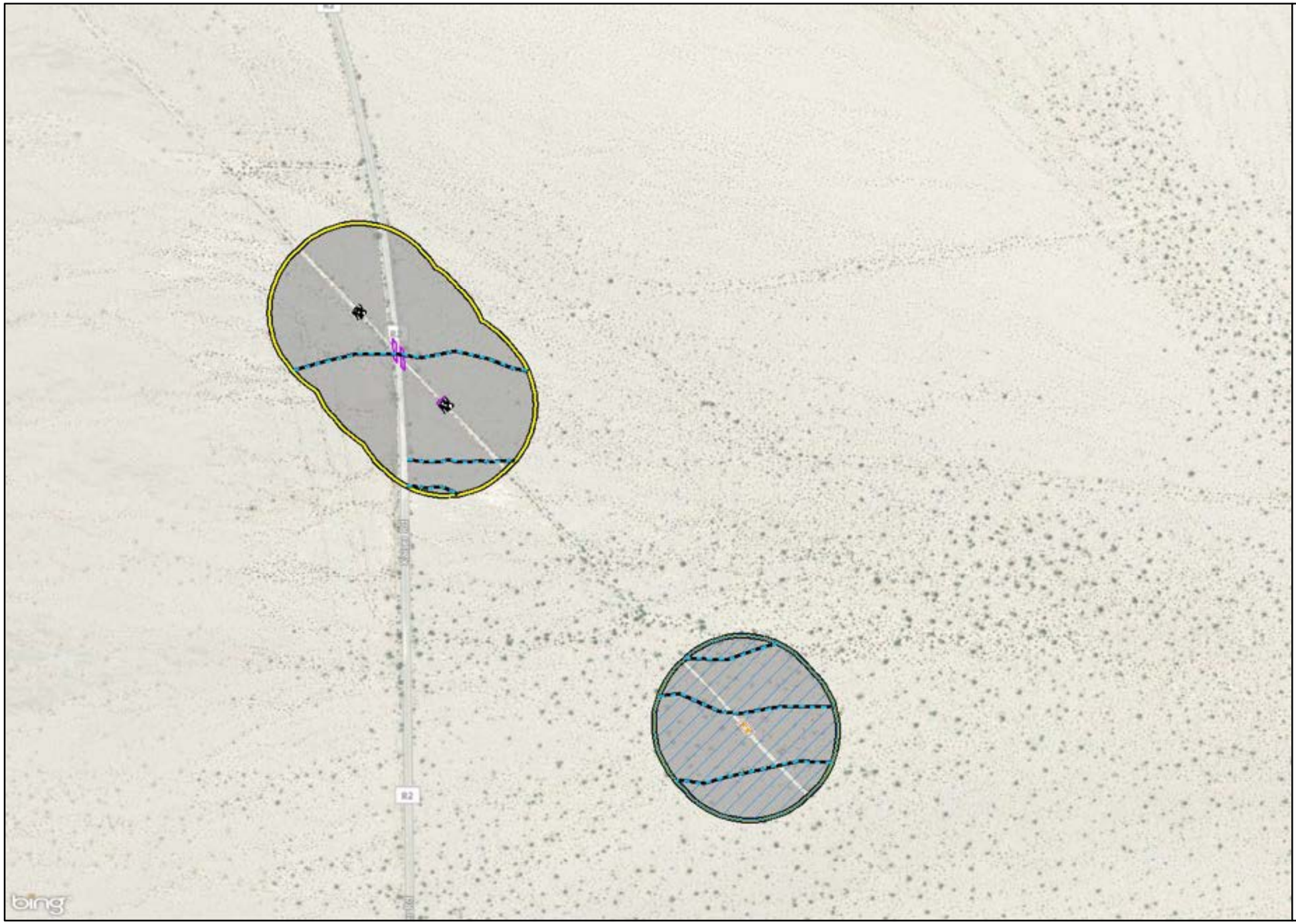
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Potential Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

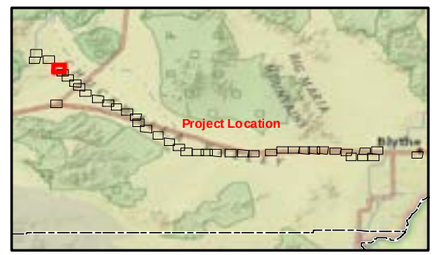
Construction Areas

Guard Pole

Structure Work Area

Wire Setup

Bio Survey Area



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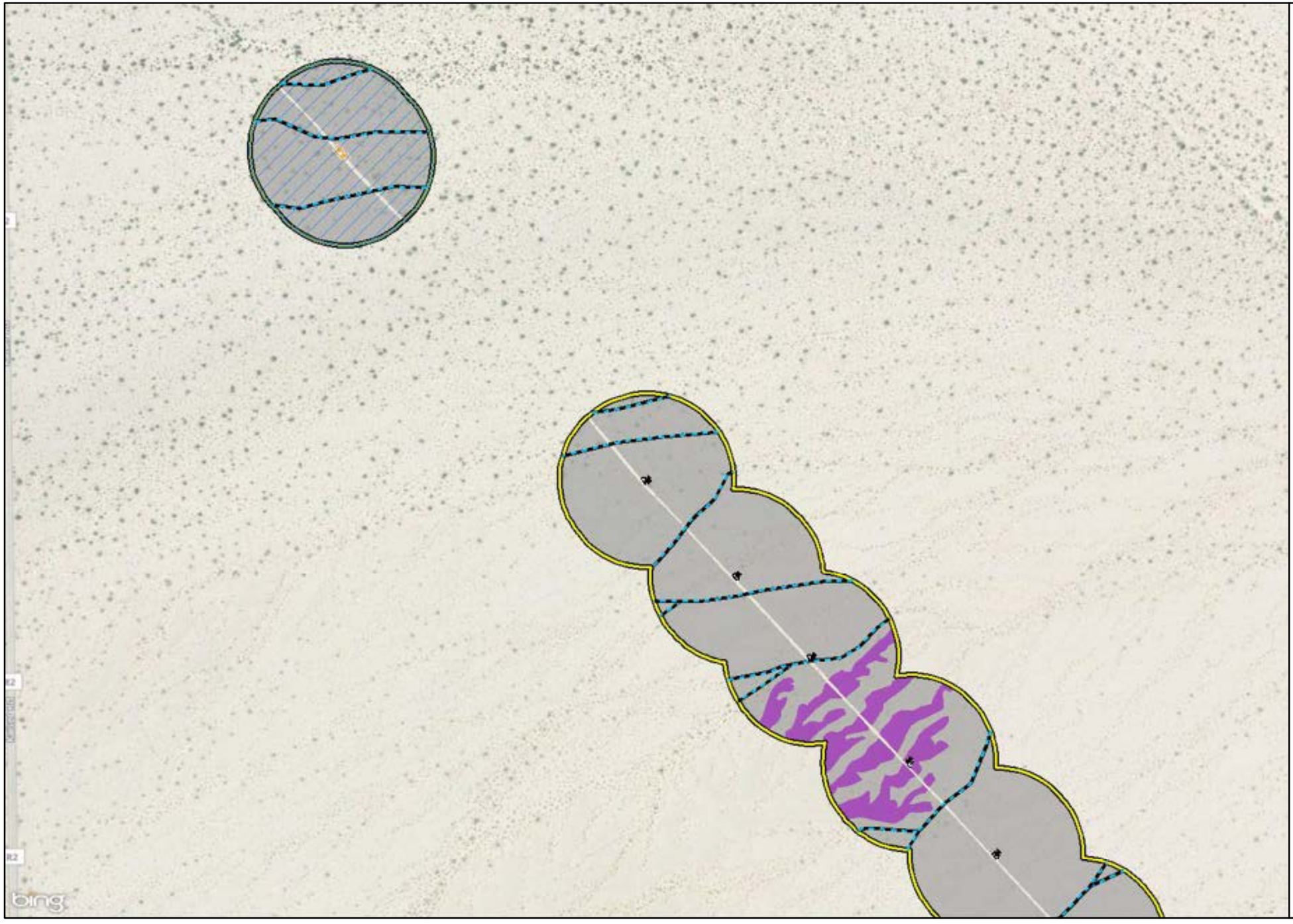
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Desert Tortoise / Burrowing Owl

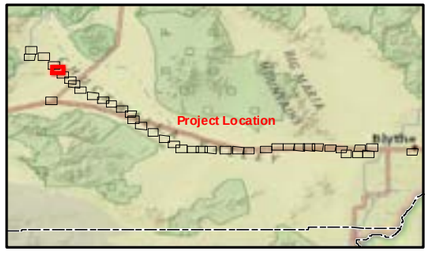
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Wire Setup

Bio Survey



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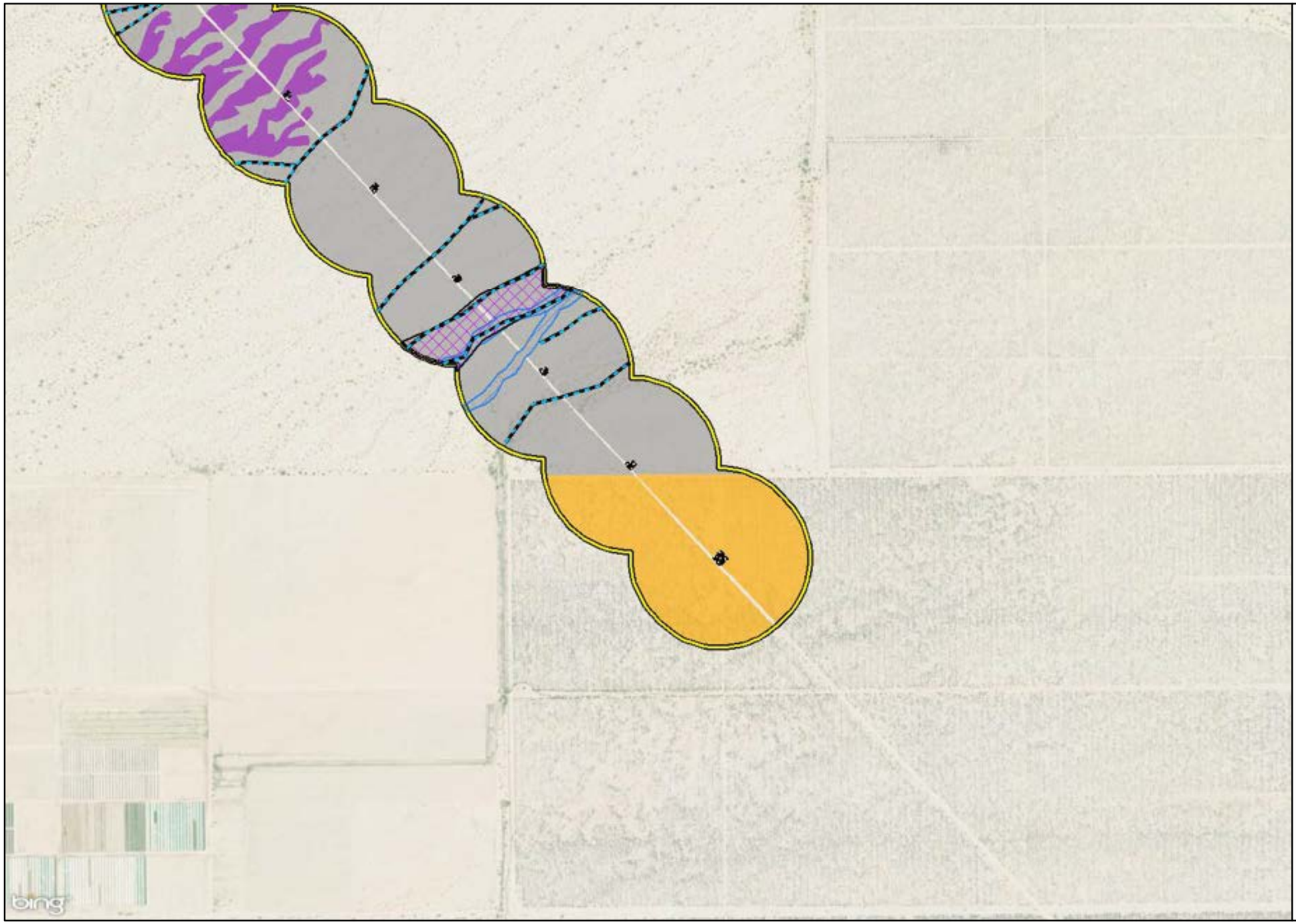
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Habitat Type

Couch's Spadefoot

Loggerhead Shrike (nesting)

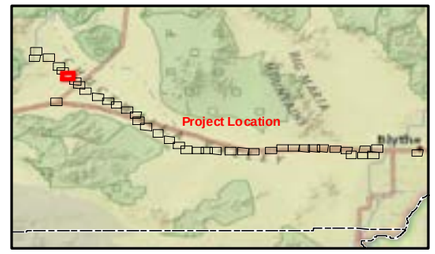
Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Bio Survey



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

Po ten tial Jurisdictional

Ditch/Canal

Delineated Jurisdictional Waters

Ditch/Canal

Habitat Type

Mojave Fringe-toed Lizard

Burro Deer

Loggerhead Shrike (nesting)

Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox

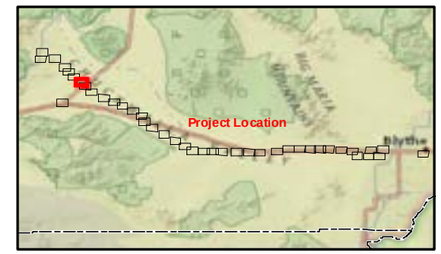
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area



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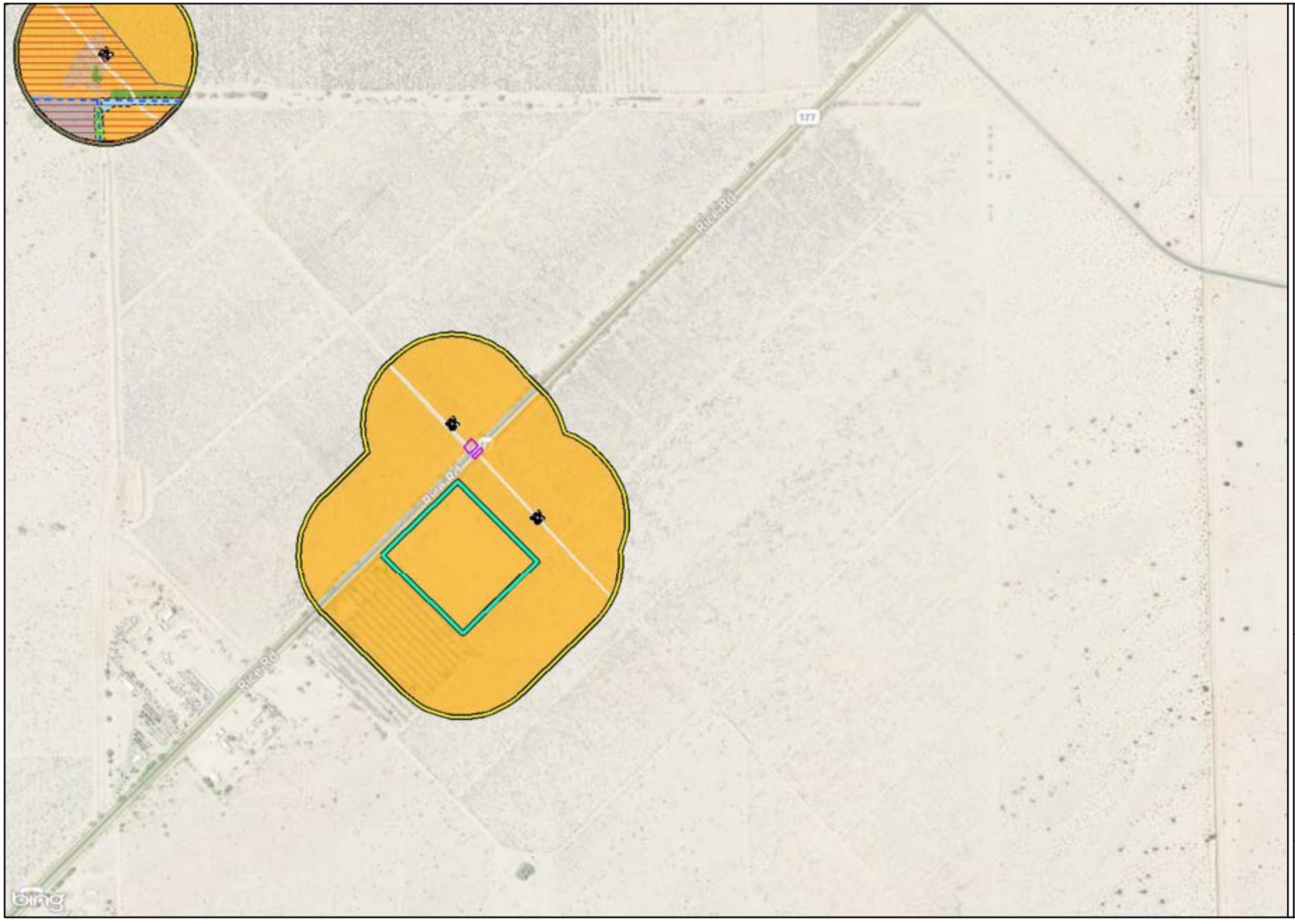
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Potential Jurisdictional

Ditch/Canal

Delineated Jurisdictional Waters

Ditch/Canal

Habitat Type

Mojave Fringe-toed Lizard

Burro Deer

Loggerhead Shrike (nesting)

Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

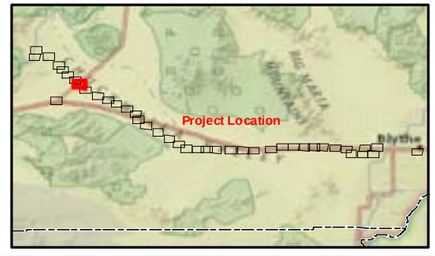
Contractor Material Yard

Constr uction Areas

Guard Pole

Structure Work Area

Bio Survey Area



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

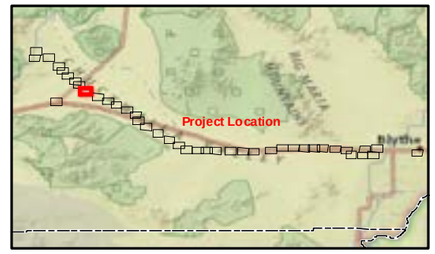
Jurisdictional Waters, Habitat

Potential Jurisdictional

- Streambed Veg
- Loggerhead Shrike (nesting)
- Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work
- Wire Setup
- Bio Survey



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox
Contractor Material Yard
Bio Survey Area
Project Location
Blythe
MAP NOTES
Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data
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Datum: D_North_American_1983
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.
0
0.08
0.16 Miles
N
Figure 10
Survey Results
Jurisdictional Waters, Habitat

Po ten tial Jurisdictional

Ditch/Canal

Delineated Jurisdictional Waters

Vegetated Streambed

Loggerhead Shrike (nesting)

Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox

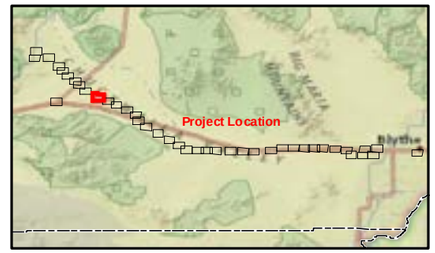
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area



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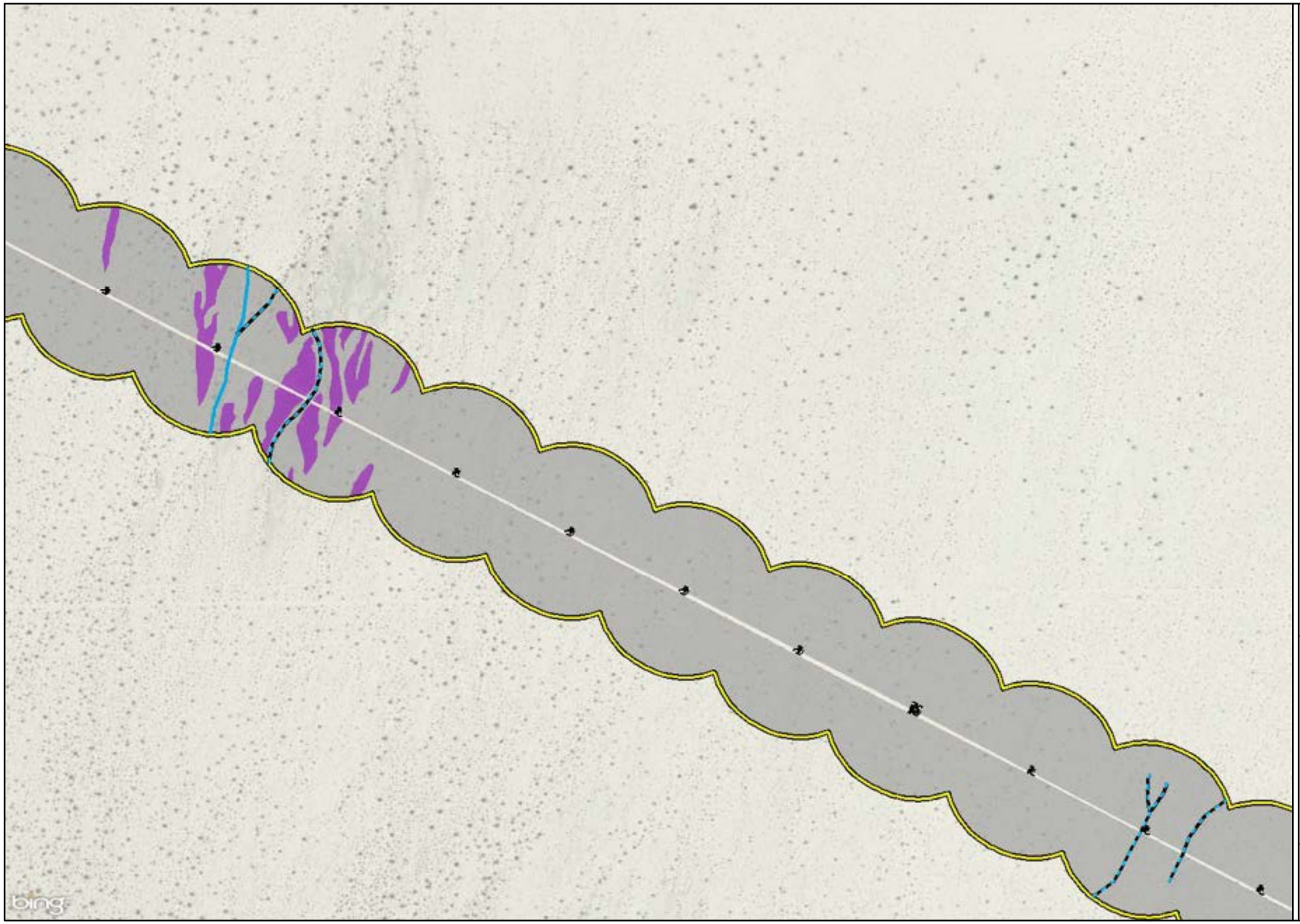
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

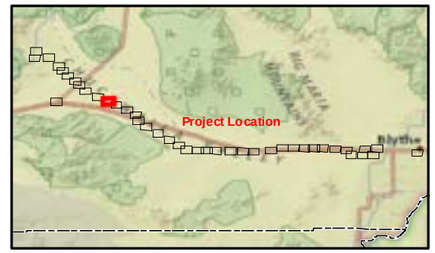


Potential Jurisdictional

- Streambed Unv
- Streambed Veg
- Desert Tortoise / Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work
- Bio Survey



MAP NOTES

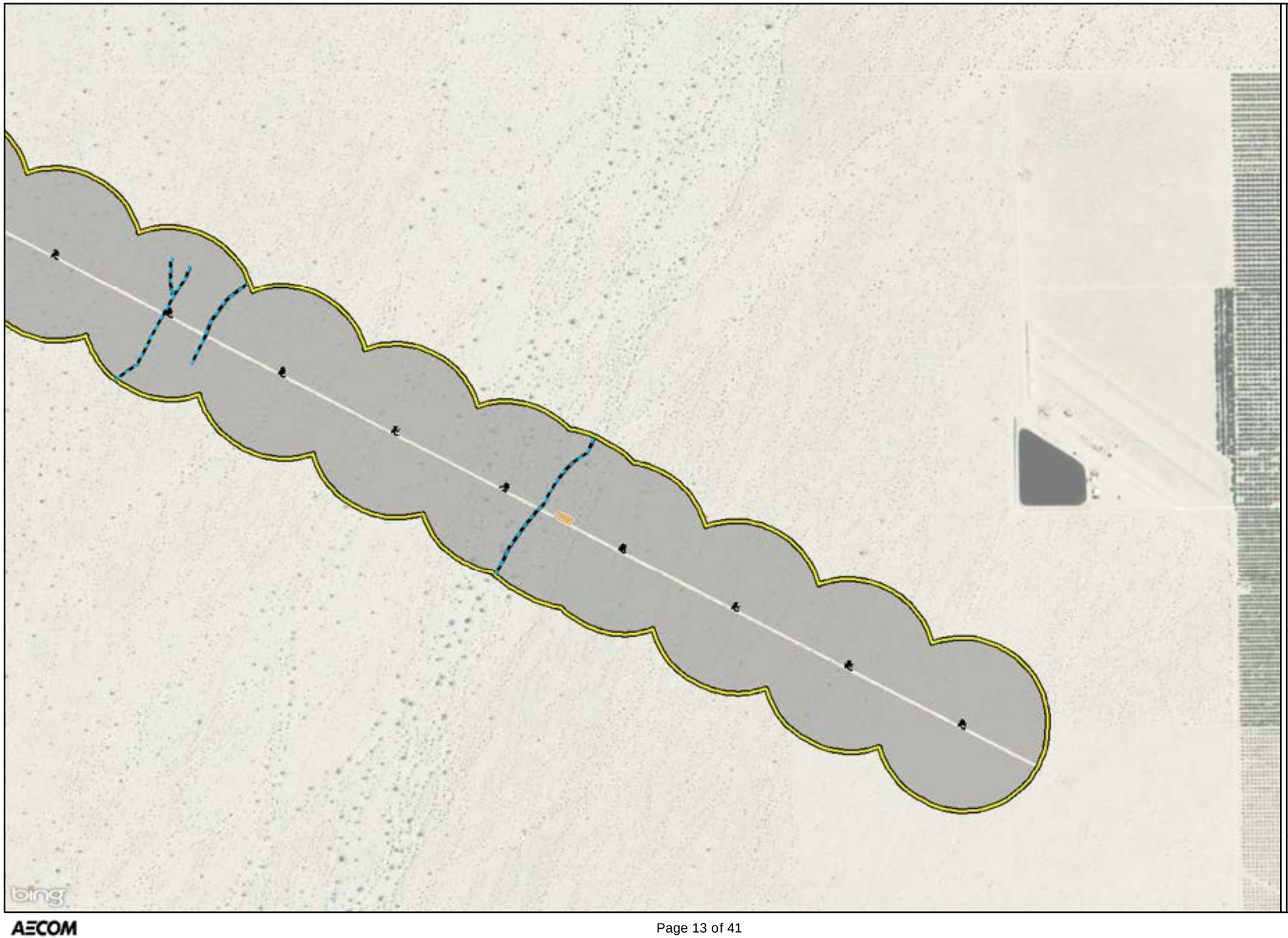
Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data
Projected Coordinate System: NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Potential Jurisdictional

Streambed Veg

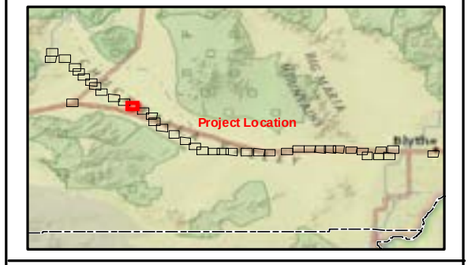
Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat

Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Loggerhead Shrike (nesting)

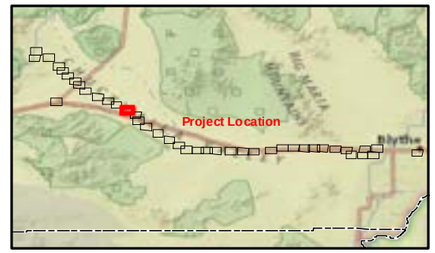
Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Wire Setup

Bio Survey



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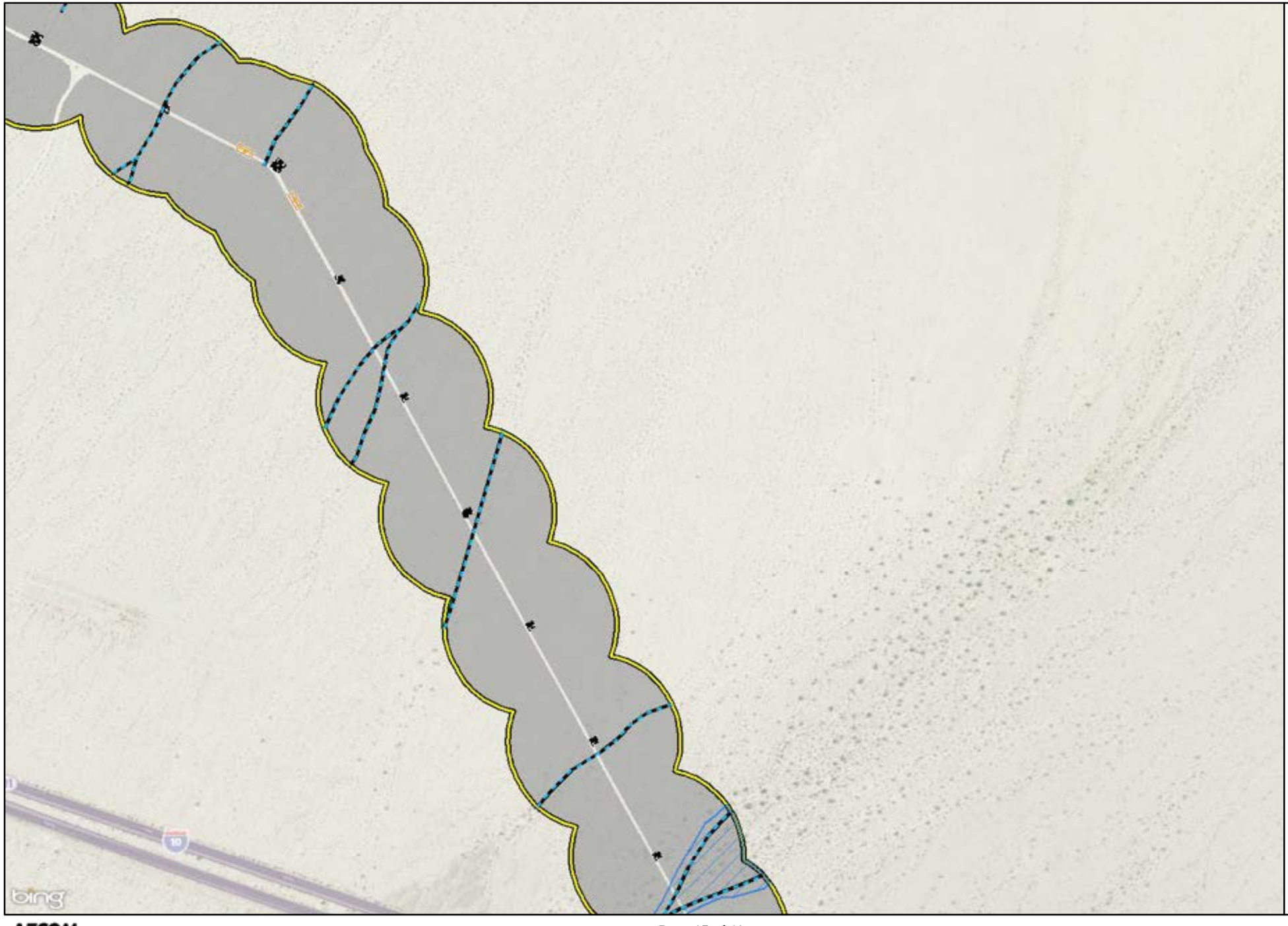
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

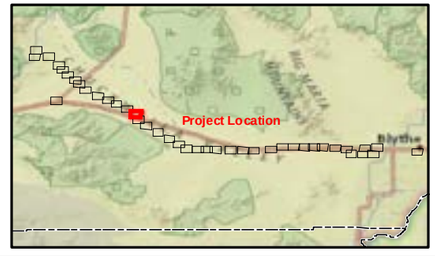
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Wire Setup

Bio Survey



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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

Potential Jurisdictional

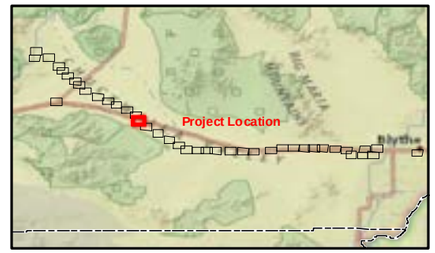
- Ditch/Canal
- Streambed Veg

Delineated Jurisdictional Waters

- Vegetated Streambed
- Desert Tortoise / Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction

- Guard Pole
- Structure Work
- Wire Setup
- Bio Survey



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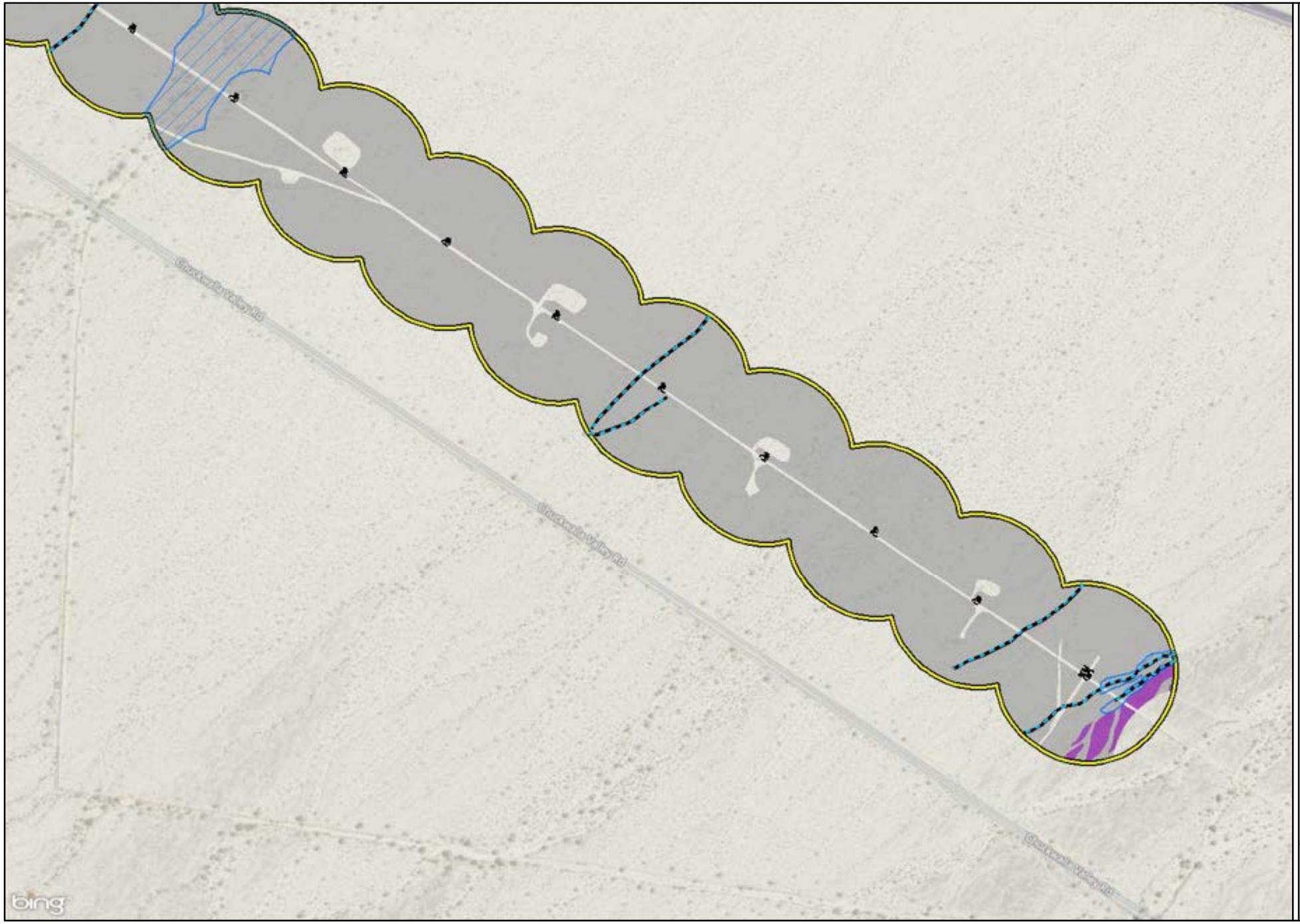
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

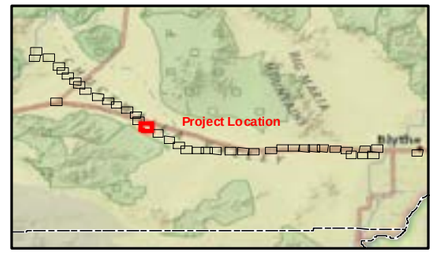
Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Bio Survey Area



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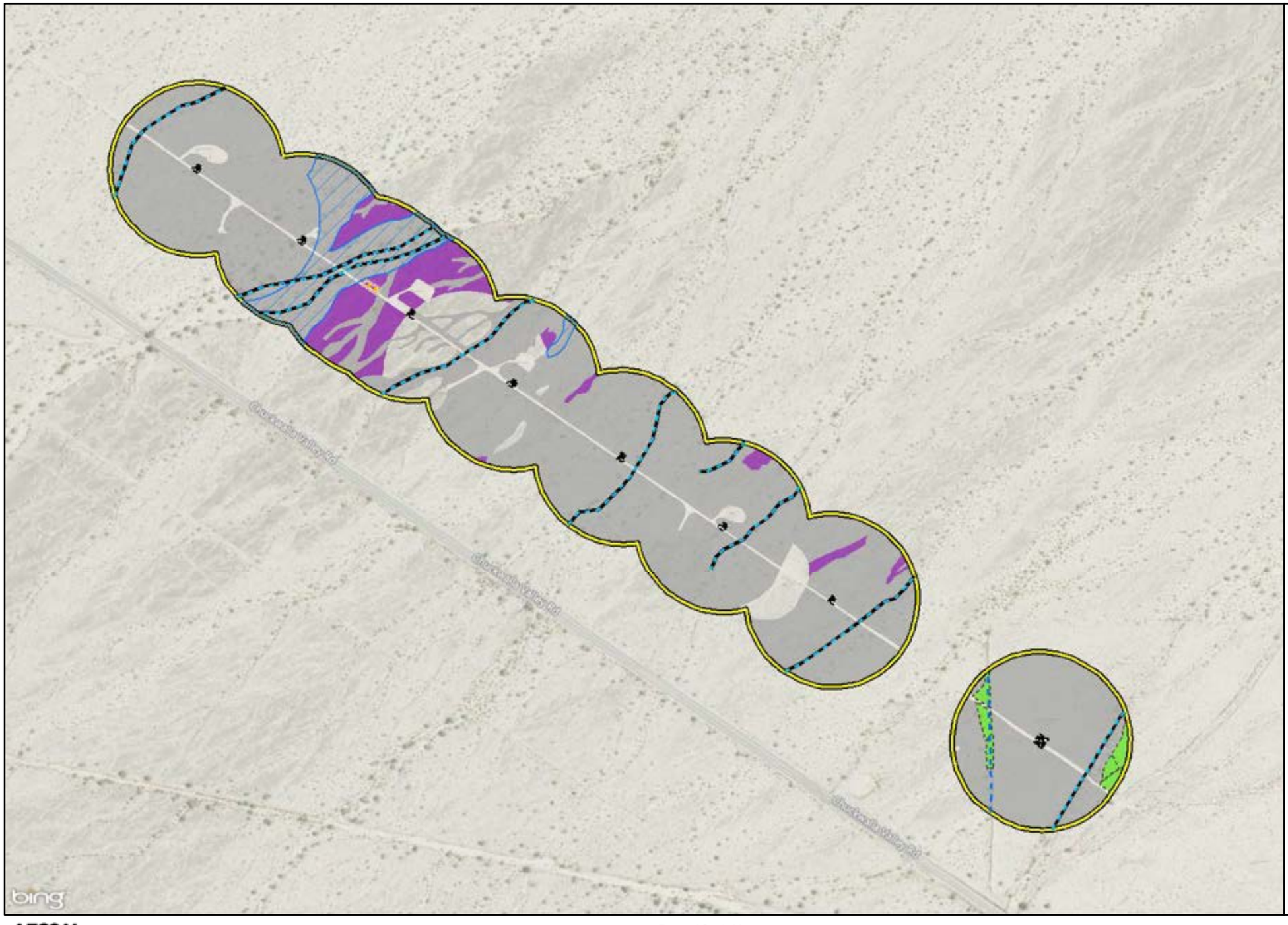
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Potential Jurisdictional

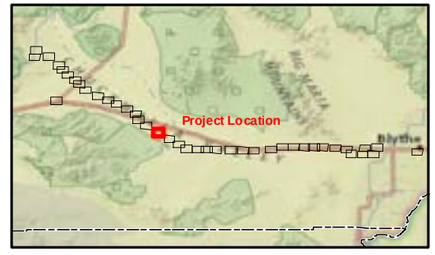
- Ditch/Canal
- Streambed Veg

Delineated Jurisdictional Waters

- Vegetated Streambed
- Desert Tortoise / Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work
- Wire Setup
- Bio Survey



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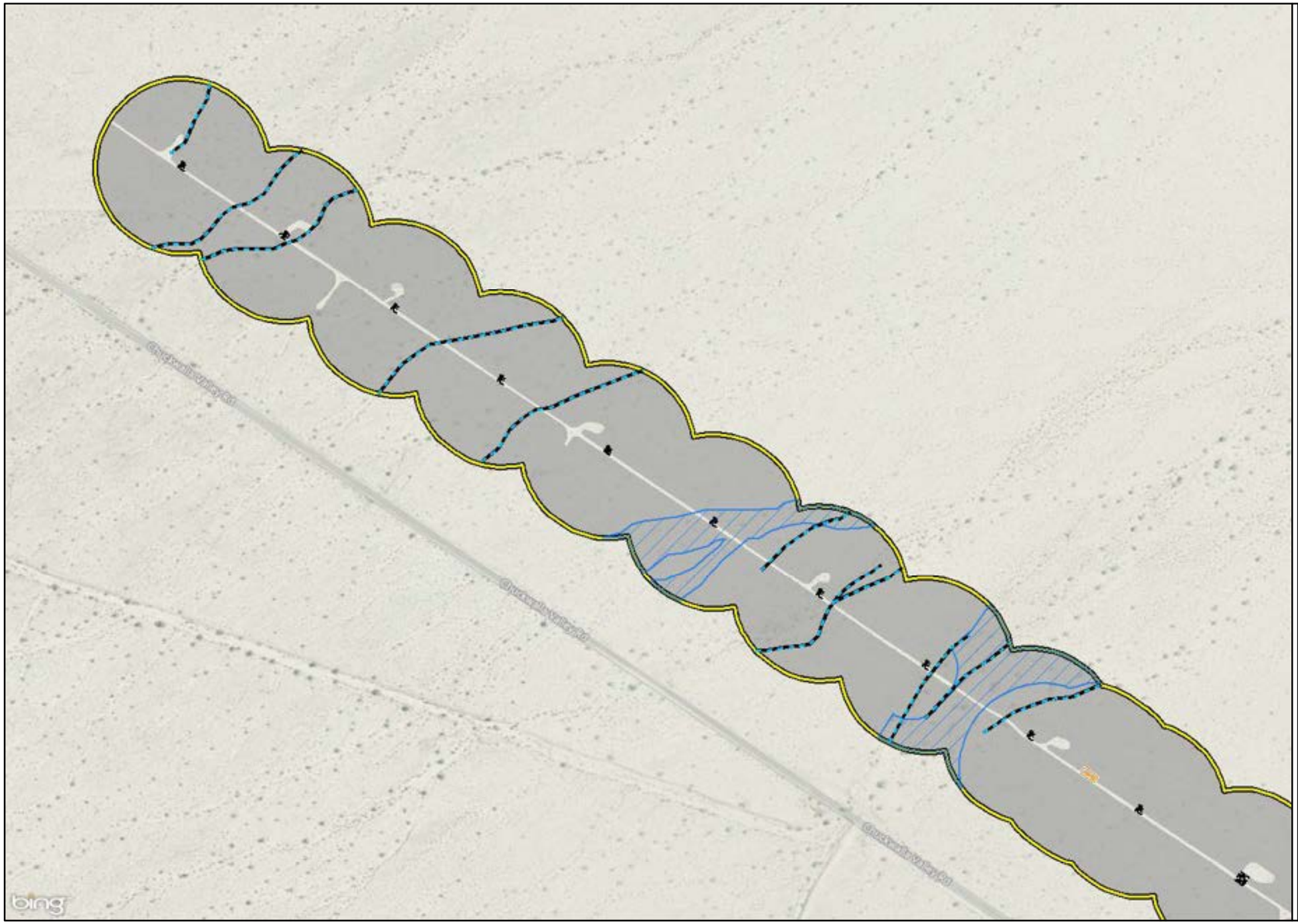
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

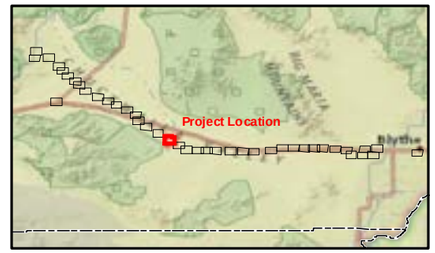
Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Loggerhead Shrike (nesting)

Desert Tortoise / Burrowing Owl

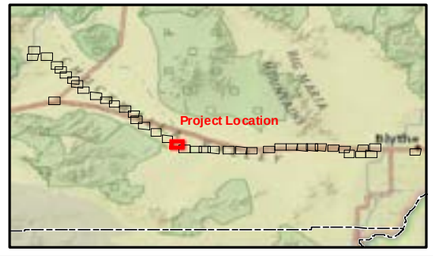
Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Wire Setup

Bio Survey



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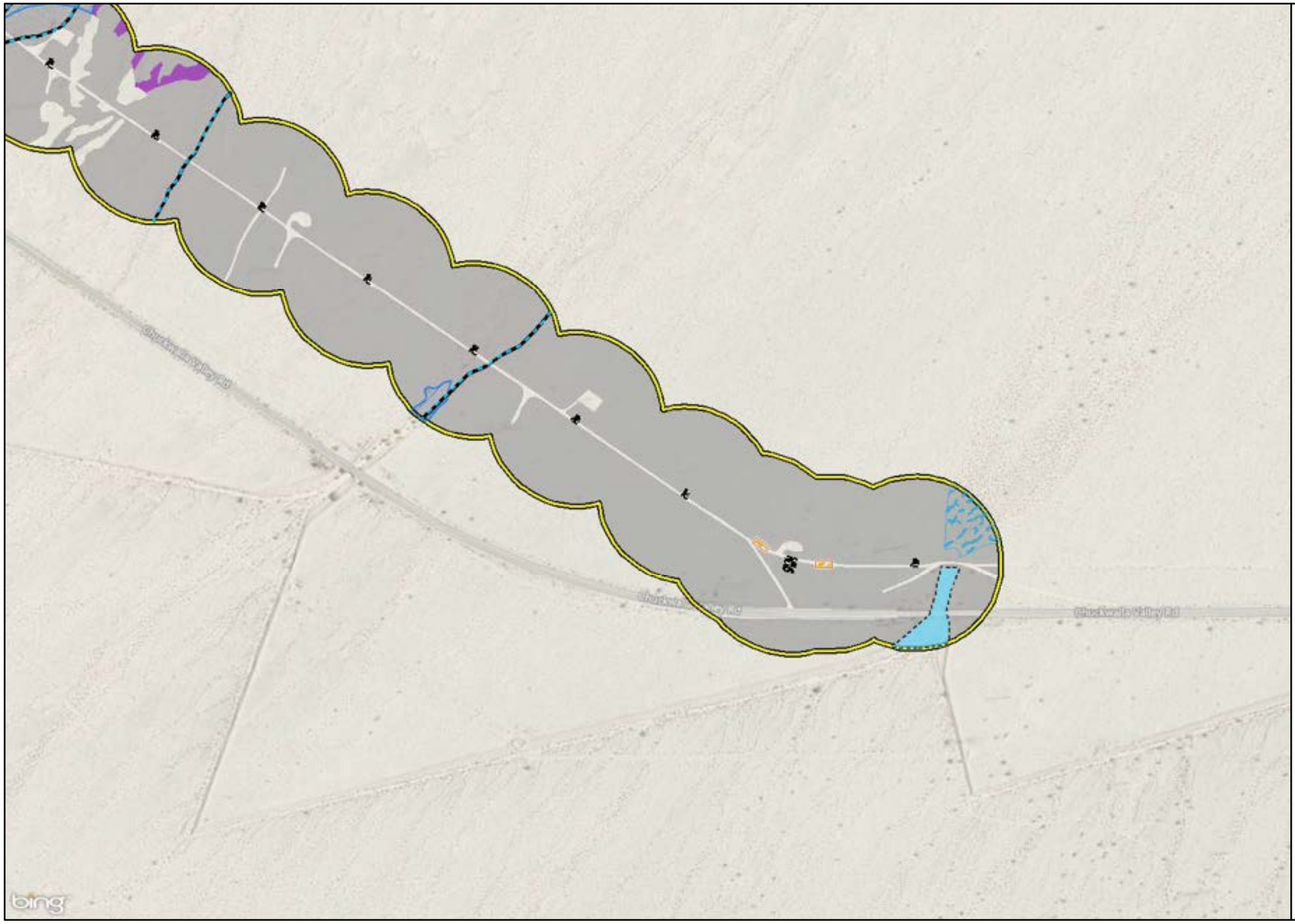
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Ditch/Canal

Unvegetated Streambed

Vegetated Streambed

Desert Tortoise / Burrowing Owl

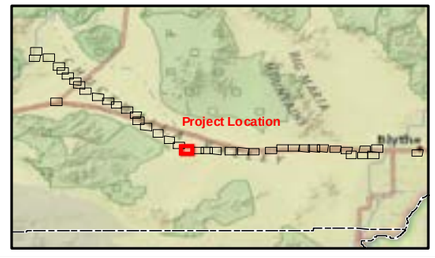
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Wire Setup

Bio Survey



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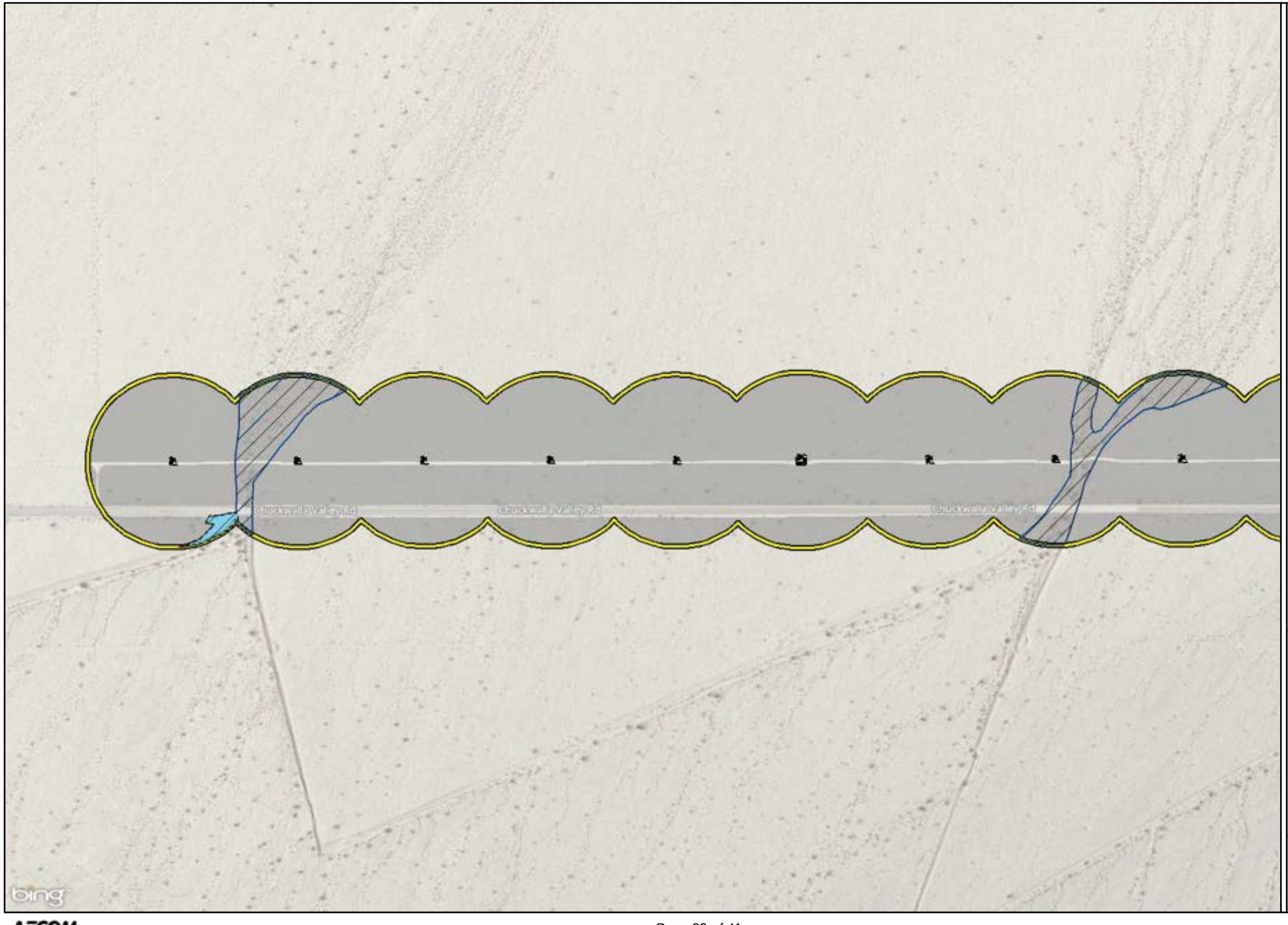
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Delineated Jurisdictional Waters

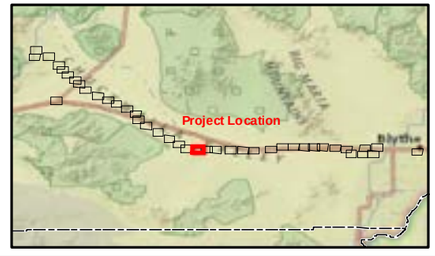
- Ditch/Canal
- Vegetated Streambed

Habitat Type

- Long-eared Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work
- Bio Survey



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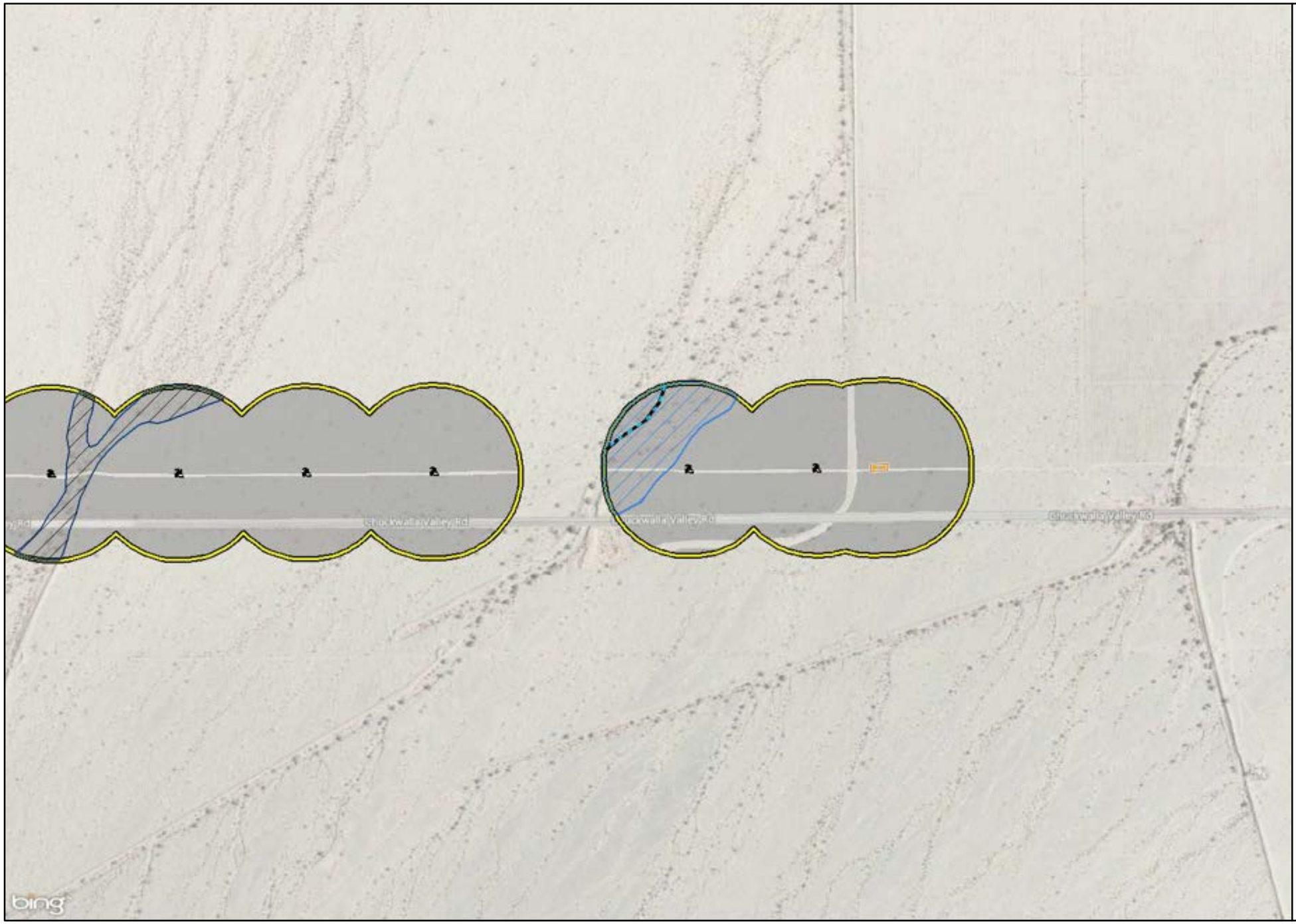
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Habitat Type

Long-eared Owl

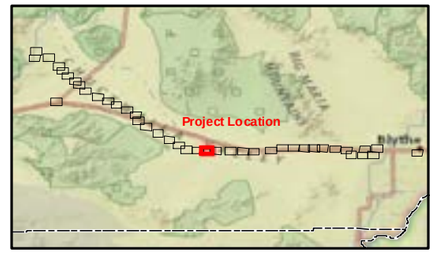
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work

Wire Setup

Bio Survey



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat

Figure 10
Survey Results
Jurisdictional Waters, Habitat

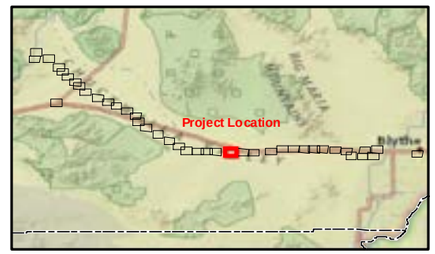
Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Wire Setup

Bio Survey Area



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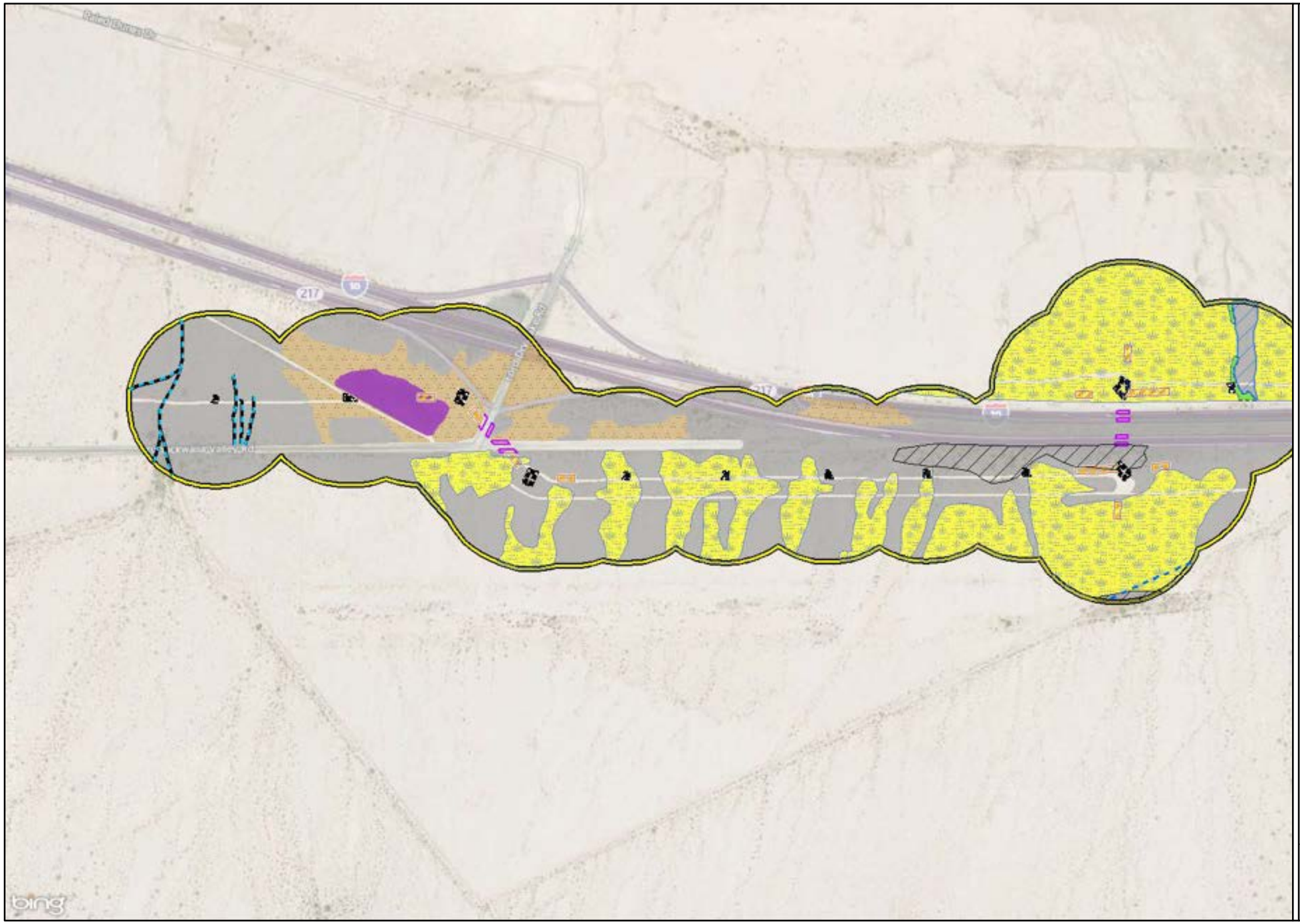
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



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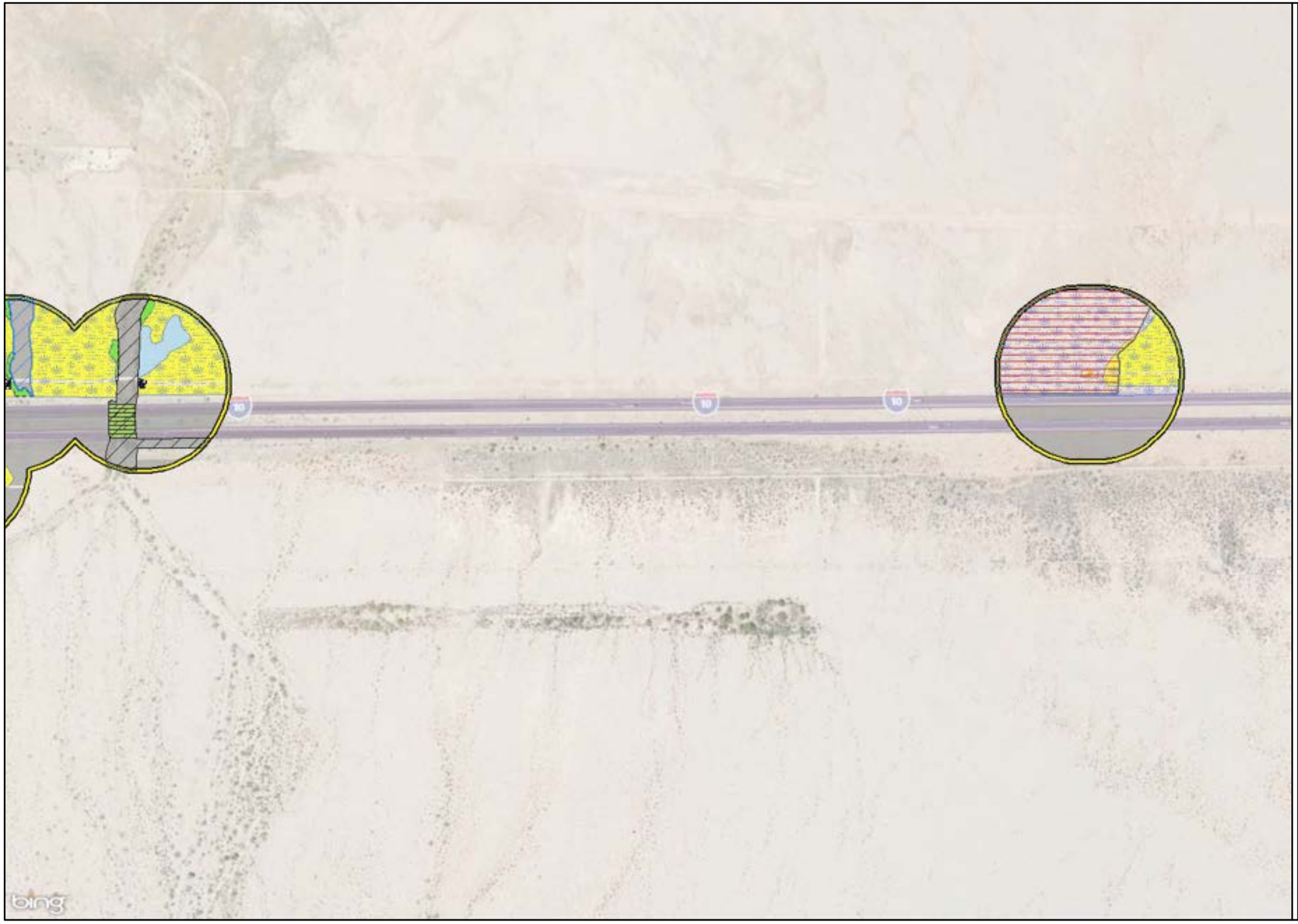
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Delineated Jurisdictional Waters

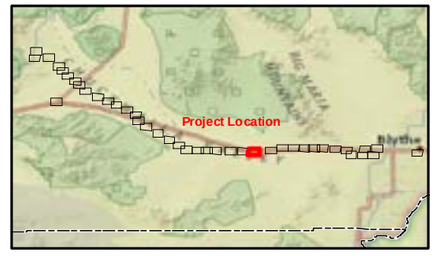
- Alluvial
- Playa
- Vegetated Streambed

Habitat Type

- Bats
- Long-eared Owl
- Mojave Fringe-toed Lizard
- Desert Tortoise
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work Area
- Wire Setup
- Bio Survey Area



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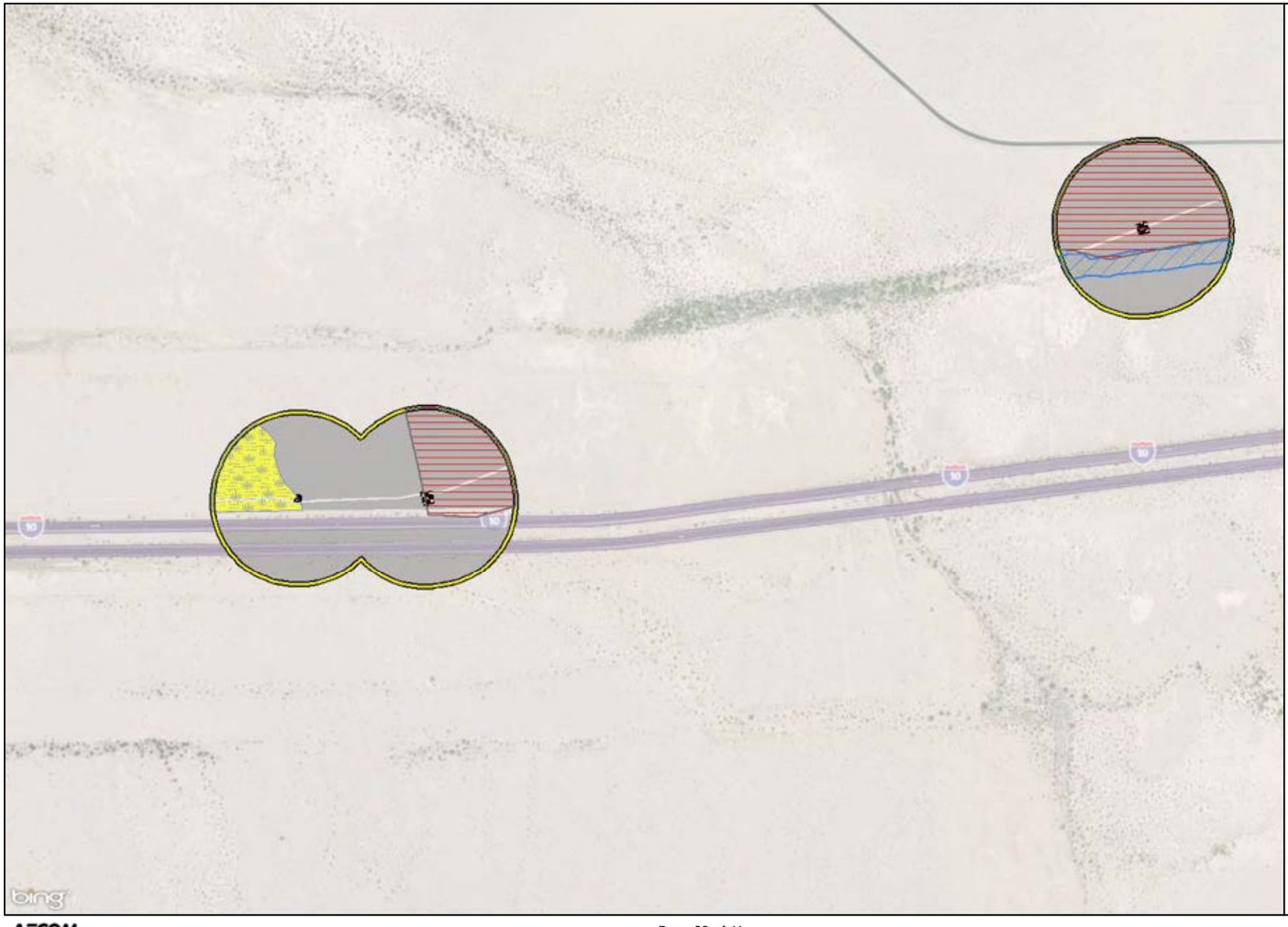
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Delineated Jurisdictional Waters

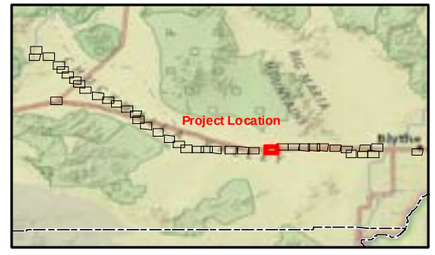
- Playa
- Vegetated Streambed

Habitat Type

- Mojave Fringe-toed Lizard
- Desert Tortoise
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work Area
- Bio Survey Area



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat

Potential Jurisdictional

- Ditch/Canal
- Streambed Veg

Delineated Jurisdictional Waters

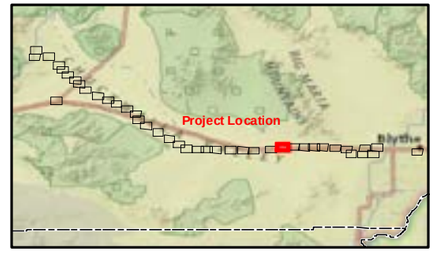
- Basin
- Vegetated Streambed

Habitat Type

- Mojave Fringe-toed Lizard
- Desert Tortoise / Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Guard Pole
- Structure Work
- Wire Setup
- Bio Survey



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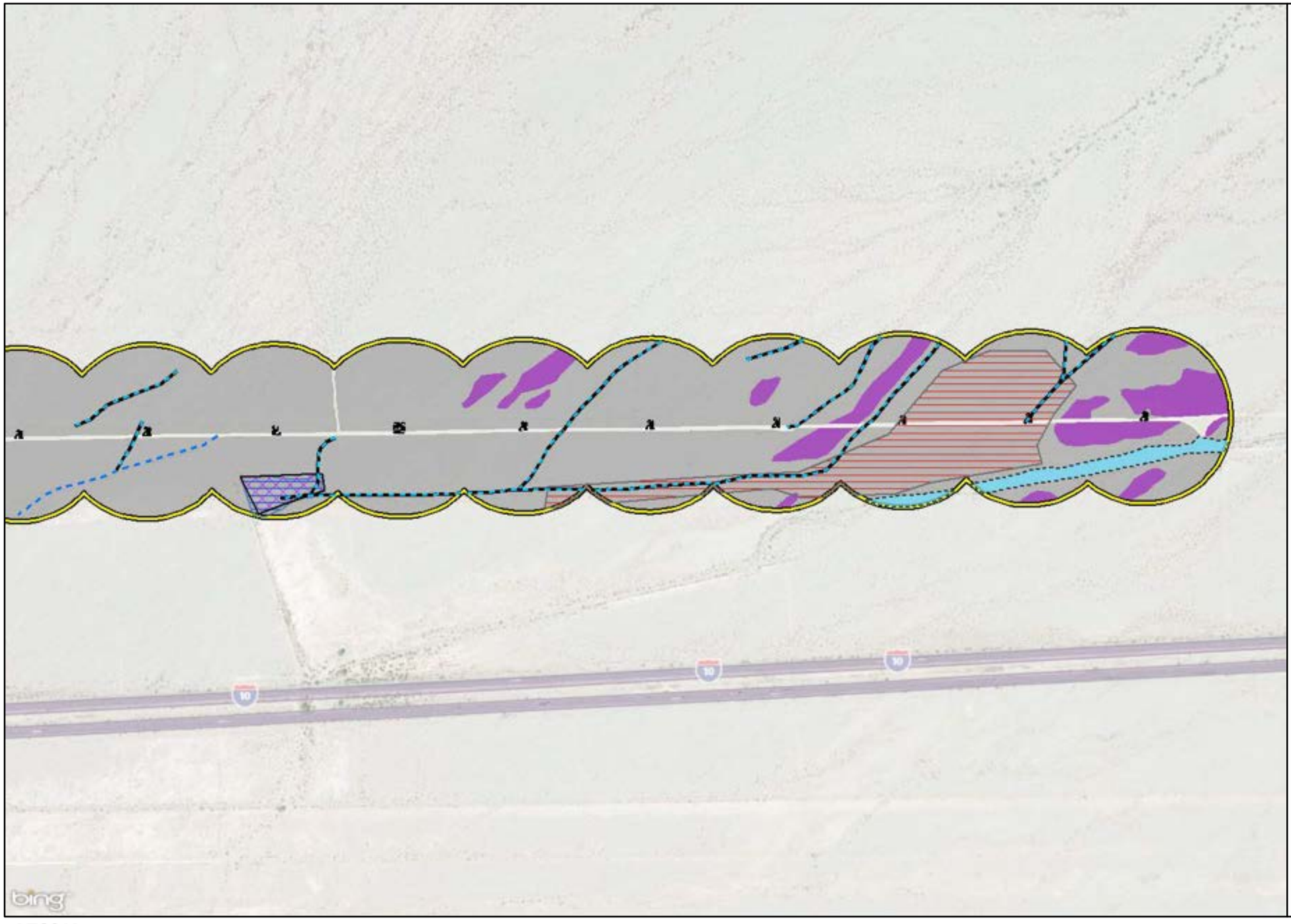
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Potential Jurisdictional

- Ditch/Canal
- Streambed Veg

Delineated Jurisdictional Waters

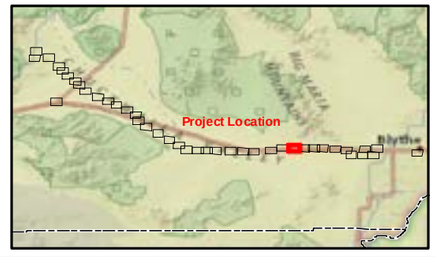
- Basin
- Ditch/Canal

Habitat Type

- Couch's Spadefoot
- Mojave Fringe-toed Lizard
- Desert Tortoise / Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

- Structure Work Area
- Bio Survey Area



MAP NOTES

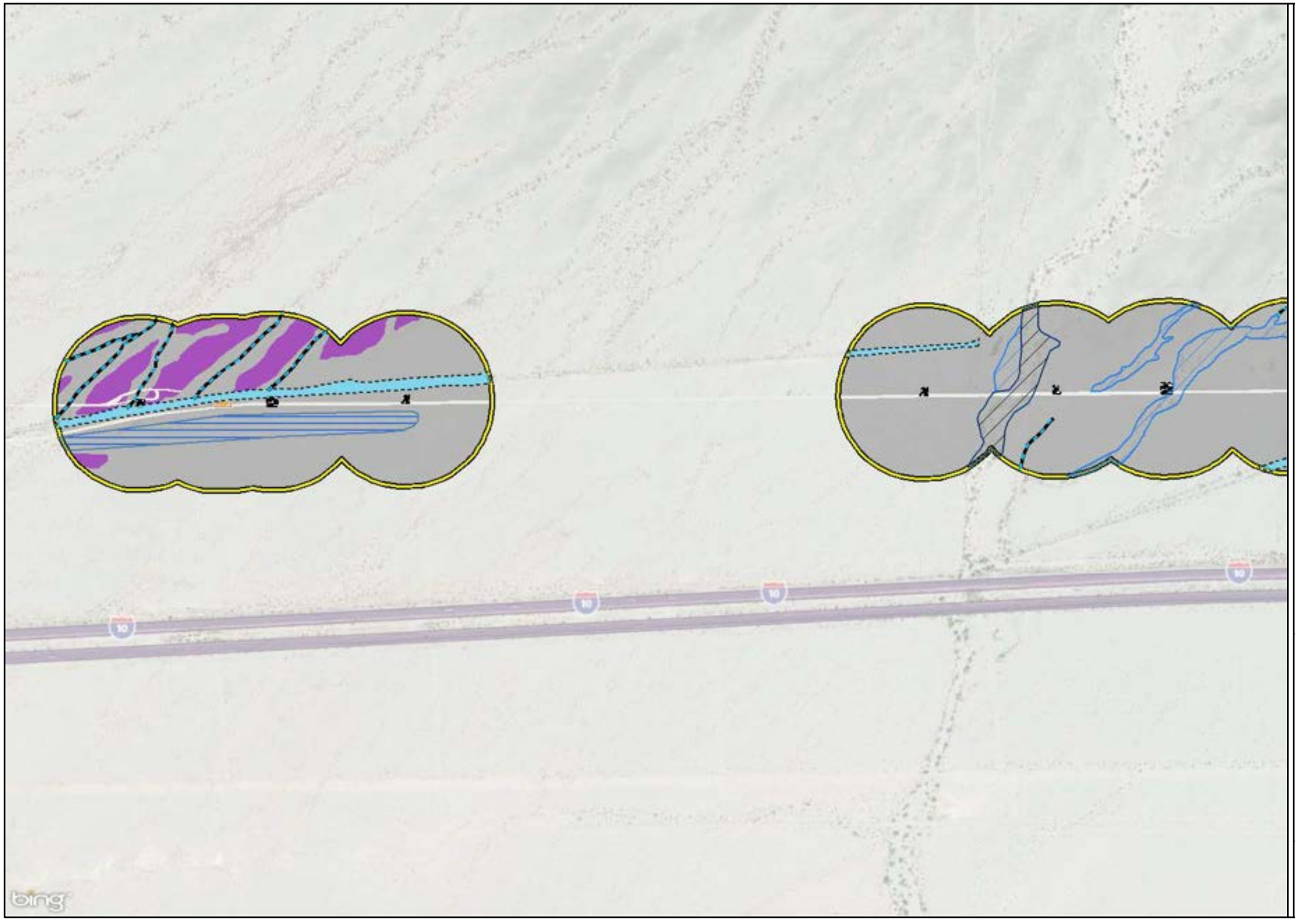
Data Source
Source: Esri, DigitalGlobe, GeoEye, NatGeo World Map. 2015
SCE - Project Components Data
Projected Coordinate System: NAD_1983_UTM_Zone_11N.
Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Basin

Ditch/Canal

Vegetated Streambed

Habitat Type

Long-eared Owl

Desert Tortoise / Burrowing Owl

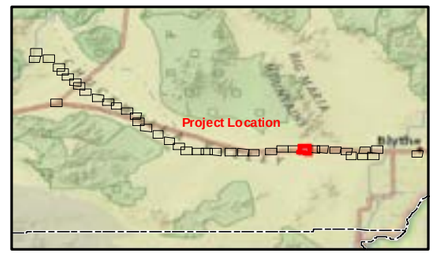
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area



MAP NOTES

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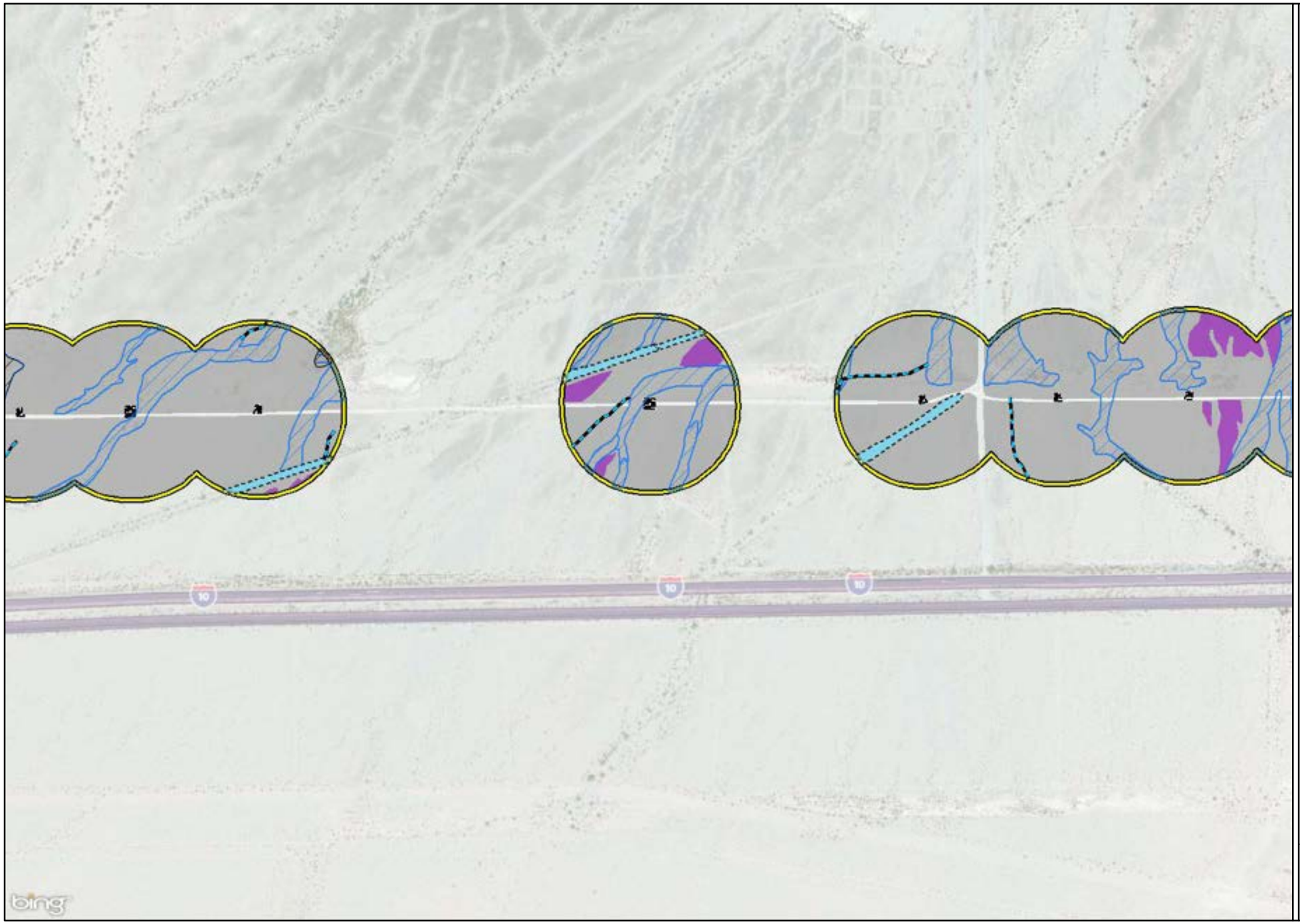
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Basin

Ditch/Canal

Vegetated Streambed

Habitat Type

Long-eared Owl

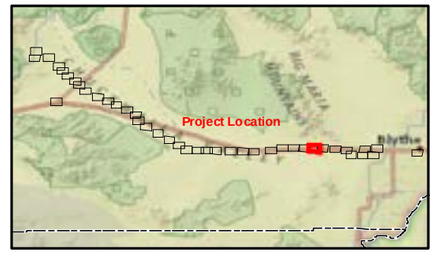
Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Bio Survey Area



MAP NOTES

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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat

Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Unvegetated Streambed

Vegetated Streambed

Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

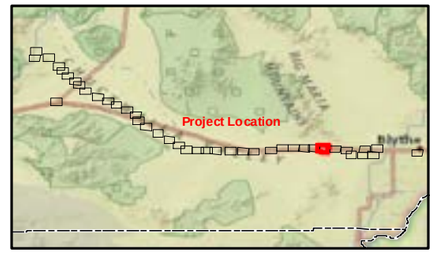
Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

Construction Areas

Structure Work Area

Wire Setup

Bio Survey Area



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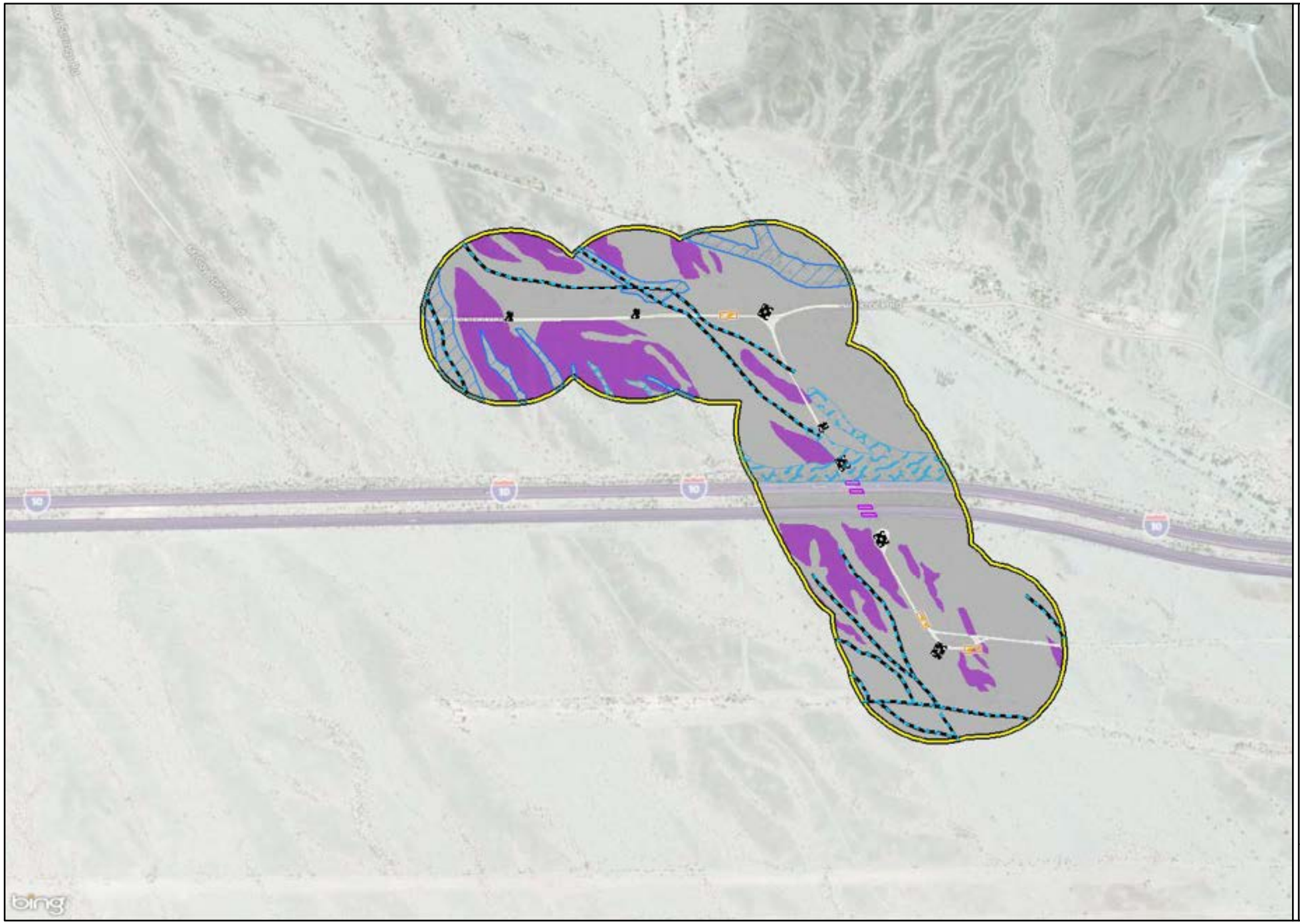
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat



Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Unvegetated Streambed

Vegetated Streambed

Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

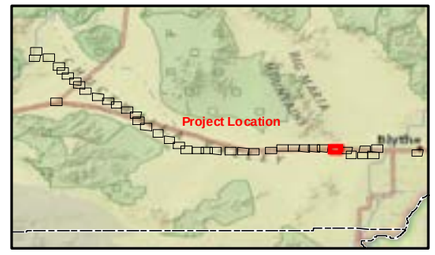
Constr uction Areas

Guard Pole

Structure Work Area

Wire Setup

Bio Survey Area



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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

Po ten tial Jurisdictional

Streambed Veg

Delineated Jurisdictional Waters

Vegetated Streambed

Desert Tortoise / Burrowing Owl

Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

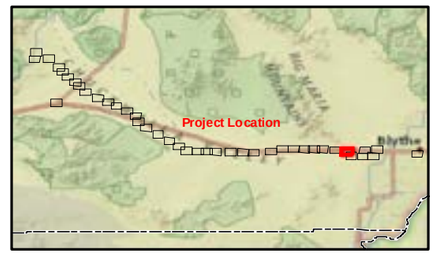
Constr uction Areas

Guard Pole

Structure Work

Wire Setup

Bio Survey



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Projection: Transverse_Mercator
Datum: D_North_American_1983

PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results

Jurisdictional Waters, Habitat

Burrowing Owl

Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Black-tailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

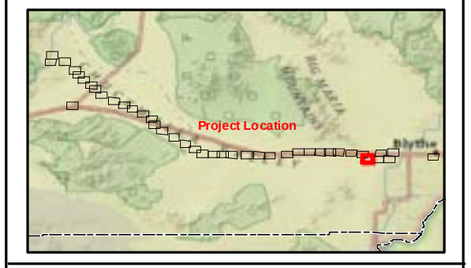
Construction Areas

Guard Pole

Structure Work

Wire Setup

Bio Survey



MAP NOTES

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Projection: Transverse_Mercator
Datum: D_North_American_1983

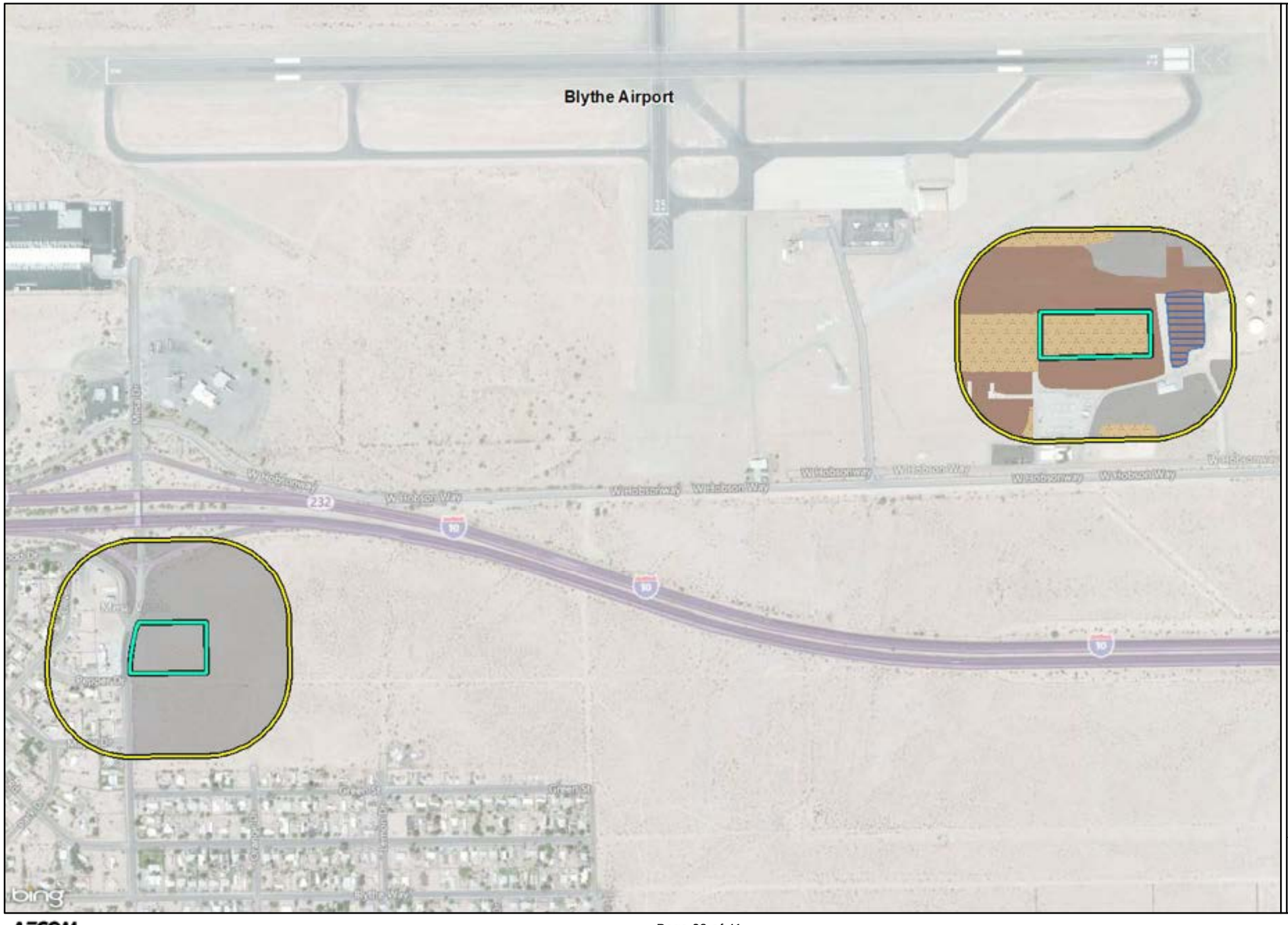
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

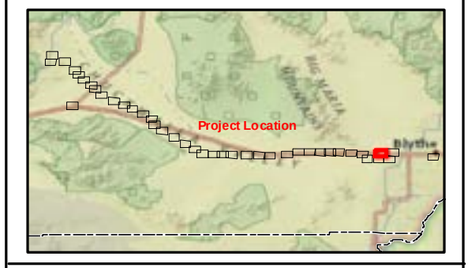
Figure 10
Survey Results
Jurisdictional Waters, Habitat

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Delineated Jurisdictional Waters

- Basin
- Burrowing Owl
- Desert Tortoise / Burrowing Owl / Black-tailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox
- Desert Tortoise / Burrowing Owl / Log-gerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox
- Contractor Material Yard
- Bio Survey



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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

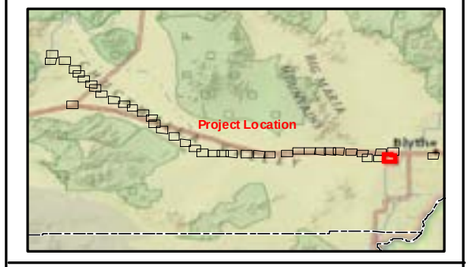
Figure 10
Survey Results
Jurisdictional Waters, Habitat

Habitat Type

- Western Yellow Bat
- Burro Deer
- Loggerhead Shrike (nesting)
- Burrowing Owl

Construction Areas

- Structure Work Area
- Wire Setup
- Bio Survey Area



MAP NOTES

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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

Delineated Jurisdictional Waters

Basin

Habitat Type

Bats

Long-eared Owl

Western Yellow Bat

Burro Deer

Loggerhead Shrike (nesting)

Burrowing Owl

Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / Burro Deer / American Badger / Desert Kit Fox

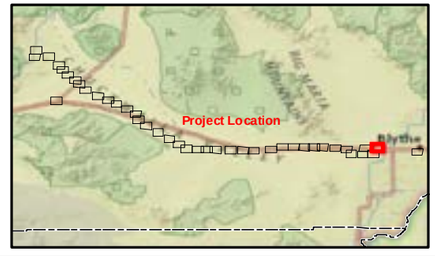
Construction Areas

Guard Pole

Structure Work Area

Wire Setup

Bio Survey Area



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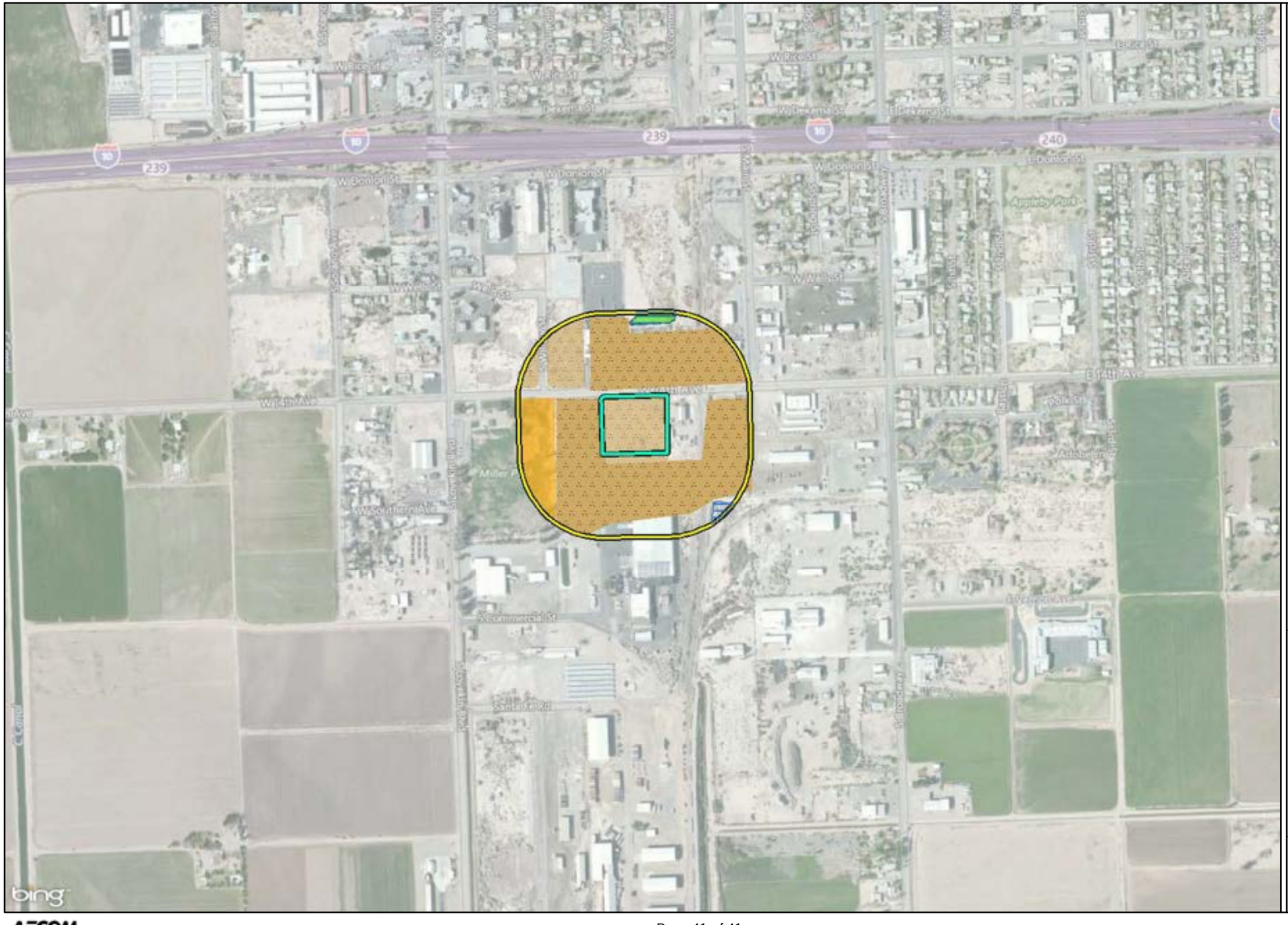
PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

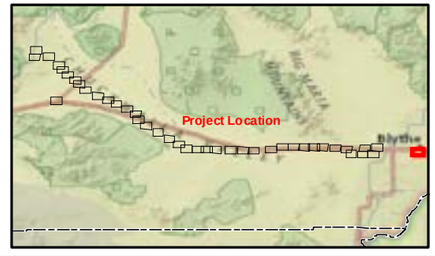
N

Figure 10
Survey Results
Jurisdictional Waters, Habitat



Delineated Jurisdictional Waters

- Basin
- Loggerhead Shrike (nesting)
- Burrowing Owl
- Desert Tortoise / Burrowing Owl / Loggerhead Shrike (nesting) / Blacktailed Gnatcatcher / Le Conte's Thrasher / American Badger / Desert Kit Fox
- Contractor Material Yard
- Bio Survey Area



MAP NOTES

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PROTECTED MATERIALS - Contains Critical Energy Infrastructure Information.

0 0.08 0.16 Miles

N

Figure 10
Survey Results
Jurisdictional Waters, Habitat

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APPENDIX A

Species Determination Flow Chart

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Species Presence/Absence Determinations

Species Determination made Primarily from Field Survey

Species Determination made Primarily through CNDDB (but potentially guided by a field survey or site knowledge)

Primary Decision-making Process

Was a site visit / survey preformed

No

Yes

Was this a protocol survey?

No

Yes

Was the species or positive sign observed?

No

Yes

Is the species in question a plant?

No

Yes

Is this a tree, shrub, perennial sub-shrub, or succulent?

No

Yes

Was the site visit conducted when the tree/shrub would have been in leaf or otherwise identifiable?

No

Yes

Was the site visit conducted when the plant would have been in flower?

No

Yes

Was the species observed at a reference population?

No

Yes

Either no field survey conducted or surveys did not definitely determine presence

Is the project site within the geographical range for the species?

Can use the following resources to determine current geographical range:
Plants - Jepson, CNPS rare plant inventory, and/or Calflora
Wildlife – guide books, Calherps, ebird, other
Insects – base range on host plants (if possible)

Yes

If field visit was performed, was habitat *present*?
If no field visit was performed, is habitat *potentially present*?

To be habitat, the project site must have correct soils, plant community, elevation, roost sites, leaf little/debris, water, host plant, etc. present.

Yes

Are the CNDDB or other records (e.g., Calflora/ebird) within 3 miles of the proposed project ≤75 years old? (10 miles for state parks or custom distance for some projects)

Make sure the 3 miles search accounts for CNDDB BIOS polygons.

Yes

No

No

No

Notation for Forest BA/BE tables

If preparing a BA/BE for a National Forest, then state "Outside known range of species" in the Appendix table; may add additional notes about current range after this statement.

If preparing a BA/BE for a National Forest, then state "Not observed; no habitat present" in the Appendix table; may add additional notes about lacking site conditions after this statement.

If preparing a BA/BE for a National Forest, then state "Not observed; habitat present but all nearby records are historic" in the Appendix table; may add additional notes about historic records after this statement.

If preparing a BA/BE for a National Forest, then state "Habitat present; species not observed" in the Appendix table; may add additional notes after this statement.

Secondary Decision-making Process

Would you classify the habitat as "marginal"?

No

Yes

Is the lack of recent records due to:
1) cryptic nature of the species?
2) delayed growth (e.g., desert annuals)
3) species rarely studied (e.g., flies, bats, rodents)
4) remoteness of site or paucity of any records in the area (i.e., indication that few or no surveys ever conducted in the area)

Yes

No

Are the CNDDB or other records ≤25 years old?

Yes

No

Does the record indicate "extant" and the location is accurate?

If the record indicates that the location is inaccurate or mapped as a best guess, then answer "No".

Yes

No

Is the distance to any of the records within the past 25 years less than:
500 feet (plants/fish)
1,000 feet (riparian wildlife)
1 miles (birds/bats)
2 miles (large mammals)
3 miles (small mammals/herps)

Yes

No

Determination

Determination must be made as a result of protocol surveys rather than this flow chart

Occurs: Species definitively determined to be present

Absent: Species was not observed in project area

Does Not Occur: Would not occur because the project site is outside known or current range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on existing records.

Unlikely: Could occur, but it would not likely occur or be encountered

Likely: All site features indicate that this species is very likely present and should be expected

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APPENDIX B

SENSITIVE PLANT SPECIES OCCURRENCE POTENTIAL TABLE

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Appendix B. Sensitive Plant Species with Potential to Occur in the Vicinity of the Proposed Project

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Abronia villosa* var. *aurita chaparral sand-verbena	Fed: -- State: -- CRPR: 1B.1 BLM: SS REG: --	Jan-Sep	Annual herb found in sandy soils within chaparral, coastal scrub, and desert dunes. 245-5,250 feet (ft.)	Does not Occur: The Project is outside of the known range of this variety. Nearby records for this variety are likely misidentifications.
Acleisanthes longiflora angel trumpets	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: NECO	May	Perennial herb found on carbonate soils in Sonoran desert scrub. 295-310 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Ambrosia monogyra singlewhorl burrobrush	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Aug-Nov	Perennial shrub found in sandy soils within chaparral and Sonoran desert scrub. 35-1,640 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Ammoselinum giganteum desert scaleseed	Fed: -- State: -- CRPR: 2B.1 BLM: -- REG: --	Mar-Apr	Annual herb found in Sonoran desert scrub. 1,310-1,310 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Androstephium breviflorum small-flowered androstephium	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Mar-Apr	Perennial bulbiferous herb found in desert dunes and bajadas of Mojavean desert scrub. 720-2,625 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Astragalus crotalariae Salton milk-vetch	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Jan-Apr	Perennial herb found on sandy or gravelly soils in Sonoran desert scrub. 195-820 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Astragalus insularis* var. *harwoodii Harwood's milk-vetch	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: NECO	Jan-May	Annual herb found on sandy or gravelly soils in desert dunes and Mojavean desert scrub. 0-2,330 ft.	Likely: There are recent records for this species within 500 ft. of the Project.

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Astragalus lentiginosus* var. *borreganus Borrego milk-vetch	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: NECO	Feb-May	Annual herb found in Mojavean desert scrub and sandy Sonoran desert scrub. 100-2,935 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Astragalus lentiginosus* var. *coachellae Coachella Valley milk-vetch	Fed: FE State: -- CRPR: 1B.2 BLM: FE REG: NECO, CDCA	Feb-May	Annual or perennial herb found in desert dunes, and sandy Sonoran desert scrub. 130-2,150 ft.	Unlikely: There are recent records for this species within three miles the Project, but it has not been observed within 500 ft. of the Project.
Astragalus nutans Providence Mountains milk-vetch	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Mar-Jun, (Oct)	Annual herb found on sandy or gravelly soils in Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland, and Sonoran desert scrub. 1,475-6,400 ft.	Unlikely: There are historic records for this species in the region, but it has not been reported within three miles of the Project in the last 25 years.
Astragalus sabulonum gravel milk-vetch	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Feb-Jun	Annual or perennial herb found on flats, washes, and roadsides in desert dunes, Mojavean desert scrub, Sonoran desert scrub on usually sandy and sometimes gravelly soils. 195-3,050 ft.	Unlikely: There are records for this species within 500 ft. of the proposed project, but the species has not been observed nearby in the past 75 years.
Astragalus tricarinatus triple-ribbed milk-vetch	Fed: FE State: -- CRPR: 1B.2 BLM: FE REG: DRECP, CDCA	Feb-May	Perennial herb found on sandy or gravelly soils in Joshua tree "woodland" and Sonoran desert scrub. 1,475-3,905 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Ayenia compacta California ayenia	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: --	Mar-Apr	Perennial herb found in rocky areas of Mojavean desert scrub and Sonoran desert scrub. 490-3,595 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Calliandra eriophylla pink fairy-duster	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: NECO	Jan-Mar	Perennial deciduous shrub found on sandy or rocky soils in Sonoran desert scrub. 395-4,920 ft.	Unlikely: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years.

Scientific Name **Common Name**	——Status——	**Flowering Period**	**Habitat**	**Potential to Occur and Analysis**
Castela emoryi Emory's crucifixion-thorn	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: NECO	(Apr), Jun-Jul, (Sep), (Oct)	Perennial deciduous shrub found on gravelly soils in Mojavean desert scrub, Sonoran desert scrub, and playas. 295-2,380 ft.	Occurs: Several individuals of this species were observed at one location within the Project survey buffer.
Chaenactis carphoclinia* var. *peirsonii Peirson's pincushion	Fed: -- State: -- CRPR: 1B.3 BLM: -- REG: --	Mar-Apr	Annual herb found on sandy soils in Sonoran desert scrub. 10-1,640 ft.	Unlikely: Although there are records for this species within three miles of the proposed project, the species has not been observed in vicinity in the past 25 years.
Chylismia arenaria sand evening-primrose	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Nov-May	Annual or perennial herb found on sandy or rocky soils in Sonoran desert scrub. -260-705 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Cladium californicum California sawgrass	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Jun-Sep	Perennial rhizomatous herb found in meadows and seeps, marshes, and alkaline or freshwater swamps. 195-5,250 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Colubrina californica Las Animas colubrina	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: NECO, CDCA	Apr-Jun	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. 35-3,280 ft.	Likely: There are recent records for this species within 500 ft. of the Project.
Condalia globosa* var. *pubescens spiny abrojo	Fed: -- State: -- CRPR: 4.2 BLM: -- REG: NECO	Mar-May, (Nov)	Perennial deciduous shrub found in Sonoran desert scrub. 280-3,280 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Coryphantha alversonii foxtail cactus	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: NECO, CDCA	Apr-Jun	Perennial stem-succulent found on sandy or rocky, usually granitic, soils in Mojavean desert scrub and Sonoran desert scrub. 245-5,005 ft.	Occurs: this species was observed at one location within the Project survey buffer.

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Cryptantha costata ribbed cryptantha	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Feb-May	Annual herb found in desert dunes and sandy soils in Mojavean desert scrub and Sonoran desert scrub. 195-1,640 ft.	Likely: There are recent records for this species within 500 ft. of the Project.
Cryptantha holoptera winged cryptantha	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: NECO	Mar-Apr	Annual herb found in Mojavean desert scrub and Sonoran desert scrub. 330-5,545 ft.	Unlikely: There are recent records for this species within three miles the Project, but it has not been observed within 500 ft. of the Project.
Cylindropuntia munzii Munz's cholla	Fed: -- State: -- CRPR: 1B.3 BLM: SS REG: NECO, CDCA	May	Perennial stem-succulent found on sandy or gravelly soils in Sonoran desert scrub. 490-1,970 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Ditaxis claryana glandular ditaxis	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: NECO	Oct-Mar	Perennial herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. 0-1,525 ft.	Unlikely: Although there are records for this species within three miles of the proposed project, the species has not been observed in vicinity in the past 25 years.
Ditaxis serrata* var. *californica California ditaxis	Fed: -- State: -- CRPR: 3.2 BLM: -- REG: NECO, CDCA	Mar-Dec	Perennial herb found in Sonoran desert scrub. 100-3,280 ft.	Likely: There are recent records for this species within 500 ft. of the Project.
Eriastrum harwoodii Harwood's eriastrum	Fed: -- State: -- CRPR: 1B.2 BLM: SS REG: --	Mar-Jun	Annual herb found in desert dunes. 410-3,000 ft.	Unlikely: There are recent records for this species within three miles the Project, but it has not been observed within 500 ft. of the Project.
Eschscholzia androuxii Joshua Tree poppy	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Feb-May, (Jun)	Annual herb found on sandy, gravelly, and/or rocky soils in desert washes, flats, and slopes in Joshua tree "woodland" and Mojavean desert scrub. 1,920-5,530 ft.	Unlikely: There are no records for this recently described species occurring within three miles of the Project.

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Euphorbia abramsiana Abrams' spurge	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	(Aug), Sep-Nov	Annual herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. 15-4,300 ft.	Likely: There are recent records for this species within 500 ft. of the Project.
Euphorbia arizonica Arizona spurge	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: --	Mar-Apr	Perennial herb found on sandy soils in Sonoran desert scrub. 165-985 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Euphorbia jaegeri Orocopia Mountains spurge	Fed: -- State: -- CRPR: 1B.1 BLM: SS REG: --	Oct-May	Perennial shrub found in rocky hillsides and arroyos and gravelly or rocky crevices on granitic, carbonate, or metamorphic substrates in Mojavean desert scrub. 1,970-2,790 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Funastrum utahense Utah vine milkweed	Fed: -- State: -- CRPR: 4.2 BLM: -- REG: --	(Mar), Apr-Jun, (Sep), (Oct)	Perennial herb found on sandy or gravelly soils in Mojavean desert scrub and Sonoran desert scrub. 330-4,710 ft.	Unlikely: There are recent records for this species within three miles the Project, but it has not been observed within 500 ft. of the Project.
Horsfordia alata pink velvet-mallow	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Feb-Dec	Perennial shrub found on rocky soils in Sonoran desert scrub. 330-1,640 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Horsfordia newberryi Newberry's velvet-mallow	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Feb-Dec	Perennial shrub found on rocky soils in Sonoran desert scrub. 10-2,625 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Hymenoxys odorata bitter hymenoxys	Fed: -- State: -- CRPR: 2B.1 BLM: -- REG: --	Feb-Nov	Annual herb found in sandy areas in riparian scrub and Sonoran desert scrub. 150-490 ft.	Unlikely: There are records for this species within 500 ft. of the proposed project, but the species has not been observed in vicinity in the past 75 years.
Imperata brevifolia California satintail	Fed: -- State: -- CRPR: 2B.1 BLM: -- REG: --	Sep-May	Perennial rhizomatous herb found in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and mesic riparian scrub. 0-3,985 ft.	Unlikely: Although there are historic records for this species in the region, this species has not been reported within three miles of the Project in the last 25 years.

Scientific Name **Common Name**	——Status——	**Flowering Period**	**Habitat**	**Potential to Occur and Analysis**
Jaffueliobryum wrightii Wright's jaffueliobryum moss	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: --	--	Moss found in dry openings and rock crevices on carbonate substrates in alpine dwarf scrub, Mojavean desert scrub, and pinyon and juniper woodland. 525-8,200 ft.	Unlikely: Although there are recent records from the region, there are no records for this species within three miles of the Project.
Juncus cooperi Cooper's rush	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Apr-May, (Aug)	Perennial herb found in mesic, alkaline or saline meadows and seeps. 855-5,805 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Koeberlinia spinosa* var. *tenuispina slender-spined all thorn	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: NECO	May-Jul	Perennial deciduous shrub found in riparian woodland, Sonoran desert scrub. 490-1,675 ft.	Likely: There are recent records for this species within 500 ft. of the Project.
Lycium parishii Parish's desert-thorn	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: --	Mar-Apr	Perennial shrub found in coastal scrub and Sonoran desert scrub. 445-3,280 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Lycium torreyi Torrey's box-thorn	Fed: -- State: -- CRPR: 4.2 BLM: -- REG: --	(Jan), (Feb), Mar-Jun, (Sep), (Oct), (Nov)	Perennial shrub found on sandy or rocky soils in washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub. 165-4,005 ft.	Unlikely: Although there are records for this species within three miles of the proposed project, the species has not been observed in vicinity in the past 75 years.
Matelea parvifolia spearleaf	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: NECO	Mar-May, (Jul)	Perennial herb found in rocky sites in Mojavean desert scrub and Sonoran desert scrub. 1,445-3,595 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Mentzelia puberula Darlington's blazing star	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Mar-May	Perennial herb found on sandy or rocky soils in Mojavean desert scrub and Sonoran desert scrub. 295-4,200 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Mentzelia tricuspis spiny-hair blazing star	Fed: -- State: -- CRPR: 2B.1 BLM: -- REG: --	Mar-May	Annual herb found on slopes and in washes on sandy or gravelly soils in Mojavean desert scrub. 490-4,200 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Monardella robisonii Robison's monardella	Fed: -- State: -- CRPR: 1B.3 BLM: SS REG: NECO, CDCA	(Feb), Apr-Sep, (Oct)	Perennial rhizomatous herb found in pinyon and juniper woodland. 2,000-4,920 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Nemacaulis denudata* var. *gracilis slender cottonheads	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	(Mar), Apr-May	Annual herb found in coastal dunes, desert dunes, and Sonoran desert scrub. 165-1,310 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Opuntia wigginsii Wiggins' cholla	Fed: -- State: -- CRPR: 3.3 BLM: -- REG: NECO	Mar	Perennial stem-succulent found on sandy soils in Sonoran desert scrub. 100-2,905 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Panicum hirticaule* subsp. *hirticaule roughstalk witch grass	Fed: -- State: -- CRPR: 2B.1 BLM: -- REG: --	Aug-Dec	Annual herb found in sandy or silty depressions in desert dunes, Joshua tree "woodland", Mojavean desert scrub, and Sonoran desert scrub. 150-4,315 ft.	Likely: There are recent records for this species within 500 ft. of the Project.
Penstemon pseudospectabilis* subsp. *pseudospectabilis desert beardtongue	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Jan-May	Perennial herb found most often in sandy washes, and sometimes in rocky washes in Mojavean desert scrub and Sonoran desert scrub. 260-6,350 ft.	Unlikely: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years.
Phaseolus filiformis slender-stem bean	Fed: -- State: -- CRPR: 2B.1 BLM: -- REG: --	Apr	Annual herb found in Sonoran desert scrub. 410-410 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Pholisma sonorae sand food	Fed: -- State: -- CRPR: 1B.2 BLM: SS REG: NECO	(Mar), Apr-Jun	Perennial herb parasitic found on sandy soils in desert dunes and Sonoran desert scrub. 0-655 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Physalis lobata ***l***obed ground-cherry	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: NECO	(May), Sep-Jan	Perennial herb found on decomposed granitic soils in Mojavean desert scrub and playas. 1,640-2,625 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Pilostyles thurberi Thurber's pilostyles	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Dec-Apr	Perennial herb parasitic on *Psorothamnus*, especially *Psorothamnus emoryi*. Found in Sonoran desert scrub. 0-1,200 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Polygala acanthoclada thorny milkwort	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: --	May-Aug	Perennial shrub found in chenopod scrub, Joshua tree "woodland", and pinyon and juniper woodland. 2,495-7,495 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Portulaca halimoides desert portulaca	Fed: -- State: -- CRPR: 4.2 BLM: -- REG: --	Sep	Annual herb found on sandy soils in Joshua tree "woodland". 3,280-3,935 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Proboscidea althaeifolia desert unicorn-plant	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: NECO	May-Sep, (Oct)	Perennial herb found on gently sloping sandy flats and washes and sometimes roadsides in Sonoran desert scrub. 280-3,280 ft.	Occurs: This species was observed in several locations within the Project survey buffer.
Pseudorontium cyathiferum Deep Canyon snapdragon	Fed: -- State: -- CRPR: 2B.3 BLM: -- REG: --	Feb-Apr	Annual herb found on rocky soils in Sonoran desert scrub. 0-2,625 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Saltugilia latimeri Latimer's woodland-gilia	Fed: -- State: -- CRPR: 1B.2 BLM: SS REG: --	Mar-Jun	Annual herb found on rocky or sandy often granitic soils, sometimes in washes, within chaparral, Mojavean desert scrub, and pinyon and juniper woodland. 1,310-6,235 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Salvia eremostachya desert sage	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Mar-May	Perennial evergreen shrub found on rocky or gravelly soils in Sonoran desert scrub. 2,295-4,595 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Salvia greatae Orocopia sage	Fed: -- State: -- CRPR: 1B.3 BLM: SS REG: NECO, CDCA	Mar-Apr	Perennial evergreen shrub found in Mojavean desert scrub and Sonoran desert scrub. 130-2,705 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years

Scientific Name Common Name	——Status——	Flowering Period	Habitat	Potential to Occur and Analysis
Selaginella eremophila desert spike-moss	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	(May), Jun, (Jul)	Perennial rhizomatous herb found on gravelly or rocky soils in chaparral and Sonoran desert scrub. 655-4,250 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Senna covesii Coves' cassia	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: NECO	Mar-Jun, (Aug)	Perennial herb found on dry sandy desert washes and slopes in Sonoran desert scrub. 740-4,250 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Stylocline sonorensis mesquite neststraw	Fed: -- State: -- CRPR: 2A BLM: -- REG: NECO	Apr	Annual herb found in Sonoran desert scrub(sandy). 1,395-1,395 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Tetracoccus hallii Hall's tetracoccus	Fed: -- State: -- CRPR: 4.3 BLM: -- REG: --	Jan-May	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. 100-3,935 ft.	Unlikely Although there are historic records for this species in the region, this species has not been reported within three miles of the Project in the last 25 years.
Teucrium cubense* subsp. *depressum dwarf germander	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: --	Mar-May, (Sep), (Oct), (Nov)	Annual herb found on desert dunes and playa margins in Sonoran desert scrub. 150-1,310 ft.	Unlikely: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years.
Tiquilia canescens* var. *pulchella Chocolate Mountains tiquilia	Fed: -- State: -- CRPR: 3.2 BLM: -- REG: --	Feb-May	Perennial shrub found on ridges, or in washes and sometimes slopes in Sonoran desert scrub. 820-2,295 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years
Wislizenia refracta* subsp. *palmeri Palmer's jackass clover	Fed: -- State: -- CRPR: 2B.2 BLM: -- REG: NECO	Jan-Dec	Perennial deciduous shrub found in chenopod scrub, desert dunes, Sonoran desert scrub and Sonoran thorn woodland. 0-985 ft.	Unlikely: There are recent records for this species within three miles the Project, but it has not been observed within 500 ft. of the Project.
Xylorhiza cognata Mecca-aster	Fed: -- State: -- CRPR: 1B.2 BLM: SS REG: NECO	Jan-Jun	Perennial herb found in Sonoran desert scrub. 65-1,310 ft.	Does Not Occur: There are no records for this species occurring within three miles of the Project in the last 75 years

Notes:

Sensitivity Status Key

BLM = Bureau of Land Management
CRPR = California Rare Plant Rank
CNDDB = California Natural Diversity Database

Federal:
FE = Listed as endangered under the Federal Endangered Species Act
FT = Listed as threatened under the Federal Endangered Species Act
FC = Candidate for listing under the Federal Endangered Species Act
SS = Bureau of Land Management Sensitive Species
-- = No Listing

Regional:
NECO = Northern and Eastern Colorado Desert Coordinated Management Plan
DRECP = Desert Renewable Energy Conservation Plan
CDCA = California Desert Conservation Area

State:
SE = Listed as endangered under the California Endangered Species Act
ST = Listed as threatened under the California Endangered Species Act
SP = Proposed for listing under the California Endangered Species Act
RARE = California listed as rare
-- = No Listing

California Rare Plant Rank:
1A = Plants presumed extinct in California
1B = Plants rare and endangered in California and throughout their range
2 = Plants rare, threatened, or endangered in California but more common elsewhere in their range
3 = Plants about which more information is needed; a review list
4 = Plants of limited distribution; a watch list

APPENDIX C

SENSITIVE WILDLIFE SPECIES OCCURRENCE POTENTIAL TABLE

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Appendix C. Special-Status Wildlife Species with Potential to Occur in the Vicinity of the Proposed Project

Scientific Name Common Name (Note)	———Status———		Habitat and Known Locations	Potential to Occur and Analysis
FISH				
Xyrauchen texanus razorback sucker	Fed: State: CDFW:	FE SE FP	Found in the Colorado River bordering California. Adapted for swimming in swift currents but also need quiet waters. Spawn in areas of sand/gravel/rocks in shallow water.	Does not occur: Not observed, no habitat present.
AMPHIBIANS				
Incilius alvarius Sonoran desert toad	Fed: State: CDFW:	-- -- SSC	Also known as the Colorado River toad. Breeds in temporary pools and irrigation ditches along the Colorado River and southern Imperial Valley.	Does not occur: Not observed. No habitat present.
Scaphiopus couchii Couch's spadefoot	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO	Found in temporary desert rainpools that last at least seven days, with water temperatures greater than 15 degrees Celsius (59 degrees Fahrenheit) and with close subterranean refuge sites. An insect food base, especially termites, must be available.	Likely: Habitat present, species not observed. Records ≤25 years old documented within three miles.
REPTILES				
Charina trivirgata rosy boa	Fed: State: REG:	-- -- NECO	Inhabits arid scrublands, semi-arid shrublands, rocky shrublands, rocky deserts, canyons, and other rocky areas. Appears to be common in riparian areas, but does not require permanent water.	Unlikely: Not observed, habitat present. No records ≤75 years old within three miles.
Gopherus agassizii desert tortoise	Fed: State: REG:	FT ST NECO, CDCA, DRECP	Widely distributed in the Mojave, Sonoran, and Colorado Deserts from below sea level to 2,200 meters (m) (7,220 feet [ft.]). Most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat except those on the most precipitous slopes.	Likely: Habitat present, species not observed. Records ≤25 years old documented within three miles.
Heloderma suspectum cinctum banded Gila monster	Fed: State: CDFW: BLM:	-- -- SSC SS	Inhabits the lower slopes of rocky canyons and arroyos, but is also found on desert flats among scrub and succulents. Eggs are laid in soil in excavated nests; thus, soil must be sandy or friable. Found in areas moister than surroundings.	Unlikely: Not observed, habitat present. No records ≤75 years old within three miles.
Sauromalus ater chuckwalla	Fed: State: REG:	-- -- NECO	Rocky outcrops with crevices.	Likely: Habitat present, species not observed. Records ≤25 years old documented within three miles.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
REPTILES CONTINUED				
Uma scoparia Mojave fringe-toed lizard	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO, DRECP	Fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub, and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet.	Likely: Habitat present, species not observed. Records ≤25 years old documented within three miles.
BIRDS				
Accipiter cooperii Cooper's hawk (nesting)	Fed: State: CDFW:	-- -- WL	Found in woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains, also, live oaks.	Unlikely: Not observed, migration habitat present, marginal nesting habitat present. No records ≤75 years old within three miles.
Aquila chrysaetos golden eagle	Fed: State: CDFW: BLM: BGEPA: REG:	-- -- FP, WL SS Covered NECO, CDCA, DRECP	Uncommon permanent resident and migrant throughout California, except center of Central Valley. Ranges from sea level up to 3,833 m (0-11,500 ft.). Habitat is typically rolling foothills, mountain areas, sage-juniper flats, or desert.	Unlikely: Migration and wintering habitat present. Nesting habitat not present within 500 feet, but nesting habitat present within one mile. Species not observed. Records ≤25 years old documented within three miles, but not documented within one mile.
Asio flammeus short-eared owl (nesting)	Fed: State: CDFW:	-- -- SSC	Requires open country that supports microtine rodents and herbaceous cover sufficient to conceal their ground nests; salt- and freshwater marshes; lowland meadows; or, irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depressions concealed in vegetation.	Likely: Migration habitat present (out of nesting range). Species not observed. Records ≤25 years old documented within one mile.

Scientific Name Common Name (Note)	Status		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Asio otus long-eared owl (nesting)	Fed: State: CDFW:	-- -- SSC	Uncommon resident distributed widely but locally over the Mojave and Colorado Deserts. Nests in conifer, oak, riparian, pinyon-juniper, and desert woodlands (including tamarisk) that are either open or adjacent to grasslands, meadows, or shrublands.	Likely: Nesting and migration habitat present, species not observed. Records ≤25 years old documented within three miles, but not within one mile.
Athene cunicularia burrowing owl	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO, DRECP	A yearlong resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Formerly common in appropriate habitats throughout the state, excluding the humid northwest coastal forests and high mountains.	Likely: Nesting, migration, and wintering habitat present. Species not observed. Records ≤25 years old documented within one mile.
Buteo regalis ferruginous hawk	Fed: State: CDFW: REG:	-- -- WL NECO	Found in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Unlikely: Migration and wintering habitat present (out of nesting range). Species not observed. Records ≤25 years old documented within three miles, but not within one mile.
Buteo swainsoni Swainson's hawk	Fed: State: BLM: REG:	-- ST SS DRECP	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Likely: Migration habitat present (out of nesting range). Species not observed. Records ≤25 years old documented within one mile.
Charadrius montanus mountain plover	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO, DRECP	Winter resident from September through March. Southern California range includes Imperial Valley, plowed fields of Los Angeles and western San Bernardino counties, and along the central Colorado River valley. Uses open grasslands, plowed fields with little vegetation, and open sagebrush areas.	Unlikely: Migration and wintering habitat present (out of nesting range). Species not observed. No records ≤75 years old within three miles.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Circus cyaneus northern harrier (nesting)	Fed: State: CDFW:	-- -- SSC	Found in coastal salt- and freshwater marsh. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge. Nests are built of a large mound of sticks in wet areas.	Likely for migration: Migration habitat present. Species not observed. Records ≤25 years old documented within one mile. Does not occur for nesting: Species not observed, nesting habitat not present.
Coccyzus americanus occidentalis western yellow-billed cuckoo	Fed: State: BLM: REG:	FT SE SS CDCA, DRECP	An uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Densely foliaged, deciduous trees and shrubs, especially willows, required for roosting and nesting sites.	Unlikely: Migration habitat present, nesting habitat not present. Species not observed. Records ≤25 years old documented within three miles, but not within one mile.
Colaptes chrysoides gilded flicker	Fed: State: BLM:	-- SE SS	Occurs in the Colorado River Valley in southeastern California in desert riparian, desert wash, and Joshua tree habitats.	Does not occur: Species not observed. No habitat present within the portion of the project within the species range.
Contopus cooperi olive-sided flycatcher (nesting)	Fed: State: CDFW:	-- -- SSC	Nesting habitats are mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine.	Unlikely: Migration habitat present, nesting habitat not present. Species not observed. No records ≤75 years old within three miles.
Empidonax traillii extimus southwestern willow flycatcher	Fed: State: REG:	FE SE NECO, CDCA, DRECP	Breeding range in southwestern United States. Nests in relatively dense riparian vegetation where surface water is present or soil moisture is high enough to maintain the appropriate vegetation characteristics.	Unlikely: Migration habitat present, nesting habitat not present. Species not observed. No records ≤75 years old within three miles.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Falco columbarius merlin (wintering)	Fed: State: CDFW:	-- -- WL	Uncommon winter migrant from September to May. Seldom found in heavily wooded areas, or open deserts. Frequents coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages. A rare winter migrant in the Mojave Desert.	Unlikely: Migration habitat present, nesting habitat not present. Species not observed. No records ≤75 years old within three miles.
Falco mexicanus prairie falcon	Fed: State: CDFW: REG:	-- -- WL NECO	Uncommon permanent resident that ranges from southeastern deserts, northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada. Distributed from annual grasslands to alpine meadows, but associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. Usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area.	Likely: Migration habitat present. No nesting habitat within 500 feet, but within one mile. Species not observed. Records ≤25 years old documented within one mile.
Falco peregrinus peregrine falcon (nesting)	Fed: State: CDFW: REG:	Delisted Delisted FP CDCA	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Unlikely: Migration habitat present (out of nesting range). Species not observed. No records ≤75 years old within three miles.
Icteria virens yellow-breasted chat (nesting)	Fed: State: CDFW:	-- -- SSC	An uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada. Found up to about 1,450 m (4,800 ft.) in valley foothill riparian, and up to 2,050 m (6,500 f.t) east of the Sierra Nevada in desert riparian habitats (Gaines 1977, DeSante and Ainley 1980, Garrett and Dunn 1981). Requires riparian thickets of willow and other brushy tangles near watercourses for nest cover.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: No nesting habitat present. Species not observed.
Lanius ludovicianus loggerhead shrike (nesting)	Fed: State: CDFW:	-- -- SSC	A common resident and winter visitor in lowlands and foothills throughout California. Nests in densely-foliaged shrubs or trees.	Occurs: Species observed in winter, nesting habitat present.

Scientific Name Common Name (Note)	———Status———		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Melanerpes uropygialis Gila woodpecker	Fed: State: BLM: REG:	-- SE SS NECO, DRECP	In California, inhabits cottonwoods and other desert riparian trees, shade trees, and date palms. Cavity nester in riparian trees or saguaro cactus.	Unlikely: nesting and migration habitat present, species not observed. No records ≤75 years old within three miles.
Micrathene whitneyi elf owl	Fed: State: BLM: REG:	-- SE SS NECO, CDCA	In California, nesting area limited to cottonwood-willow and mesquite riparian zone along the Colorado River. Nest in deserted woodpecker holes, often in larger trees which offer insulation from high daytime temperatures.	Does not occur: Species not observed. No habitat present within the portion of the project within the species range.
Myiarchus tyrannulus brown-crested flycatcher	Fed: State: CDFW:	-- -- WL	Inhabits desert riparian habitat along Colorado River, as well as other desert oases and riparian area northwest to Victorville, California. Requires riparian thickets, trees, snags, and shrubs for foraging perches, nesting cavities, and cover.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: No nesting habitat present. Species not observed.
Piranga rubra summer tanager (nesting)	Fed: State: CDFW: REG:	-- -- SSC CDCA	Summer resident of desert riparian habitat along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian habitat for nesting and foraging; prefers older, dense stands along streams.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: No nesting habitat present. Species not observed.
Polioptila melanura black-tailed gnatcatcher	Fed: State: CDFW:	-- -- WL	Primarily inhabits wooded desert wash habitats. Also occurs in desert scrub habitat, especially in winter. Nests in desert washes containing mesquite, paloverde, ironwood, or acacia. Absent from areas where salt cedar introduced.	Occurs: Species observed in winter, nesting habitat present.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Pyrocephalus rubinus vermilion flycatcher	Fed: State: CDFW: REG:	-- -- SSC NECO, CDCA	During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas. Nests in cottonwood, willow, mesquite, and other large desert riparian trees.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: No nesting habitat present. Species not observed.
Rallus longirostris yumanensis Yuma clapper rail	Fed: State: CDFW: REG:	FE ST FP CDCA, DRECP	Nests in freshwater marshes along the Colorado River and along the south and east ends of the Salton Sea. Prefers stands of cattails and tules dissected by narrow channels of flowing water.	Does not occur: Not observed, no habitat present.
Riparia riparia bank swallow	Fed: State: BLM: REG:	-- ST SS NECO	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured, sandy soils near streams, rivers, lakes, or ocean to dig nesting hole.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: No nesting habitat present. Species not observed.
Setophaga petechia yellow warbler	Fed: State: CDFW: REG:	-- -- SSC NECO	Migrates through and occasionally winters in the lower Colorado River valley and desert areas. The breeding resident Sonoran subspecies *S.p. sonorana* is a CDFW SSC.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: No nesting habitat present. Species not observed.

Scientific Name Common Name (Note)	———Status———		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Setophaga petechia sonorana Sonoran yellow warbler	Fed: State: CDFW: REG:	-- -- SSC NECO	Summer resident of Colorado River Valley, in riparian deciduous habitat. Below 600 ft. elevation. Inhabits cottonwoods and willows, particularly the crown foliage; nests in understory, usually two to 16 ft. above ground.	Does not occur: Species not observed. No habitat present within the portion of the project within the species range.
Toxostoma bendirei Bendire's thrasher	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO, DRECP	Migratory; local spring/summer resident in flat areas of desert succulent shrub, Joshua tree habitats in Mojave Desert. Nests in cholla, yucca, paloverde, thorny shrub, or small tree, usually 0.5 to 20 ft. above ground.	Unlikely: nesting and migration habitat present, species not observed. Records ≤25 years old documented within three miles, but not within one mile.
Toxostoma crissale Crissal thrasher	Fed: State: CDFW: REG:	-- -- SSC NECO	Resident of southeastern deserts in desert riparian and desert wash habitats. Nests in dense vegetation along streams/washes; mesquite, screwbean mesquite, ironwood, catclaw, acacia, arrowweed, willow.	Unlikely: nesting and migration habitat present, species not observed. Records ≤25 years old documented within three miles, but not within one mile.
Toxostoma lecontei Le Conte's thrasher	Fed: State: CDFW: BLM: REG:	-- -- SSC[1] SS[1] NECO	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually two to eight ft. above ground.	Likely for desert population: nesting, migration, and wintering habitat present, species not observed. Records ≤25 years old documented within one mile. Does not occur for San Joaquin population: out of range.
Vireo bellii arizonae Arizona bell's vireo	Fed: State: BLM:	-- SE SS	Summer resident along Colorado River. Chiefly inhabits willow thickets with undergrowth of *Baccharis glutinosa*. Nests in willow, mesquite, or other small tree/shrub, within eight ft. (usually two to three ft.) of the ground.	Does not occur: Species not observed. No habitat present within the portion of the project within the species range.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
BIRDS CONTINUED				
Vireo vicinior gray vireo	Fed: State: CDFW: BLM:	-- -- SSC SS	Dry chaparral; west of desert, in chamise-dominated habitat; mountains of Mojave Desert, associated with juniper and *Artemisia*.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: no nesting habitat present. Species not observed.
Xanthocephalus xanthocephalus yellow-headed blackbird (nesting)	Fed: State: CDFW:	-- -- SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds.	Unlikely for migration: Migration habitat present. Species not observed. No records ≤75 years old within three miles. Does not occur for nesting: no nesting habitat present. Species not observed.
MAMMALS				
Antrozous pallidus pallid bat	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO, DRECP	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and open buildings. A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests.	Unlikely for migration, foraging, night roosts: species not observed, habitat for migration, foraging, and night roosts present. No records ≤75 years old within three miles. Does not occur for day roosts: marginal day roost habitat present. Species not observed.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
MAMMALS CONTINUED				
Corynorhinus townsendii Townsend's big-eared bat	Fed: State: CDFW: BLM: REG:	-- SP SSC SS NECO, DRECP	Found throughout California in all but subalpine and alpine habitats, and may be found at any season throughout its range. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting.	Unlikely for migration, foraging, night roosts: species not observed, habitat for migration, foraging, and night roosts present. No records ≤75 years old within three miles. Does not occur for day roosts: marginal day roost habitat present. Species not observed.
Eumops perotis californicus western mastiff bat	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO	Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban.	Unlikely: Species not observed, habitat for migration, foraging, day and night roosts present. No records ≤75 years old within three miles.
Lasiurus xanthinus western yellow bat	Fed: State: CDFW:	-- -- SSC	Uncommon in California, known only in Los Angeles and San Bernardino counties south to the Mexican border. This species has been recorded below 600 m (2,000 ft.) in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Breeding biology is not well understood. Roosts in trees, including palm trees.	Unlikely: Species not observed, habitat for migration, foraging, day and night roosts present. No records ≤75 years old within three miles.
Macrotus californicus California leaf-nosed bat	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO, DRECP	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with mines or caves for roosting.	Likely for migration, foraging, night roosts: Species not observed, habitat for migration, foraging, night roosts present. Records ≤25 years old documented within one mile. Does not occur for day roosts: no day roost habitat present. Species not observed.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
MAMMALS CONTINUED				
Myotis occultus Arizona Myotis	Fed: State: CDFW: REG:	-- -- SSC NECO	Lowlands of the Colorado River and adjacent desert mountain ranges. Roosts in tree hollows, rock crevices, and under bridges.	Unlikely: Species not observed, habitat for migration, foraging, day and night roosts present. No records ≤75 years old within three miles.
Myotis velifer cave myotis	Fed: State: CDFW: BLM: REG:	-- -- SSC SS NECO	Lowlands of the Colorado River and adjacent mountain ranges. Roosts in caves or mines.	Likely for migration, foraging, night roosts: Species not observed, habitat for migration, foraging, night roosts present. Records ≤25 years old documented within one mile. Does not occur for day roosts: no day roost habitat present. Species not observed.
Myotis thysanodes fringed myotis	Fed: State: BLM: REG:	-- -- SS NECO	In a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Unlikely for migration, foraging, night roosts: species not observed, habitat for migration, foraging, and night roosts present. No records ≤75 years old within three miles. Does not occur for day roosts: marginal day roost habitat present. Species not observed.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
MAMMALS CONTINUED				
Myotis yumanensis Yuma myotis	Fed: State: BLM:	-- -- SS	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Unlikely for migration, night roosts: species not observed, habitat for migration, foraging, and night roosts present. No records ≤75 years old within three miles. Does not occur for day roosts: marginal day roost habitat present. Species not observed.
Neotoma albigula venusta Colorado Valley woodrat	Fed: State: REG:	-- -- NECO	Low-lying desert areas in southeastern California. Closely associated with beaver-tail cactus and mesquite. Intolerant of cold temperatures. Eats mainly succulent plants. Distribution influenced by abundance of nest building material.	Unlikely: Not observed, habitat present. No records ≤75 years old within three miles.
Nyctinomops femorosaccus pocketed free-tailed bat	Fed: State: CDFW: REG:	-- -- SSC NECO	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Roosts in rocky areas with high cliffs.	Unlikely for migration, night roosts: species not observed, habitat for migration, foraging, and night roosts present. No records ≤75 years old within three miles. Does not occur for day roosts: no day roost habitat present. Species not observed.
Odocoileus hemioniis eremicus burro deer	Fed: State: REG:	-- -- NECO, DRECP	Found primarily along the Colorado River and in Desert Wash Woodland communities away from the Colorado River. Forages on various riparian and microphyll woodland trees, such as willow, palo verde, and ironwood. Various other shrubs complete the diet depending on the season. With late summer thundershowers and cooler temperatures, deer move away from the Colorado River and up the larger washes into mountains or wash complexes in the foothills.	Occurs: species tracks and scat observed.

Scientific Name Common Name (Note)	——Status——		Habitat and Known Locations	Potential to Occur and Analysis
MAMMALS CONTINUED				
Ovis canadensis nelsoni desert bighorn sheep	Fed: State: CDFW: BLM: REG:	-- -- FP SS NECO, CDCA, DRECP	Widely distributed from the White Mountains in Mono County to the Chocolate Mountains in Imperial County. Open, rocky, steep areas with available water and herbaceous forage.	Likely: Habitat present, species not observed. Records ≤25 years old documented within two miles.
Puma concolor browni Yuma mountain lion	Fed: State: CDFW: REG:	-- -- SSC NECO	Low elevations in the Colorado River Valley of California. Live in dense bottomland vegetation, also found in adjacent, rocky uplands.	Unlikely: Species not observed, habitat present. No records ≤75 years old within three miles.
Sigmodon arizonae plenus Colorado River cotton rat	Fed: State: CDFW:	-- -- SSC	Colorado River floodplain from the Nevada border to about Bard, California. Distribution is spotty. Isolated sections of alluvial bottom along the Colorado River in areas supporting sedges, rushes, and other marsh plants.	Does not occur: Not observed, no habitat present.
Taxidea taxus American badger	Fed: State: CDFW:	-- -- SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Likely: Habitat present, species not observed. Records ≤25 years old documented within two miles.
Vulpes macrotis arsipus desert kit fox	Fed: State: REG:	-- -- DRECP	Open, level desert areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance.	Likely: Habitat present, species not observed. Records ≤25 years old documented within two miles.
Xerospermophilus tereticaudus chlorus Palm Springs round-tailed ground squirrel	Fed: State: CDFW: BLM:	-- -- SSC SS	Scrub and wash habitats include mesquite- and creosote-dominated sand dunes, creosote bush scrub, creosote, paloverde and saltbush/alkali scrub. Substrates include wind-blown sand, coarse sand, and packed silt with desert pavement. Current accepted taxonomy states that the range of *X.t. chlorus* is limited to the Coachella Valley. Recent studies have suggested that the range of *X.t. chlorus* may be more widely distributed than previously thought (DOI 2010).	Does not occur: Not observed. Current accepted taxonomy states that the range of the subspecies is outside the project area.

Notes: [1]CDFW Species of Special Concern designation refers only to the San Joaquin population, i.e., the putative subspecies *T.l. macmillanorum*. The BLM Sensitive Species designation also refers to the putative subspecies *T.l. macmillanorum*.

Sensitivity Status Key

BLM = Bureau of Land Management
BGEPA = Bald and Golden Eagle Protection Act
MBTA = Migratory Bird Treaty Act
CDFW = California Department of Fish and Wildlife special animals list
REG = Regional Planning

Federal:
FE = Federally listed, endangered
FT = Federally listed, threatened
FC = Candidate for listing under the Federal Endangered Species Act
SS = Bureau of Land Management Sensitive Species
-- = No Listing

State:
SE = State-listed, endangered
ST = State-listed, threatened
SP = Proposed for listing under the California Endangered Species Act
SSC = California Species of Special Concern
FP = Fully protected species under the California Fish and Game Code
WL = Watch list
-- = No Listing

Regional:
NECO = Northern and Eastern Colorado Desert Coordinated Management Plan
CDCA = California Desert Conservation Area
DRECP = Desert Renewable Energy Conservation Plan

References:

Department of the Interior (DOI), U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Review of Native Species that are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions; Proposed Rule, 75 Fed. Reg. 69222 (Nov. 10, 2010) (to be codified at 50 CFR pt. 17).

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APPENDIX D

PLANT AND WILDLIFE COMPENDIUM

D1 Plant Compendium

D2 Wildlife Compendium

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Appendix D1
Plant Compendium

The following is a list of plant species detected during the Habitat and Resource Assessment Survey for the Eagle Mountain Blythe 161kV Project.

Family and Common Name	Scientific Name
Amaranthaceae	**Amaranth Family**
Arizona honeysweet	*Tidestromia suffruticosa* var. *oblongifolia*
Apocynaceae	**Dogbane Family**
Rush milkweed	*Asclepias subulata*
Hairy milkweed	*Funastrum hirtellum*
Asteraceae	**Sunflower Family**
Annual ragweed	**Ambrosia artemisiifolia*
White bursage	*Ambrosia dumosa*
Burrobrush	*Ambrosia salsola*
Sweetbush	*Bebbia juncea* var. *aspera*
Spiny goldenbush	*Chloracantha spinosa* var. *spinosa*
Brittlebush	*Encelia farinosa*
Slender poreleaf	*Porophyllum gracile*
Boraginaceae	**Borage Family**
Fanleaf crinklemat	*Tiquilia plicata*
Cactaceae	**Cactus Family**
Foxtail cactus	*Coryphantha alversonii*
Silver cholla	*Cylindropuntia echinocarpa*
Pencil cholla	*Cylindropuntia ramosissima*
Chenopodiaceae	**Goosefoot Family**
Fourwing saltbush	*Atriplex canescens*
Big saltbush	*Atriplex lentiformis*
Cattle saltbush	*Atriplex polycarpa*
Barbwire Russian thistle	**Salsola paulsenii*
Mojave seablite	*Suaeda nigra*
Cucurbiaceae	**Cucumber Family**
Coyote gourd	*Cucurbita palmata*
Euphorbiaceae	**Spurge Family**
Smallseed sandmat	*Chamaesyce polycarpa*
California croton	*Croton californicus*
New Mexico ditaxis	*Ditaxis neomexicana*

Family and Common Name	Scientific Name
Fabaceae	**Legume Family**
Indian rushpea Desert ironwood Blue palo verde Western honey mesquite Dyebush Smoketree	*Hoffmannseggia glauca* *Olneya tesota* *Parkinsonia florida* *Prosopis glandulosa* var. *torreyana* *Psorothamnus emoryi* *Psorothamnus spinosus*
Fouquieriaceae	**Ocotillo Family**
Ocotillo	*Fouquieria splendens* subsp. *splendens*
Krameriaceae	**Krameria Family**
Ratany	*Krameria* sp.
Lamiaceae	**Mint Family**
Desert lavender	*Hyptis emoryi*
Malvaceae	**Mallow Family**
Copper globemallow	*Sphaeralcea angustifolia*
Martyniaceae	**Unicorn-Plant Family**
Desert unicorn-plant	*Proboscidea althaeifolia*
Nyctaginaceae	**Four O'Clock Family**
Trailing windmills Desert wishbone-bush	*Allionia incarnata* *Mirabilis laevis*
Onagraceae	**Evening Primrose Family**
Birdcage evening primrose	*Oenothera deltoides*
Polygonaceae	**Buckwheat Family**
Devil's spineflower	*Chorizanthe rigida*
Simaroubaceae	**Quassia Family**
Crucifixion thorn	*Castela emoryi*
Simmondsiaceae	**Jojoba Family**
Jojoba	*Simmondsia chinensis*
Solanaceae	**Nightshade Family**
Sacred thorn-apple Anderson's box thorn	*Datura wrightii* *Lycium andersonii*
Tamaricaceae	**Tamarisk Family**
Athel tamarisk	**Tamarix aphylla*

Family and Common Name	Scientific Name
Zygophyllaceae	**Caltrop Family**
California caltrop	*Kallstroemia californica*
Creosote bush	*Larrea tridentata*
Angiosperms (Monocotyledons)	
Agavaceae	**Century-Plant Family**
Desert lily	*Hesperocallis undulata*
Poaceae	**Grass Family**
Sixweeks grama	*Bouteloua barbata* var. *barbata*
Bermudagrass	**Cynodon dactylon*
Big galleta	*Pleuraphis rigida*
Mediterranean grass	**Schismus* sp.

* Indicates non-native species

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Appendix D2
WILDLIFE SPECIES LIST

The following is a list of wildlife species detected during the Habitat and Resource Assessment Survey for the Eagle Mountain Blythe 161kV Project.

Family and Common Name	Scientific Name
REPTILES	
Phrynosomatidae (Phrynosomatids)	
Zebra-tailed lizard Common sideblotch lizard	*Callisaurus draconoides* *Uta stansburiana*
Teiidae (Whiptails and Tegus)	
Great Basin Whiptail	*Aspidoscelis tigris tigris*
BIRDS	
Accipitridae (Hawks, Kites, Eagles and allies)	
Red-tailed hawk	*Buteo jamaicensis*
Columbidae (Pigeons and Doves)	
Rock pigeon	**Columba livia*
Corvidae (Ravens, Crows, Jays and allies)	
Common raven	*Corvus corax*
Cuculidae (Cuckoos)	
Greater roadrunner	*Geococcyx californianus*
Emberizidae (American Sparrows)	
White-crowned sparrow	*Zonotrichia leucophrys*
Falconidae (Caracaras and Falcons)	
American kestrel	*Falco sparverius*
Icteridae (Icterids)	
Great-tailed grackle	*Quiscalus mexicanus*
Laniidae (Shrikes)	
Loggerhead shrike	*Lanius ludovicianus*
Motacillidae (Wagtails, Longclaws, and Pipits)	
American pipit	*Anthus rubescens*
Parulidae (New World Warblers)	
Yellow-rumped warbler	*Setophaga coronata*
Polioptilidae (Gnatcatchers)	
Blue-gray gnatcatcher Black-tailed gnatcatcher	*Polioptila caerulea* *Polioptila melanura*

Family and Common Name	Scientific Name
Sturnidae (Starlings)	
European starling	**Sturnus vulgaris*
Tyrannidae (Tyrant Flycatchers)	
Say's phoebe	*Sayornis saya*
MAMMALS	
Canidae (Wolves and Foxes)	
Coyote	*Canis latrans*
Cervidae (Deer)	
Burro deer	*Odocoileus hemioniis eremicus*
Felidae (Cats)	
Domestic cat	**Felis catus*
Leporidae (Rabbits and Hares)	
Black-tailed jackrabbit	*Lepus californicus*

*Indicates non-native species

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APPENDIX E

PHOTO COMPENDIUM

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Appendix E

Photo Compendium

Photo 1. Parkinsonia-Olneya wash, aspect northwest.

Photo 2. Pleuraphis rigida alliance, aspect northwest.

Photo 3. Sparse Larrea in desert pavement, aspect northeast.

Photo 4. Larrea- Ambrosia in wash, aspect north.

Photo 5. Artificial channel, aspect TBD.

Photo 6. Major wash, aspect northeast.

Photo 7. Proboscidea althaeifolia, aspect east.

Photo 8. Potential desert tortoise pallet, aspect northwest.

Photo 9a. Pile of burro deer scat (mixed with jackrabbit scat) and the bajada it was found in, aspect southeast.

Photo 9b. Overview of the pile of burro deer scat (mixed with jackrabbit scat) and the bajada it was found in, aspect southeast.

Photo 10. Dunes, aspect north.

Photo 11. Dunes, aspect north.

Photo 12a. Burro deer tracks heading south under I-10 bridge, aspect southeast.

Photo 12b. Overview of the burro deer tracks heading south under I-10 bridge, aspect southeast.

Photo 13a. Deer scat and apparent trail, aspect southeast.

Photo 13a. Overview of the deer scat and apparent trail, aspect southeast.

Photo 14. Prosopis glandulosa Alliance, aspect west.

Photo 15. Playa with sparse Larrea, aspect southwest.

Photo 16. Deer tracks heading south, aspect south.

Photo 17. Larrea-Ambrosia Alliance, aspect east.

Photo 18. Minor wash, aspect southwest.

Photo 19. Ironwood woodland, aspect northwest.

Photo 20. Cheesebush scrub, aspect northeast.

Photo 21. Debris piles that may provide shelter habitat for burrowing owl, aspect southwest.

Photo 22. Fallow jojoba field, aspect west.

Photo 23. Flowing water, possible broken pipeline, aspect southwest.

Photo 24. Running water apparently coming from a leak flowing from west to east, aspect northwest.

Photo 25. Ironwood-palo verde woodland, aspect northeast.

Photo 26. Smoke tree wash, aspect northeast.

Photo 27. Coryphantha alversonii, aspect west.

Photo 28. Coryphantha alversonii, aspect west.

Photo 29. Cheesebush scrub, aspect southeast.

Photo 30. Cheesebush scrub, aspect northwest.

Photo 31. Castela emoryi, aspect west.

Photo 32. Castela emoryi, aspect south.

Photo 33. Castela emoryi, aspect northwest.

Photo 34. Ironwood woodland, aspect west.

Photo 35. Wash with poorly defined bed and bank, aspect northeast.

Photo 36. Sparse ironwood woodland, aspect northwest.

Photo 37. Ruderal wetland, aspect west.

Appendix D

Floral and Faunal Compendium

Plants Species Observed in the EM-B Project Study Area

Family Name	Scientific Name	Common Name
MONOCOTS		
Agavaceae	*Hesperocallis undulata*	desert lily
Poaceae	*Aristida adscensionis*	six weeks three awn
	Aristida californica	California three awn
	Bouteloua aristidoides var. *aristidoides*	needle grama
	Bouteloua barbata var. *barbata*	sixweeks grama
	Bromus catharticus[1]	rescue grass
	*Cenchrus sp.**	sandbur
	*Chloris virgata**	feather fingergrass
	Cynodon dactylon[1]	Bermuda grass
	Dasyochloa pulchella	low woollygrass
	*Echinochloa colona**	jungle rice
	*Eragrostis cilianensis**	stink grass
	Hilaria rigida	big galleta grass
	Leptochloa fusca ssp. *uninervia*	Mexican sprangle-top
	Panicum hirticaule ssp. *hirticaule*	roughstalk witch grass
	Phalaris minor[1]	little seed canarygrass
	*Polypogon monspeliensis**	annual beardgrass
	Schismus barbatus[1]	Mediterranean grass
	Sporobolus contractus	spike dropseed
	Sporobolus cryptandrus	sand dropseed
DICOTS		
Aizoaceae	*Mesembryanthemum crystallinum*[1]	crystalline iceplant
Amaranthaceae	*Amaranthus albus*[1]	pigweed amaranth
	Amaranthus fimbriatus	fringed amaranth
	Amaranthus watsonii	Watson's amaranth
	Amaranthus blitoides	prostrate amaranth
	Tidestromia suffruticosa var. *oblongifolia*	honeysweet
Apocynaceae	*Asclepias subulata*	rush milkweed
	Cascabela thevetia[1]	luckynut
	Funastrum cynanchoides var. *hartwegii*	fringed twinevine
	Funastrum hirtellum	hairy milkweed
	Nerium oleander[1]	oleander
Asteraceae	*Ambrosia dumosa*	white bursage
	Ambrosia salsola	cheesebush
	Atrichoseris platyphylla	parachute plant
	Baileya multiradiata	desert marigold
	Baileya pauciradiata	Colorado Desert marigold
	Bebbia juncea	sweetbush

Family Name	Scientific Name	Common Name
	Calycoseris wrightii	white tackstem
	Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
	Chaenactis stevioides	desert pincushion
	Dicoria canescens	bugweed
	Encelia farinosa	brittlebush
	Encelia frutescens	rayless sunflower
	Erigeron bonariensis[1]	flax-leaved horseweed
	Erigeron canadensis	horseweed
	Geraea canescens	hairy desert sunflower
	Helianthus annuus	western sunflower
	Lactuca serriola[1]	prickly lettuce
	Logfia depressa	dwarf cottonrose
	Monoptilon bellioides	desert star
	Palafoxia arida var. *arida*	spanish needles
	Pectis papposa var. *papposa*	chinch-weed
	Perityle emoryi	Emory's rock daisy
	Peucephyllum schottii	desert fir
	Porophyllum gracile	odora
	Pluchea sericea	arrowweed
	Psathyrotes ramosissima	velvet turtleback
	Rafinesquia neomexicana	desert chicory
	Sonchus oleraceus[1]	common sowthistle
	Stephanomeria exigua ssp. *coronaria*	milk aster
	Stephanomeria exigua ssp. *exigua*	small wreath-plant
	Stephanomeria pauciflora	desert straw
	Trichoptilium incisum	yellow head
Boraginaceae	*Amsinckia tessellata*	bristly fiddleneck
	Cryptantha angustifolia	narrow leaved cryptantha
	Cryptantha costata	ribbed cryptantha (CRPR 4.3[2])
	Cryptantha maritima	white haired forget-me-not
	Emmenanthe penduliflora var. *penduliflora*	whispering bells
	Heliotropium convolvulaceum	phlox heliotrope
	Heliotropium curassavicum var. *oculatum*	alkali heliotrope
	Nama demissa var. *demissa*	desert purple mat
	Nama hispida var. *spathulata*	purple mat
	Pectocarya heterocarpa	chuckwalla combseed
	Phacelia crenulata var. *crenulata*	heliotrope phacelia
	Phacelia ivesiana	Ives' phacelia
	Tiquilia palmeri	Palmer's crinklemat
	Tiquilia plicata	fanleaf crinklemat

Family Name	Scientific Name	Common Name
Brassicaceae	*Brassica tournefortii*[1]	saharan mustard
	Capsella bursa-pastoris[1]	shepherd's purse
	Caulanthus lasiophyllus	California mustard
	Descurainia pinnata	western tansy mustard
	Dithyrea californica	spectacle pod
	Lepidium lasiocarpum ssp. *lasiocarpum*	shaggyfruit pepperweed
Cactaceae	*Coryphantha alversonii*	foxtail cactus (CRPR 4.3[2])
	Cylindropuntia acanthocarpa	buckhorn cholla
	Cylindropuntia echinocarpa	Wiggins' cholla
	Cylindropuntia ramosissima	pencil cholla
	Ferocactus cylindraceus	California barrel cactus
	Mammillaria tetrancistra	common fishhook cactus
	Opuntia basilaris var. *basilaris*	beavertail cactus
Campanulaceae	*Nemacladus orientalis*	eastern glandular nemacladus
	Nemacladus tenuis var. *tenuis*	desert nemacladus
Caryophyllaceae	*Achyronychia cooperi*	frostmat
Casuarinaceae	*Casuarina cunninghamiana*[1]	iver she-oak
Chenopodiaceae	*Atriplex canescens*	four-winged saltbush
	Amaranthus palmeri	Palmer's amaranth
	Atriplex polycarpa	cattlebush
	Atriplex hymenelytra	desert holly
	Atriplex serenana	saltscale
	Chenopodium murale[1]	nettle-leaved goosefoot
	Chenopodium pratericola	desert goosefoot
	Salsola paulsenii[1]	barbwire Russian thistle
Convolvulaceae	*Cuscuta denticulata*	desert dodder
Crassulaceae	*Crassula connata*	sand pygmy weed
Cucurbitaceae	*Cucurbita palmata*	coyote gourd
	Brandegea bigelovii	desert star vine
Cyperaceae	*Cyperus strigosus*	false nutsedge
Euphorbiaceae	*Croton californicus*	desert croton
	Ditaxis lanceolata	desert silverbush
	Ditaxis neomexicana	common ditaxis
	Ditaxis serrata var. *californica* (incidental observation outside the Study Area and within the 500-foot desert tortoise survey area)	California ditaxis (CRPR 3.2[2])
	Ditaxis serrata var. *serrata*	saw toothed ditaxis
	Euphorbia abramsiana	Abrams' spurge
	Euphorbia micromera	Sonoran sandmat
	*Euphorbia nutans**	eyebane spurge
	Euphorbia polycarpa	smallseed sandmat

Family Name	Scientific Name	Common Name
	Euphorbia setiloba	yuma sandmat
	Stillingia linearifolia	narrow leaved stillingia
	Stillingia spinulosa	annual stillingia
Fabaceae	*Acmispon strigosus*	strigose lotus
	Albizia julibrissin[1]	silk tree
	Astragalus aridus	annual desert milk-vetch
	Astragalus insularis var. *harwoodii*	Harwood's astragalus (CRPR 2B.2[2])
	Dalea mollis	silky dalea
	Dalea mollissisima	downy delea
	Hoffmannseggia glauca	hog potato
	Lupinus arizonicus	Arizona lupine
	Marina parryi	Parry dalea
	Medicago sativa[1]	alfalfa
	Olneya tesota	desert ironwood
	Parkinsonia florida	blue paloverde
	Prosopis glandulosa var. *torreyana*	western honey mesquite
	Prosopis velutina	velvet mesquite
	Psorothamnus emoryi	dyebush
	Psorothamnus schottii	Schott's indigo bush
	Psorothamnus spinosus	smoke tree
	Senegalia greggii	catclaw acacia
Fouquieriaceae	*Fouquieria splendens* ssp. *splendens*	ocotillo
Geraniaceae	*Erodium texanum*	desert heron's bill
Krameriaceae	*Krameria bicolor*	white rhatany
	Krameria erecta	little-leaved rhatany
Lamiaceae	*Condea emoryi*	desert lavender
	Salvia columbariae	chia
Loasaceae	*Mentzelia albicaulis*	small flowered blazing star
	Mentzelia longiloba	many flowered mentzelia
	Mentzelia involucrata	sand blazing star
Malvaceae	*Eremalche exilis*	white mallow
	Eremalche rotundifolia	desert fivespot
	Hibiscus denudatus	rock hibiscus
	Sphaeralcea ambigua	desert mallow
	Sphaeralcea angustifolia	narrow-leaved desert mallow
	Sphaeralcea emoryi	Emory's globemallow
Martyniaceae	*Proboscidea althaeifolia*	desert unicorn plant (CRPR 4.3[2])
Myrtaceae	*Eucalyptus* sp.[1]	eucalyptus tree
Nyctaginaceae	*Abronia villosa* var. *villosa*	desert sand verbena
	Allionia incarnata var. *incarnata*	trailing windmills

Family Name	Scientific Name	Common Name
	Mirabilis laevis var. *villosa*	wishbone bush
Onagraceae	*Chylismia brevipes* ssp. *brevipes*	golden suncup
	Chylismia claviformis ssp. *aurantiaca*	pinnate leaved primrose
	Eremothera boothii ssp. *condensata*	booth primrose
	Eulobus californicus	California primrose
	Oenothera deltoides ssp. *deltoides*	birdcage evening primrose
Papaveraceae	*Eschscholzia minutiflora* ssp. *minutiflora*	pygmy poppy
Plantaginaceae	*Mohavea confertiflora*	ghost flower
	Plantago ovata	desert plantain
Polemoniaceae	*Aliciella latifolia*	broadleaf gilia
	Eriastrum eremicum	desert woollystar
	Gilia stellata	star gilia
	Langloisia setosissima ssp. *setosissima*	bristly langloisia
	Linanthus jonesii	Jones' linanthus
	Loeseliastrum schottii	Schott's gilia
Polygonaceae	*Boerhavia coulteri*	Coulter's spiderling
	Boerhavia wrightii	largebract spiderling
	Chorizanthe brevicornu	brittle spineflower
	Chorizanthe corrugata	wrinkled spineflower
	Chorizanthe rigida	rigid spineflower
	Eriogonum deflexum	flat topped buckwheat
	Eriogonum inflatum	desert trumpet
	Eriogonum reniforme	kidney leaf buckwheat
	Eriogonum thomasii	Thomas' buckwheat
	*Portulaca oleracea**	common purslane
Resedaceae	*Oligomeris linifolia*	lineleaf whitepuff
Rosaceae	*Rubus ursinus*	California blackberry
Simaroubaceae	*Castela emoryi* (incidental observation outside the Study Area and within the 500-foot desert tortoise survey area)	crucifixion thorn (CRPR 2B.2[2])
Simmondsiaceae	*Simmondsia chinensis*	jojoba
Solanaceae	*Datura discolor*	desert thorn apple
	Datura wrightii	jimson weed
	Lycium andersonii	Anderson's desert thorn
	Lycium fremontii	Fremont's boxthorn
	Nicotiana obtusifolia	desert tobacco
	Physalis crassifolia	desert ground-cherry
	Solanum americanum	white nightshade
Tamaricaceae	*Tamarix aphylla*[1]	athel tree
	Tamarix ramosissima[1]	saltcedar
Viscaceae	*Phoradendron californicum*	California mesquite mistletoe

Family Name	Scientific Name	Common Name
Zygophyllaceae	*Fagonia laevis*	California fagonia
	Larrea tridentata	creosote bush
	Kallstroemia californica	California caltrop
	Tribulus terrestris	puncturevine

CRPR = California Rare Plants Rank

Wildlife Observed Incidentally in the Study Area

Family and Common Name	Scientific Name
Reptiles	
Eublepharidae (geckos)	
western banded gecko	*Coleonyx variegatus*
Iguanidae (iguanas)	
desert iguana	*Dipsosaurus dorsalis*
Phrynosomatidae (Phrynosomatids)	
zebra-tailed lizard	*Callisaurus draconoides*
common side-blotched lizard	*Uta stansburiana*
Teiidae (Whiptails and Tegus)	
Great Basin whiptail	*Aspidoscelis tigris*
Viperidae (vipers)	
western diamondback	*Crotalus atrox*
sidewinder rattlesnake	*Crotalus cerastes*
Birds	
Accipitridae (Hawks, Kites, Eagles and allies)	
red-tailed hawk	*Buteo jamaicensis*
Caprimulgidae (Nightjars)	
Lesser nighthawk	*Chordeiles acutipennis*
Cathartidae (Vultures and Condors)	
turkey vulture	*Cathartes aura*
Columbidae (Pigeons and Doves)	
rock pigeon	*Columba livia*[1]
Eurasian collared dove	*Streptopelia decaocto*
mourning dove	*Zenaida macroura*
Corvidae (Ravens, Crows, Jays and allies)	
common raven	*Corvus corax*
Cuculidae (Cuckoos)	
greater roadrunner	*Geococcyx californianus*
Emberizidae (American Sparrows)	
black-throated sparrow	*Amphispiza bilineata*
white-crowned sparrow	*Zonotrichia leucophrys*
Falconidae (Caracaras and Falcons)	
American kestrel	*Falco sparverius*
Hirundinidae (Swallows and Martins)	
American cliff swallow	*Petrochelidon pyrrhonota*
Icteridae (Icterids)	
Brewer's blackbird	*Euphagus cyanocephalus*
great-tailed grackle	*Quiscalus mexicanus*
Laniidae (Shrikes)	
loggerhead shrike	*Lanius ludovicianus*
Mimidae (Mimids)	

Family and Common Name	Scientific Name
northern mockingbird	*Mimus polyglottos*
Motacillidae (Wagtails, Longclaws, and Pipits)	
American pipit	*Anthus rubescens*
Parulidae (New World Warblers)	
Wilson's warbler	*Cardellina pusilla*
black and white warbler	*Mniotilta varia*
yellow-rumped warbler	*Setophaga coronata*
Passeriformes (Passerines)	
verdin	*Auriparus flaviceps*
Polioptilidae (Gnatcatchers)	
blue-gray gnatcatcher	*Polioptila caerulea*
black-tailed gnatcatcher	*Polioptila melanura*
Ptiliogonatidae (silky-flycatchers)	
northern phainopepla	*Phainopepla nitens*
Sturnidae (Starlings)	
European starling	*Sturnus vulgaris*[1]
Troglodytidae (wrens)	
cactus wren	*Campylorhynchus brunneicapillus*
Tyrannidae (Tyrant Flycatchers)	
ash-throated flycatcher	*Myiarchus cinerascens*
Say's phoebe	*Sayornis saya*
western kingbird	Tyrannus verticalis
Vireonidae (vireos	
warbling vireo	*Vireo gilvus*
Mammals	
Canidae (Wolves and Foxes)	
coyote	*Canis latrans*
desert kit fox	*Vulpes macrotis arsipus*
Cervidae (Deer)	
burro deer	*Odocoileus hemioniis eremicus*
Felidae (Cats)	
domestic cat	*Felis catus*[1]
Heteromyidae (Rats and Mice)	
Merriam's kangaroo rat	*Dipodomys merriami*
Leporidae (Rabbits and Hares)	
black-tailed jackrabbit	*Lepus californicus*
desert cottontail	*Sylvilagus audubonii*
Sciuridae (Squirrels and Chipmunks)	
white-tailed antelope ground squirrel	*Ammospermophilus leucurus*

[1] Indicates non-native species

Appendix E

Special-Status Plants Survey Report (GANDA 2018)

SPECIAL-STATUS PLANTS SURVEY REPORT FOR THE

EAGLE MOUNTAIN TO BLYTHE 161 KV TRANSMISSION LINE RATING REMEDIATION PROJECT

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September 2017; Revised November 2018

Jacobs. 2018. *Special-status Plants Survey Report for the Eagle Mountain to Blythe 161 kV Transmission Line Rating Remediation Project*. November. Prepared by Garcia and Associates, Auburn, California.

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Acronyms and Abbreviations

amsl	above mean sea level
BLM	Bureau of Land Management
Cal-IPC	California Invasive Plant Council
CDCA	California Desert Conservation Area Plan
CDFG	California Department of Fish and Game, current name California Department of Fish and Wildlife
CDFW	California Department of Fish and Wildlife, formerly California Department of Fish and Game
CDNPA	California Desert Native Plant Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
ESA	federal Endangered Species Act
FAC	Food and Agriculture Code
feet	ft.
GANDA	Garcia and Associates
GPS	global positioning system
NECO	Northern and Eastern Colorado Desert Coordinated Management Plan
NERC	North American Electric Reliability Corporation
Project	Eagle Mountain to Blythe Transmission Line Rating Remediation Project
quad	7.5-minute topographic quadrangle
ROW	right-of-way
SCE	Southern California Edison
sp.	species
ssp.	subspecies
SR	State Route
TSP	tubular steel pole
U.S.	United States
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
var.	variety
WECC	Western Electricity Coordinating Council

Special-status Plants Survey Report for the Eagle Mountain to Blythe 161 kV Transmission Line Rating Remediation Project

Summary

This *Special-status Plants Survey Report* (report) documents the methods and results of special-status plant surveys conducted in 2017 for the Southern California Edison (SCE) Eagle Mountain–Blythe (EM-B) 161-kiloVolt (kV) Transmission Line Rating Remediation (TLRR) Project (Project). Garcia and Associates (GANDA) biologists conducted background research and field surveys to identify special-status plants that have potential to occur within the proposed disturbance area and could be affected by the Project. Protocol-level floristic surveys were conducted for federally and state-listed and other special-status plant species as designated by the United States (U.S.) Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and California Native Plant Society (CNPS). In addition, sensitive communities, including wetlands and other waters, were mapped and a jurisdictional delineation has been performed, which are documented under separate cover (AECOM 2016). Wildlife and special-status vegetation habitat suitability surveys and surveys for special-status wildlife species were also conducted for the Project (AECOM 2016).

The Study Area for the Project (349 acres) includes specific proposed work locations and a 100-foot survey buffer along the Project alignment from the Eagle Mountain Substation near Desert Center, California to the Blythe Substation in Blythe, California. The Study Area follows the existing alignment from Eagle Mountain to Blythe, running parallel to and crisscrossing the Interstate 10 freeway. Except for the portion of the Project near the Blythe Substation and from Eagle Mountain Substation east to California State Highway 177, the alignment is visible from the Interstate. Eleven special-status plant species have suitable habitat and are likely to occur within the Study Area (Appendix B). Four of these species were observed during floristic surveys: foxtail cactus (*Coryphantha alversonii*, California Rare Plant Ranking [CRPR] 4.3), Harwood's milk vetch (*Astragalus insularis* var. *harwoodii*, CRPR 2B.2), desert unicorn plant (*Proboscidea althaeifolia*, CRPR 4.3), and ribbed cryptantha (*Cryptantha costata*, CRPR 4.3). Four other plant species of interest—California ditaxis (*Ditaxis serrata* var. *californica*, CRPR 3.2), Emory's crucifixion thorn (*Castela emoryi*, CRPR 2B.2), Harwood's eriastrum (*Eriastrum insularis* var. *harwoodii*, CRPR 1B.2), and roughstalk witch grass (*Panicum hirticaule* ssp. *hirticaule*; CRPR 2B.1)—were also observed incidentally, either as part of plant reference population visits of known occurrences in the vicinity of the Project or during desert tortoise (*Gopherus agassizzi*) protocol-level surveys within the 500-foot buffer of the Project . The presence of these plants would not preclude Project implementation.

Introduction

Purpose and Need

SCE has developed a Transmission Line Rating Remediation (TLRR) program to correct phase-to-ground and phase-to-phase clearance discrepancies on existing transmission lines over the course of 15 years. The TLRR program is a compliance-based effort addressing 300 circuits throughout Southern California Edison's service territory with 11,164 discrepancies with a revised California Public Utilities Commission (CPUC) General Order (G.O.) 95. A discrepancy is generally a clearance problem between an energized conductor and its surroundings, such as the structure, another energized conductor of the same line or a different line, or the ground. If sufficient clearance is not available, the circuit can short out which reduces reliability.

SCE's EM-B TLRR Project will be performed to eliminate approximately 164 discrepancies as well as replace 47 structures along the EM-B 161-kV Circuit. The Circuit extends approximately 53 miles from the Eagle Mountain Substation near Desert Center, California to the Blythe Substation in Blythe, California. To clear the discrepancies, the Project scope consists of adjusting hardware and circuit arrangements on 24 Pumco steel poles, replacing 19 wood three-pole dead-end structures with three-pole Tubular Steel Poles (TSPs), replacing 27 deteriorated wood H-frame structures with Light Weight Steel (LSW) H-frame structures, and replacing one single wood pole with a single pole TSP. The existing 161-kV Circuit, consisting of both 336 Linnet and 336 Merlin aluminum steel-reinforced (ACSR) conductors, will be replaced with 336 Oriole ACSR conductors.

The purpose of this Project is to increase the phase-to-ground or phase-to-phase clearance for the EM-B line. The Project is needed to comply with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) standards, and the revised CPUC G.O. 95. SCE requires that all circuits meet or exceed the most stringent strength, clearance, and reliability requirements of those regulating bodies. G.O. 95, while not applicable to the NERC transmission ratings requirements, requires greater mechanical and electrical performance. SCE has determined that all of its lines will meet the requirements of G.O. 95 and that any remediation efforts requiring new construction will meet the latest SCE standards. Without the Project, sufficient clearance for the line(s) is not available, and the circuit has the potential to short out, reducing reliability, and increasing public health and safety hazards.

Project Location

The EM-B TLRR Project is located entirely within the Chuckwalla Valley in Riverside County, California (Figure 1). The circuit extends approximately 53 miles (approximately 279,840 feet) and encompasses 581 acres from the Eagle Mountain Substation near Desert Center, California to the Blythe Substation in Blythe, California. The Project falls within the Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, and Ripley 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles. Elevation along the Project averages 536 feet above mean sea level (amsl) with a minimum and maximum elevation of 332 feet and 995 feet amsl, respectively (AECOM 2016).

Land Use/Ownership

The Project is located on a combination of BLM-administered lands, incorporated and unincorporated portions of Eastern Riverside County, and private land. The portion of the Project located on BLM-administered land includes approximately 34 miles and 397 acres, which are subject to right-of-way (ROW) Grant CALA-0149780. There is also a 7-mile overlap with the existing Devers-Palo Verde 2 (DVP2) ROW. Project components on BLM-administered land include 246 existing poles, 22 guard sites, 36 structure work areas, and 36 wire setup areas. Project components located on private land include 146 existing poles, 6 material yards, 19 guard sites, 40 structure work areas, and 20 wire setup areas.

Design and Construction Details

The EM-B line includes an existing 161-kV circuit and the associated alignment, with 66-kV and 12-kV underbuild circuits on portions of the alignment. The purpose of the project is to resolve discrepancies by replacing the existing conductor and modifying the height of some structures. Over time, electrical conductors begin to deteriorate due to typical metal fatigue and the additional stress of the heat associated with conducting electrical current and, especially in the desert, the high ambient air temperatures. As a conductor deteriorates, it begins to “sag” and may cause discrepancies. The EM-B TLRR project will replace the existing 161-kV circuit 336 Linnet and 336 Merlin ACSR conductors with 336 Oriole ACSR. In addition, the Project scope consists of adjusting hardware and circuit arrangements on 24 Pumco steel poles, replacing 19 wood three-pole dead-end structures with three-pole TSPs, replacing 27 deteriorated wood H-frame structures with LWS H-frame structures, and replacing one single wood pole with a single pole TSP. Some existing structures will be replaced with new structures in order to elevate the overall height of the conductor, and to replace some deteriorating structures. Together, these actions work to increase clearances between the conductor and other energized conductors on the same line or a different line, or the ground. Temporary disturbance associated with each type of work area is described below.

Ground-disturbing activities associated with Project implementation will be limited to disturbance areas defined in the Project data as a structure work area, wire setup site, or guard structure location. Six existing materials yards will be used for staging equipment and materials and as a place for personnel to meet. In addition, existing ROW access roads are associated with the Project. These temporary disturbance areas are described in better detail in the following paragraphs. For the existing structure locations where structure replacement will not occur, the existing hardware that suspends the conductors will be replaced. Because no ground-disturbing activities will occur, these remaining pole locations have not been assigned an associated disturbance area in the Project data. The only exceptions are the locations where the existing hardware on the Pumco TSPs will be replaced; which have been assigned structure work areas as well.

Structure work areas will contain the removal and replacement of existing poles. TSP installation will require construction of concrete footings by excavating a hole to certain specifications, placing steel reinforcement bar cages, pouring concrete, and installing mounting hardware. After the footings are constructed, the TSPs can be positioned and mounted into place using a lightweight crane. Deteriorated wood H-frame structures will be replaced with 3-pole LWS H-frame structures. Unlike with the TSPs, the LWS H-frame structures do not require concrete footings. Rather, the LWS H-frame structures will be replaced via direct bury. An auger will be used to create 3 excavations for each

structure. A lightweight crane will be used to position the structures and then the poles will be backfilled using the spoils from the excavations. Once the new structures have been erected, the line crew will proceed to “de-clip” the existing conductor on the existing structures and remove it, as well as transfer the underbuild conductors, where they exist, to the new structures using a lightweight crane. Structure work areas have been assigned for each location where an existing structure will be replaced. Structure work areas have also been assigned for the existing Pumco TSPs where hardware will be rand, due to the need to use larger cranes.

Wire setup sites are locations where equipment will be setup to assist with wire stringing. Once the new structures have been erected and hardware replaced on the existing structures, the new conductors can be installed (i.e., wire stringing). Wire stringing includes all activities associated with the installation of the new conductors, including development of pulling plans; installation of temporary “travelers” (i.e., pulleys) on each structure; pulling of a temporary “sock line” (i.e., lightweight line used to pull the conductor through the travelers); pulling of the conductor; splicing (i.e., connecting two segments of conductor), sagging (i.e., adjusting the sag of the conductor to specifications), dead-ending (i.e., connecting the conductor to dead-end structures); and clipping (i.e., replacing the travelers with insulators and connecting the conductor to tangent structures). Wire stringing is typically divided into separate “pulls” from one dead-end structure to another. Each stringing operation consists of a puller setup positioned at one end and a tensioner setup with wire-reel stand truck positioned at the other end of the wire pull, within areas designed as wire setup sites. These locations may also be used for splicing and other aspects of wire stringing. Wire setup sites have been designed and are included in the Project data. These sites vary in size from 0.04 to 0.52 acres, will be located within the ROW, and will be accessed from the existing roads via drive and crush (overland travel). Wire setup sites have been chosen to minimize ground disturbance and avoid impacts to sensitive resources.

Guard structure sites are located where temporary facilities will be installed at transportation, flood control, and utility crossings for wire stringing/removal activities. These structures are designed to keep a conductor from sagging below conventional stringing height. Typical guard structures are standard wood poles. Depending on the overall spacing of the conductors being installed, approximately two to four guard poles would be required on either side of a road crossing. In some cases, the wood poles could be substituted with the use of specifically equipped boom trucks or, at highway crossings, temporary netting could be installed, if required by the governing transportation agency. The guard structures would be removed after the conductor is secured into place. The locations of the guard structures are included in the Project data.

All remaining pole locations may have hardware and materials replaced on existing structures, but the existing poles will remain in place. Activities in these areas will require a boom truck that will access the areas via existing access roads within the ROW and workers may be able to access structures and replace hardware on foot. Because no ground-disturbing activities will occur, these remaining pole locations have not been assigned an associated disturbance area in the Project data.

The temporary Material Yards designated for the Project are located outside the existing ROW and not on BLM-administered lands. The Desert Center Yard is currently developed and ready for use. The remaining five yards were previously disturbed but may require clean-up prior to the start of construction. The material yards, including the Desert Center Yard, will be cleared and grubbed to remove trash, debris, and vegetation. Once cleared, rock will be hauled in and spread over the entire site (approximately 3 to 4 inches thick). Where they don’t already exist, security fences will be installed around the perimeter of each material yard.

The Project sites will be accessed via existing access roads that meander parallel with the alignment, inside and outside the ROW. The access roads extend towards the ROW from Kaiser Truck Road, Eagle Mountain Road, Chuckwalla Valley Road, and Hobsonway, as well as from several unpaved dirt roads (for example, in the vicinity of the portion of the ROW that extends 1 1/4 mile east from the intersection of Paled Dunes Road and I-10; also extending 1 1/4 mile from Citrus Drive east towards the ROW near Blythe; and one-quarter mile west of the intersection of Hobsonway and Keim Boulevard near Blythe). The majority of the existing structure locations include a previously disturbed operations and maintenance (O&M) work area contiguous with the access roads. No new permanent roads will be constructed for the Project.

The Project has been designed to minimize impacts to native vegetation and sensitive resources by utilizing existing developed/disturbed areas such as existing access roads, O&M areas associated with each existing structure, and other developed/disturbed areas. Structure work areas, wire setup sites, and guard structure locations have been conservatively designed to include the minimum area necessary to safely and effectively complete the work. Within each work area, care will be taken to avoid sensitive resources. Disturbance areas and environmentally sensitive areas will be clearly delineation and workers will limit the construction activities accordingly. “Drive and crush” practices will be favored over clearing and grading where feasible. Because the conductor is of a lower capacity (i.e., smaller, lighter) than large (220-kV or greater) transmission lines, lighter weight structures will be used for the EM-B line. Therefore, the construction equipment utilized will be limited to lightweight and predominantly rubber-tired vehicles, which minimize ground-disturbance. For the remaining structure locations without designated disturbance areas, workers will access the structures on foot to the extent possible. Workers will park personal vehicles and equipment such as cranes within the existing roadways, O&M work areas, other developed/disturbed areas, or designated disturbance areas.

Project Setting

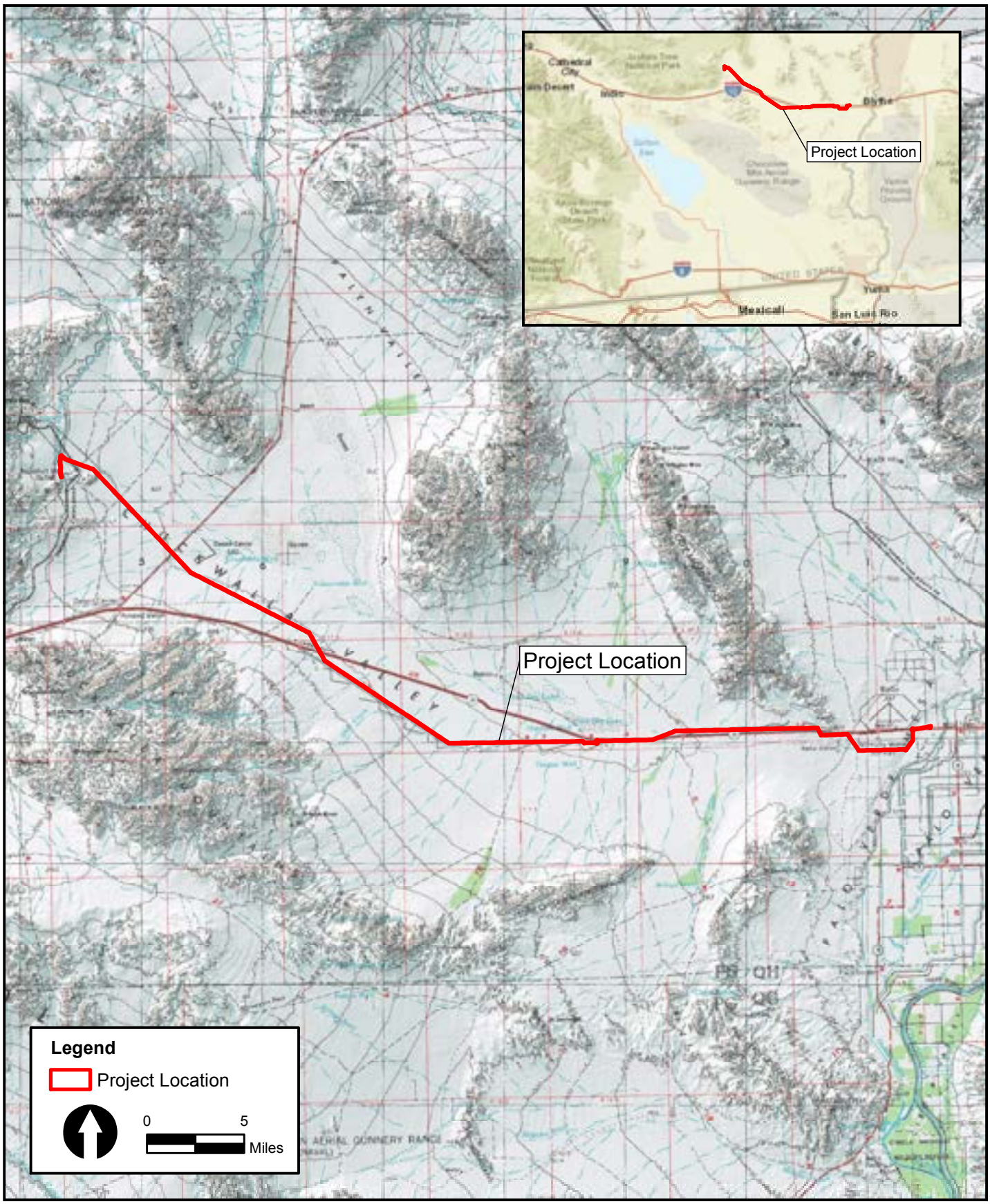
The Project is located within the Sonoran Desert Region of the Desert Province of California (Jepson Flora Project 2017). A matrix of scrub vegetation including creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) dominates the lowlands with saltbush (*Atriplex* spp.) scrub characteristic of alkaline basins. Additional species characteristic of this hot, dry region include blue palo verde (*Parkinsonia florida*) and ironwood (*Olneya tesota*), which help distinguish the Sonoran Desert Region from the Mojave Desert Region (Jepson Flora Project 2017).

Survey Objective

This report documents the special-status plants surveys conducted by GANDA. The report presents survey methods, a description of potential special-status plants, and mapped locations of observed special-status plants (i.e., results). A desktop review was performed to assess the presence or potential presence of state and federally threatened, endangered, and other special-status plants and their habitats on or in the vicinity of the site. To further refine the biological constraints assessment, a focused survey for special-status plants was performed in the Study Area (description below). The purpose of the surveys was to support Project planning efforts.

Study Area

The Study Area for the Project totals 349 acres and consists of proposed work areas associated with construction activities and a 100-foot buffer.



USGS 7.5' Quadrangles: Aztec Mines (1983), Corn Spring (1986), East of Aztec Mines (1983), East of Victory Pass (1987), Hopkins Well (1983), Ripley (1975), Roosevelt Mine (1983), Sidewinder Well (1983), Victory Pass (1987)
Source: USA Topo NGS (2013); ESRI World Street Map; Ganda GIS 2018

GANDA

Figure 1.
Project Location
Eagle Mountain Rare Plants
Riverside County, CA

Methods

Desktop Review

Prior to conducting field surveys, published information concerning special-status plant species that may occur in the Study Area was collected from several sources and reviewed by GANDA biologists. The sources reviewed included CDFW's California Natural Diversity Database (CNDDB; CDFW 2017), the USFWS IPaC website (USFWS 2017), and miscellaneous information available through the USFWS, CDFW, and technical publications. The CNPS's *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2017) and the Consortium of California Herbaria (CCH, CCH 2017) provided additional information regarding the distribution and habitats of special-status plants in the Project vicinity; the CCH data were sourced through the draft Habitat and Resource Assessment Report for the Project (AECOM 2016). In addition, management documents for federal lands in the area were reviewed for potential special-status plant data. These documents include the Northern and Eastern Colorado Desert Coordinated Management Plan Final Environmental Impact Statement (NECO; Bureau of Land Management [BLM] 2001), (the California Desert Conservation Area Plan is the precursor to NECO) and the California Desert Native Plant Act (CDNPA; CDFW 1981).

The background search for special-status species was conducted for the Study Area and a 1-mile buffer (Figure 2).

Potential special-status plant species include taxa that are designated as follows:

- Threatened, endangered, or candidates for listing under the federal Endangered Species Act (ESA);
- Threatened, endangered, or rare under the California Endangered Species Act (CESA);
- Plants with a sensitivity ranking by the NECO, CDCA, CDNPA, or BLM; and/or,
- California Rare Plant Ranks (CRPRs) (CNPS 2017). Definitions of CRPRs are as follows:
    - 1A – Plants presumed extinct in California;
    - 1B – Plants rare, threatened, or endangered in California and elsewhere;
    - 2 – Plants rare, threatened, or endangered or presumed extirpated in California, but more common elsewhere;
    - 3 – Plants about which more information is needed;
    - 4 – Plants of limited distribution.

Study Area
Study Area 1-mile Buffer

CNDDB Plant Point
- Abrams' spurge
- Alverson's foxtail cactus
- California ditaxis
- Dwarf germander
- Emory's crucifixion-thorn
- Gravel milk-vetch
- Harwood's eriastrum
- Harwood's milk-vetch
- Las Animas colubrina
- Pink fairy-duster
- Roughstalk witch grass
- Slender-spined all thorn

CNDDB Plant Area
- Abrams' spurge
- Alverson's foxtail cactus
- Bitter hymenoxys
- California ditaxis
- Dwarf germander
- Emory's crucifixion-thorn
- Glandular ditaxis
- Gravel milk-vetch
- Harwood's eriastrum
- Harwood's milk-vetch
- Las Animas colubrina
- Pink fairy-duster
- Roughstalk witch grass
- Slender-spined all thorn

Alverson's foxtail cactus
Alverson's foxtail cactus
Alverson's foxtail cactus
Slender-spined all thorn
Emory's crucifixion-thorn
Las Animas colubrina
California ditaxis
Alverson's foxtail cactus
Emory's crucifixion-thorn
Slender-spined all thorn
Emory's crucifixion-thorn
Harwood's milk-vetch
Emory's crucifixion-thorn
Emory's crucifixion-thorn
California ditaxis
Glandular ditaxis
Roughstalk witch grass
Pink fairy-duster
Abrams' spurge
Roughstalk witch grass
Harwood's milk-vetch
Dwarf germander
Gravel milk-vetch
Abrams' spurge
Harwood's milk-vetch
Abrams' spurge
Roughstalk witch grass
Roughstalk witch grass
Roughstalk witch grass
Roughstalk witch grass
Abrams' spurge
Abrams' spurge
Gravel milk-vetch
Harwood's eriastrum
Harwood's eriastrum
Abrams' spurge
Harwood's milk-vetch
Harwood's milk-vetch
Bitter hymenoxys
Dwarf germander
bing

Basemap: Bing Aerial Imagery 2018

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0 5 Miles

Figure 2.
Special-status Plants CNDDB Occurrences within 1 Mile of Study Area
Eagle Mountain to Blythe Transmission Project
Riverside County, CA

Field Surveys

A complete floristic survey to identify botanical resources was conducted in two phases in order to target peak bloom periods of the various special-status species. Phase I surveys were conducted from May 1 to May 5, 2017 by GANDA botanists Stephanie Hines, Huang-Chi Kuo, and Tracie Treybig. Phase II surveys occurred from August 28 to August 31, 2017 by GANDA botanists Stephanie Hines and Sasha Karosas to detect late-blooming species. Surveys were conducted by walking meandering transects with 10-meter spacing in order to cover the full extent of the Study Area. In areas that did not contain suitable habitat for special-status plants or where terrain prevented that method from being utilized, transects were spaced at 15 meters. A few small portions of the Study Area were inaccessible (private property, substations). These areas were scanned using binoculars to determine if potential habitat for target species or individual plants occurred. Most areas assessed with binoculars did not provide suitable habitat; visual access was such that target species would have been observable with binoculars if present. A complete list of plants observed was compiled (Appendix A), and any special-status plant species were mapped using a Trimble Juno global positioning system (GPS) unit capable of meter accuracy. The survey methods followed established plant survey guidelines (California Department of Fish and Game [CDFG] 2009, CNPS 2001). All vascular plant species encountered were identified to the level necessary to determine status (Appendix A). Keys used for identification were those found in *The Jepson Manual Second Edition*, which also provides the nomenclature used here (Baldwin et al. 2012). Although timing of the surveys was suitable to identify most special-status plant species with potential to occur in the Study Area, as with all plant surveys, the possibility exists that not all species were in a condition suitable for identification at the time of the survey.

Results

Existing Habitats

The vegetation communities within the Study Area were assessed across the entire Project and a 500-foot buffer using the Rapid Assessment method (AECOM 2016). Fourteen vegetation communities were determined using the *Manual of California Vegetation* (Sawyer et al. 2009) and include allscale scrub, big galleta shrub-steppe, blue paloverde–ironwood woodland, cheesebush scrub, creosote bush scrub, creosote bush–white bursage scrub, desert dunes, desert pavement, mesquite bosque/mesquite thicket, playa, smoke tree woodland, tamarisk thickets, and white bursage scrub. Developed/disturbed areas consist of active agriculture, barren/not developed, developed, and ornamental/landscaped. A complete description of these vegetation communities and their locations within the Project Area can be found in the draft Habitat and Resource Assessment Report (AECOM 2016).

The flora of the Project Study Area consists primarily of annual and perennial herbaceous, graminoid, shrub, and tree species. The flora consists of common and rare species typical for natural terrestrial habitats in southern California. Appendix A, Plants Observed in the Study Area, lists all native and naturalized vascular plant taxa observed during the botanical survey. GANDA botanists observed approximately 171 vascular plant taxa during the survey. The flora is comprised of 40 families, 128 genera, and 171 species, including subspecies and varieties. Of the total taxa, 149 (87.1 percent) are native and 22 (12.9 percent) are naturalized non-native or cultivated taxa. Throughout the Study Area, a low to moderate level of non-native species were observed and, generally, non-natives were not the dominant species.

The flora of the Eagle Mountain to Blythe Study Area is characterized by herbaceous annual and perennial herbs, graminoids, shrubs, and trees, including:

- 9 annual graminoids
- 2 perennial graminoids
- 104 annual herbs
- 27 perennial herbs
- 21 shrubs
- 8 trees

Special-status Plants

Desktop Review

The special-status plant species evaluated as having potential to occur and their listing status, habitats, and presence of suitable habitat in the Study Area are identified in Appendix B. Figure 2 depicts the distribution of CNDDB (CDFW 2017) records within 1 mile of the Project Area. AECOM evaluated 68 special-status plant species with the potential to occur during a desktop review of a 5-mile radius of the Project (AECOM 2016). Based on the AECOM list, a review of source documents, and a 1-mile[1] CNDDB radius, GANDA botanists revised the potential plant list to 28, with 11 plants having a likely or better potential to occur in the Study Area. Potential for a species to occur was defined as:

- **Absent** - The species and/or positive sign was not observed on-site during focused survey(s) during the appropriate blooming/activity period (and, for plants, observed at a reference population).
- **Occurs** – The species and/or positive sign was observed on-site during site visit or field survey.
- **Does Not Occur** – The species would not occur because the Project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on historical records
- **Likely** – All site features indicate this species is very likely present and should be expected. Criteria include:
    - Project site within geographic range;
    - Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
    - Distance to historical record(s) less than 25 years old is/are less than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).
- **Unlikely** –Species could occur given presence of marginal habitat, but records of the species are not locally known or are greater than 25 years old.

It should be noted that due to survey limitations, which include prolonged drought conditions and only a single year of focused special-status plants surveys, the determination of “Absent” could not be made with complete confidence.

[1] A 1-mile buffer was used instead of 5-miles to refine the search by eliminating potentially misleading data, such as plants found in habitats unique to the higher elevations of the surrounding mountains but not expected to occur in the habitats on the desert floor.

Descriptions of the 28 plants with some potential to occur ("unlikely," "likely," or "known" to occur) follow (see also Appendix B):

Abram's Spurge (*Euphorbia abramsiana*)

Federal Status: None; State Status: None; CRPR 2B.2

Abram's spurge is an annual herb in the euphorbia family that is found within California, Arizona, and arid parts of northern Mexico (Jepson Flora Project 2017). It is known from four California counties: San Bernardino, Riverside, Imperial, and San Diego (CNPS 2017). It blooms from September through November, and is found in sandy flats at elevations up to 600 feet (Jepson Flora Project 2017). This species is likely to occur as there are recent records for this species within 500 feet of the Project and suitable habitat for it occurs within the Study Area.

Bitter Hymenoxys (*Hymenoxys odorata*)

Federal Status: None; State Status: None; CRPR 2B.1

Bitter hymenoxys is an annual herb in the aster family that blooms between February and November. It is found in California and other western states and northern Mexico. In California, it is known from three counties: San Bernardino, Riverside, and Imperial (CNPS 2017). It favors roadsides, open flats, drainage areas, and streambanks and bottoms at elevations from 190 to 4,800 feet (Jepson Flora Project 2017). It is unlikely to occur in the Study Area: although there are records for this species within 500 feet of the proposed Project, the species has not been observed in the vicinity in the past 75 years.

California Ditaxis (*Ditaxis serrata* var. *californica*)

Federal Status: None; State Status: None; CRPR 3.2

California ditaxis is a perennial herb in the euphorbia family that blooms from March to December. This taxon is endemic to California and is known from four counties: San Diego, Imperial, Riverside, and San Bernardino (CNPS 2017). It grows in washes and canyons in creosote bush scrub from 150 to 3,200 feet (Jepson Flora Project 2017). There are recent records for this species within 500 feet of the Project, and individuals were observed atthose occurrence locations.

California Satintail (*Imperata brevifolia*)

Federal Status: None; State Status: None; CRPR 2B.1

California satintail is a perennial grass that flowers from September to May. This taxon is found in California and throughout the western U.S. and Mexico. In California, it is known in 13 counties. In southern California, these counties include San Bernardino, Riverside, Imperial, Orange, and Los Angeles (CNPS 2017). This species grows in wet springs, meadows, streambanks, and floodplains within chaparral, coastal sage scrub, creosote bush scrub, and wetland-riparian habitats at elevations below 1,600 feet (Jepson Flora Project 2017). This species is unlikely to occur. Although there are historic records for this species in the region, it has not been reported within 3 miles of the Project in the last 25 years.

Coachella Valley Milk Vetch (*Astragalus lentiginosus* var. *coachellae*)

Federal Status: Endangered; State Status: None; CRPR 1B.2

Coachella Valley milk vetch is an annual or perennial herb in the pea family that flowers between February and May. This federally endangered species is endemic to California, specifically the Coachella Valley (CNPS 2017). It grows in sandy areas and dunes in creosote bush scrub at elevations lower than 2,080 feet (Jepson Flora Project 2017). Although there are two records from 1998 for this species within three miles of the Project, the species has not been observed with 500 feet of the Project. The two reports from the Consortium of California Herbaria are the furthest east occurrences recorded for this species (CNPS 2017), and these occurrences have been recently revised by herbaria to be a different variety (var. *variabilis*) (Calflora 2018). No CNDDB records occur for this species further east than a population recorded approximately three miles northeast of Mecca, California. In addition, recent analysis confirms that freckled milk vetch (*Astragalus lentiginosous*) varieties in the Sonoran Desert region intergrade with one another and that the range of Coachella Valley milk vetch is, indeed, limited to the Coachella Valley (Knaus, 2008; Meinke et al. 2007). Therefore, the Project occurs outside of the range of the species. In addition, botanical surveys were conducted in 2017 during peak bloom time for this species and it was not observed. Therefore, this species does not occur in the Project Area.

Desert Beardtongue (*Penstemon pseudospectabilis* ssp. *pseudospectabilis*)

Federal Status: None; State Status: None; CRPR 2B.2

Desert beardtongue is a perennial herb in the plantain family that blooms from January to May. This taxon is known in California from three counties: San Bernardino, Riverside, and Imperial (CNPS 2017). Limited information is available for this subspecies, but the species from which it is derived occurs in gravelly or rocky desert washes, canyon floors, creosote bush scrub, and pinyon/juniper woodland at elevations between 320 and 1,560 feet (Jepson Flora Project 2017). It is unlikely to occur. While there are records for this species within 500 feet of the Project, the species has not been observed in the vicinity within the past 25 years.

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Federal Status: None; State Status: None; CRPR 4.3

Desert unicorn plant is a perennial herb in the martynia family that blooms from May through August. This taxon is found within two U.S. states—California and Arizona—and two Mexican states—Baja California and Sonora. Within California, it is known from five counties: San Bernardino, Imperial, San Diego, Riverside, and Calaveras (although this last record is from 1882) (CNPS 2017). The species is found in sandy soils below 3,000 feet (Jepson Flora Project 2017). This species was observed in several locations within the Study Area.

Dwarf Germander (*Teucrium cubense* ssp. *depressum*)

Federal Status: None; State Status: None; CRPR 2B.2

Dwarf germander is an annual herb in the mint family that blooms from March to May. It occurs in California and other western states. In California, it is known in Imperial and Riverside counties (CNPS 2017). Individuals from this species may be found in sandy soils, washes, fields, or alkaline flats in creosote bush scrub or in wetland-riparian areas below 1,280 feet (Jepson Flora Project

2017). It is unlikely to occur. There are records for this species within 500 feet of the Project, but it has not been observed in the vicinity within the past 25 years.

Emory's Crucifixion Thorn (*Castela emoryi*)

Federal Status: None; State Status: None; CRPR 2B.2

Emory's crucifixion thorn is a perennial shrub in the quassia family that blooms in June and July. It is known in California, Arizona, and Sonora, Mexico. Within California, it occurs in four counties: Inyo, San Bernardino, Riverside, and Imperial (CNPS 2017). It grows in dry, gravelly washes on slopes and flats within creosote bush scrub (Jepson Flora Project 2017). Several individuals of this species were observed at one location within 500 feet of the Project.

Foxtail Cactus (*Coryphantha alversonii*)

Federal Status: None; State Status: None; CRPR 4.3

Foxtail cactus is a perennial herb (stem succulent) in the cactus family that blooms between April and June. This taxon is endemic to California, where it is reported from three counties: San Bernardino, Riverside, and Imperial (CNPS 2017). The species is found in sandy to rocky alluvium in creosote bush scrub at elevations ranging from 295 to 4,430 feet (CNPS 2017). This species was observed at several locations within the Study Area.

Glandular Ditaxis (*Ditaxis claryana*)

Federal Status: None; State Status: None; CRPR 2B.2

Glandular ditaxis is a perennial herb in the euphorbia family that blooms between October and March. Within California, this taxon reported from three counties: San Bernardino, Riverside, and Imperial (CNPS 2017). The species is found in sandy soils within creosote bush scrub at elevations below 300 feet (Jepson Flora Project 2017). It is unlikely to occur. Although there are records for this species within 3 miles of the proposed Project, the species has not been observed in vicinity in the past 25 years.

Gravel Milk Vetch (*Astragalus sabulonum*)

Federal Status: None; State Status: None; CRPR 2B.2

Gravel milk vetch is an annual herb in the pea family that blooms from February to July. This taxon is found in three states and northern Mexico, including California. Within California, it is known from four counties: Inyo, Imperial, Riverside, and San Diego (CNPS 2017). The species is found in sand and gravel substrates in creosote bush scrub at -160 to 2,880 feet in elevation (Jepson Flora Project 2017). There are records for this species within 500 feet of the Project, but it has not been observed nearby in the past 75 years; therefore, it is unlikely to occur.

Hall's Tetracoccus (*Tetracoccus hallii*)

Federal Status: None; State Status: None; CRPR 4.3

Hall's tetracoccus is a shrub from the family Picrodendraceae that blooms from January to May. It is known from California and western Arizona. Within California, it is reported in four counties: San Bernardino, Imperial, Riverside, and San Diego (CNPS 2017). The species is found on rocky slopes and in washes in creosote bush scrub below 4,000 feet in elevation (Jepson Flora Project

2017). It is unlikely to occur. Although there are historic records for this species in the region, this species has not been reported within 3 miles of the Project in the last 25 years.

Harwood's Eriastrum (*Eriastrum harwoodii*)

Federal Status: None; State Status: None; CRPR 1B.2

Harwood's eriastrum is a perennial herb of the family Polemoniaceae that blooms between March and June. It is known from four counties in California: San Bernardino, Riverside, Imperial, and San Diego (CNPS 2017). It grows in sand dunes in creosote bush scrub at elevations less than 350 feet (Jepson Flora Project 2017). It was observed incidentally in one location near the Study Area (location data are not available for the occurrence).

Harwood's Milk Vetch (*Astragalus insularis* var. *harwoodii*)

Federal Status: None; State Status: None; CRPR 2B.2

Harwood's milk vetch is an annual herb in the pea family that blooms from January through May. This taxon is found within three states: California, Arizona, and Sonora, Mexico. Within California, it is known from four counties: San Bernardino, Riverside, Imperial, and San Diego (CNPS 2017). This species occurs on sandy or gravelly areas up to 3,200 feet (Jepson Flora Project 2017). It was observed within the Study Area.

Joshua Tree Poppy (*Eschscholzia androuxii*)

Federal Status: None; State Status: None; CRPR 4.3

Joshua tree poppy is an annual herb in the poppy family that blooms from February to June. Within California, this taxon is known from three counties: San Bernardino, Riverside, and Imperial (CNPS 2017). It occurs in desert washes, flats, and slopes, and in sandy, gravelly, or rocky areas in Joshua tree woodlands and Mojavean desert scrub between elevations 1,870 and 5,400 feet (CNPS 2017). It is unlikely to occur as there are no records for this recently described species occurring within 3 miles of the Project and the Project is outside its typical elevation.

Las Animas Colubrina (*Colubrina californica*)

Federal Status: None; State Status: None; CRPR 2B.3

Las Animas colubrina is a shrub in the buckthorn family occurring in California, Arizona, Baja California, and Sonora Mexico. This species blooms from April to June. Within California, it occurs in three counties: Riverside, San Diego, and Imperial (CNPS 2017). This species grows in desert scrub at elevations from 770 to 2,950 feet (Jepson Flora Project 2017). There are recent records for this species within 500 feet of the Project and is likely to occur.

Palmer's Jackass Clover (*Wislizenia refracta* ssp. *palmeri*)

Federal Status: None; State Status: None; CRPR 2B.2

Palmer's jackass clover is an annual herb from the family Cleomaceae, closely related to the mustard family, that blooms year-round. It is known in California and northern Mexico. Within California, it occurs in Riverside and San Diego counties (CNPS 2017). This species grows in sandy washes, desert scrub, and dunes at elevations between 395 and 525 feet (Jepson Flora

Project 2017). There are recent records for this species within 3 miles the Project, but it has not been observed within 500 feet of the Project and is unlikely to occur.

Peirson's Pincushion (*Chaenactis carphoclinia* var. *peirsonii*)

Federal Status: None; State Status: None; CRPR 1B.3

Peirson's pincushion is an annual herb in the aster family that blooms in March and April. Within California, this taxon occurs in Riverside, Imperial, and San Diego counties (CNPS 2017). This species grows in open areas and rocky or gravelly slopes in creosote bush scrub at elevations below 640 feet (Jepson Flora Project 2017). It is unlikely to occur. Although there are records for this species within 3 miles of the Project, the species has not been observed in vicinity in the past 25 years.

Pink Fairy Duster (*Calliandra eriophylla*)

Federal Status: None; State Status: None; CRPR 2B.3

Pink fairy duster is a shrub in the pea family that blooms in February and March. The species is known throughout the western U.S. and northern Mexico. In California, it occurs in four counties: San Bernardino, San Diego, Imperial, and Riverside (CNPS 2017). This species grows in sandy washes, on slopes, and mesas in creosote bush scrub at elevations between 395 to 4,800 feet in (Jepson Flora Project 2017). It is unlikely to occur. There are records for this species within 500 feet of the Project, but it has not been observed in the vicinity within the past 25 years.

Providence Mountains Milk Vetch (*Astragalus nutans*)

Federal Status: None; State Status: None; CRPR 4.3

Providence Mountains milk vetch is an annual or perennial herb in the pea family that blooms between March and June. The species is endemic to California, where it occurs in five counties: Inyo, San Bernardino, San Diego, Imperial, and Riverside (CNPS 2017). This species grows in sandy flats and washes of desert foothills in creosote bush scrub, Joshua tree woodland, and pinyon/juniper woodland at elevations between 1,440 and 6,400 feet (Jepson Flora Project 2017). While there are historic records for this species in the region, it has not been reported within 3 miles of the Project in the last 25 years; therefore, it is unlikely to occur.

Ribbed Cryptantha (*Cryptantha costata*)

Federal Status: None; State Status: None; CRPR 4.3

Ribbed cryptantha is an annual herb in the borage family that blooms between February and May. This taxon is known from three states, including Baja California. In California, it is reported from six counties: Inyo, Tulare, San Bernardino, Riverside, Imperial, and San Diego (CNPS 2017). The species occurs primarily on sand dunes in creosote bush scrub at elevations ranging from -125 to 5,445 feet (Jepson Flora Project 2017). Several populations of this species were observed in the Study Area.

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

Federal Status: None; State Status: None; CRPR 2B.1

Roughstalk witch grass is an annual grass that blooms between August and December. It is known throughout the western U.S. and into South America. This species has been recorded in three California counties: San Bernardino, Riverside, and Imperial (CNPS 2017). It favors sandy soils and open sites in creosote bush scrub at elevations below 4,500 feet (Jepson Flora Project 2017). A population of this species was observed approximately 200 feet from the Study Area.

Slender-spined Allthorn (*Koeberlinia spinosa* var. *tenuispina*)

Federal Status: None; State Status: None; CRPR 2B.2

The slender-spined althorn is a shrub in the koeberlinia family that blooms between May and July. Outside of California, it is known from Arizona and parts of northern Mexico. Within California, it is reported in Riverside and Imperial counties (CNPS 2017). This species grows in creosote bush scrub at elevations less than 1,280 feet (Jepson Flora Project 2017). It is likely to occur as there are recent records for this species within 500 feet of the Project.

Torrey's Box Thorn (*Lycium torreyi*)

Federal Status: None; State Status: None; CRPR 4.2

Torrey's box thorn is a shrub in the nightshade family that blooms between March and May. Outside of California, this taxon grows in Utah and Arizona. Within California, it is reported in seven counties: Riverside, Imperial, San Diego, San Bernardino, Los Angeles, San Luis Obispo, and Inyo (CNPS 2017). This species grows in washes and streambanks at elevations less than 2,240 feet (Jepson Flora Project 2017). Although there are records for this species within 3 miles of the proposed Project, the species has not been observed in vicinity in the past 75 years; therefore, it is unlikely to occur.

Utah Vine Milkweed (*Funastrum utahense*)

Federal Status: None; State Status: None; CRPR 4.2

Utah vine milkweed is a perennial herb in the dogbane family that blooms between April and June. The range of this taxon extends to Utah, Texas, and northern Mexico. Within California, it is reported in five counties: Riverside, Imperial, San Diego, San Bernardino, and Inyo (CNPS 2017). This species grows in open, dry, sandy, or gravelly areas in creosote bush scrub at elevations less than 3,200 feet (Jepson Flora Project 2017). It is unlikely to occur. While there are recent records for this species within 3 miles the Project, it has not been observed within 500 feet of the Project.

Winged Cryptantha (*Cryptantha holoptera*)

Federal Status: None; State Status: None; CRPR 4.3

Winged cryptantha is an annual herb in the borage family that blooms in March and April. Outside of California, this taxon is known from Nevada, Arizona, and northern Mexico. Within California, it is reported in eight counties: Riverside, Imperial, San Diego, San Bernardino, Los Angeles, Kern, Mono, and Inyo (CNPS 2017). This species grows in gravelly to rocky soils, washes, slopes, and ridges in creosote bush scrub and Joshua tree woodlands at elevations between 160 and 3,900

feet (Jepson Flora Project 2017). It is unlikely to occur. There are recent records for this species within 3 miles the Project, but it has not been observed within 500 feet of the Project.

Wright's Jaffueliobryum Moss (*Jaffueliobryum wrightii*)

Federal Status: None; State Status: None; CRPR 2B.3

Wright's jaffueliobryum moss is a bryophyte. This taxon occurs throughout the U.S. Within California, it is reported in four counties: Riverside, San Bernardino, Inyo, and Tulare (CNPS 2017). This species grows in dry sandstone or limestone rock, rarely metamorphic rock, open arid to semi-arid shrub, woodland communities, and grasslands in elevations between 640 and 8,960 feet (Hastings and Ochyra 2007). Although there are recent records from the region, there are no records for this species within 3 miles of the Project; therefore, it is unlikely to occur.

Field Surveys

The floristic field survey located four special-status species within the Study Area (Figure 3). Three additional species were observed within the Action Area for desert tortoise surveys, completed in May 2017, and one species was observed incidentally at a previously mapped location (CDFW 2017) approximately 200 feet from the Study Area during Phase II of the plant survey. These eight species are discussed below. Photographs are included in Appendix C.

Ribbed Cryptantha

Individuals of this species were observed within two separate locations in the Study Area. Both of these locations are in sandy dunes to the east of the Wiley's Well Rest Area, off Wiley's Well Road. Five small populations, totaling approximately 22 individual plants, were observed within the 100-foot buffer of Pole N124707AE_S124707BE. Five additional populations (population size estimates 5–1,000) were mapped within the Study Area.

Foxtail Cactus

Foxtail cactus occur on the western end of the Study Area, along the north–south portion of the alignment leading from the primary access road to the Eagle Mountain Substation. Sixty-five individual plants were mapped within the Study Area within rocky areas, benches, and banks of ephemeral drainages. A portion of the Study Area north of the substation could not be surveyed due to access restrictions. Biologists conducted a binocular scan of this area through the fencing and no foxtail cacti were observed; however, individuals could be growing inside the fenced area because habitat is suitable. It is recommended that those work areas be surveyed for special-status plants prior to construction activities.

Desert Unicorn Plant

This species occurs in several locations throughout the alignment. Ten individuals occur within the Study Area. The populations occur in creosote bush scrub, former agriculture lands (jojoba orchard), and ephemeral washes. The Study Area in some of these areas consists of braided channels in ephemeral washes that are impacted during rain events and, therefore, may subject to blading during construction activities to allow access by construction vehicles. Plants were observed within the 100-foot buffer of poles 124684AE_124684BE, and 124911A_124911B. Other individuals were located in the ROW near poles 124689AE_124689BE, 124750AE_124750BE, 124920A_124920B, 124923A_124923B, and N124756A_ S124756B.

Harwood's Milk Vetch

One population of this species was observed within the Study Area. Two plants were mapped in sandy areas within the 100-foot buffer of poles N1562164E_C1562165E_ S1565166E. This location is just north of the alignment's Interstate 10 crossing, east of Ford's Dry Lake Road.

California Ditaxis

This species was observed at several locations along the alignment in creosote bush scrub. Although not detected during Phase I surveys, it was incidentally observed within the desert tortoise 500-foot survey buffer. While it may bloom later in the season, no additional individuals were observed during Phase II.

Emory's Crucifixion Thorn

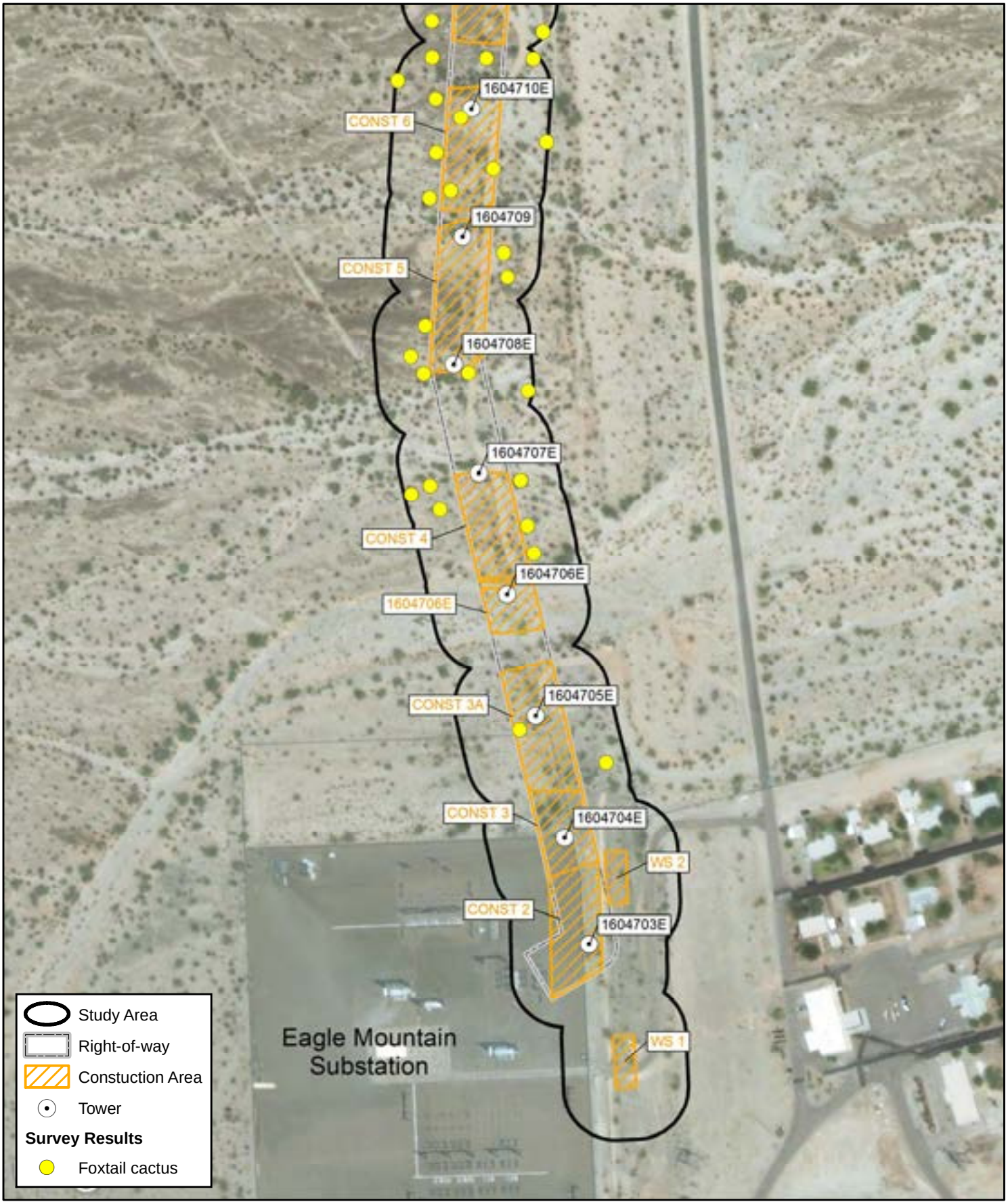
Populations of Emory's crucifixion thorn are known from CNDDB occurrences and were observed during the reference population visits for the plant survey effort. Two mature plants were observed in a large ephemeral wash approximately 225 feet northwest from poles 124932AE_124932BE. Project-related activities are not expected to impact this population; however, as indicated by habitat and historical records, other individuals of this species are likely to occur in the area.

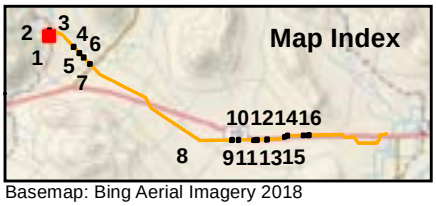
Roughstalk Witch grass

Populations of this species within the vicinity of the Project are known from CNDDB occurrences. One of these was observed during the reference population visits for the Phase II surveys in August 2017 and classified as an incidental observation. A population of several hundred plants of roughstalk witch grass was observed in an open area that appears to collect water within creosote bush scrub. The population is approximately 300 feet northeast from poles N1562176E/S1562177E. Project-related activities are not expected to impact this population.

Harwood's Eriastrum

Previous records indicate that this species had not been observed within 500 feet of the Project. However, it was incidentally observed at one location within the 500-foot desert tortoise survey buffer for the Project in 2017. Precise location data are not available for this observation and it is therefore not included in Figure 3.



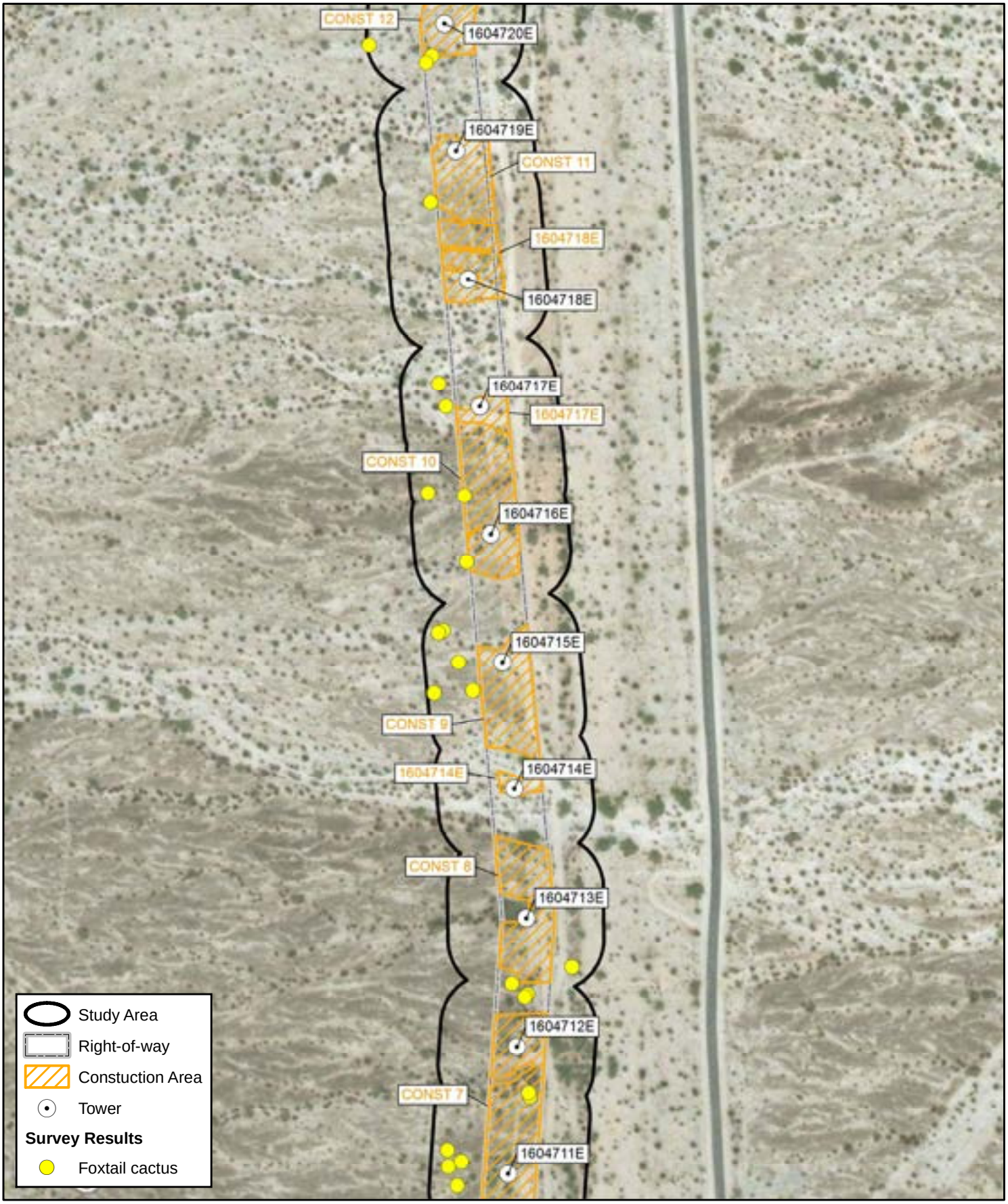


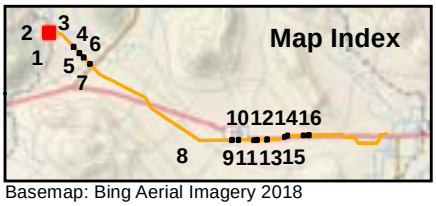
Basemap: Bing Aerial Imagery 2018

0 250 Feet

1 inch = 250 feet

Figure 3.
Special-status Plants Species Survey Results
Eagle Mountain to Blythe Transmission Project
Riverside County, CA





Basemap: Bing Aerial Imagery 2018

0 250 Feet

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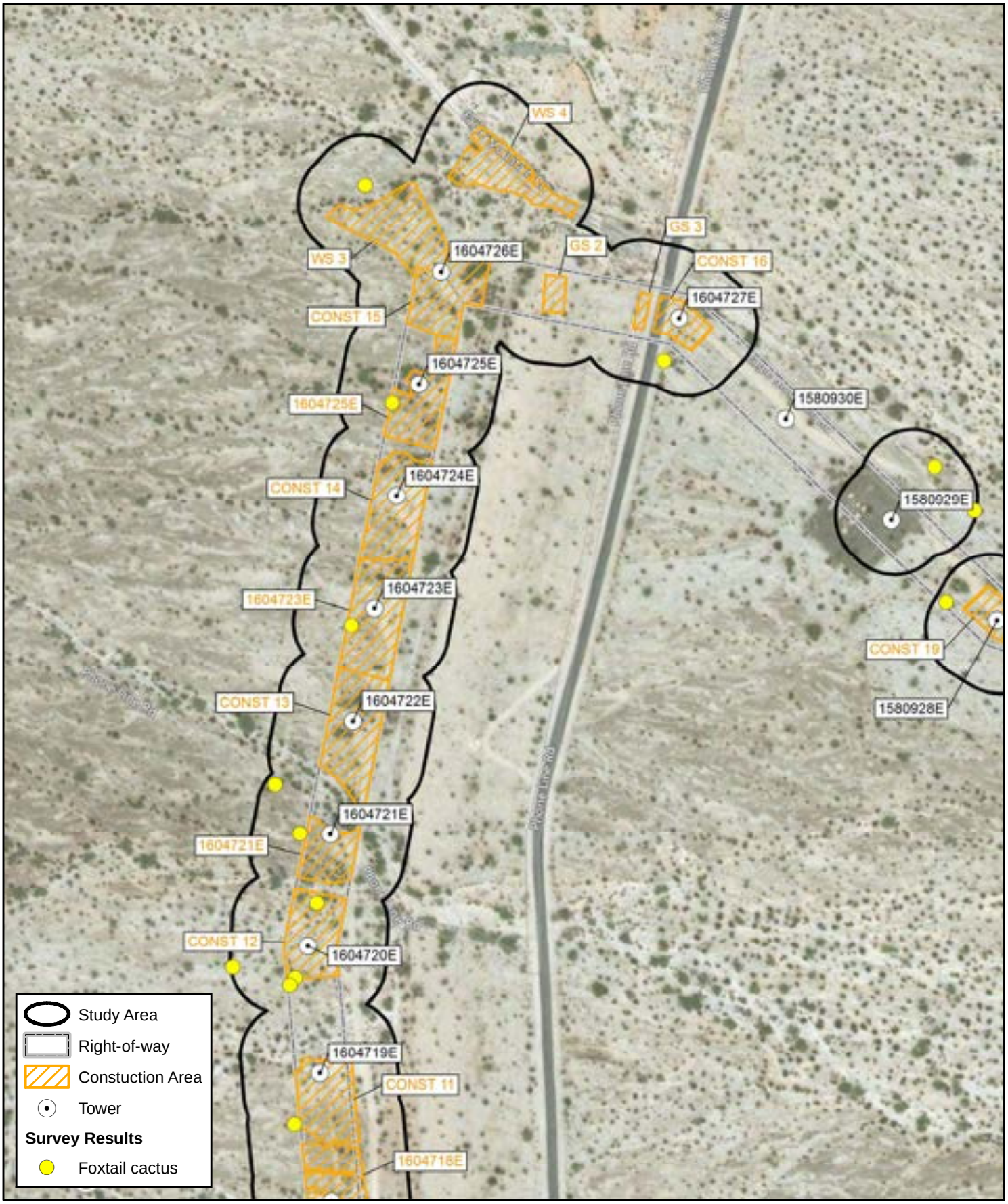
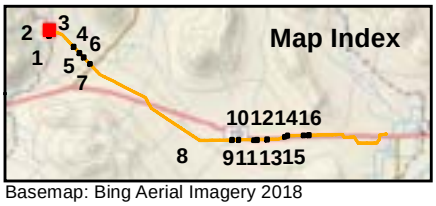
Special-status Plants Species Survey Results
Eagle Mountain to Blythe Transmission Project
Riverside County, CA





Basemap: Bing Aerial Imagery 2018

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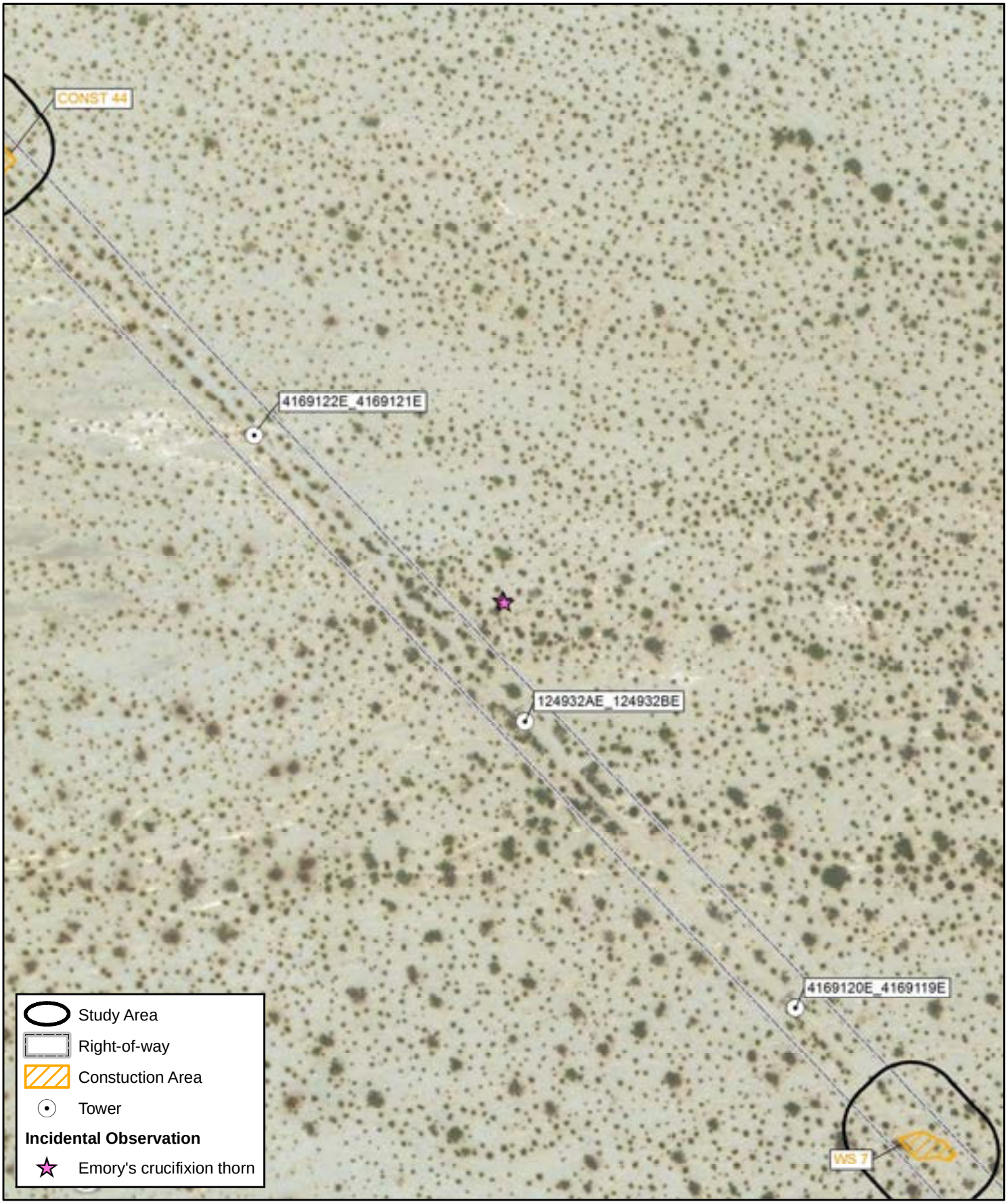
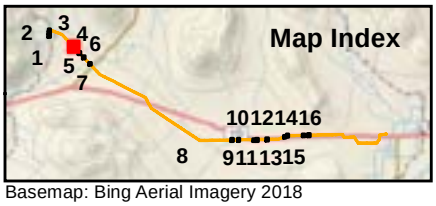
Eagle Mountain to Blythe Transmission Project
Riverside County, CA





Basemap: Bing Aerial Imagery 2018

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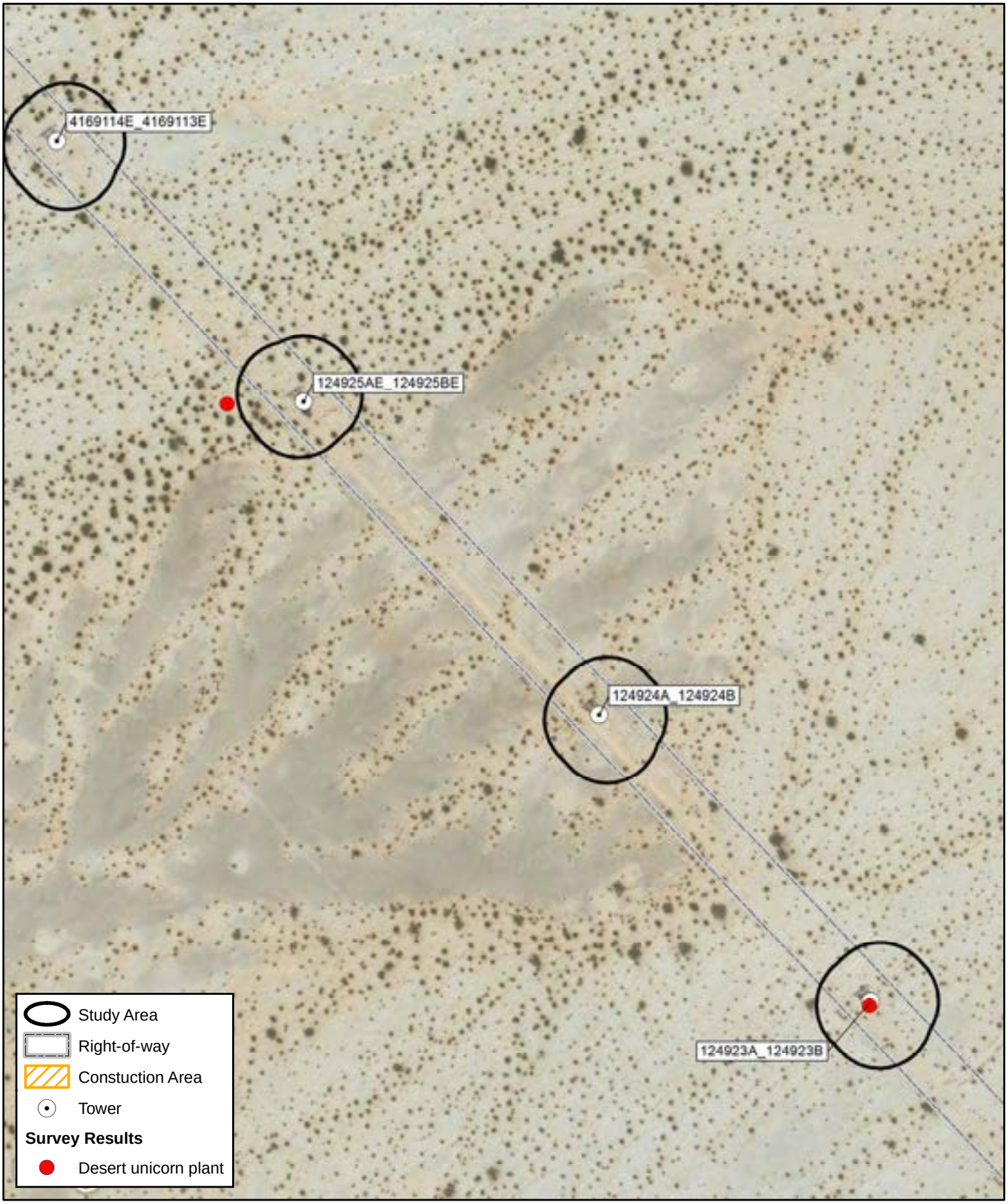
Riverside County, CA



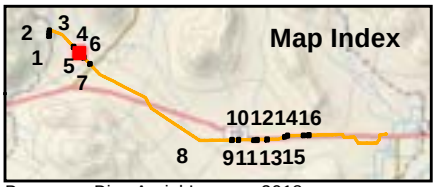


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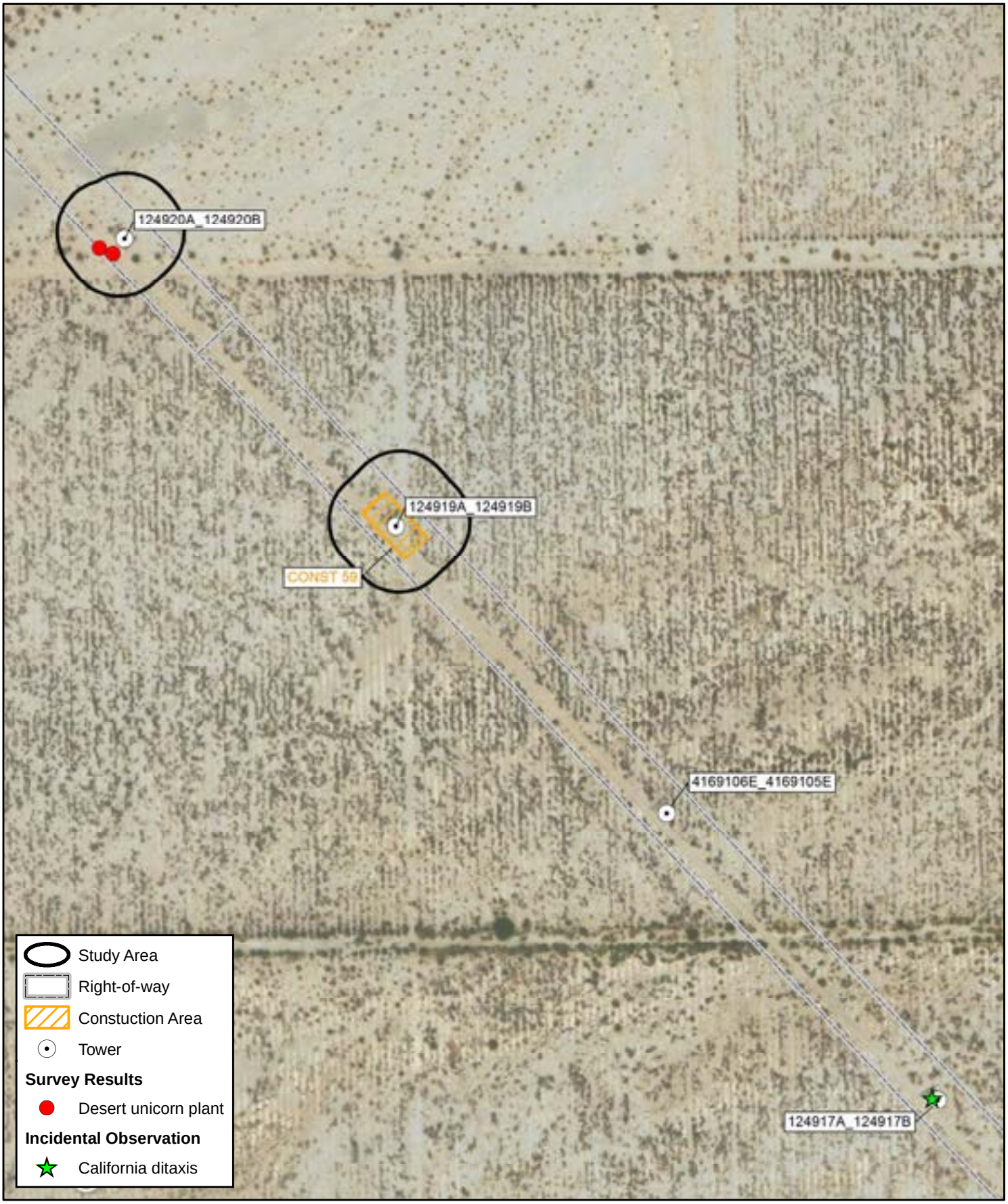
Figure 3.
Special-status Plants Species Survey Results
Eagle Mountain to Blythe Transmission Project
Riverside County, CA



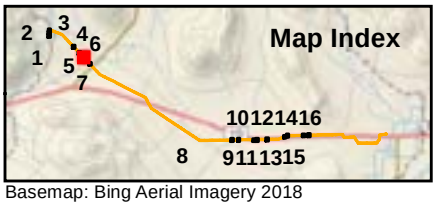


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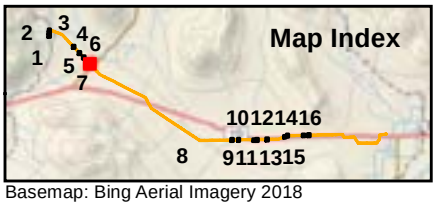
Figure 3.
Special-status Plants Species Survey Results
Eagle Mountain to Blythe Transmission Project
Riverside County, CA



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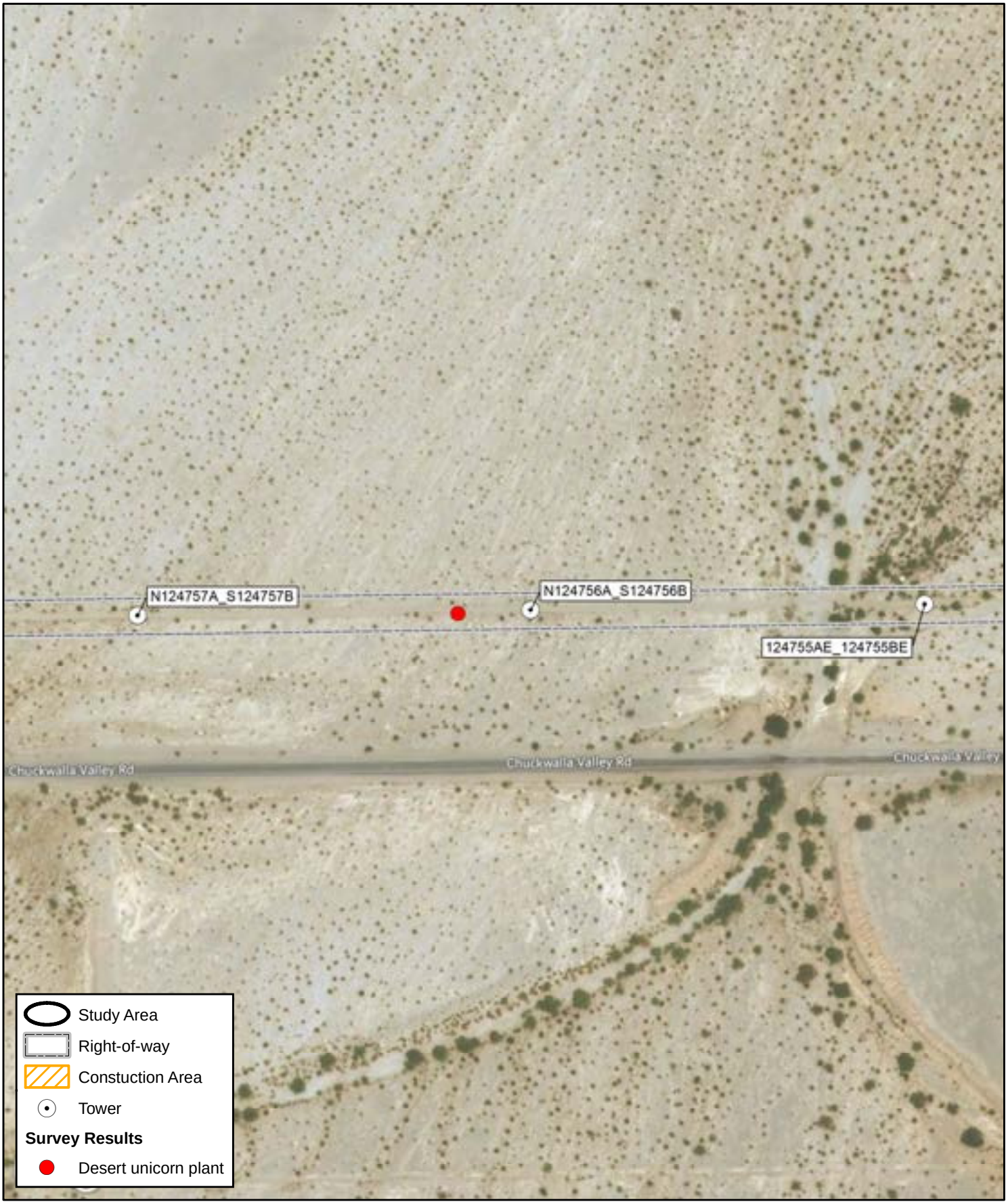

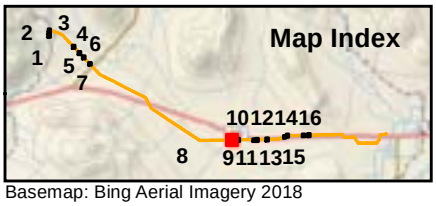

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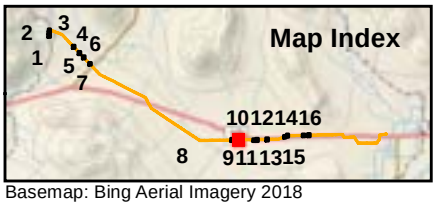

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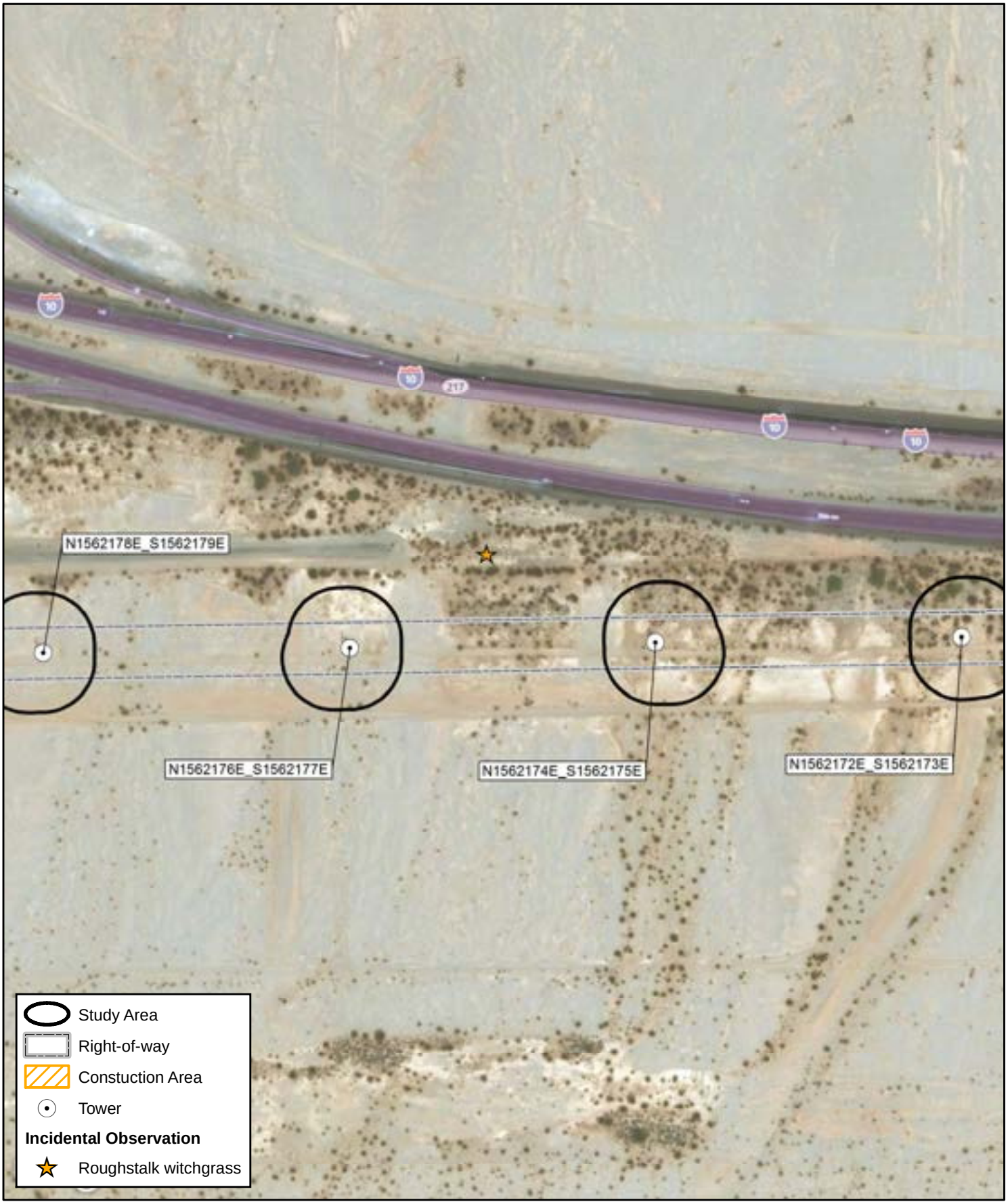
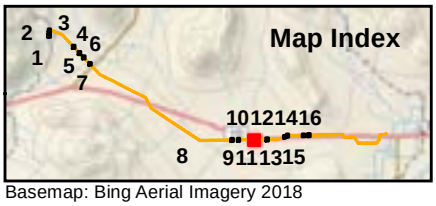
Riverside County, CA





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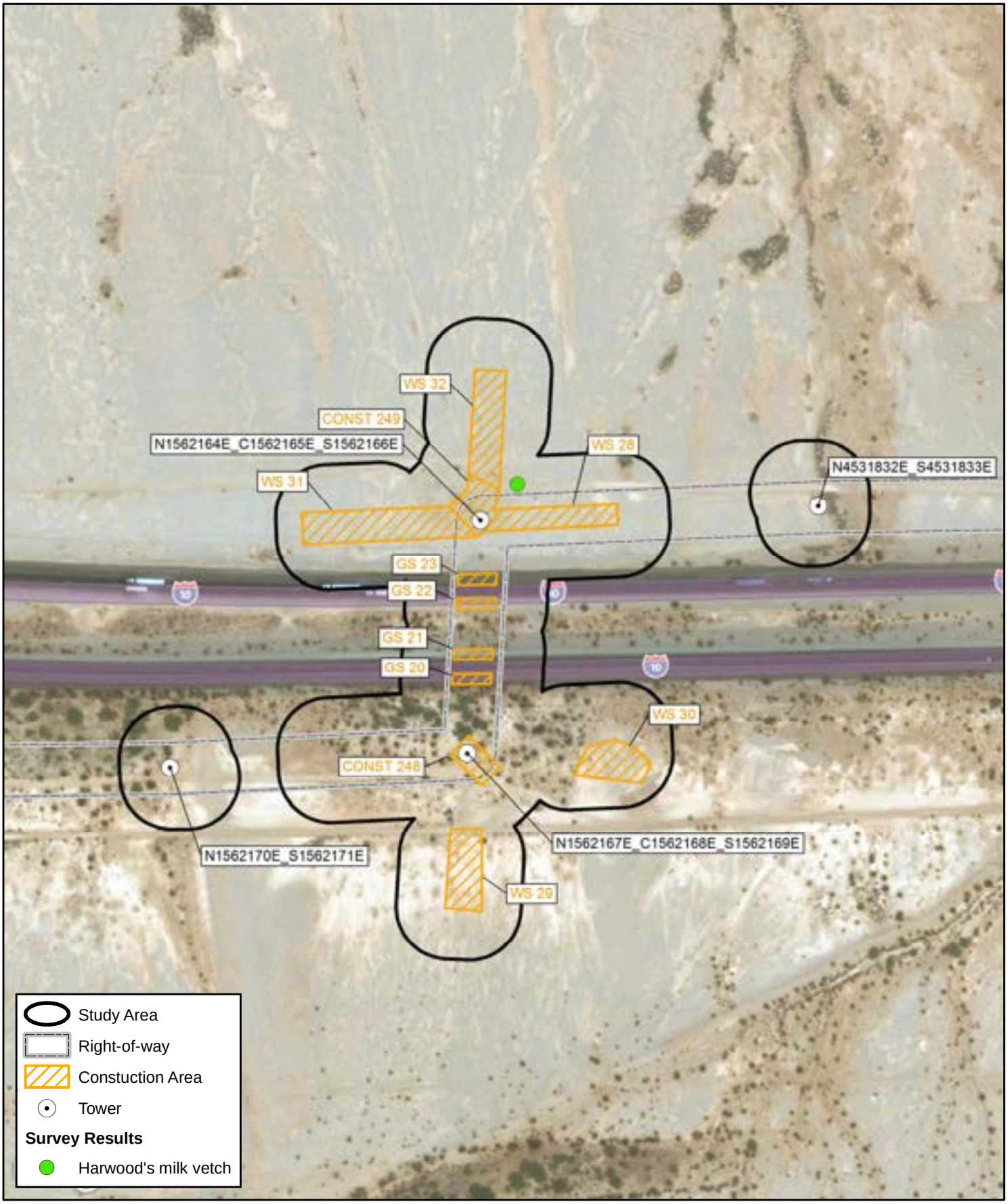

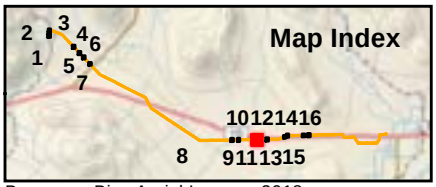

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Basemap: Bing Aerial Imagery 2018

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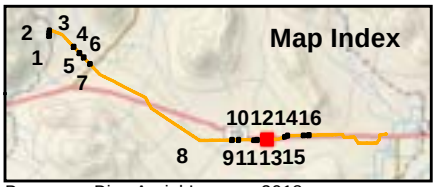
Eagle Mountain to Blythe Transmission Project
Riverside County, CA



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0 250 Feet

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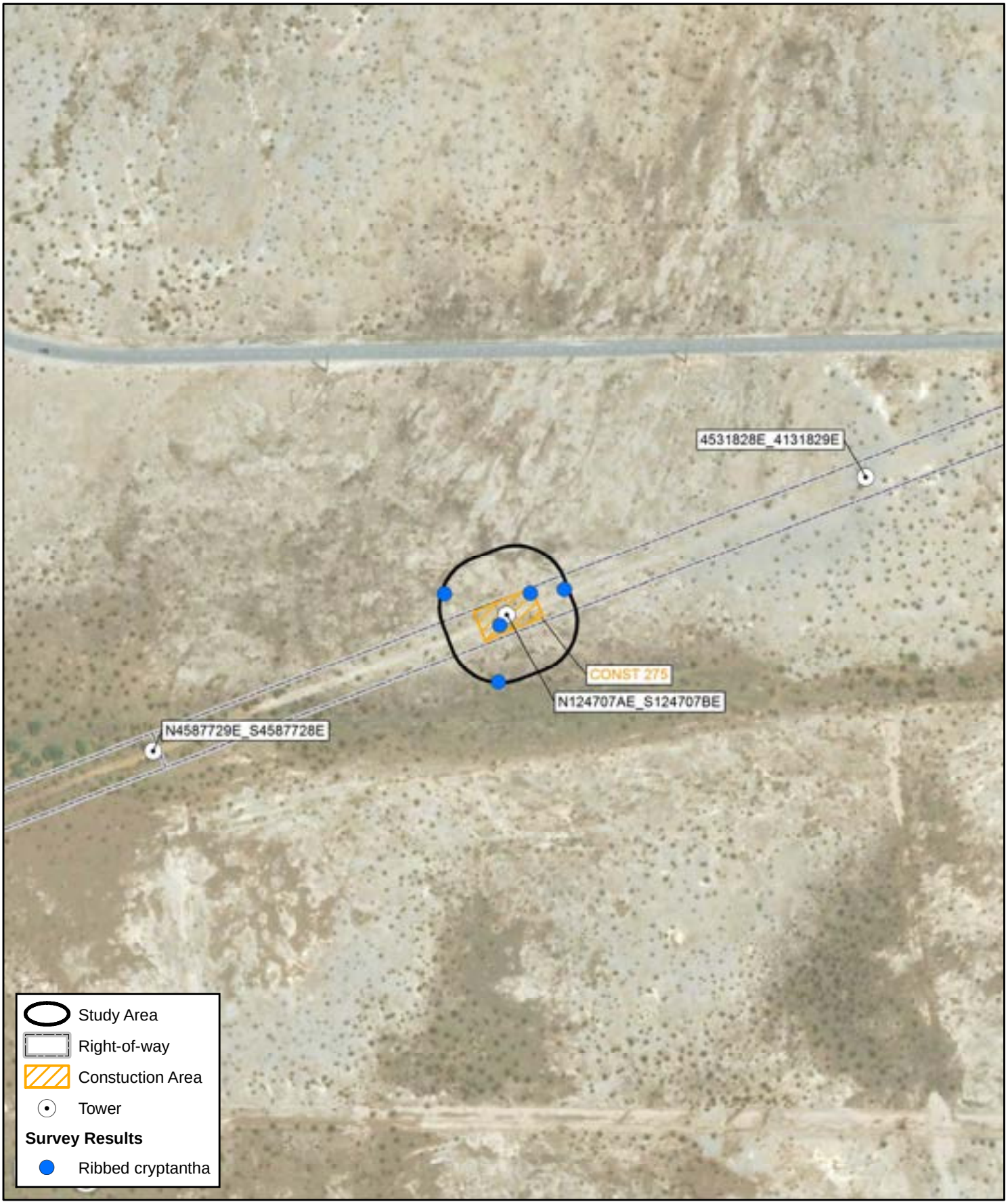
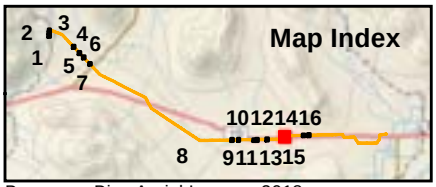
Riverside County, CA





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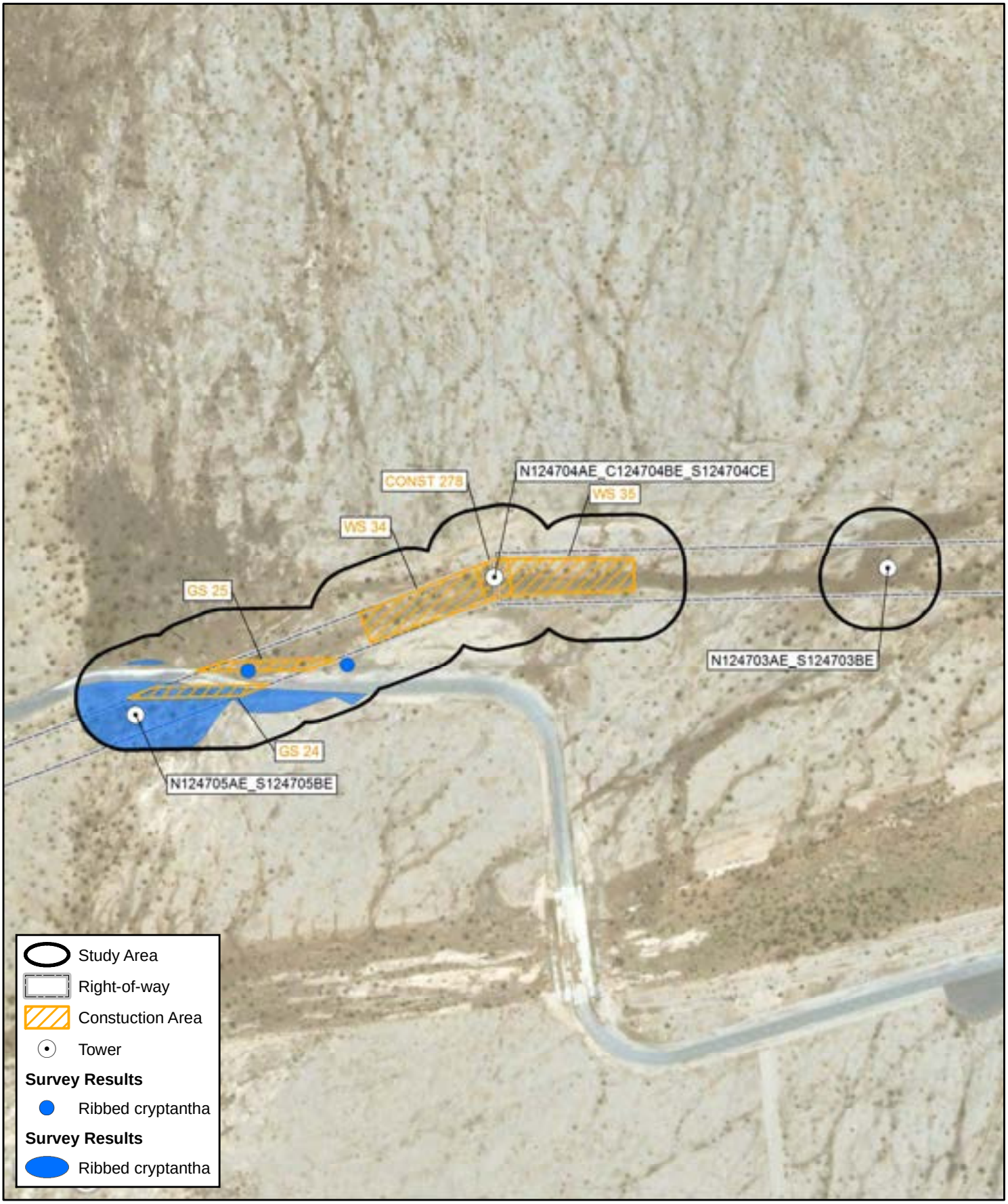
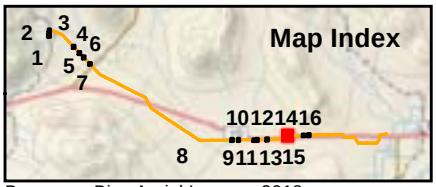
Eagle Mountain to Blythe Transmission Project
Riverside County, CA





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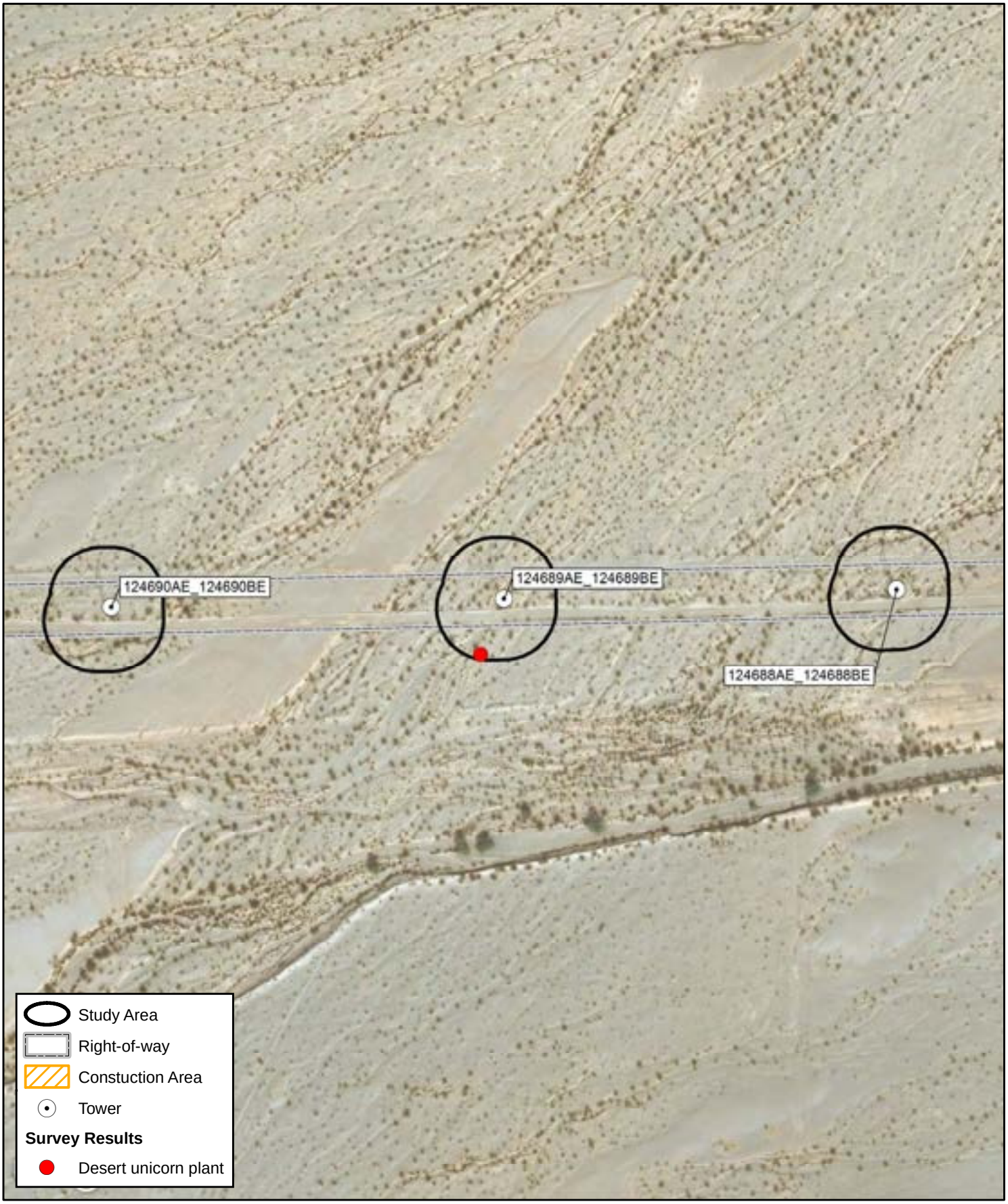

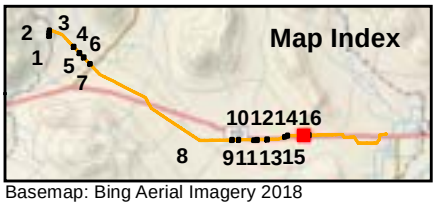

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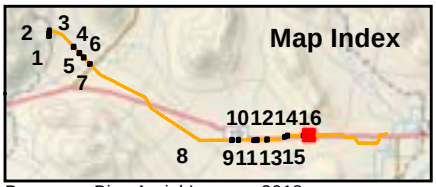
Eagle Mountain to Blythe Transmission Project
Riverside County, CA



Basemap: Bing Aerial Imagery 2018

0 250 Feet

1 inch = 250 feet

Figure 3.
Special-status Plants Species Survey Results
Eagle Mountain to Blythe Transmission Project
Riverside County, CA

Other Plant Species

A complete list of plants observed was compiled and is presented in Appendix A.

Invasive Weed Species

Weeds are typically characterized as non-native plants that aggressively colonize new areas and can grow to dominate native plant communities if uncontrolled. Weeds usually have a competitive advantage over native species and can form an expansive monoculture. Weeds alter physical or chemical soil conditions, dominate the landscape to the detriment of native plants and wildlife, preempt ground and surface water resources, compromise agricultural operations, conflict with recreational values, create fire hazards, and compromise aesthetic values of native or urban landscapes. Weeds are often quick to colonize disturbed areas, including construction sites, roadsides, irrigated sites, or any other area with altered hydrology, soil structure, or soil chemistry.

In general, the Study Area is dominated by barren ground or sparse native vegetation. However, non-native plant species do occur throughout the Study Area (Table 1). The dominant non-native species are Mediterranean grass (*Schismus barbatus)* and Saharan mustard (*Brassica tournefortii)*. Limited amounts of three other non-native plant species that are classified as "noxious" by the California Department of Food and Agriculture (CDFA 2017) are present in the Study Area: puncturevine (*Tribulus terrestris*), salt cedar (*Tamarix ramosissima*), athel tree (*Tamarix* aphylla), wild oat (*Avena fatua*), and barbwire Russian thistle (*Salsola paulsenii*). Although desert dodder (*Cuscuta denticulata)* is a native species, it is also listed as noxious by the CDFA (2017). Small amounts of other non-native weedy species are also present, including rescue grass (*Bromus catharticus*), Bermuda grass *(Cynodon dactylon)*, little seed canarygrass (*Phalaris minor)*, crystalline iceplant (*Mesembryanthemum crystallinum*), pigweed goosefoot (*Amaranthus albus*), flax-leaved horseweed (*Erigeron bonariensis*), prickly lettuce (*Lactuca serriola),* nettle leaf goosefoot (*Chenopodium murale)*, common sowthistle (*Sonchus oleraceus*), and shepherd's purse (*Capsella bursa-pastoris*) (Appendix A).

Table 1. Weeds Observed in the Study Area and Ratings

Scientific Name	Common Name	Cal-IPC Weed Rating	CDFA Weed Rating
*Ambrosia artemisiifolia**	annual ragweed	Not rated	Not rated
Amaranthus albus	pigweed goosefoot	Not rated	Not rated
Avena fatua	wild oat	Moderate	Not rated
Brassica tournefortii	Saharan mustard	High	Not rated
Bromus catharticus	rescue grass	Not rated	Not rated
Capsella bursa-pastoris	shepherd's purse	Not rated	Not rated
Chenopodium murale	nettle leaf goosefoot	Not rated	Not rated
*Cuscuta denticulata***	desert dodder	Not rated	C
Cynodon dactylon	Bermuda grass	Moderate	Not rated

Table 1. Weeds Observed in the Study Area and Ratings

Scientific Name	Common Name	Cal-IPC Weed Rating	CDFA Weed Rating
Erigeron bonariensis	flax-leaved horseweed	High	Not rated
Lactuca serriola	prickly lettuce	High	Not rated
Mesembryanthemum crystallinum	crystalline iceplant	Moderate	B
Phalaris minor	little seed canarygrass	Moderate	C
Salsola paulsenii	Russian thistle	Limited	C
Schismus barbatus	Mediterranean grass	Limited	Not rated
Sonchus oleraceus	common sowthistle	Moderate	C
Tamarix aphylla	athel tree	Limited	Not rated
Tamarix ramosissima	salt cedar	High	Listed, but not rated
Tribulus terrestris	puncture vine	Not rated	A

Notes

* This species was observed during the 2016 AECOM surveys, but not observed during the 2017 GANDA surveys.

**This is a native species, but is classified as noxious by CDFA.

Cal-IPC Weed Rating (Cal-IPC 2006):

High–These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate—These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited—These species are invasive, but their ecological impacts are minor on a statewide level, or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

CDFA Weed Rating (CDFA 2017):
Rating A—A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment. A-rated pests are prohibited from entering the state because, by virtue of their rating, they have been placed on the of Plant Health and Pest Prevention Services Director's list of organisms "detrimental to agriculture" in accordance with the Food and Agriculture Code (FAC) Sections 5261 and 6461.

The only exception is for organisms accompanied by an approved CDFA or USDA live organism permit for contained exhibit or research purposes. If found entering or established in the state, A-rated pests are subject to state (or commissioner when acting as a state agent) enforced action involving eradication, quarantine regulation, containment, rejection, or other holding action.

Rating B—A pest of known economic or environmental detriment and, if present in California, it is of limited distribution. B-rated pests are eligible to enter the state if the receiving county has agreed to accept them. If found in the state, they are subject to state endorsed holding action and eradication only to provide for containment, as when found in a nursery. At the discretion of the individual county agricultural commissioner, they are subject to eradication, containment, suppression, control, or other holding action.

Rating C—A pest of known economic or environmental detriment and, if present in California, it is usually widespread. C-rated organisms are eligible to enter the state as long as the commodities with which they are associated conform to pest cleanliness standards when found in nursery stock shipments. If found in the state, they are subject to regulations designed to retard spread or to suppress at the discretion of the individual county agricultural commissioner. There is no state enforced action other than providing for pest cleanliness.

Sensitive Plant Communities

Sensitive vegetation communities are deemed rare due to several factors. They may be protected by regulatory agencies or policies (e.g., Clean Water Act, California Fish and Game Code), support special-status plants or wildlife, or be designated sensitive within CNDDB. NECO designates additional sensitive communities not found within CNDDB, which include desert dry wash woodland, playas, sand dunes, and desert chenopod scrub (BLM 2001). Vegetation community mapping was conducted by AECOM and is presented in the draft Habitat and Resource Assessment Report (AECOM 2016). GANDA botanists did not conduct additional mapping or verification of the previous designations during the field surveys.

A CNDDB query showed that no sensitive vegetation communities occur within the Project Area and that the nearest sensitive vegetation community is more than 8 miles southeast of the Project along the Colorado River. Two of the NECO-designated communities, playas and sand dunes, do occur within the Project Area (AECOM 2016).

Critical Habitat

No designated critical habitat for federally listed plant species occurs within the Study Area; therefore, no critical habitat for plants will be affected by proposed Project activities.

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Appendix A
Plant Species Observed in the Study Area

Plants Identified within the Eagle Mountain to Blythe Transmission Line Project Study Area		
Family Name	**Scientific Name**	**Common Name**
Agavaceae	*Hesperocallis undulata*	desert lily
Poaceae	*Aristida adscensionis*	sixweeks threeawn
	Aristida californica	California threeawn
	*Avena fatua**	wild oat
	Bouteloua barbata	sixweeks grama
	*Bromus catharticus**	rescue grass
	*Cynodon dactylon**	Bermuda grass
	Dasyochloa pulchella	low woollygrass
	Hilaria rigida	big galleta grass
	***Panicum hirticaule* ssp. *hirticaule* (observed incidentally within 300 feet of Project)**	**roughstalk witch grass (CRPR 2B.1)**
	*Phalaris minor**	little seed canarygrass
	Schismus barbatus	Mediterranean grass
	Sporobolus contractus	spike dropseed
Aizoaceae	*Mesembryanthemum crystallinum**	crystalline iceplant
Amaranthaceae	*Amaranthus albus**	pigweed amaranth
	Amaranthus blitoides	prostrate amaranth
	Tidestromia suffruticosa var. *oblongifolia*	honeysweet
Apocynaceae	*Asclepias subulata*	rush milkweed
	*Thevetia peruviana**	luckynut
	Funastrum cynanchoides var. *hartwegii*	fringed twinevine
	Funastrum hirtellum	hairy milkweed
	*Nerium oleander**	oleander
Asteraceae	*Ambrosia dumosa*	white bursage
	Ambrosia salsola	cheesebush
	Atrichoseris platyphylla	parachute plant
	Baileya multiradiata	desert marigold
	Baileya pauciradiata	Colorado desert marigold
	Bebbia juncea	sweetbush
	Calycoseris wrightii	white tackstem
	Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
	Chaenactis stevioides	desert pincushion
	Dicoria canescens	bugweed

Plants Identified within the Eagle Mountain to Blythe Transmission Line Project Study Area		
Family Name	**Scientific Name**	**Common Name**
	Encelia farinosa	brittlebush
	Encelia frutescens	rayless sunflower
	*Erigeron bonariensis**	flax-leaved horseweed
	Geraea canescens	desert sunflower
	*Lactuca serriola**	prickly lettuce
	Logfia depressa	dwarf cottonrose
	Monoptilon bellioides	desert star
	Palafoxia arida var. *arida*	Spanish needles
	Pectis papposa	manybristle chinchweed
	Perityle emoryi	Emory's rock daisy
	Peucephyllum schottii	desert fir
	Pluchea sericea	arrowweed
	Psathyrotes ramosissima	velvet turtleback
	Rafinesquia neomexicana	desert chicory
	*Sonchus oleraceus**	common sowthistle
	Stephanomeria exigua ssp. *coronaria*	milk aster
	Stephanomeria pauciflora	desert straw
	Trichoptilium incisum	yellow head
Boraginaceae	*Amsinckia tessellata*	bristly fiddleneck
	Cryptantha angustifolia	narrow-leaved cryptantha
	Cryptantha costata	**ribbed cryptantha (CRPR 4.3)**
	Cryptantha maritima	white-haired forget-me-not
	Emmenanthe penduliflora var. *penduliflora*	whispering bells
	Heliotropium convolvulaceum	phlox heliotrope
	Heliotropium curassavicum var. *oculatum*	alkali heliotrope
	Nama demissa var. *demissa*	desert purple mat
	Nama hispida var. *spathulata*	purple mat
	Pectocarya heterocarpa	Chuckwalla combseed
	Phacelia crenulata var. *crenulata*	heliotrope phacelia
	Phacelia ivesiana	Ives' phacelia
	Tiquilia palmeri	Palmer's crinklemat
	Tiquilia plicata	fanleaf crinklemat
Brassicaceae	*Brassica tournefortii**	Saharan mustard
	*Capsella bursa-pastoris**	shepherd's purse
	Caulanthus lasiophyllus	California mustard
	Descurainia pinnata	western tansy mustard
	Dithyrea californica	spectacle pod
	Lepidium lasiocarpum ssp. *lasiocarpum*	shaggyfruit pepperweed

Plants Identified within the Eagle Mountain to Blythe Transmission Line Project Study Area		
Family Name	**Scientific Name**	**Common Name**
Cactaceae	***Coryphantha alversonii***	**foxtail cactus (CRPR 4.3)**
	Cylindropuntia acanthocarpa	buckhorn cholla
	Cylindropuntia echinocarpa	Wiggins' cholla
	Cylindropuntia ramosissima	pencil cholla
	Mammillaria tetrancistra	common fishhook cactus
	Opuntia basilaris var. *basilaris*	beavertail cactus
Campanulaceae	*Nemacladus orientalis*	eastern glandular nemacladus
	Nemacladus tenuis var. *tenuis*	desert nemacladus
Caryophyllaceae	*Achyronychia cooperi*	frostmat
Casuarinaceae	*Casuarina cunninghamiana**	river sheoak
Chenopodiaceae	*Atriplex canescens*	four-winged saltbush
	Atriplex polycarpa	cattlebush
	Atriplex hymenelytra	desert holly
	Atriplex serenana	saltscale
	*Chenopodium murale**	nettle leaf goosefoot
	Chenopodium pratericola	desert goosefoot
	*Salsola paulsenii**	barbwire Russian thistle
Convolvulaceae	*Cuscuta denticulata*	desert dodder
Crassulaceae	*Crassula connata*	sand pygmy weed
Cucurbitaceae	*Cucurbita palmata*	coyote gourd
Euphorbiaceae	*Brandegea bigelovii*	desert star vine
	Croton californicus	desert croton
	Ditaxis neomexicana	common ditaxis
	Ditaxis serrata	saw-toothed ditaxis
	***Ditaxis serrata* var. *californica* (observed within the 500-foot desert tortoise survey area)**	**California ditaxis (CRPR 3.2)**
	Euphorbia micromera	Sonoran sandmat
	Euphorbia polycarpa	smallseed sandmat
	Euphorbia setiloba	Yuma sandmat
	Stillingia linearifolia	narrow-leaved stillingia
	Stillingia spinulosa	annual stillingia

Plants Identified within the Eagle Mountain to Blythe Transmission Line Project Study Area		
Family Name	**Scientific Name**	**Common Name**
Fabaceae	*Acmispon strigosus*	strigose lotus
	*Albizia julibrissin**	silk tree
	Astragalus aridus	annual desert milkvetch
	Astragalus insularis* var. *harwoodii	**Harwood's astragalus (CRPR 2B.2)**
	Dalea mollis	silky dalea
	Dalea mollissima	downy delea
	Hoffmannseggia glauca	hog potato
	Lupinus arizonicus	Arizona lupine
	Marina parryi	Parry dalea
	*Medicago sativa**	alfalfa
	Olneya tesota	desert ironwood
	Parkinsonia florida	blue paloverde
	Prosopis glandulosa var. *torreyana*	western honey mesquite
	Psorothamnus emoryi	dyebush
	Psorothamnus schottii	Schott's indigo bush
	Psorothamnus spinosus	smoke tree
	Senegalia greggii	catclaw acacia
Fouquieriaceae	*Fouquieria splendens* ssp. *splendens*	ocotillo
Geraniaceae	*Erodium texanum*	desert heron's bill
Krameriaceae	*Krameria bicolor*	white rhatany
	Krameria erecta	little-leaved ratany
Lamiaceae	*Condea emoryi*	desert lavender
	Salvia columbariae	chia
Loasaceae	*Mentzelia albicaulis*	small-flowered blazing star
	Mentzelia longiloba	many-flowered mentzelia
	Mentzelia involucrata	sand blazing star
Malvaceae	*Eremalche exilis*	white mallow
	Eremalche rotundifolia	desert fivespot
	Hibiscus denudatus	rock hibiscus
	Sphaeralcea ambigua	desert mallow
	Sphaeralcea angustifolia	narrow-leaved desert mallow
	Sphaeralcea emoryi	Emory's globemallow
Martyniaceae	*Eucalyptus* sp.*	eucalyptus

Plants Identified within the Eagle Mountain to Blythe Transmission Line Project Study Area		
Family Name	**Scientific Name**	**Common Name**
Myrtaceae	***Proboscidea althaeifolia***	**desert unicorn plant (CRPR 4.3)**
Nyctaginaceae	*Abronia villosa* var. *villosa*	desert sand verbena
	Allionia incarnata var. *incarnata*	trailing windmills
	Boerhavia coulteri	Coulter's spiderling
	Boerhavia wrightii	largebract spiderling
Onagraceae	*Chylismia brevipes* ssp. *brevipes*	golden suncup
	Chylismia claviformis ssp. *aurantiaca*	pinnate-leaved primrose
	Eremothera boothii ssp. *condensata*	Booth primrose
	Eulobus californicus	California primrose
	Oenothera deltoides ssp. *deltoides*	birdcage evening primrose
Orobanchaceae	*Orobanche cooperi*	Cooper's broom rape
Papaveraceae	*Eschscholzia minutiflora* ssp. *minutiflora*	pygmy poppy
	Mohavea confertiflora	ghost flower
Plantaginaceae	*Plantago ovata*	desert plantain
Polemoniaceae	*Aliciella latifolia*	broadleaf gilia
	Eriastrum eremicum	desert woollystar
	***Eriastrum harwoodii* (observed within the 500-foot desert tortoise survey area)**	**Harwood's eriastrum (CRPR 1B.2)**
	Gilia stellata	star gilia
	Langloisia setosissima ssp. *setosissima*	bristly langloisia
	Linanthus jonesii	Jones linanthus
	Loeseliastrum schottii	Schott's gilia
Polygonaceae	*Chorizanthe brevicornu*	brittle spineflower
	Chorizanthe corrugata	wrinkled spineflower
	Chorizanthe rigida	devil's spineflower
	Eriogonum deflexum	flat-topped buckwheat
	Eriogonum inflatum	desert trumpet
	Eriogonum reniforme	kidney leaf buckwheat
	Eriogonum thomasii	Thomas' buckwheat
Resedaceae	*Oligomeris linifolia*	lineleaf whitepuff
Simaroubaceae	***Castela emoryi* (observed incidentally within 225 feet of Project)**	**crucifixion thorn (CRPR 2B.2)**

Plants Identified within the Eagle Mountain to Blythe Transmission Line Project Study Area		
Family Name	**Scientific Name**	**Common Name**
Simmondsiaceae	*Simmondsia chinensis*	jojoba
Solanaceae	*Datura discolor*	desert thorn apple
	Lycium andersonii	Anderson's desert thorn
	Nicotiana obtusifolia	desert tobacco
Tamaricaceae	*Tamarix aphylla**	athel tree
	*Tamarix ramosissima**	salt cedar
Viscaceae	*Phoradendron californicum*	California mesquite mistletoe
Zygophyllaceae	*Fagonia laevis*	California fagonia
	Kallstroemia californica	California caltrop
	Larrea tridentata	creosote bush
	*Tribulus terrestris**	puncturevine

*indicates non-native species

† California Rare Plant Ranking (CRPR):

- 1A – Plants presumed extinct in California
- 1B – Plants rare, threatened, or endangered in California and elsewhere
- 2 – Plants rare, threatened, or endangered or presumed extirpated in California, but more common elsewhere
- 3 – Plants about which more information is needed
- 4 – Plants of limited distribution

Appendix B
Special-status Plant Species Identified from Background Research

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Abronia villosa var. *aurita* chaparral sand-verbena	CRPR 1B.1, BLM - SS	Jan-Sep	Annual herb found in sandy soils within chaparral, coastal scrub, and desert dunes. 245–5,250 feet (ft.)	Does not Occur: the Project is outside of the known range of this variety. Nearby records for this variety are likely misidentifications.
Acleisanthes longiflora angel trumpets	CRPR 2B.3, NECO	May	Perennial herb found on carbonate soils in Sonoran Desert scrub. 295–310 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Ambrosia monogyra singlewhorl burrobrush	CRPR 2B.2	Aug-Nov	Perennial shrub found in sandy soils within chaparral and Sonoran Desert scrub. 35–1,640 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Ammoselinum giganteum desert scaleseed	CRPR 2B.1	Mar-Apr	Annual herb found in Sonoran Desert scrub. 500 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Androstephium breviflorum small-flowered androstephium	CRPR 2B.2	Mar-Apr	Perennial bulbiferous herb found in desert dunes and bajadas of Mojavean desert scrub. 720–2,625 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Astragalus crotalariae Salton milk vetch	CRPR 4.3	Jan-Apr	Perennial herb found on sandy or gravelly soils in Sonoran Desert scrub. 195–820 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Astragalus insularis var. *harwoodii* Harwood's milk vetch	CRPR 2B.2, NECO	Jan–May	Annual herb found on sandy or gravelly soils in desert dunes and Mojavean desert scrub. 0–2,330 ft	Occurs: this species was observed in several locations within the Project survey buffer.
Astragalus lentiginosus var. *borreganus* Borrego milk vetch	CRPR 4.3, NECO	Feb-May	Annual herb found in Mojavean Desert scrub and sandy Sonoran Desert scrub. 100–2,935 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Astragalus lentiginosus var. *coachellae* Coachella Valley milk vetch	Federal - FE, CRPR 1B.2, NECO, CDCA	Feb–May	Annual or perennial herb found in desert dunes, and sandy Sonoran Desert scrub. 130–2,150 ft.	Does Not Occur: two records from 1998 for this species within three miles of the Project have been revised to a different variety. The nearest record is greater than three miles away.
Astragalus nutans Providence Mountains milk vetch	CRPR 4.3	Mar-Jun, (Oct)	Annual herb found on sandy or gravelly soils in Joshua tree woodland, Mojavean Desert scrub, pinyon and juniper woodland, and Sonoran Desert scrub. 1,475–6,400 ft.	Unlikely: there are historic records for this species in the region, but it has not been reported within 3 miles of the Project in the last 25 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Astragalus sabulonum gravel milk vetch	CRPR 2B.2	Feb–Jun	Annual or perennial herb found on flats, washes, and roadsides in desert dunes, Mojavean Desert scrub, Sonoran Desert scrub on usually sandy and sometimes gravelly soils. 195–3,050 ft.	Unlikely: there are historic records for this species within 500 ft. of the proposed Project, but the species has not been observed nearby in the past 75 years.
Astragalus tricarinatus triple-ribbed milk vetch	Federal - FE, CRPR 1B.2, CDCA, DRECP	Feb-May	Perennial herb found on sandy or gravelly soils in Joshua tree woodland and Sonoran Desert scrub. 1,475–3,905 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Ayenia compacta California ayenia	CRPR 2B.3	Mar-Apr	Perennial herb found in rocky areas of Mojavean Desert scrub and Sonoran Desert scrub. 490 - 3,595 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Calliandra eriophylla pink fairy duster	CRPR 2B.3, NECO	Jan–Mar	Perennial deciduous shrub found on sandy or rocky soils in Sonoran Desert scrub. 395–4,920 ft.	Unlikely: there are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years.
Castela emoryi Emory's crucifixion thorn	CRPR 2B.2, NECO	Jun–Jul	Perennial deciduous shrub found on gravelly soils in Mojavean Desert scrub, Sonoran Desert scrub, and playas. 295–2,380 ft.	Occurs: there are recent records for this species within 500 ft. of the Project. Observations of individuals of this species detected within 500 ft. of the Project during the desert tortoise surveys.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Chaenactis carphoclinia var. *peirsonii* Peirson's pincushion	CRPR 1B.3	Mar-Apr	Annual herb found on sandy soils in Sonoran Desert scrub. 10–1,640 ft.	Unlikely: although there are records for this species within 3 miles of the Project, the species has not been observed in vicinity in the past 25 years.
Chylismia arenaria sand evening primrose	CRPR 2B.2	Nov-May	Annual or perennial herb found on sandy or rocky soils in Sonoran Desert scrub. -260–705 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Cladium californicum California sawgrass	CRPR 2B.2	Jun-Sep	Perennial rhizomatous herb found in meadows and seeps, marshes, and alkaline or freshwater swamps. 195–5,250 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years. In addition, there is no suitable habitat within the Project area.
Colubrina californica Las Animas colubrina	CRPR 2B.3, NECO, CDCA	Apr–Jun	Perennial deciduous shrub found in Mojavean Desert scrub and Sonoran Desert scrub. 35–3,280 ft.	Likely: there are recent records for this species within 500 ft. of the Project.
Condalia globosa var. *pubescens* spiny abrojo	CRPR 4.2, NECO	Mar-May, (Nov)	Perennial deciduous shrub found in Sonoran Desert scrub. 280–3,280 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Coryphantha alversonii foxtail cactus	CRPR 4.3, NECO, CDCA	Apr–Jun	Perennial stem-succulent found on sandy or rocky, usually granitic, soils in Mojavean Desert scrub and Sonoran Desert scrub. 245–5,005 ft.	Occurs: this species was observed in several locations within the Project survey buffer.
Cryptantha costata ribbed cryptantha	CRPR 4.3	Feb–May	Annual herb found in desert dunes and sandy soils in Mojavean desert scrub and Sonoran Desert scrub. 195–1,640 ft.	Occurs: this species was observed in several locations within the Project survey buffer.
Cryptantha holoptera winged cryptantha	CRPR 4.3, NECO	Mar–Apr	Annual herb found in Mojavean Desert scrub and Sonoran Desert scrub. 330–5,545 ft.	Unlikely: there are recent records for this species within 3 miles the Project, but it has not been observed within 500 ft. of the Project.
Cylindropuntia munzii Munz's cholla	CRPR 1B.3, BLM - SS, NECO, CDCA	May	Perennial stem-succulent found on sandy or gravelly soils in Sonoran Desert scrub. 490–1,970 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Ditaxis claryana glandular ditaxis	CRPR 2B.2, NECO	Oct–Mar	Perennial herb found on sandy soils in Mojavean Desert scrub and Sonoran Desert scrub. 0–1,525 ft.	Unlikely: although there are records for this species within 3 miles of the proposed project, the species has not been documented in the vicinity in the past 25 years.
Ditaxis serrata var. *californica* California ditaxis	CRPR 3.2, NECO, CDCA	Mar–Dec	Perennial herb found in Sonoran Desert scrub. 100–3,280 ft.	Occurs: there are recent records for this species within 500 ft. of the Project and individuals were observed within the 500 ft. buffer of the Project.
Eriastrum insularis var. *harwoodii* Harwood's eriastrum	CRPR 1B.2, BLM - SS	Mar–Jun	Annual herb found in desert dunes. 410–3,000 ft.	Occurs: this species was observed within the 500-ft Project buffer during desert tortoise surveys. The specific location data for the occurrence were not recorded.
Eschscholzia androuxii Joshua tree poppy	CRPR 4.3	Feb–May, (Jun)	Annual herb found on sandy, gravelly, and/or rocky soils in desert washes, flats, and slopes in Joshua tree woodland and Mojavean Desert scrub. 1,920– 5,530 ft.	Unlikely: there are no records for this recently described species occurring within three miles of the Project.
Euphorbia abramsiana Abram's spurge	CRPR 2B.2	Sep–Nov	Annual herb found on sandy soils in Mojavean Desert scrub and Sonoran Desert scrub. 15–4,300 ft.	Likely: there are recent records for this species within 500 ft. of the Project.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Euphorbia arizonica Arizona spurge	CRPR 2B.3	Mar–Apr	Perennial herb found on sandy soils in Sonoran Desert scrub. 165–985 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Euphorbia jaegeri Orocopia Mountains spurge	CRPR 1B.1, BLM - SS	Oct–May	Perennial shrub found in rocky hillsides and arroyos and gravelly or rocky crevices on granitic, carbonate, or metamorphic substrates in Mojavean Desert scrub. 1,970–2,790 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Funastrum utahense Utah vine milkweed	CRPR 4.2	Apr–Jun	Perennial herb found on sandy or gravelly soils in Mojavean Desert scrub and Sonoran Desert scrub. 330–4,710 ft.	Unlikely: there are recent records for this species within 3 miles the Project, but it has not been observed within 500 ft. of the Project.
Horsfordia alata pink velvet mallow	CRPR 4.3	Feb–Dec	Perennial shrub found on rocky soils in Sonoran Desert scrub. 330–1,640 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Hymenoxys odorata bitter hymenoxys	CRPR 2B.1	Feb–Nov	Annual herb found in sandy areas in riparian scrub and Sonoran Desert scrub. 150–490 ft.	Unlikely: there are records for this species within 500 ft. of the proposed Project, but the species has not been observed in vicinity in the past 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Imperata brevifolia California satintail	CRPR 2B.1	Sep–May	Perennial rhizomatous herb found in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and mesic riparian scrub. 0–3,985 ft.	Unlikely: although there are historic records for this species in the region, this species has not been reported within 3 miles of the Project in the last 25 years.
Jaffueliobryum wrightii Wright's jaffueliobryum moss	CRPR 2B.3	--	Moss found in dry openings and rock crevices on carbonate substrates in alpine dwarf scrub, Mojavean desert scrub, and pinyon and juniper woodland. 525–8,200 ft.	Unlikely: although there are recent records from the region, there are no records for this species within 3 miles of the Project.
Juncus cooperi Cooper's rush	CRPR 4.3	Apr–May, (Aug)	Perennial herb found in mesic, alkaline or saline meadows and seeps. 855–5,805 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	CRPR 2B.2, NECO	May–Jul	Perennial deciduous shrub found in riparian woodland and Sonoran Desert scrub. 490–1,675 ft.	Likely: there are recent records for this species within 500 ft. of the Project.
Lycium parishii Parish's desert-thorn	CRPR 2B.3	Mar–Apr	Perennial shrub found in coastal scrub and Sonoran Desert scrub. 445–3,280 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Lycium torreyi Torrey's box thorn	CRPR 4.2	(Jan), (Feb), Mar–Jun, (Sep), (Oct), (Nov)	Perennial shrub found on sandy or rocky soils in washes, streambanks, and desert valleys in Mojavean Desert scrub and Sonoran Desert scrub. 165–4,005 ft.	Unlikely: although there are records for this species within 3 miles of the Project, the species has not been observed in vicinity in the past 75 years.
Matelea parvifolia Spearleaf	CRPR 2B.3, NECO	Mar–May, (Jul)	Perennial herb found in rocky sites in Mojavean Desert scrub and Sonoran Desert scrub. 1,445–3,595 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Mentzelia puberula Darlington's blazing star	CRPR 2B.2	Mar–May	Perennial herb found on sandy or rocky soils in Mojavean Desert scrub and Sonoran Desert scrub. 295–4,200 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Mentzelia tricuspis spiny-hair blazing star	CRPR 2B.1	Mar–May	Annual herb found on slopes and in washes on sandy or gravelly soils in Mojavean Desert scrub. 490–4,200 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Monardella robisonii Robison's monardella	CRPR 1B.3, BLM - SS, NECO, CDCA	(Feb), Apr–Sep, (Oct)	Perennial rhizomatous herb found in pinyon and juniper woodland. 2,000–4,920 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years. No suitable habitat occurs within the Project area.
Nemacaulis denudata var. *gracilis* slender cottonheads	CRPR 2B.2	(Mar), Apr–May	Annual herb found in coastal dunes, desert dunes, and Sonoran Desert scrub. 165–1,310 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Opuntia wigginsii Wiggins' cholla	CRPR 3.3, NECO	Mar	Perennial stem-succulent found on sandy soils in Sonoran Desert scrub. 100–2,905 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Panicum hirticaule ssp. *hirticaule* roughstalk witch grass	CRPR 2B.1	Aug–Dec	Annual herb found in sandy or silty depressions in desert dunes, Joshua tree woodland, Mojavean Desert scrub, and Sonoran Desert scrub. 150–4,315 ft.	Occurs: there are recent records for this species within 300 ft. of the Project and it was observed during reference population visits in the known location.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Penstemon pseudospectabilis ssp. *pseudospectabilis* desert beardtongue	CRPR 2B.2	Jan–May	Perennial herb found most often in sandy washes, and sometimes in rocky washes in Mojavean Desert scrub and Sonoran Desert scrub. 260–6,350 ft.	Unlikely: there are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years.
Phaseolus filiformis slender-stem bean	CRPR 2B.1	Apr	Annual herb found in Sonoran Desert scrub. 400 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Pholisma sonorae sand food	CRPR 1B.2, BLM - SS, NECO	(Mar), Apr–Jun	Perennial herb parasitic found on sandy soils in desert dunes and Sonoran Desert scrub. 0– 655 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Physalis lobata lobed ground-cherry	CRPR 2B.3, NECO	(May), Sep–Jan	Perennial herb found on decomposed granitic soils in Mojavean desert scrub and playas. 1,640–2,625 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Pilostyles thurberi Thurber's pilostyles	CRPR 4.3	Dec–Apr	Perennial herb parasitic on *Psorothamnus*, especially *Psorothamnus emoryi*. Found in Sonoran Desert scrub. 0–1,200 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Polygala acanthoclada thorny milkwort	CRPR 2B.3	May-Aug	Perennial shrub found in chenopod scrub, Joshua tree woodland, and pinyon and juniper woodland. 2,495 - 7,495 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Portulaca halimoides desert portulaca	CRPR 4.2	Sep	Annual herb found on sandy soils in Joshua tree woodland. 3,280 -3,935 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Proboscidea althaeifolia desert unicorn plant	CRPR 4.3, NECO	May–Sep	Perennial herb found on gently sloping sandy flats and washes and sometimes roadsides in Sonoran Desert scrub. 280–3,280 ft.	Occurs: this species was observed in several locations within the Project area.
Pseudorontium cyathiferum Deep Canyon snapdragon	CRPR 2B.3	Feb–Apr	Annual herb found on rocky soils in Sonoran Desert scrub. 0–2,625 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Saltugilia latimeri Latimer's woodland gilia	CRPR 1B.2, BLM - SS	Mar–Jun	Annual herb found on rocky or sandy often granitic soils, sometimes in washes, within chaparral, Mojavean Desert scrub, and pinyon and juniper woodland. 1,310–6,235 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years. No suitable habitat occurs within the Project area.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Salvia eremostachya desert sage	CRPR 4.3	Mar–May	Perennial evergreen shrub found on rocky or gravelly soils in Sonoran Desert scrub. 2,295–4,595 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Salvia greatae Orocopia sage	CRPR 1B.3, BLM - SS, NECO, CDCA	Mar–Apr	Perennial evergreen shrub found in Mojavean Desert scrub and Sonoran Desert scrub. 130–2,705 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Selaginella eremophila desert spike-moss	CRPR 2B.2	(May), Jun, (Jul)	Perennial rhizomatous herb found on gravelly or rocky soils in chaparral and Sonoran Desert scrub. 655–4,250 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Senna covesii Coves' cassia	CRPR 2B.2, NECO	Mar–Jun, (Aug)	Perennial herb found on dry sandy desert washes and slopes in Sonoran Desert scrub. 740–4,250 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Stylocline sonorensis mesquite neststraw	CRPR 2A, NECO	Apr	Annual herb found in Sonoran Desert scrub (sandy). 1,395 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Tetracoccus hallii Hall's tetracoccus	CRPR 4.3	Jan–May	Perennial deciduous shrub found in Mojavean Desert scrub and Sonoran Desert scrub. 100–3,935 ft.	Unlikely: although there are historic records for this species in the region, this species has not been reported within 3 miles of the Project in the last 25 years.

Special-status Plant Species and Their Potential to Occur in the Project Area				
Scientific Name / Common Name	**Status (1)**	**Flowering Period**	**Habitat**	**Potential to Occur (2)**
Teucrium cubense ssp. *depressum* dwarf germander	CRPR 2B.2	Mar–May	Annual herb found on desert dunes and playa margins in Sonoran Desert scrub. 150–1,310 ft.	Unlikely: although there are historic records for this species in the region, this species has not been reported within 3 miles of the Project in the last 25 years.
Tiquilia canescens var. *pulchella* Chocolate Mountains tiquilia	CRPR 3.2	Feb–May	Perennial shrub found on ridges, or in washes and sometimes slopes in Sonoran Desert scrub. 820–2,295 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.
Wislizenia refracta ssp. *palmeri* Palmer's jackass clover	CRPR 2B.2, NECO	Jan–Dec	Perennial deciduous shrub found in chenopod scrub, desert dunes, Sonoran Desert scrub and Sonoran thorn woodland. 0–985 ft.	Unlikely: there are recent records for this species within 3 miles the Project, but it has not been observed within 500 ft. of the Project.
Xylorhiza cognate Mecca aster	CRPR 1B.2, BLM - SS, NECO	Jan–Jun	Perennial herb found in Sonoran Desert scrub. 65–1,310 ft.	Does Not Occur: there are no records for this species occurring within 3 miles of the Project in the last 75 years.

1 – Status

Federal

- FE – Federally listed as Endangered
- FT – Federally listed as Threatened
- FPT – Proposed Threatened

State

- SE – State listed as Endangered
- ST – State listed as Threatened
- SCT – State candidate for listing as Threatened

California Rare Plant Ranks (CRPR):

1A – Plants presumed extinct in California

1B – Plants rare, threatened, or endangered in California and elsewhere

2 – Plants rare, threatened, or endangered in California, but more common elsewhere

3 – Plants about which more information is needed – a review list

CRPR Threat Code Extensions:

.1 – Seriously endangered in California

.2 – Fairly endangered in California

.3 – Not very endangered in California

BLM - Bureau of Land Management

SS - Bureau of Land Management Sensitive Species

Regional

NECO – Northern and Eastern Colorado Desert Coordinated Management Plan

DRECP – Desert Renewable Energy Conservation Plan

CDCA – California Desert Conservation Area

2 – Definitions Regarding Potential for Occurrence

Occurs - the species and/or positive sign was observed on-site during site visit or field survey.

Absent - the species and/or positive sign was not observed on-site during focused survey(s) during the appropriate blooming/activity period (and, for plants, observed at a reference population).

Likely - all site features indicate this species is very likely present and should be expected. Criteria include:

- Project site within geographic range;
- Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and
- Distance to historical record(s) less than 25 years old is/are less than 500 feet (plants/fish), 1,000 feet (riparian wildlife), 1 mile (birds/bats), 2 miles (large mammals), or 3 miles (small mammals/herps).

Unlikely - Species could occur given presence of marginal habitat, but records of the species are not locally known or are greater than 25 years old.

Does Not Occur - species would not occur because the Project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absent based on historical records.

Appendix C
Representative Photographs

Photo 1. Foxtail cactus near proposed work area, in typical habitat for this species. Near Eagle Mountain Substation, facing southwest.

Photo 2. Flowering desert unicorn plant within buffer of proposed work area, in typical habitat for this species. Facing west.

Photo 3. Harwood's milk vetch, in typical habitat.

Photo 4. Ribbed cryptantha, in typical habitat.

Photo 5. Emory's crucifixion thorn, in typical habitat.

Appendix F

Special-Status Plants Survey Report (Artemis 2021a)

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Riverside County, California

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December 3, 2021

Artemis Environmental Services, Inc.

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1 INTRODUCTION

Artemis Environmental Services, Inc. (Artemis Environmental) was retained by Rincon Consultants, Inc. (Rincon) to perform a focused special-status plant survey on behalf of Southern California Edison (SCE) for the Eagle Mountain-Blythe (EM-B) 161-kiloVolt (kV) Transmission Line Rating Remediation (TLRR) Project (Project). The Project is needed to comply with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) standards, and the revised California Public Utilities Commission (CPUC) General Order (GO) 95. SCE requires that all circuits meet or exceed the most stringent strength, clearance, and reliability requirements of those regulating bodies. GO 95, while not applicable to the NERC transmission ratings requirements, requires greater mechanical and electrical performance. SCE has determined that all of its lines will meet the requirements of GO 95 and that any remediation efforts requiring new construction will meet the latest SCE standards. The Project is intended to address clearance issues for the existing EM-B subtransmission line. Without the Project, sufficient clearance for the line(s) is not available, and the circuit has the potential to short out, reducing reliability, and increasing public health, safety, and environmental hazards.

A previous botanical survey was conducted in 2017 by Garcia and Associates on behalf of Jacobs Engineering Group, Inc. (Jacobs; Jacobs 2018). Artemis Environmental was retained to perform special-status plant surveys to update the extent of known special-status plant populations mapped during the previous 2017 survey effort, and to ensure the surveys are current with the anticipated construction start date in 2022.

The special-status plant survey area (Survey Area) totals 904.75 acres, including all existing structures, construction work areas, and construction material yards (with the exception of the Ragsdale Yard) and a 100-foot buffer. Access roads were also surveyed with a 10-foot buffer. This Special-status Plant Survey Report (Report) describes the special-status plants with potential to occur in the Survey Area and the methodology and results of focused special-status plant fall surveys that were conducted September 13-24, 2021. Spring 2021 surveys were not conducted because the target annual species did not germinate and were not detectable during the spring blooming period, due to the lack of winter rains and extremely dry conditions in the general Survey Area in 2020-2021.

1.1 SURVEY AREA LOCATION

The Survey Area is located in eastern Riverside County, California between the Eagle Mountain Substation in the west and the Blythe Substation in the east (Appendix A, Figures 1 and 2: Project Overview and Project Vicinity). The Eagle Mountain Substation is located 3 miles south of the town of Eagle Mountain, approximately 7 miles north of Interstate 10 (I-10), and 400 feet west of the intersection of Kaiser Truck Road and Power Line Road. The Blythe Substation is located one-quarter mile north of I-10 and 840 feet east of the intersection of Buck Boulevard and Hobsonway in Blythe, California. The Survey Area is located on a combination of BLM-administered lands, incorporated and unincorporated portions of Eastern Riverside County, and private land. The western edge of the Survey Area is located at the Eagle Mountain substation (N33.812641, W-115.453437) and the eastern edge of the Survey Area at the Blythe substation (N33.612597, W-114.680151).

1.2 Survey Area Site Description

The Survey Area, which totals 904.75 acres, includes all existing structures, construction work areas, and construction material yards (with the exception of the Ragsdale Yard) and a 100-foot buffer. Access roads were also surveyed with a 10-foot buffer (Appendix A, Figure 3: Special-status Plant Observations).

Elevations within the Survey Area are relatively low, ranging from approximately 270 feet above median sea level (AMSL) in the eastern portion of the Survey Area near Blythe to approximately 1,000 feet AMSL near Victory Pass at the western end of the Survey Area. The Survey Area is located within the American Semidesert and Desert Province ecological region (322), which encompasses the Mojave, Colorado, and Sonoran Deserts (USFS 2018).

The Survey Area is located entirely within the Sonoran Desert Bioregion of California. The larger Sonoran Desert Bioregion includes the Colorado Desert and Upper Sonoran Desert sections of California and Arizona, and a portion of the Chihuahuan Basin and Range Section in Arizona and New Mexico (McNab and Avers 1994). Specifically, the existing EM-B subtransmission alignment traverses the Chuckwalla Valley and Palo Verde Valley and Mesa subregions of the Sonoran Desert. The Survey Area traverses most of the Chuckwalla Valley and skirts south of Ford Dry Lake, continuing through Palo Verde Mesa and the Palo Verde Valley in Blythe.

2 Special-status Plant Survey Methods

This section outlines the pre-field analysis used to develop a list of special-status plant species with the potential to occur in the Survey Area and the field survey methods used to document special-status plant species occurrences within the Survey Area.

2.1 Pre-Field Analysis

Special-status plant species within the Survey Area have been afforded special-status and/or recognition by federal, state, and local resource agencies and are included in the following:

- USFWS species records (USFWS 2021)
- California Natural Diversity Database (CNDDB; CDFW 2021)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021) [1].
- California Desert Conservation Area (BLM 1999)
- Desert Renewable Energy Conservation Plan (BLM 2016)
- Northern and Eastern Colorado Desert Coordinated Management Plan (BLM and CDFW 2002)

Prior to the initiation of field surveys, a literature review and desktop analysis were conducted to determine which special-status species have the potential to occur within the Survey Area.

The following sources were consulted:

- Vegetation mapping completed during a habitat and resource assessment performed by AECOM (AECOM 2016). Vegetation mapping included the entire alignment plus a 500-foot buffer.
- 7.5-minute USGS topographic quadrangle maps
- Aerial imagery of the Survey Area
- USFWS species records (USFWS 2021)
- The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey and State Soil Geographic Data Base (STATSGO) (NRCS 2021)
- California Natural Diversity Database (CNDDB; CDFW 2021)
    - Five-mile query
- Consortium of California Herbaria 1 (CCH1; Calflora 2021)
    - Minimum distance queried approximately eight miles
- Consortium of California Herbaria 2 (CCH2; CCH2 2021)
- Jepson eFlora (Jepson; Jepson 2021)
- California Desert Conservation Area (BLM 1999)
- Desert Renewable Energy Conservation Plan (BLM 2016)
- Northern and Eastern Colorado Desert Coordinated Management Plan (BLM and CDFW 2002)
- CNPS Rare Plant Inventory (CNPS 2021)

[1] The CNPS and CDFW lists are identical and utilize the California Rare Plant Ranking (CRPR) designation for status.

- Conducted a query for Riverside County, CA for all CNPS CRPR 4 species
- For all other CRPR species, the following quads (an extended "9 quad" search with a one quad buffer around all Project features) were queried:
  - COXCOMB MOUNTAINS, PINTO WELLS, PLACER CANYON, PALEN MOUNTAINS, PALEN LAKE, EAST OF VICTORY PASS, VICTORY PASS, BUZZARD SPRING, LA PAZ MOUNTAIN, BLYTHE NE, MCCOY WASH, MCCOY PEAK, MCCOY SPRING, FORD DRY LAKE, SIDEWINDER WELL, CORN SPRING, DESERT CENTER, HAYFIELD SPRING, DOME ROCK MOUNTAINS SW, BLYTHE, RIPLEY, ROOSEVELT MINE, HOPKINS WELL, EAST OF AZTEC MINES, AZTEC MINES, PILOT MOUNTAIN, RED CLOUD CANYON, EAST OF RED CANYON, NORTH TRIGO PEAKS, MULE WASH, PALO VERDE, THUMB PEAK, WILEY WELL, LITTLE CHUCKWALLA MOUNTAINS, CHUCKWALLA SPRING, and AUGUSTINE PASS

Special-status plant species with the potential to occur within the Survey Area were generally evaluated based on SCE's Species Determination Flow Chart (SCE 2017) which considers habitat suitability, distance and age of existing records, and field observations. All special-status plant species reported within the CNPS "9 quad" search, the CNDDB five-mile query, and/or within the CCH1 eight-mile query were evaluated. Any plant species not listed by Jepson as occurring within the "Sonoran Desert" bioregion were determined to fall outside of the geographic range of the species. Further, for those species that were listed by Jepson as occurring within the "Sonoran Desert" bioregion, but for which there were no CCH1 collection records within 50 miles of the Survey Area, were considered to fall outside of the geographic range of the species. Any species determined to have a geographic range outside of the Survey Area were ranked as Does Not Occur and were not further evaluated. Appendix B provides the potential for special-status plant species to occur within the Survey Area. The potential for occurrence ranking criteria are as follows:

Occurs – The species was observed/detected within the Survey Area during the field survey(s).

Likely – This species is expected to occur in the Survey Area based on presence of suitable habitat, and/or based on professional expertise specific to the site or species, and recent (less than 25 years) recorded occurrences for the species within two miles.

Unlikely – This species was not detected during focused field surveys, the Survey Area is on the periphery of the species range, or there are older records (greater than 25 years) within the Survey Area, but there is currently marginal suitable habitat on-site (habitat is highly disturbed, degraded, or limited).

Does Not Occur – This species is not expected to occur in the Survey Area. Suitable habitat was not observed in the Survey Area during the survey, the Survey Area is outside of the currently known range of the species, and/or there are no recent (less than 25 years) recorded occurrences for the species within five miles.

Absent – This species was not detected during focused field surveys. This species is conspicuous and had it been present would have been observed, or (for annuals) was observed flowering at a nearby known reference location during the survey period.

2.2 Reference Population Checks

Prior to the initiation of field surveys, qualified Artemis Environmental botanists conducted population reference checks for annual species during both the spring and fall blooming periods in 2021. Reference populations were located using the CNDDB and Consortium of California Herbaria (CCH) databases.

Representative reference populations were surveyed for the presence of selected ephemeral annual target species prior to the surveys. Spring reference populations were evaluated on March 26, 2021, within the spring flowering period for many of the target species including Harwood's milkvetch (*Astragalus insularis.* var. *harwoodii*; CRPR 2B.2) and Harwood's eriastrum (*Eriastrum harwoodii*; CRPR 1B.2). Harwood's milkvetch reference populations include CNDDB occurrences 16, 44, and 87. Harwood's eriastrum reference populations include CNDDB occurrences 27 and 30.

During the anticipated fall blooming period, reference populations were evaluated by qualified Artemis Environmental botanists on August 27, 2021, within the Survey Area in representative areas targeting the following species: roughstalk witchgrass (*Panicum hirticaule* ssp. *hirticaule*; CRPR 2B.1), Abram's spurge (*Euphorbia abramsiana*; CRPR 2B.1), and desert unicorn plant (*Proboscidea althaeifolia*; CRPR 4.3). Locations of the reference populations evaluated prior to fall surveys was informed by previous special-status plant mapping conducted in 2017 (Jacobs 2018).

2.3 Field Surveys

Artemis Environmental performed a comprehensive focused field survey of the Survey Area for special-status plants during the fall blooming period. As noted in Section 2.3 below, surveys were not performed during the spring blooming period. Artemis Environmental botanists Ed Kentner, Frankie Coburn, Ryan Meszaros, and Kyle Gunther conducted pedestrian surveys throughout the Survey Area September 13-24, 2021. The survey team walked transects with spacing between 15 to 30 feet depending on the density of the vegetation within the area being surveyed. Surveyors mapped individual special-status plant species points for individual plants or groups of plants less than five meters in diameter and more than five meters away from other plants of the same species. Polygon features were used to record groups of the same species of special-status plants larger than five meters in diameter and more than five meters away from groups of the same species.

The ESRI Collector application installed on tablets and smart phones was used to navigate the Survey Area and to map and document the location of special-status plant species using points and polygons. Points and polygons were recorded to sub-meter accuracy using Bluetooth connected Global Positioning Systems (GPS) units. The species scientific name, occurrence type (i.e., live or remains), estimated population size, and any observation notes were recorded directly into Collector during the surveys. Representative photographs of special-status plant species, areas of note, and a comprehensive list of all plant species within the Survey Area were recorded during the surveys. Representative photographs are provided in Appendix C: Representative Photographs. Plant species observed within the Survey Area are included in Appendix D: Plant Species Observed. Voucher specimens were not collected.

2.4 Survey Limitations

Due to the lack of winter rains and extremely dry conditions in the general Survey Area in 2020-2021, the target spring annual species did not germinate and were not detectable during the spring blooming period. Therefore, due to the lack of suitable conditions, focused spring surveys were not conducted.

The entire Survey Area was surveyed during the fall blooming period. Monsoonal rainfall was variable across the Survey Area, resulting in the patchy germination of fall annuals. Nevertheless, many areas received sufficient rainfall for the detection of special-status annuals, and target shrubs or cacti that were not in flower were also identifiable and detectable.

3 Results

3.1 Potential to Occur

A total of 70 special-status species were analyzed for their potential to occur within the Survey Area. Of those, nine species were categorized as Occurs, as they were observed during previous surveys conducted in 2017 (Jacobs 2018) or during the 2021 fall surveys. Three species were determined as Likely to Occur within the Survey Area but were not observed during the field surveys, and 15 species were determined to be Unlikely to Occur. Twenty-eight species were categorized as Does Not Occur due to either absence of suitable habitat and/or there are no recent (less than 25 years) recorded occurrences for the species within five miles of the Study Area. Conspicuous perennial species with potential to occur, that would have been detected during the fall field surveys had they been present, were considered Absent. Of the 70 species evaluated, 15 species were considered Absent. Further details regarding the species evaluated and their potential to occur determination can be found in Appendix B: Special-status Plant Species Evaluation of Potential to Occur.

3.2 Status of Reference Populations

Conditions during the spring reference population checks were noted to be extremely poor, with little to no germination of native annual species observed across most of the Study Area. The only plants found germinating were Saharan mustard and Mediterranean grass along the margins of I-10 where water run-off and retention is greater and conditions for germination are more favorable than within open desert habitat. As previously discussed, due to the dry conditions and lack of germination throughout the Survey Area, spring special-status plant surveys were not recommended and ultimately did not occur.

Generally dry conditions were observed within the Study Area on the date of the fall reference population checks, but three of the target special-status species were observed in flower within ponded basins and washes. Approximately 50 roughstalk witchgrass individuals were observed in flower immediately adjacent to the Project ROW in a detention basin along I-10. Within the same basin, roughly 200 Abram's spurge individuals were observed in flower. A reference population of desert unicorn plant previously mapped in 2017 (Jacobs 2018) was visited and no live plants were observed; only remains from the previous year were present. However, three desert unicorn plants were observed within the Study Area approximately one mile from the known 2017 population location. These individuals were all observed within a wash that had received some monsoonal water flow. Following the reference site visit and prior to the beginning of the surveys, the Survey Area received an additional 0.35 inches of precipitation (AgACIS 2021), and conditions for the detection of fall annuals improved.

3.3 Observed Special-Status Plant Species

During the fall 2021 special-status plant survey, a total of 120 plant species were observed. Seven special-status plant species were observed within the Survey Area (Table 2). The mapping results are provided in Appendix A, Figures, Figure 3: Special-status Plant Observations. Representative photographs are also provided in Appendix C.

Table 1. Special-status Plant Species Observed in the Survey Area

Scientific Name	Common Name	Approximate* Number of Individuals Observed Live		
		Species Points	Species Polygons	Total
Amaranthus watsonii	Watson's amaranth	4	455	459
Castela emoryi	crucifixion thorn	1	--	1
Coryphantha alversonii	Alverson's foxtail cactus	39	--	39
Ditaxis serrata var. *californica*	California ditaxis	29	100	129
Euphorbia abramsiana	Abram's spurge	270	13,026	13,296
Panicum hirticaule ssp. *hirticaule*	roughstalk witch grass	105	320,230	320,335
Proboscidea althaeifolia	desert unicorn plant	366	193	559

* These numbers are approximate, as the individual counts within polygons were estimated.

The following are brief descriptions of each special-status plant species observed within the EM-B Survey Area.

Watson's amaranth (*Amaranthus watsonii*)

Status: CRPR 4.3
Description: Annual herb typically blooming April to September.
Distribution: Imperial, Riverside, and San Bernardino counties into Arizona and northwestern Mexico between 65 to 5,600 feet in elevation.
Habitat: Sandy soils of coastal dunes, beaches, inland areas, saline flats, and disturbed areas.
Observations within Survey Area: A large number of Watson's amaranth were observed in the eastern portion of the Survey Area, between a half-mile to one mile east of Ford Dry Lake Road.

Crucifixion thorn (*Castela emoryi*)

Status: CRPR 2B.2
Description: Perennial deciduous shrub typically blooming in June to July, sometimes early as April and late as October.
Distribution: Imperial, Riverside, and San Bernardino counties into Arizona and northwestern Mexico between 300 to 2,400 feet in elevation.
Habitat: Gravelly soils of playas, washes, slopes, and plains of Mojavean and Sonoran desert scrub.
Observations within Survey Area: One individual of crucifixion thorn was observed in the western portion of the Survey Area, a half-mile southeast of Kaiser Road.

Alverson's foxtail cactus (*Coryphantha alversonii*)

Status: CRPR 4.3
Description: Perennial stem typically blooming in April to June, sometimes as late as October.
Distribution: Eastern Riverside and San Bernardino counties into Arizona between 250 to 5,000 feet in elevation.
Habitat: Sandy or rocky alluvial soils in Mojavean and Sonoran desert scrub.
Observations within Survey Area: A few dozen individuals of Alverson's foxtail cactus were observed in the western end of the Survey Area, just north of the Eagle Mountain Pumping Plant, along Kaiser Truck Road and Eagle Mountain Road. The remains of approximately 31 individuals were observed in the far western portion of the Survey Area. Many of these individuals were deceased and fully uprooted (see Appendix A, Figure 3: Special-status Plant Observations).

California ditaxis (*Ditaxis serrata* var. *californica*)
Status: CRPR 3.2; CA Endemic
Description: Perennial herb typically blooming in March to December.
Distribution: Northeastern San Diego and eastern Riverside counties between 100 to 3,300 feet in elevation.
Habitat: Washes, canyons, and abandoned agricultural fields in Sonoran desert scrub.
Observations within Survey Area: Roughly over 100 individuals of California ditaxis were observed in the western portion of the Survey Area in the abandoned agricultural fields between Kaiser Road and Rice Road.

Abram's spurge (*Euphorbia abramsiana*)
Status: CRPR 2B.2
Description: Annua herb typically blooming in September to November, sometimes early as August.
Distribution: San Diego, Imperial, Riverside, and San Bernardino counties, into Arizona and Mexico below 4,300 feet in elevation.
Habitat: Sandy flats and cracked soils in depressions in Mojavean and Sonoran desert scrub.
Observations within Survey Area: Thousands of individuals of Abram's spurge were observed in the eastern portion of the Survey Area, extending about two miles east of Ford Dry Lake Road, and between three-quarters of a mile to one-and-a-quarter mile west of Wiley's Well Rest Stop.

Roughstalk witch grass (*Panicum hirticaule* ssp. *hirticaule*)
Status: CRPR 2B.1
Description: Annual herb typically blooming in August to December.
Distribution: Imperial, Riverside, and San Bernardino counties into Texas between 150 to 4,300 feet in elevation.
Habitat: Sandy, silty soils in depressions and open sites of desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub.
Observations within Survey Area: More than 300,000 individuals of roughstalk witch grass were observed in the Survey Area, extending about two miles east of Ford Dry Lake Road, and between three-quarters of a mile to one-and-a-quarter mile west of Wiley's Well Rest Stop.

Desert unicorn plant (*Proboscidea althaeifolia*)
Status: CRPR 4.3; County List D
Description: Perennial herb typically blooming in May to September, sometimes late as October.
Distribution: Eastern San Diego, eastern Riverside, and southeastern San Bernardino counties, into Texas and northern Mexico between 250 to 3,300 feet in elevation.
Habitat: Sandy soils in flats, washes, and roadsides.
Observations within Survey Area: More than 500 individuals of desert unicorn plant were observed in the eastern portion of the Survey Area, primarily between Ford Dry Lake Road and approximately three miles east of Wiley's Well Rest Area, as well as the western portion of the Survey Area, primarily between Kaiser Road and a half-mile southeast of Rice Road.

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Appendix A

Figures

Figure 1 Project Overview

Figure 2 Project Vicinity

Figure 3 Special-status Plant Observations

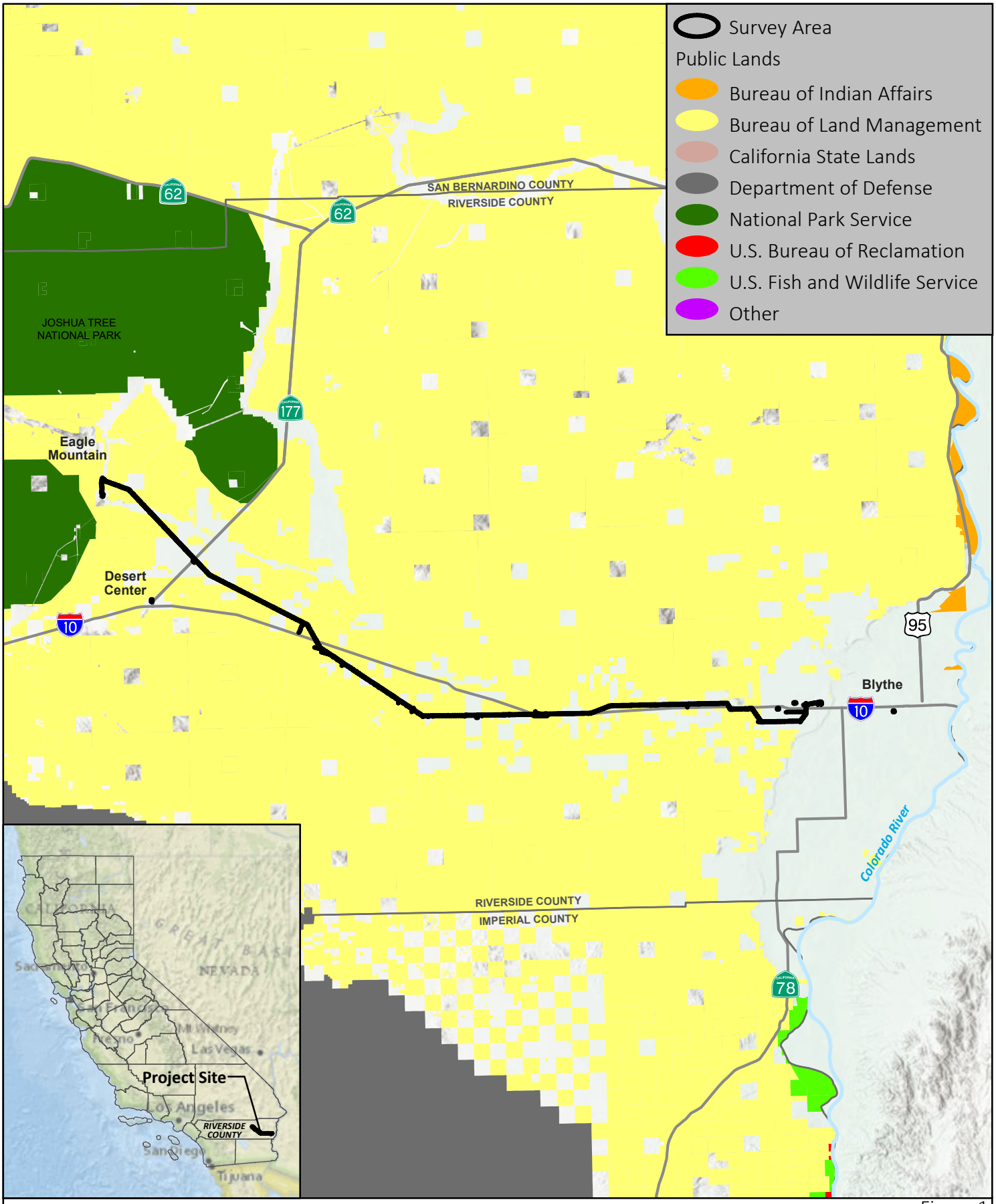


Figure 1

Project Overview

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE
RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 8 Miles

Survey Area
USGS 7.5' Quadrangles

33.82484,
-115.45279

33.81158,
-115.45276

BUZZARD SPRING

VICTORY PASS

EAST OF VICTORY PASS

HAYFIELD SPRING

DESERT CENTER

CORN SPRING

TBD

Substation

Pumping Station

Gaging Station

Victory Pass

Landing Field

Well

Wash

4WD

RAILROAD

POWERLINE

EAGLE MTN TUNNEL

Desert Center
33.715322,
-115.40122

33.70764,
-115.27014

Alligator

Eagle Mountain

Blythe

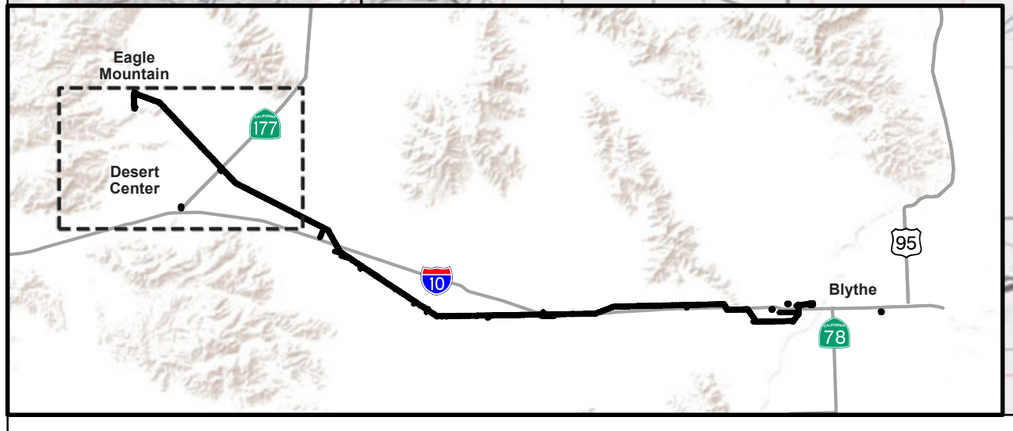


Figure 2-1

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 1 Mile

Survey Area
USGS 7.5' Quadrangles

33.70764,
-115.27014

CORN SPRING

SIDEWINDER WELL

FORD DRY LAKE

PILOT MOUNTAIN

AZTEC MINES

EAST OF AZTEC MINES

33.60523
-115.05182

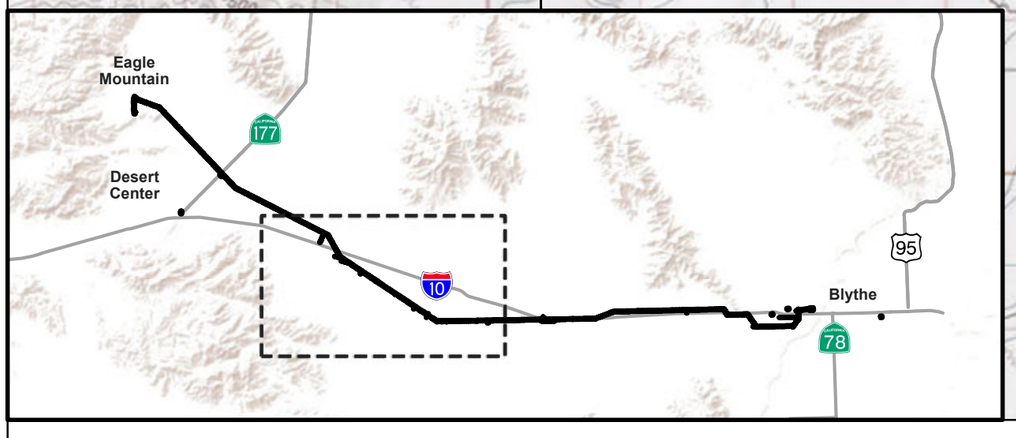


Figure 2-2

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 1 Mile

Survey Area
USGS 7.5' Quadrangles

FORD DRY LAKE

MCCOY SPRING

MCCOY PEAK

EAST OF AZTEC MINES

HOPKINS WELL

ROOSEVELT MINE

CHUCKWALLA VALLEY (DEPRESSION)

Ford Dry Lake

McCoy Peak 626

Hopkins Well

Wileys Well

Area

Teague Well

Well 134

PIPELINE

POWERLINE

4WD

250

150

125

154

111

122

33.60674
-115.0171

33.60768
-114.77798

Eagle Mountain

Desert Center

Blythe

177

10

95

78

Figure 2-3

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 1 Mile

Survey Area
USGS 7.5' Quadrangles

MCCOY PEAK
MCCOY WASH
BLYTHE NE
ROOSEVELT MINE
RIPLEY
BLYTHE

33.60774
-114.76202

33.60245,
-114.60171

Eagle Mountain
Desert Center
Blythe

Figure 2-4

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 1 Mile

Survey Area

California Rare Pant Rank 4

Alverson's Foxtail Cactus (remains)

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-1

Special-status Plant Observations - Sheet #1

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

Figure 3-2

Special-status Plant Observations - Sheet #2

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Alverson's Foxtail Cactus

California Rare Pant Rank 4

Alverson's Foxtail Cactus (remains)

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-3

Special-status Plant Observations - Sheet #3

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

Figure 3-4

Special-status Plant Observations - Sheet #4

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

Figure 3-5

Special-status Plant Observations - Sheet #5

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

Figure 3-6

Special-status Plant Observations - Sheet #6

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-7

Special-status Plant Observations - Sheet #7

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Alverson's Foxtail Cactus

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-8

Special-status Plant Observations - Sheet #8

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-9

Special-status Plant Observations - Sheet #9

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-10

Special-status Plant Observations - Sheet #10

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-11

Special-status Plant Observations - Sheet #11

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-12

Special-status Plant Observations - Sheet #12

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-13

Special-status Plant Observations - Sheet #13

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-14

Special-status Plant Observations - Sheet #14

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 3

California Ditaxis

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-15

Special-status Plant Observations - Sheet #15

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-16

Special-status Plant Observations - Sheet #16

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-17

Special-status Plant Observations - Sheet #17

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

California Rare Plant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-18

Special-status Plant Observations - Sheet #18

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-19

Special-status Plant Observations - Sheet #19

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-20

Special-status Plant Observations - Sheet #20

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

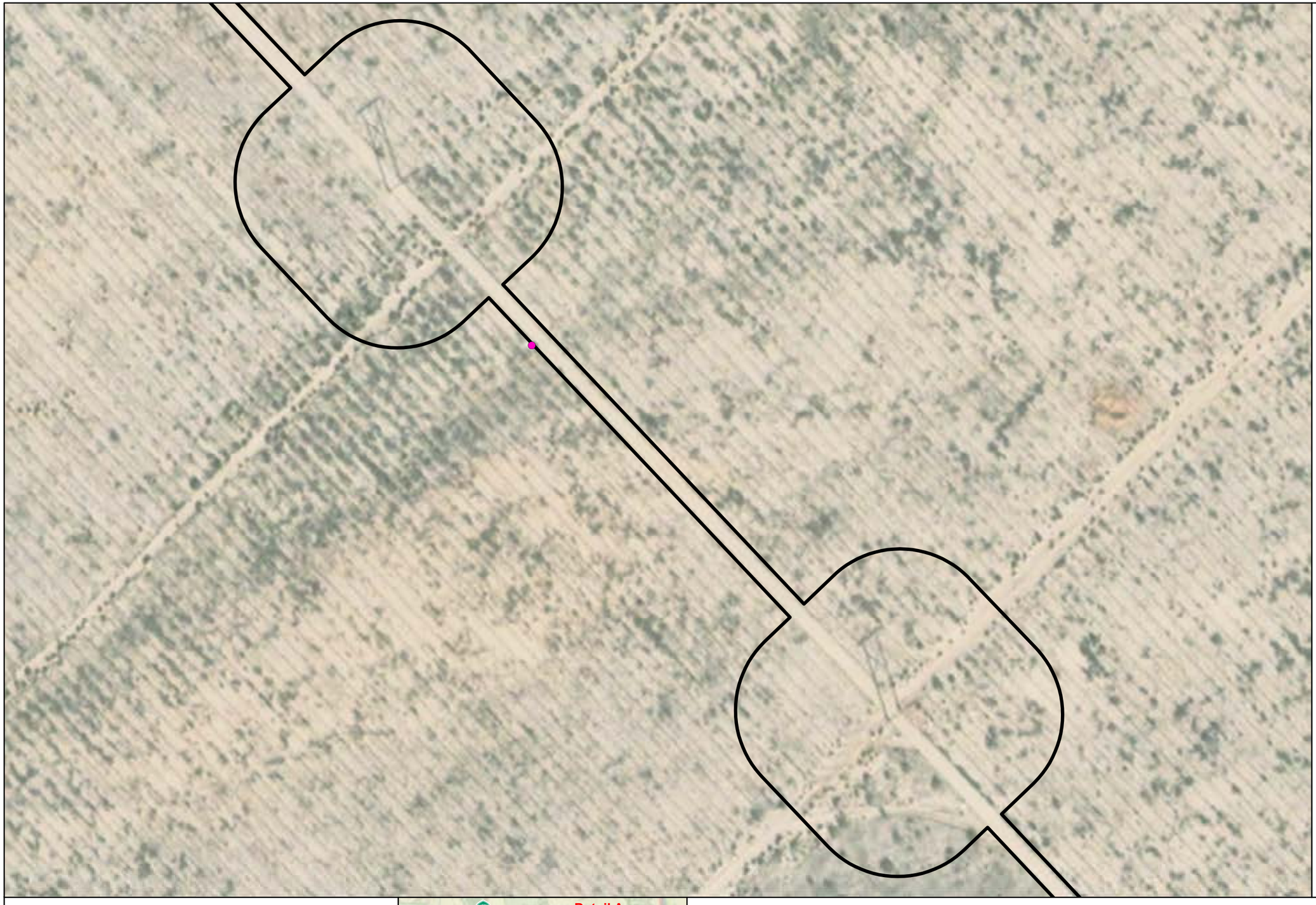
0 100 Feet

Figure 3-21

Special-status Plant Observations - Sheet #21

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT



N

0 100 Feet

Figure 3-22

Special-status Plant Observations - Sheet #22

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

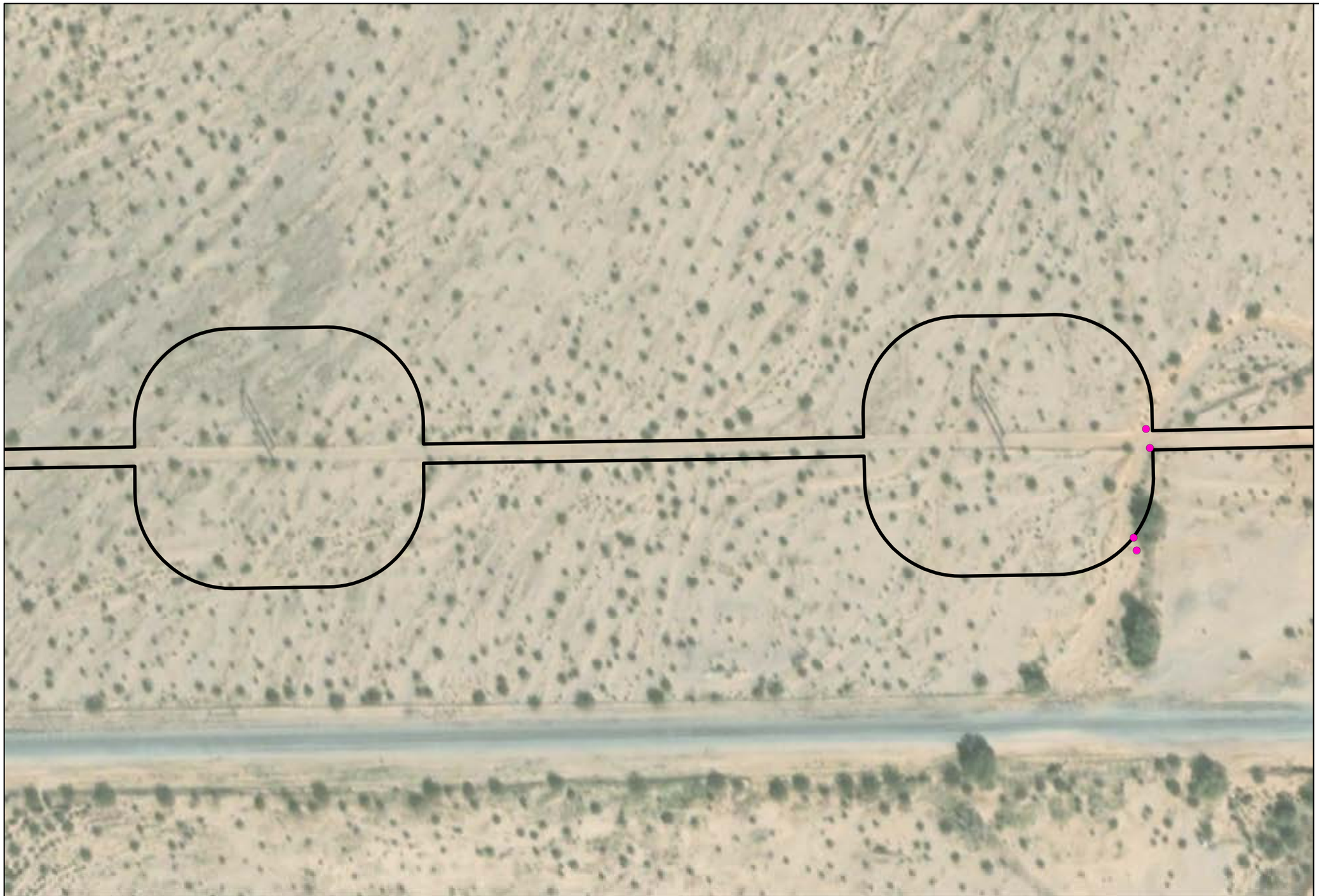
N

0 100 Feet

Figure 3-23

Special-status Plant Observations - Sheet #23

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT



Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-24

Special-status Plant Observations - Sheet #24

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 2B

Abrams' Spurge

California Rare Plant Rank 2B

Abrams' Spurge

Artemis Environmental Services, Inc.

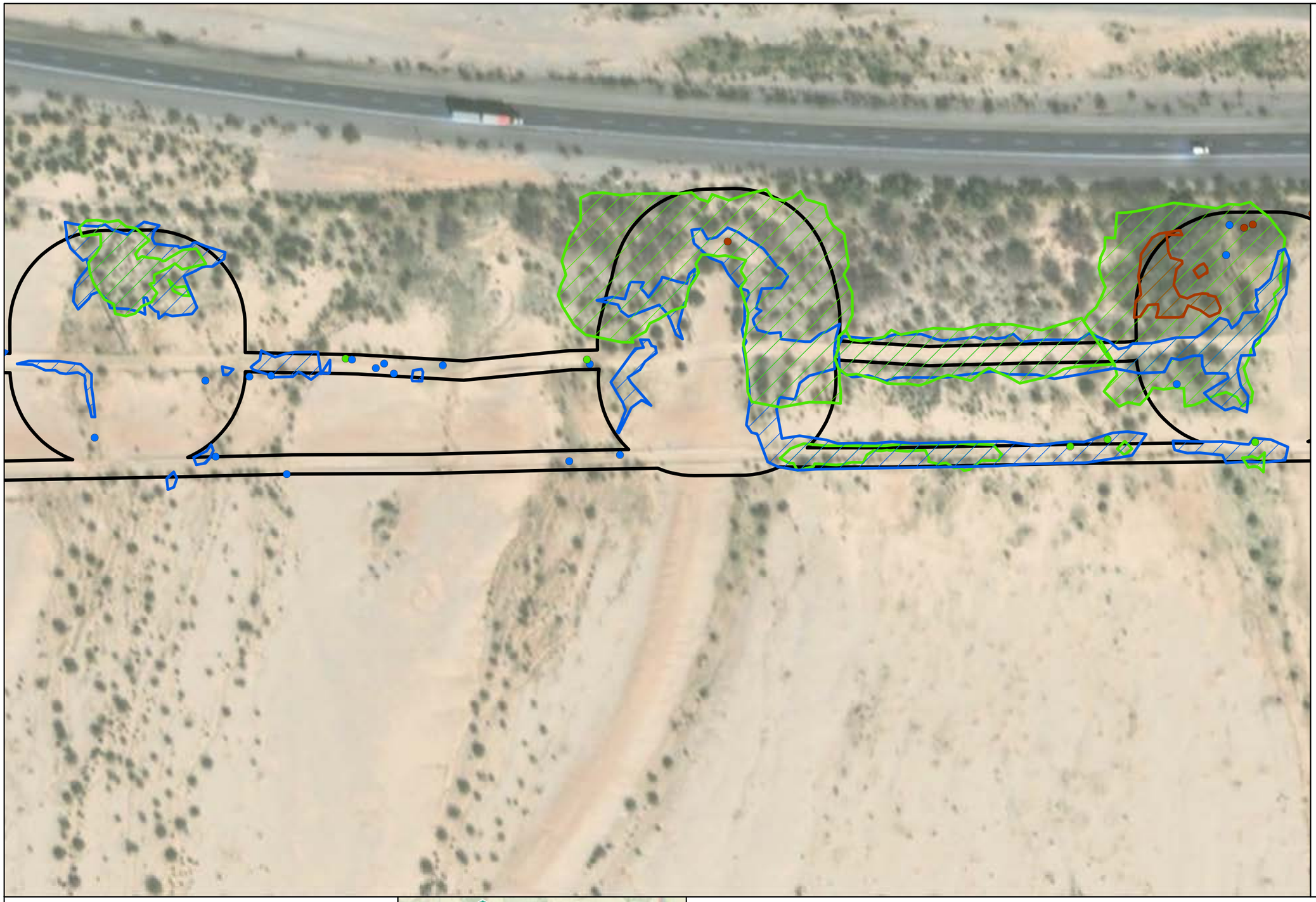
N

0 100 Feet

Figure 3-25

Special-status Plant Observations - Sheet #25

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT



Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-26

Special-status Plant Observations - Sheet #26

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-27

Special-status Plant Observations - Sheet #27

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 2B

Abrams' Spurge

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-28

Special-status Plant Observations - Sheet #28

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 2B

Abrams' Spurge

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-29

Special-status Plant Observations - Sheet #29

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 2B

Abrams' Spurge

California Rare Plant Rank 2B

Abrams' Spurge

Roughstalk Witch Grass

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-30

Special-status Plant Observations - Sheet #30

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-31

Special-status Plant Observations - Sheet #31

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-32

Special-status Plant Observations - Sheet #32

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-33

Special-status Plant Observations - Sheet #33

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-34

Special-status Plant Observations - Sheet #34

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 2B

Abrams' Spurge

Roughstalk Witch Grass

California Rare Pant Rank 4

Desert Unicorn Plant

California Rare Plant Rank 2B

Abrams' Spurge

Roughstalk Witch Grass

California Rare Plant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

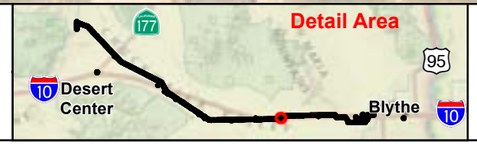


Figure 3-35

Special-status Plant Observations - Sheet #35

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 2B

Abrams' Spurge

Roughstalk Witch Grass

California Rare Pant Rank 4

Desert Unicorn Plant

California Rare Plant Rank 2B

Abrams' Spurge

Roughstalk Witch Grass

California Rare Plant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-36

Special-status Plant Observations - Sheet #36

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

California Rare Plant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-37

Special-status Plant Observations - Sheet #37

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-38

Special-status Plant Observations - Sheet #38

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

California Rare Plant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-39

Special-status Plant Observations - Sheet #39

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

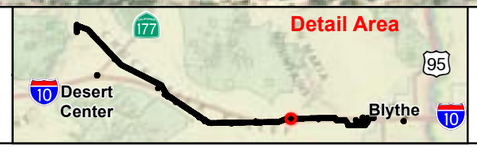


Figure 3-40

Special-status Plant Observations - Sheet #40

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-41

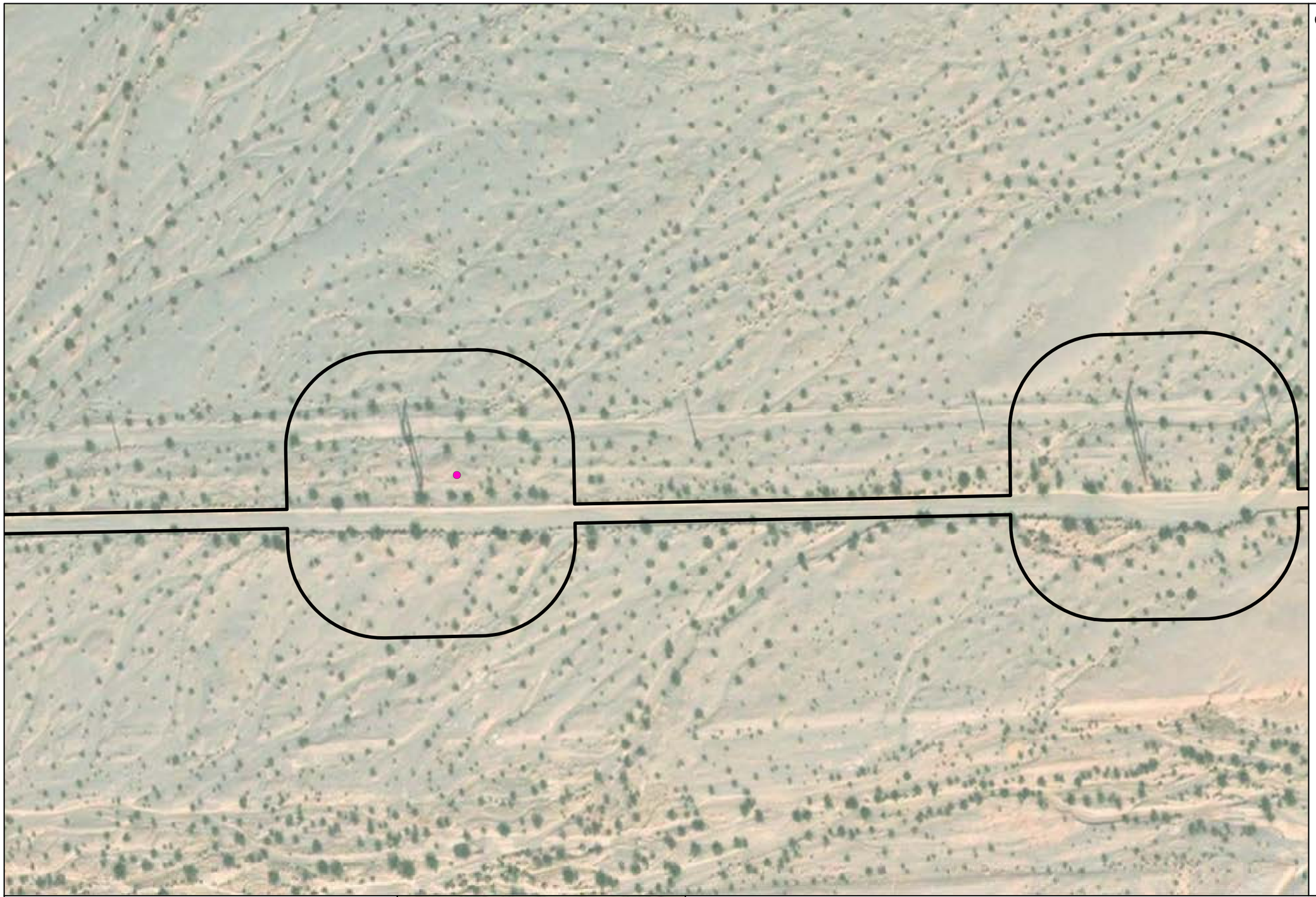
Special-status Plant Observations - Sheet #41

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant



Artemis Environmental Services, Inc.

N

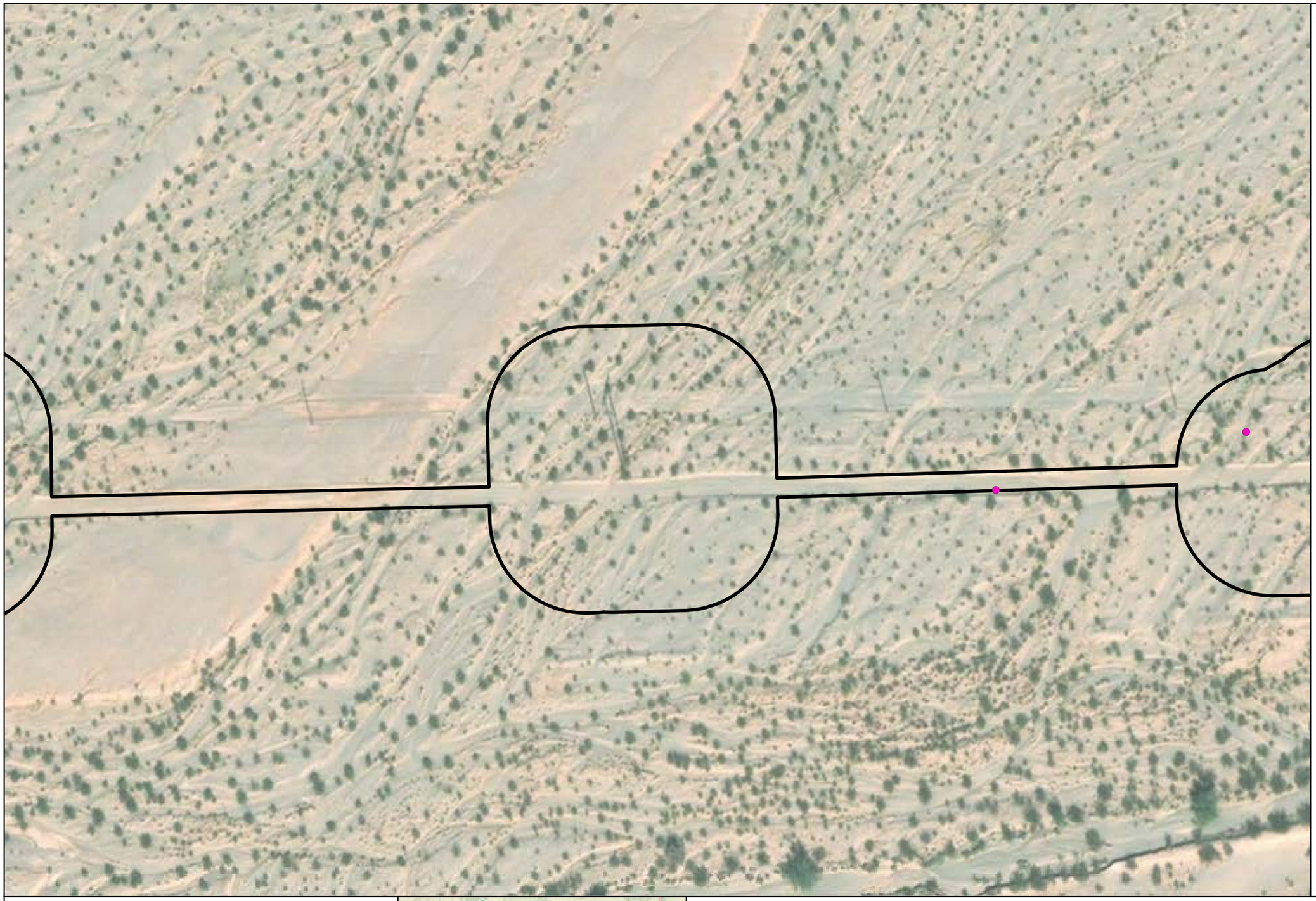
0 100 Feet

Figure 3-42

Special-status Plant Observations - Sheet #42

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT



Artemis Environmental Services, Inc.

Figure 3-43

Special-status Plant Observations - Sheet #43

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

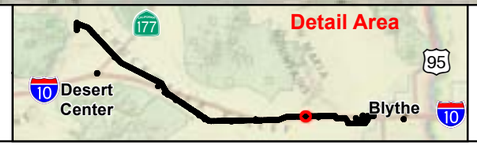


Figure 3-44

Special-status Plant Observations - Sheet #44

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-45

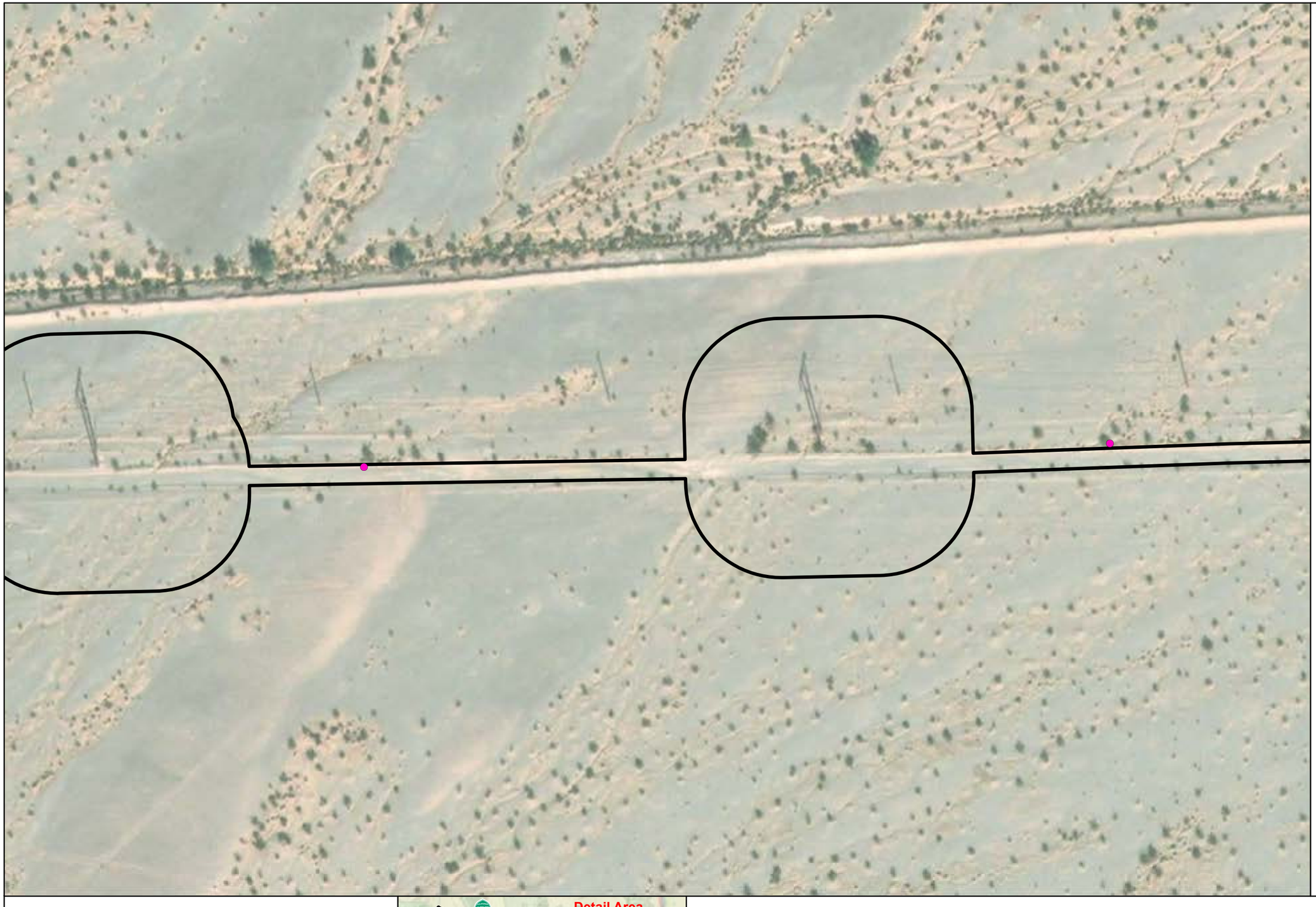
Special-status Plant Observations - Sheet #45

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant



Artemis Environmental Services, Inc.

N

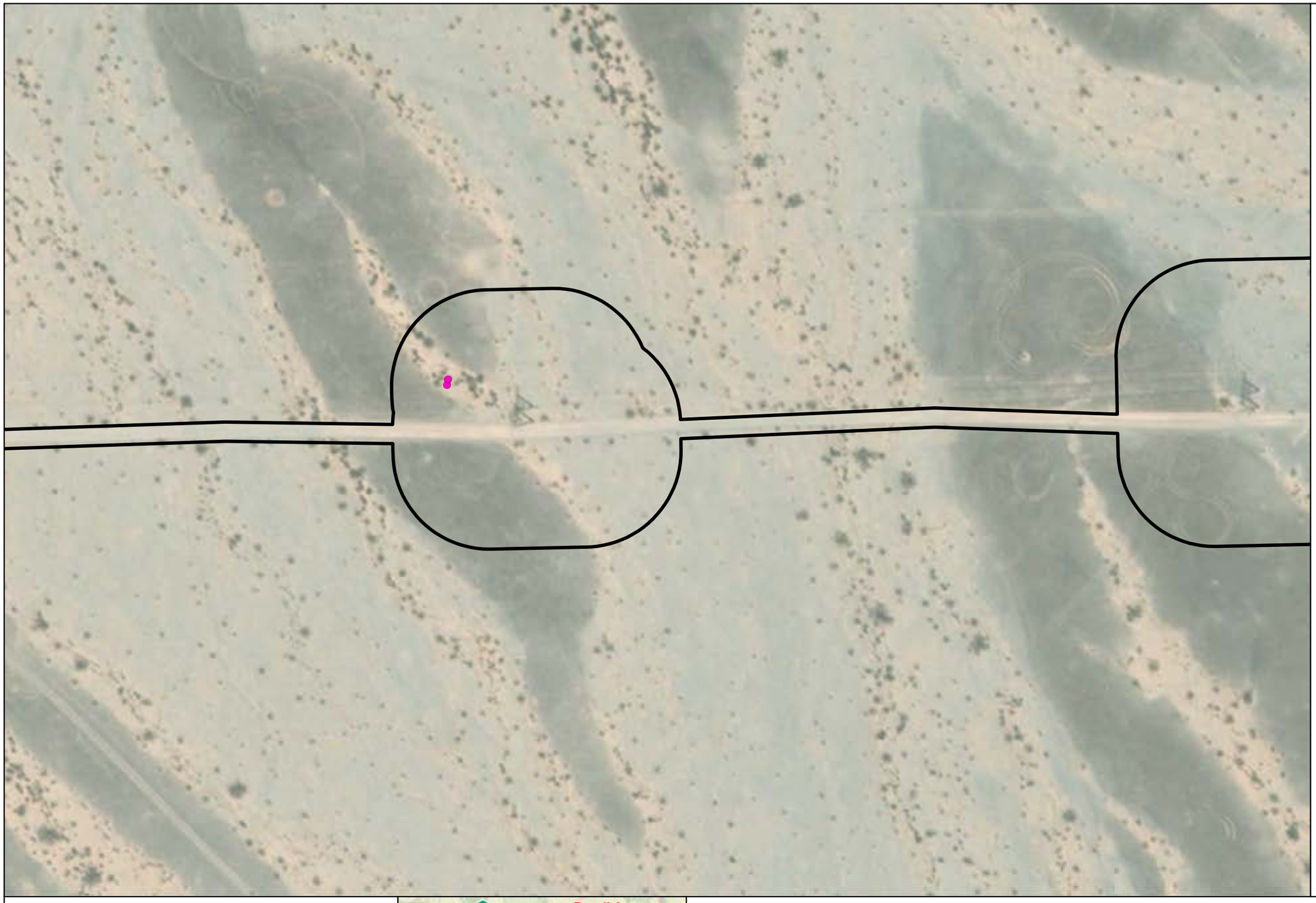
0 100 Feet

Figure 3-46

Special-status Plant Observations - Sheet #46

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

2021 SPECIAL-STATUS PLANT SURVEY REPORT



Survey Area

California Rare Pant Rank 4

Desert Unicorn Plant

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-47

Special-status Plant Observations - Sheet #47

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

Appendix B

Special-status Plant Species Evaluation of Potential to Occur

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
SPECIAL-STATUS PLANT SURVEY REPORT 2021
APPENDIX B
SPECIAL-STATUS PLANT SPECIES EVALUATION OF POTENTIAL TO OCCUR

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Abronia villosa* var. *aurita chaparral sand-verbena	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Jan-Sep	Annual herb found in sandy soils within chaparral, coastal scrub, and desert dunes. 245-5,250 ft.	Absent: Conspicuous herb not observed during surveys.	Spring to Fall
Acleisanthes longiflora angel trumpets	Fed: State: CRPR: REG:	-- -- 2B.3 NECO	May	Perennial herb found on carbonate soils in Sonoran desert scrub. 295-310 ft.	Unlikely: There are recent (<25 years) records within 5 miles. Dry spring conditions may have precluded detection.	Spring
Amaranthus watsonii Watson's amaranth	Fed: State: CRPR: REG:	-- -- 4.3 NECO	Apr-Sep	Annual herb found in coastal dunes, desert dunes and sands, and weakly saline areas. 165-1,310 ft.	Occurs: Hundreds of individuals were observed at several tower sites near Ford Dry Lake.	Spring to Fall
Ambrosia monogyra singlewhorl burrobrush	Fed: State: CRPR: REG:	-- -- 2B.2 --	Aug-Nov	Perennial shrub found in sandy soils within chaparral and Sonoran desert scrub. 35-1,640 ft.	Absent: Conspicuous perennial not observed during surveys.	Spring to Fall
Ammoselinum giganteum desert scaleseed	Fed: State: CRPR: REG:	-- -- 2B.1 --	Mar-Apr	Annual herb found in Sonoran desert scrub. 1,310-1,310 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Androstephium breviflorum small-flowered androstephium	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-Apr	Perennial bulbiferous herb found in desert dunes and bajadas of Mojavean desert scrub. 720-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Astragalus crotalariae Salton milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Jan-Apr	Perennial herb found on sandy or gravelly soils in Sonoran desert scrub. 195-820 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Astragalus insularis* var. *harwoodii Harwood's milk-vetch	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	Jan-May	Annual herb found on sandy or gravelly soils in desert dunes and Mojavean desert scrub. 0-2,330 ft.	Occurs: Numerous individuals were mapped near Ford Dry Lake during GANDA surveys in 2017. Poor spring conditions precluded 2021 surveys.	Spring
Astragalus lentiginosus* var. *borreganus Borrego milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-May	Annual herb found in Mojavean desert scrub and sandy Sonoran desert scrub. 100-2,935 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Astragalus lentiginosus* var. *coachellae Coachella Valley milk-vetch	Fed: State: CRPR: REG:	-- -- 2B.2 --	Feb-May	Annual or perennial herb found in desert dunes, and sandy Sonoran desert scrub. 130-2,150 ft.	Unlikely: There are recent records for this species within five miles the Project, but it has not been observed within 500 ft. of the Project. Poor spring conditions precluded surveys.	Spring
Astragalus nutans Providence Mountains milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Mar-Jun (Oct)	Annual herb found on sandy or gravelly soils in Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland, and Sonoran desert scrub. 1,475-6,400 ft.	Unlikely: There are historic records for this species in the region, but it has not been reported within five miles of the Project in the last 25 years. Poor spring conditions precluded surveys.	Spring to Fall
Astragalus sabulonum gravel milk-vetch	Fed: State: CRPR: REG:	-- -- 2B.2 --	Feb-Jun	Annual or perennial herb found on flats, washes, and roadsides in desert dunes, Mojavean desert scrub, Sonoran desert scrub on usually sandy and sometimes gravelly soils. 195-3,050 ft.	Unlikely: There are records for this species within 500 ft. of the proposed project, but the species has not been observed nearby in the past 75 years. Poor spring conditions precluded surveys.	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Astragalus tricarinatus triple-ribbed milk-vetch	Fed: State: CRPR: REG:	FE -- 1B.2 DCREP, CDCA	Feb-May	Perennial herb found on sandy or gravelly soils in Joshua tree "woodland" and Sonoran desert scrub. 1,475-3,905 ft.	Unlikely: There are records for this species within two miles of the Project in the last 25 years. Poor spring conditions precluded surveys.	Spring
Ayenia compacta California ayenia	Fed: State: CRPR: REG:	-- -- 2B.3 --	Mar-Apr	Perennial herb found in rocky areas of Mojavean desert scrub and Sonoran desert scrub. 490-3,595 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years.	Spring
Calliandra eriophylla pink fairy-duster	Fed: State: CRPR: REG:	-- -- 2B.3 NECO	Jan-Mar	Perennial deciduous shrub found on sandy or rocky soils in Sonoran desert scrub. 395-4,920 ft.	Unlikely: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years. Dry spring conditions may have precluded detection.	Spring
Castela emoryi Emory's crucifixion-thorn	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	(Apr) Jun-Jul (Sep-Oct)	Perennial deciduous shrub found on gravelly soils in Mojavean desert scrub, Sonoran desert scrub, and playas. 295-2,380 ft.	Occurs: Several individuals of this species were observed within the Project survey buffer and one individual was observed at one tower site north of Desert Center.	Spring to Fall
Chaenactis carphoclinia* var. *peirsonii Peirson's pincushion	Fed: State: CRPR: REG:	-- -- 1B.3 --	Mar-Apr	Annual herb found on sandy soils in Sonoran desert scrub. 10-1,640 ft.	Unlikely: There are records for this species within five miles of the proposed project, but it has not been observed in vicinity in the past 25 years. Poor spring conditions precluded surveys.	Spring
Chylismia arenaria sand evening-primrose	Fed: State: CRPR: REG:	-- -- 2B.2 --	Nov-May	Annual or perennial herb found on sandy or rocky soils in Sonoran desert scrub. -260-705 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Cladium californicum California sawgrass	Fed: State: CRPR: REG:	-- -- 2B.2 --	Jun-Sep	Perennial rhizomatous herb found in meadows and seeps, marshes, and alkaline or freshwater swamps. 195-5,250 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Suitable habitat also does not occur in the survey area.	Spring to Fall
Colubrina californica Las Animas colubrina	Fed: State: CRPR: REG:	-- -- 2B.3 NECO, CDCA	Apr-Jun	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. 35-3,280 ft.	Likely: There are recent records for this species within 500 ft. of the Project. Individuals were not detected during 2021 surveys; however poor spring conditions may have prevented its detection due to being deciduous.	Spring
Condalia globosa* var. *pubescens spiny abrojo	Fed: State: CRPR: REG:	-- -- 4.2 NECO	Mar-May (Nov)	Perennial deciduous shrub found in Sonoran desert scrub. 280-3,280 ft.	Absent: There are no records for this species occurring within five miles of the Project in the last 75 years. No individuals were observed of this charismatic shrub during 2021 surveys.	Spring
Coryphantha alversonii foxtail cactus	Fed: State: CRPR: REG:	-- -- 4.3 NECO, CDCA	Apr-Jun	Perennial stem-succulent found on sandy or rocky, usually granitic, soils in Mojavean desert scrub and Sonoran desert scrub. 245-5,005 ft.	Occurs: Dozens of individuals were observed near the Eagle Mountain Station.	Spring
Cryptantha costata ribbed cryptantha	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-May	Annual herb found in desert dunes and sandy soils in Mojavean desert scrub and Sonoran desert scrub. 195-1,640 ft.	Occurs: Thousands of individuals were mapped near Wiley's Well Rest Stop and Ford Dry Lake during GANDA surveys in 2017. Poor spring conditions precluded 2021 surveys.	Spring
Cryptantha holoptera winged cryptantha	Fed: State: CRPR: REG:	-- -- 4.3 NECO	Mar-Apr	Annual herb found in Mojavean desert scrub and Sonoran desert scrub. 330-5,545 ft.	Unlikely: There are recent records for this species within three miles the Project, but it has not been observed within 500 ft. of the Project.	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Cylindropuntia munzii Munz's cholla	Fed: State: CRPR: REG:	BLMS -- 1B.3 NECO, CDCA	May	Perennial stem-succulent found on sandy or gravelly soils in Sonoran desert scrub. 490-1,970 ft.	Absent: Conspicuous perennial not observed during surveys.	Spring
Cylindropuntia wigginsii Wiggins' cholla	Fed: State: CRPR: BLM: REG:	-- -- 3.3 -- NECO	Mar	Perennial stem-succulent found on sandy soils in Sonoran desert scrub. 100-2,905 ft.	Absent: Conspicuous shrub not observed during surveys.	Spring
Ditaxis claryana glandular ditaxis	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- NECO	Oct-Mar	Perennial herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. 0-1,525 ft.	Unlikely: There are records for this species within two miles of the project, but it has not been observed in the vicinity in the past 25 years. Poor spring conditions precluded surveys.	Spring
Ditaxis serrata* var. *californica California ditaxis	Fed: State: CRPR: BLM: REG:	-- -- 3.2 -- NECO, CDCA	Mar-Dec	Perennial herb found in Sonoran desert scrub. 100-3,280 ft.	Occurs: Dozens of individuals of this species were observed at several tower sites north of Desert Center.	Spring to Fall
Eriastrum harwoodii Harwood's eriastrum	Fed: State: CRPR: BLM: REG:	-- -- 1B.2 SS --	Mar-Jun	Annual herb found in desert dunes. 410-3,000 ft.	Likely: There are recent records (<25yrs) for this species within two miles the Project, but it has not been observed within 500 ft. of the Project.	Spring
Eschscholzia androuxii Joshua Tree poppy	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Feb-May (Jun)	Annual herb found on sandy, gravelly, and/or rocky soils in desert washes, flats, and slopes in Joshua tree "woodland" and Mojavean desert scrub. 1,920-5,530 ft.	Does Not Occur: There are no records for this recently described species occurring within five miles of the Project. Poor spring conditions precluded surveys.	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Euphorbia abramsiana Abrams' spurge	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- --	(Aug) Sep-Nov	Annual herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. 15-4,300 ft.	Occurs: Thousands of individuals observed. Species is fairly common from the Wiley's Well Rest Stop area west to the Ford Dry Lake area.	Fall
Euphorbia arizonica Arizona spurge	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- --	Mar-Apr	Perennial herb found on sandy soils in Sonoran desert scrub. 165-985 ft.	Absent: There are no records for this species occurring within five miles of the project in the last 75 years. None were observed during surveys.	Spring
Euphorbia jaegeri Orocopia Mountains spurge	Fed: State: CRPR: BLM: REG:	-- -- 1B.1 SS --	Oct-May	Perennial shrub found in rocky hillsides and arroyos and gravelly or rocky crevices on granitic, carbonate, or metamorphic substrates in Mojavean desert scrub. 1,970-2,790 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years	Spring to Fall
Funastrum utahense Utah vine milkweed	Fed: State: CRPR: BLM: REG:	-- -- 4.2 -- --	(Mar) Apr-Jun (Sep), (Oct)	Perennial herb found on sandy or gravelly soils in Mojavean desert scrub and Sonoran desert scrub. 330-4,710 ft.	Likely: There are recent (<25yrs) records for this species within two miles the project. Poor spring conditions precluded thorough surveys.	Spring to Fall
Horsfordia alata pink velvet-mallow	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Feb-Dec	Perennial shrub found on rocky soils in Sonoran desert scrub. 330-1,640 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years	Spring to Fall
Horsfordia newberryi Newberry's velvet-mallow	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Feb-Dec	Perennial shrub found on rocky soils in Sonoran desert scrub. 10-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years	Spring to Fall
Hymenoxys odorata bitter hymenoxys	Fed: State: CRPR: BLM: REG:	-- -- 2B.1 -- --	Feb-Nov	Annual herb found in sandy areas in riparian scrub and Sonoran desert scrub. 150-490 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years.	Spring to Fall

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Imperata brevifolia California satintail	Fed: State: CRPR: BLM: REG:	-- -- 2B.1 -- --	Sep-May	Perennial rhizomatous herb found in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and mesic riparian scrub. 0-3,985 ft.	Unlikely: Although there are historic records for this species in the region, this species has not been reported within five miles of the Project in the last 25 years.	Spring to Fall
Jaffueliobryum wrightii Wright's jaffueliobryum moss	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- --	--	Moss found in dry openings and rock crevices on carbonate substrates in alpine dwarf scrub, Mojavean desert scrub, and pinyon and juniper woodland. 525-8,200 ft.	Unlikely: Although there are recent records from the region, there are no records for this species within five miles of the Project.	
Juncus cooperi Cooper's rush	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Apr-May (Aug)	Perennial herb found in mesic, alkaline or saline meadows and seeps. 855-5,805 ft.	Does Not Occur: There are no records for this species within five miles of the Project in the last 75 years and suitable habitat does not occur in the project area.	Spring
Koeberlinia spinosa* var. *tenuispina slender-spined all thorn	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- NECO	May-Jul	Perennial deciduous shrub found in riparian woodland, Sonoran desert scrub. 490-1,675 ft.	Absent: Conspicuous shrub not observed during surveys.	Spring
Lycium parishii Parish's desert-thorn	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- --	Mar-Apr	Perennial shrub found in coastal scrub and Sonoran desert scrub. 445-3,280 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys of this deciduous shrub.	Spring
Lycium torreyi Torrey's box-thorn	Fed: State: CRPR: BLM: REG:	-- -- 4.2 -- --	(Jan), (Feb) Mar-Jun (Sep), (Oct), (Nov)	Perennial shrub found on sandy or rocky soils in washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub. 165-4,005 ft.	Does Not Occur: There are records for this species within five miles of the proposed project, but it has not been observed in vicinity in the past 75 years. Poor spring conditions precluded surveys of this deciduous shrub.	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Matelea parvifolia spearleaf	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- NECO	Mar-May (Jul)	Perennial herb found in rocky sites in Mojavean desert scrub and Sonoran desert scrub. 1,445-3,595 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Mentzelia puberula Darlington's blazing star	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- --	Mar-May	Perennial herb found on sandy or rocky soils in Mojavean desert scrub and Sonoran desert scrub. 295-4,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Mentzelia tricuspis spiny-hair blazing star	Fed: State: CRPR: BLM: REG:	-- -- 2B.1 -- --	Mar-May	Annual herb found on slopes and in washes on sandy or gravelly soils in Mojavean desert scrub. 490-4,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Monardella robisonii Robison's monardella	Fed: State: CRPR: BLM: REG:	-- -- 1B.3 SS NECO, CDCA	(Feb) Apr-Sep (Oct)	Perennial rhizomatous herb found in pinyon and juniper woodland. 2,000-4,920 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years	Spring to Fall
Nemacaulis denudata* var. *gracilis slender cottonheads	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- --	(Mar) Apr-May	Annual herb found in coastal dunes, desert dunes, and Sonoran desert scrub. 165-1,310 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded surveys.	Spring
Panicum hirticaule* ssp. *hirticaule roughstalk witch grass	Fed: State: CRPR: BLM: REG:	-- -- 2B.1 -- --	Aug-Dec	Annual herb found in sandy or silty depressions in desert dunes, Joshua tree "woodland", Mojavean desert scrub, and Sonoran desert scrub. 150-4,315 ft.	Occurs: Thousands of individuals observed. Species is fairly common from the Wiley's Well Rest Stop area west to the Ford Dry Lake area.	Spring to Fall

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Penstemon pseudospectabilis* ssp. *pseudospectabilis desert beardtongue	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- --	Jan-May	Perennial herb found most often in sandy washes, and sometimes in rocky washes in Mojavean desert scrub and Sonoran desert scrub. 260-6,350 ft.	Unlikely: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years. Poor spring conditions precluded surveys.	Spring
Petalonix linearis long leaved sandpaper plant	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- --	Mar-May	Subshrub found in rocky canyons to sandy washes and dunes. 0-3200 ft.	Unlikely: There are recent (<25yrs) records for this species within five miles of the project area. Poor spring conditions precluded surveys.	Spring
Phaseolus filiformis slender-stem bean	Fed: State: CRPR: BLM: REG:	-- -- 1B.1 -- --	Apr	Annual herb found in Sonoran desert scrub. 410-410 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring
Pholisma sonorae sand food	Fed: State: CRPR: BLM: REG:	-- -- 1B.2 SS NECO	(Mar) Apr-Jun	Perennial herb parasitic found on sandy soils in desert dunes and Sonoran desert scrub. 0-655 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Suitable habitat does not occur in project area.	Spring
Physalis lobata lobed ground-cherry	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- NECO	(May) Sep-Jan	Perennial herb found on decomposed granitic soils in Mojavean desert scrub and playas. 1,640-2,625 ft.	Absent: There are no records for this species occurring within five miles of the Project in the last 75 years and none were encountered during surveys.	Spring to Fall
Pilostyles thurberi Thurber's pilostyles	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Dec-Apr	Perennial herb parasitic on Psorothamnus, especially Psorothamnus emoryi. Found in Sonoran desert scrub. 0-1,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Polygala acanthoclada thorny milkwort	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- --	May-Aug	Perennial shrub found in chenopod scrub, Joshua tree "woodland", and pinyon and juniper woodland. 2,495-7,495 ft.	Absent: There are no records for this species occurring within five miles of the Project in the last 75 years and it was not observed during surveys.	Spring to Fall
Portulaca halimoides desert portulaca	Fed: State: CRPR: BLM: REG:	-- -- 4.2 -- --	Sep	Annual herb found on sandy soils in Joshua tree "woodland". 3,280-3,935 ft.	Absent: There are no records for this species occurring within five miles of the Project in the last 75 years, and it was not observed during surveys.	Fall
Proboscidea althaeifolia desert unicorn-plant	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- NECO	May-Sep (Oct)	Perennial herb found on gently sloping sandy flats and washes and sometimes roadsides in Sonoran desert scrub. 280-3,280 ft.	Occurs: Hundreds of individuals observed. Species is frequent in several areas in the eastern and western sections of the project area.	Fall
Pseudorontium cyathiferum Deep Canyon snapdragon	Fed: State: CRPR: BLM: REG:	-- -- 2B.3 -- --	Feb-Apr	Annual herb found on rocky soils in Sonoran desert scrub. 0-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring
Saltugilia latimeri Latimer's woodland-gilia	Fed: State: CRPR: BLM: REG:	-- -- 1B.2 SS --	Mar-Jun	Annual herb found on rocky or sandy often granitic soils, sometimes in washes, within chaparral, Mojavean desert scrub, and pinyon and juniper woodland. 1,310-6,235 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring
Salvia eremostachya desert sage	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Mar-May	Perennial evergreen shrub found on rocky or gravelly soils in Sonoran desert scrub. 2,295-4,595 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Salvia greatae Orocopia sage	Fed: State: CRPR: BLM: REG:	-- -- 1B.3 SS NECO, CDCA	Mar-Apr	Perennial evergreen shrub found in Mojavean desert scrub and Sonoran desert scrub. 130-2,705 ft.	Absent: There are no records for this species occurring within three miles of the Project in the last 75 years. Conspicuous shrub not observed during surveys.	Spring
Selaginella eremophila desert spike-moss	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- --	(May) Jun (Jul)	Perennial rhizomatous herb found on gravelly or rocky soils in chaparral and Sonoran desert scrub. 655-4,250 ft.	Absent: There are no records for this species occurring within five miles of the Project in the last 75 years. Conspicuous perennial not observed during surveys.	Spring
Senna covesii Coves' cassia	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- NECO	Mar-Jun (Aug)	Perennial herb found on dry sandy desert washes and slopes in Sonoran desert scrub. 740-4,250 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring
Stylocline sonorensis mesquite neststraw	Fed: State: CRPR: BLM: REG:	-- -- 2A -- NECO	Apr	Annual herb found in Sonoran desert scrub(sandy). 1,395-1,395 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project in the last 75 years. Poor spring conditions precluded survey	Spring
Tetracoccus hallii Hall's tetracoccus	Fed: State: CRPR: BLM: REG:	-- -- 4.3 -- --	Jan-May	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. 100-3,935 ft.	Unlikely: There are recent (<25yrs) records for this species within five miles of the project. Poor spring conditions may have precluded detection of this deciduous shrub.	Spring
Teucrium cubense* ssp. *depressum dwarf germander	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- --	Mar-May (Sep), (Oct), (Nov)	Annual herb found on desert dunes and playa margins in Sonoran desert scrub. 150-1,310 ft.	Absent: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years. No individuals were observed during surveys.	Spring to Fall

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis	Season
Tiquilia canescens **var. *pulchella*** Chocolate Mountains tiquilia	Fed: State: CRPR: BLM: REG:	-- -- 3.2 -- --	Feb-May	Perennial shrub found on ridges, or in washes and sometimes slopes in Sonoran desert scrub. 820-2,295 ft.	Absent: There are no records for this species within five miles of the Project in the last 75 years. Conspicuous perennial not detected during surveys.	Spring
Wislizenia refracta **ssp. *palmeri*** Palmer's jackass clover	Fed: State: CRPR: BLM: REG:	-- -- 2B.2 -- NECO	Jan-Dec	Perennial deciduous shrub found in chenopod scrub, desert dunes, Sonoran desert scrub and Sonoran thorn woodland. 0-985 ft.	Unlikely: There are recent (<25yrs) records for this species within five miles of the project. Poor spring conditions precluded surveys.	Spring
Xylorhiza cognata Mecca-aster	Fed: State: CRPR: BLM: REG:	-- -- 1B.2 SS NECO	Jan-Jun	Perennial herb found in Sonoran desert scrub. 65-1,310 ft.	Absent: There are no records for this species occurring within five miles of the Project in the last 75 years. Conspicuous perennial not observed during surveys.	Spring

Sensitivity Status Key

CNPS Threat Ranks:

0.1 = Seriously threatened in California (over 80 percent of occurrences threatened, high degree and immediacy of threat)
0.2 = Moderately threatened in California (20 to 80 percent of occurrences threatened, moderate degree and immediacy of threat)
0.3 = Not very threatened in California (less than 20 percent of occurrences threatened, low degree and immediacy of threat or no current threats known)

Regional (REG):

CDCA = California Desert Conservation Area Covered
DRECP = Desert Renewable Energy Conservation Plans Covered
NECO = Northern and Eastern Colorado Desert Coordinated Management Plan
-- = No Listing

State (California):

-- = No Listing

Federal (Fed):

BLMS = BLM Sensitive
-- = No Listing

California Rare Plant Rank (CRPR):

1A = Plants presumed extinct in California
1B = Plants rare and endangered in California and throughout their range
2A = Plants presumed extirpated in California, but more common elsewhere
2B = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which more information is needed; a review list
4 = Plants of limited distribution; a watch list

Appendix C

Representative Photographs

Photo 1: Watson's amaranth observed in the Survey Area (9/17/2021).

Photo 2: Crucifixion thorn observed in the Survey Area (9/23/2021).

Photo 3: Alverson's foxtail cactus observed in the Survey Area (9/23/2021).

Photo 4: California ditaxis observed in the Survey Area (9/22/2021).

Photo 5: Abram's spurge observed in the Survey Area (9/22/2021).

Photo 6: Roughstalk witch grass observed in the Survey Area (9/17/2021).

Photo 7: Desert unicorn plant observed in the Survey Area (9/13/2021).

Photo 8: Abram's spurge observed in the Survey Area during the reference check (8/25/2021).

Photo 9: Roughstalk witch grass observed in the Survey Area during the reference check (8/25/2021).

Photo 10: Desert unicorn plant observed in the Survey Area with minor germination of other summer species during the reference check (8/25/2021).

Photo 11: Survey Area near the Blythe Substation with no germination of summer species during the reference check (8/25/2021).

Photo 12: Survey Area near Ford Dry Lake Road with no germination of summer species during the reference check (8/25/2021).

Photo 12: Survey Area near Wiley's Well Rest Stop with moderate germination of summer species during the reference check (8/25/2021).

Appendix D

Plant Species Observed

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
SPECIAL-STATUS PLANT SURVEY

APPENDIX D
PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name	Status
Aizoaceae	*Trianthema portulacastrum*	desert horsepurslane	
Amaranthaceae	*Amaranthus fimbriatus*	fringed amaranth	
Amaranthaceae	*Amaranthus watsonii*	Watson's amaranth	4.3
Apocynaceae	*Asclepias subulata*	rush milkweed	
Apocynaceae	*Funastrum cynanchoides* var. *hartwegii*	Hartweg's milkvine	
Apocynaceae	*Funastrum hirtellum*	trailing townula	
Apocynaceae	*Nerium oleander**	oleander	
Arecaceae	*Phoenix canariensis**	Canary Island date palm	
Arecaceae	*Washingtonia filifera*	California fan palm	
Asteraceae	*Ambrosia dumosa*	white bursage	
Asteraceae	*Ambrosia salsola*	burrobrush	
Asteraceae	*Bebbia juncea*	sweetbush	
Asteraceae	*Chaenactis carphoclinia*	pebble pincushion	
Asteraceae	*Encelia farinosa*	brittlebush	
Asteraceae	*Encelia frutescens*	rayless encelia	
Asteraceae	*Erigeron bonariensis**	flax-leaf fleabane	
Asteraceae	*Erigeron canadensis*	horseweed	
Asteraceae	*Geraea canescens*	desert sunflower	
Asteraceae	*Helianthus annuus*	western sunflower	
Asteraceae	*Palafoxia arida* var. *arida*	desert Spanish-needle	
Asteraceae	*Pectis papposa* var. *papposa*	chinch-weed	
Asteraceae	*Peucephyllum schottii*	pygmy cedar	
Asteraceae	*Pluchea sericea*	arrow weed	
Asteraceae	*Porophyllum gracile*	odora	
Asteraceae	*Psathyrotes ramosissima*	turtleback	
Asteraceae	*Stephanomeria exigua* ssp. *exigua*	small wreath-plant	
Asteraceae	*Stephanomeria pauciflora*	wire-lettuce	
Boraginaceae	*Cryptantha angustifolia*	narrow leaved cryptantha	
Boraginaceae	*Cryptantha maritima*	white-haired cryptantha	
Boraginaceae	*Cryptantha* sp.	cryptantha	
Boraginaceae	*Tiquilia plicata*	fanleaf crinklemat	
Brassicaceae	*Brassica tournefortii**	Sahara mustard	
Cactaceae	*Coryphantha alversonii*	Alverson's foxtail cactus	4.3
Cactaceae	*Cylindropuntia echinocarpa*	golden cholla, silver cholla	
Cactaceae	*Cylindropuntia ramosissima*	diamond cholla, pencil cactus	
Cactaceae	*Ferocactus cylindraceus*	California barrel cactus	

Family	Scientific Name	Common Name	Status
Cactaceae	*Mammilaria tetrancistra*	common fishhook cactus	
Cactaceae	*Opuntia basilaris*	beavertail cactus	
Chenopodiaceae	*Amaranthus palmeri*	Palmer's amaranth	
Chenopodiaceae	*Atriplex canescens*	four-wing saltbush	
Chenopodiaceae	*Atriplex hymenelytra*	desert-holly	
Chenopodiaceae	*Atriplex polycarpa*	allscale saltbush	
Chenopodiaceae	*Salsola paulsenii**	barbwire Russian thistle	
Chenopodiaceae	*Salsola* sp.*	Russian thistle	
Cucurbitaceae	*Brandegea bigelovii*	desert star-vine	
Cucurbitaceae	*Cucurbita palmata*	coyote melon	
Cyperaceae	*Cyperus strigosus*	false nutsedge	
Euphorbiaceae	*Croton californicus*	California croton	
Euphorbiaceae	*Ditaxis lanceolata*	desert silverbush	
Euphorbiaceae	*Ditaxis neomexicana*	New Mexico ditaxis	
Euphorbiaceae	*Ditaxis serrata* var. *californica*	California ditaxis	3.2
Euphorbiaceae	*Ditaxis serrata* var. *serrata*	saw toothed ditaxis	
Euphorbiaceae	*Euphorbia abramsiana*	Abrams' spurge	2B.2
Euphorbiaceae	*Euphorbia micromera*	Sonoran sandmat	
Euphorbiaceae	*Euphorbia nutans**	eyebane spurge	
Euphorbiaceae	*Euphorbia polycarpa*	smallseed sandmat	
Euphorbiaceae	*Euphorbia setiloba*	Yuma sandmat	
Euphorbiaceae	*Stillingia spinulosa*	annual stillingia	
Fabaceae	*Dalea mollissima*	silky dalea	
Fabaceae	*Hoffmannseggia glauca*	pig-nut	
Fabaceae	*Marina parryi*	Parry's false prarie-clover	
Fabaceae	*Medicago sativa**	alfalfa	
Fabaceae	*Olneya tesota*	ironwood	
Fabaceae	*Parkinsonia florida*	blue palo verde	
Fabaceae	*Prosopis glandulosa* var. *torreyana*	honey mesquite	
Fabaceae	*Prosopis velutina*	velvet mesquite	
Fabaceae	*Psorothamnus emoryi*	dyebush	
Fabaceae	*Psorothamnus spinosus*	smoke tree	
Fabaceae	*Senegalia greggii*	catclaw acacia	
Fouquieriaceae	*Fouquieria splendens*	ocotillo	
Krameriaceae	*Krameria bicolor*	white rhatany	
Lamiaceae	*Condea emoryi*	desert-lavender	
Loasaceae	*Mentzelia longiloba*	many-flowered mentzelia	
Malvaceae	*Sphaeralcea ambigua*	apricot mallow	
Malvaceae	*Sphaeralcea angustifolia*	narrow-leaved globemallow	
Martyniaceae	*Proboscidea althaeifolia*	desert unicorn-plant	4.3
Myrtaceae	*Eucalyptus* sp.*	eucalyptus	

Family	Scientific Name	Common Name	Status
Nyctaginaceae	*Abronia villosa*	desert sand verbena	
Nyctaginaceae	*Allionia incarnata*	trailing windmills	
Nyctaginaceae	*Mirabilis laevis* var. *villosa*	wishbone bush	
Onagraceae	*Oenothera deltoides*	birdcage evening-primrose	
Plantaginaceae	*Plantago* sp.	plantain	
Poaceae	*Aristida adscensionis*	six weeks	
Poaceae	*Bouteloua aristidoides* var. *aristidoides*	needle grama	
Poaceae	*Bouteloua barbata* var. *barbata*	sixweeks grama	
Poaceae	*Cenchrus* sp.*	sandbur	
Poaceae	*Chloris virgata**	feather fingergrass	
Poaceae	*Cynodon dactylon**	Bermuda grass	
Poaceae	*Echinochloa colona**	jungle rice	
Poaceae	*Eragrostis cilianensis**	stink grass	
Poaceae	*Hilaria rigida*	big galleta	
Poaceae	*Leptochloa fusca* ssp. *uninervia*	Mexican sprangle-top	
Poaceae	*Panicum hirticaule* ssp. *hirticaule*	roughstalk witch grass	2B.1
Poaceae	*Polypogon monspeliensis**	annual beardgrass	
Poaceae	*Schismus* sp.*	schismus	
Poaceae	*Sporobolus cryptandrus*	sand dropseed	
Polygonaceae	*Boerhavia coulteri*	Coulter's spiderling	
Polygonaceae	*Boerhavia wrightii*	largebract spiderling	
Polygonaceae	*Chorizanthe brevicornu*	brittle spineflower	
Polygonaceae	*Chorizanthe rigida*	rigid spineflower	
Polygonaceae	*Eriogonum deflexum*	skeleton weed	
Polygonaceae	*Eriogonum inflatum*	desert trumpet	
Polygonaceae	*Polygonum* sp.	knotweed	
Portulacaceae	*Portulaca oleracea**	common purslane	
Rosaceae	*Rubus ursinus*	California blackberry	
Simaroubaceae	*Castela emoryi*	crucifixion thorn	2B.2
Simmondsiaceae	*Simmondsia chinensis*	jojoba	
Solanaceae	*Datura discolor*	desert thorn-apple	
Solanaceae	*Datura wrightii*	jimson weed	
Solanaceae	*Lycium andersonii*	Anderson thornbush	
Solanaceae	*Lycium fremontii*	Fremont's boxthorn	
Solanaceae	*Lycium* sp.	box-thorn	
Solanaceae	*Physalis crassifolia*	desert ground-cherry	
Solanaceae	*Solanum americanum*	white nightshade	
Tamaricaceae	*Tamarix aphylla**	evergreen saltcedar	
Viscaceae	*Phoradendron californicum*	desert mistletoe	
Zygophyllaceae	*Fagonia laevis*	California fagonbush	
Zygophyllaceae	*Kallstroemia californica*	California caltrop	

Family	Scientific Name	Common Name	Status
Zygophyllaceae	*Larrea tridentata*	creosote bush	
Zygophyllaceae	*Tribulus terrestris**	puncture vine	

* Non-native species

Notes:

CNPS Rare Plant Ranks (CRPR):

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 More Common Elsewhere
2B = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
3 = Plants about Which More Information is Needed
4 = Plants of Limited Distribution

CNPS Threat Ranks:

0.1 = Seriously threatened in California (over 80 percent of occurrences threatened; high degree and immediacy of threat)
0.2 = Moderately threatened in California (20 to 80 percent of occurrences threatened; moderate degree and immediacy of threat)
0.3 = Not very threatened in California (less than 20 percent of occurrences threatened; low degree and immediacy of threat or no current threats known)

Appendix G

Special-Status Plants Survey Report (Artemis 2023)

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Riverside County, California

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July 25, 2023

Artemis Environmental Services, Inc.

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1 INTRODUCTION

Artemis Environmental Services, Inc. (Artemis Environmental) was retained by Rincon Consultants, Inc. (Rincon) to perform a focused special-status plant survey on behalf of Southern California Edison (SCE) for the Eagle Mountain-Blythe (EM-B) 161 Kilovolt (kV) Transmission Line Rating Remediation (TLRR) Project (Project).

The purpose of the special-status plant survey was to update the extent of known special-status plant populations mapped during the previous botanical surveys, including the 2017 survey effort conducted by Garcia and Associates on behalf of Jacobs Engineering Group, Inc. (Jacobs; Jacobs 2018) and the 2021 survey effort conducted by Artemis Environmental to ensure the surveys are current prior to construction.

This Special-status Plant Survey Report (Report) describes the special-status plants with potential to occur in the Survey Area and the methodology and results of focused special-status plant spring surveys that were conducted March 15-16, 2023, and April 13-15, 2023.

1.1 SURVEY AREA LOCATION

The Survey Area is located in eastern Riverside County, California between the Eagle Mountain Substation in the west (N33.812641, W-115.453437) and the Blythe Substation in the east (N33.612597, W-114.680151) (Appendix A, Figures 1 and 2: Project Overview and Project Vicinity). The Eagle Mountain Substation is located 3 miles south of the town of Eagle Mountain, approximately 7 miles north of Interstate (I)-10, and 400 feet west of the intersection of Kaiser Truck Road and Power Line Road. The Blythe Substation is located one-quarter mile north of I-10 and 840 feet east of the intersection of Buck Boulevard and Hobsonway in Blythe, California. The Survey Area is located on a combination of BLM-administered lands, incorporated and unincorporated portions of Eastern Riverside County, and private land.

1.2 SURVEY AREA SITE DESCRIPTION

The 534.2-acre Survey Area includes all existing structures, construction work areas, and construction material yards associated with the Eagle Mountain and Blythe Substations (with the exception of the Ragsdale Yard, which is no longer included as part of the Project) and a 50-foot buffer. Access roads were also surveyed and included a 10-foot buffer (Appendix A, Figure 3: Special-status Plant Observations).

Elevations within the Survey Area are relatively low, ranging from approximately 340 feet above median sea level (AMSL) in the eastern portion of the Survey Area near Blythe to approximately 960 feet AMSL near Victory Pass at the western end of the Survey Area. The Survey Area is located within the American Semidesert and Desert Province ecological region (322), which encompasses the Mojave, Colorado, and Sonoran Deserts (USFS 2018).

The Survey Area is located entirely within the Sonoran Desert Bioregion of California. The larger Sonoran Desert Bioregion includes the Colorado Desert and Upper Sonoran Desert sections of California and Arizona, and a portion of the Chihuahuan Basin and Range Section in Arizona and New Mexico (McNab and Avers 1994). Specifically, the existing EM-B circuit traverses the Chuckwalla Valley and Palo Verde Valley and Mesa subregions of the Sonoran Desert. The Survey Area traverses most of the Chuckwalla Valley and skirts south of Ford Dry Lake, continuing through Palo Verde Mesa and the Palo Verde Valley in Blythe.

1.3 Previous Survey Efforts and Study Area Comparison

Previous special-status plant mapping was conducted for the Project in 2017 (Jacobs 2018) and 2021 (Artemis 2021). While the 2017 survey was conducted in both spring (May 2017) and fall (August 2017) to target peak bloom periods of various annual special-status species, the 2021 survey was conducted only in the fall (September 2021) due to lack of winter rains and extremely dry conditions in the general Survey Area in 2020-2021. Additionally, conditions during the spring (March 2021) reference population checks were noted to be extremely poor, with little to no germination of native annual species observed. Therefore, due to the lack of suitable conditions, focused spring surveys were not conducted in 2021.

Results of all three survey efforts (2017, 2021, and 2023) are illustrated in Appendix A, Figure 3: Special-status Plant Observations. Survey Areas varied for each effort: the 2017 Survey Area totaled 349 acres and encompassed a 100-foot buffer of project components; the 2021 Survey Area totaled 905 acres and also encompassed a 100-foot buffer of project components; and the 2023 Survey Area totaled 534 acres and encompassed a smaller, 50-foot buffer. Additionally, access roads were not part of the Survey Area in 2017 but were included with a 10-foot buffer in 2021 and 2023.

2 SPECIAL-STATUS PLANT SURVEY METHODS

This section outlines the pre-field analysis used to develop a list of special-status plant species with the potential to occur in the Survey Area and the field survey methods used to document special-status plant species occurrences within the Survey Area.

2.1 PRE-FIELD ANALYSIS

Special-status plant species within the Survey Area have been afforded special status and/or recognition by federal, state, and local resource agencies. Special-status plant species include species that are classified as at least one of the following: listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS) or the California Department of Fish and Wildlife (CDFW); with a Rare Plant Rank 1 through 4 designated by the California Native Plant Society (CNPS 2023); designated Sensitive by the BLM; covered by the California Desert Conservation Area Plan (BLM 1999), Desert Renewable Energy Conservation Plan (BLM 2016), or Northern and Eastern Colorado Desert Coordinated Management Plan (BLM and CDFW 2002).

Prior to the initiation of field surveys, a literature review and desktop analysis were conducted to determine which special-status species have the potential to occur within the Survey Area. The following sources were consulted:

- Vegetation mapping of the entire alignment plus a 500-foot buffer completed during a habitat and resource assessment performed by AECOM (AECOM 2016)
- Prior Biological Resources Technical Report (Rincon 2021)
- 7.5-minute USGS topographic quadrangle maps
- Aerial imagery of the Survey Area
- USFWS species records (USFWS 2023)
- The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey and State Soil Geographic Data Base (STATSGO) (NRCS 2021)
- California Natural Diversity Database (CNDDB; CDFW 2023)
- Consortium of California Herbaria (CCH) 1 and 2 (Calflora 2023)
- Jepson eFlora (Jepson; Jepson 2023)
- California Desert Conservation Area Plan (BLM 1999)
- Desert Renewable Energy Conservation Plan (BLM 2016)
- Northern and Eastern Colorado Desert Coordinated Management Plan (BLM and CDFW 2002)
- CNPS Inventory of Rare and Endangered Plants (CNPS 2023)

Special-status plant species with the potential to occur within the Survey Area were generally evaluated based on SCE's Species Determination Decision Key (SCE 2022) which considers habitat suitability, distance, reliability/accuracy of existing records, and field observations.

Queries of multiple databases containing special-status plant species occurrence records were made. All special-status plant species reported within the CNPS "9 quad" search (or Riverside County, CA for all CNPS CRPR 4 species in order to capture the CRPR 4 species not included with the "9 quad" search; CNPS 2023), the CNDDB 5-mile query (CDFW 2023; Figure 4), and/or within the CCH 5-mile query (Calflora 2023) were

evaluated. Any plant species not listed by Jepson as occurring within the "Sonoran Desert" bioregion were determined to fall outside of the geographic range of the species. Any species determined to have a geographic range outside of the Survey Area were ranked as Does Not Occur and were not further evaluated. Appendix B provides the potential for special-status plant species to occur within the Survey Area. The potential for occurrence ranking criteria are as follows:

Occurs – The species was observed/detected within the Survey Area during the field survey(s).

Likely – This species is expected to occur in the Survey Area based on presence of suitable habitat, and/or based on professional expertise specific to the site or species, and recorded occurrences for the species within two miles.

Unlikely – This species could occur due to presence of suitable habitat (possibly marginal or highly disturbed) but is not expected and was not detected during focused field surveys, and recorded occurrences for the species are greater than two miles from the Survey Area.

Does Not Occur – This species is not expected to occur in the Survey Area: suitable habitat was not observed in the Survey Area during the survey, the Survey Area is outside of the currently known range of the species.

Absent – This species was not detected during focused field surveys. This species is conspicuous and had it been present would have been observed, or (for annuals) was observed flowering at a nearby known reference location during the survey period.

2.2 Reference Population Checks

Prior to the initiation of field surveys, Artemis Environmental botanists conducted population reference checks for annual species during the spring blooming period in 2023. Reference populations were located using the CNDDB and CCH databases. Representative reference populations were surveyed for the presence of selected ephemeral annual target species prior to the surveys. Spring reference populations were evaluated on March 8, 2023, within the spring flowering period for many of the target species including Harwood's milkvetch (*Astragalus insularis.* var. *harwoodii*; CRPR 2B.2) and Harwood's eriastrum (*Eriastrum harwoodii*; CRPR 1B.2). Reference populations for Harwood's eriastrum were also evaluated on April 13, 2023. Harwood's milkvetch reference populations include CNDDB occurrences 16, 44, and 52. Harwood's eriastrum reference populations include CNDDB occurrences 27, 30, and 31.

2.3 Field Surveys

Artemis Environmental performed a comprehensive focused field survey of the Survey Area for special-status plants during the spring blooming period. Artemis Environmental botanists Frankie Coburn, Kyle Gunther, and Jordan Zysltra conducted pedestrian surveys throughout the Survey Area March 15-16, 2023, and April 13-15, 2023. The entire 534.2-acre Survey Area was surveyed during the spring blooming period; however, target shrubs or cacti were mapped during the fall 2021 survey (Artemis 2021) and the spring 2023 survey focused on detection of target annual species. In areas where annual species germination was evident, the survey team walked meandering transects of variable widths depending on the density of the vegetation within the area being surveyed. Areas exhibiting drier conditions and minimal to no evidence of germination (e.g., no green growth; primarily in the western portion of the Survey Area) were surveyed from the road by vehicle with the aid of binoculars; however, areas exhibiting green growth in the western portion of the Survey Area were surveyed on foot to verify the absence of special-status plant species. Refer also to Section 2.4, Survey Limitations.

The ESRI Field Maps application installed on tablets and smart phones was used to navigate the Survey Area and to map and document the location of special-status plant species using points and polygons. Points and polygons were recorded to sub-meter accuracy using Bluetooth connected Global Positioning Systems (GPS) units. The species scientific name, occurrence type (i.e., live or remains), estimated population size, and any observation notes were recorded directly into ESRI Field Maps during the surveys.

Representative photographs of special-status plant species are provided in Appendix C: Representative Photographs. A comprehensive list of all plant species recorded during the surveys within the Survey Area is provided in Appendix D: Plant Species Observed. Voucher specimens of gravel milk-vetch (*Astragalus sabulonum*; CRPR 2B.2) and ribbed cryptantha (*Johnstonella costata*; CRPR 4.3) were collected.

2.4 Survey Limitations

Although many areas received sufficient rainfall for the detection of special-status annual plant species, rainfall was variable across the Survey Area and some areas were drier than other areas with minimal annual species germination observed. Although the total rain reported by the National Oceanic and Atmospheric Administration (NOAA; 2023) in 2022 was similar for both the Blythe (3.6 inches) and Eagle Mountain (3.2 inches) stations, more rain was reported in the three months (January through March) prior to the 2023 surveys for the Eagle Mountain Station (1.58 inches) than the Blythe Station (0.78 inch). The eastern 22 miles of the Survey Area exhibited greater annual species germination, whereas the western 31 miles of the Survey Area exhibited drier conditions and minimal annual species germination. Therefore, although the timing of the surveys was suitable to identify most special-status plant species with potential to occur in the Study Area, as with all plant surveys, the possibility exists that not all species had germinated or were not in a condition suitable for identification at the time of the survey.

3 Results

3.1 Potential to Occur

A total of 71 special-status species were analyzed for their potential to occur within the Survey Area. Of those, ten species were categorized as 'Occurs', as they were observed during previous surveys conducted in 2017 (Jacobs 2018), during the fall surveys conducted in 2021, or during the spring survey conducted in 2023. Five species were determined to be 'Unlikely' to occur. Forty species were categorized as Does Not Occur due to either absence of habitat and/or lack of recorded occurrences for the species within five miles of the Study Area. Of the 71 species evaluated, 16 species were determined to be 'Absent' which included conspicuous species that would have been detected during the fall and spring field surveys had they been present, or annual species that were not found in the Survey Area but had been observed flowering at a nearby known reference location. Further details regarding the species evaluated and their potential to occur determination are provided in Appendix B: Special-status Plant Species Evaluation of Potential to Occur.

3.2 Status of Reference Populations

Conditions during the spring reference population checks were noted to be variable. Overall, the Project area appears to have received some early rain before drying up and likely followed by patchy showers, making conditions variable and hard to predict.

Harwood's milk-vetch was observed at CNDDB Occurrence #52. One individual was located in somewhat sandy pockets in otherwise compacted gravel/sand flats, north of the I-10, and more individuals were located in fairly deeper sands south of the I-10 (Appendix C, Photos 1 and 2). Some individuals of this species were already in fruit and it was determined that surveys for this species could begin. No Harwood's eriastrum could be found, living or dead, at the reference populations or in any of the sandy areas checked in March 2023, including CNDDB occurrence #27. It was determined that it was too early for Harwood's eriastrum, and the majority of occurrence records for this species are dated in April. During the Harwood's milk-vetch reference population checks in March 2023, hundreds of ribbed cryptantha were also found (Appendix C, Photo 3). These individuals were observed to have already flowered. Based on these results, it was determined to immediately schedule focused surveys for Harwood's milk-vetch in the more productive and sandier areas, and return for Harwood's eriastrum focused surveys in April when that species should be detectable. Reference populations of Harwood's eriastrum were checked again in April 2023, and dozens of plants were located at CNDDB Occurrence #27 (Appendix C, Photo 4).

3.3 Observed Special-Status Plant Species

During the spring 2023 special-status plant survey, a total of 131 plant species were documented (Appendix D). Six special-status plant species were observed within the Survey Area during the spring 2023 survey (Table 1), including three perennial plant species (shrubs and cacti) mapped during the fall 2021 surveys. A total of ten special-status plant species were observed during the fall 2021 and spring 2023 rare plant surveys, including seven species also documented during the 2017 rare plant surveys. No state or federal threatened or endangered plant species were observed during the surveys. Although seven of the eight special-status plant species observed in 2017 were also observed in 2021 and/or 2023, locations of observations varied between the years likely as result of differing site conditions, weather patterns, survey timing, and survey area buffers. The eighth species documented during the 2017 rare plant surveys that

was not observed within the survey area in 2021 or 2023 consists of one location of Harwood's eriastrum that was incidentally observed but not mapped during the of 2017 desert tortoise survey (Jacobs 2018). The mapping results are provided in Appendix A, Figures, Figure 3: Special-status Plant Observations. Representative photographs are also provided in Appendix C.

Table 1. Special-status Plant Species Observed in the Survey Area, Fall 2021 and Spring 2023

Scientific Name	Common Name	Approximate[1] Number of Individuals Observed Live in 2021 and 2023		
		Species Points	Species Polygons	Total
Fall 2021 Survey Results				
Amaranthus watsonii	Watson's amaranth	4	455	459
Castela emoryi[2]	crucifixion thorn[2]	1	--	1
Coryphantha alversonii[2]	Alverson's foxtail cactus[2]	39	--	39
Ditaxis serrata var. *californica*[2]	California ditaxis[2]	29	100	129
Euphorbia abramsiana	Abram's spurge	270	13,026	13,296
Panicum hirticaule ssp. *hirticaule*[2]	roughstalk witch grass[2]	105	320,230	320,335
Proboscidea althaeifolia[2]	desert unicorn plant[2]	366	193	559
Spring 2023 Survey Results				
Astragalus insularis var. *harwoodii*[2]	Harwood's milk-vetch[2]	423	--	423
Astragalus sabulonum	gravel milk-vetch	466	--	466
Castela emoryi[2, 3]	crucifixion thorn[2, 3]	--[3]	--[3]	--[3]
Coryphantha alversonii[2, 3]	Alverson's foxtail cactus[2, 3]	--[3]	--[3]	--[3]
Ditaxis serrata var. *californica*[2, 3]	California ditaxis[2, 3]	--[3]	--[3]	--[3]
Johnstonella costata[2]	ribbed cryptantha[2]	448	115,815	116,263

[1] These numbers are approximate, as the individual counts within polygons were estimated.
[2] Species also documented during 2017 rare plant species.
[3] Perennial plant species (shrubs and cacti) mapped during fall 2021 surveys and observed or presumed to still be present in spring 2023.

The following are brief descriptions of each special-status plant species observed within the EM-B Survey Area during the spring 2023 surveys.

Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*)

Listing: CRPR 2B.2
Description: Annual herb typically blooming January – May.
Distribution: Central-eastern San Diego, eastern Riverside, and Imperial counties, Arizona, and Sonora, Mexico below 2,330 feet in elevation.
Habitat: Sandy or gravelly soils in desert dunes and desert scrub at the eastern base of mountains.
Observations within Survey Area: Hundreds of individuals were observed in the sandy gravel portions of the Survey Area, mainly in the areas directly south of the Blythe Airport, as well as near the portion of the Survey Area adjacent to Ford Dry Lake Road. See also Appendix C, Photos 5, 6, and 8.

Gravel milk-vetch (*Astragalus sabulonum*)

Listing: CRPR 2B.2
Description: Annual/perennial herb typically blooming February – June.
Distribution: North-eastern San Diego, eastern Riverside, western Imperial, and Inyo counties, California; Arizona, Nevada, New Mexico, Utah; and Sonora, Mexico; from below sea level to approximately 3,050 feet in elevation.

Habitat: Sandy or gravelly soils in desert dunes and desert scrub.
Observations within Survey Area: Hundreds of individuals were observed in the loose sands of the Survey Area flanking and occasionally within the access road between the Wiley's Well Rest Stop area and the Ford Dry Lake Road area. See also Appendix C, Photos 7, 8, and 9. There are only two occurrences recorded within 2 miles of this area; therefore, these data will be submitted to the CNDDB.

Crucifixion thorn (*Castela emoryi*)

Status: CRPR 2B.2
Description: Perennial deciduous shrub typically blooming in June to July, sometimes early as April and late as October.
Distribution: Imperial, Riverside, and San Bernardino counties into Arizona and northwestern Mexico between 300 to 2,400 feet in elevation.
Habitat: Gravelly soils of playas, washes, slopes, and plains of Mojavean and Sonoran desert scrub.
Observations within Survey Area: One individual of crucifixion thorn was observed in the western portion of the Survey Area, a half-mile southeast of Kaiser Road. This species was mapped in fall 2021 and was observed but not mapped in 2023.

Alverson's foxtail cactus (*Coryphantha alversonii*)

Status: CRPR 4.3
Description: Perennial stem typically blooming in April to June, sometimes as late as October.
Distribution: Eastern Riverside and San Bernardino counties into Arizona between 250 to 5,000 feet in elevation.
Habitat: Sandy or rocky alluvial soils in Mojavean and Sonoran desert scrub.
Observations within Survey Area: Alverson's foxtail cactus were observed in the western end of the Survey Area, just north of the Eagle Mountain Pumping Plant, along Kaiser Truck Road and Eagle Mountain Road. A few dozen individuals of this species were mapped in fall 2021 and were observed but not mapped in 2023.

California ditaxis (*Ditaxis serrata* var. *californica*)

Status: CRPR 3.2; CA Endemic
Description: Perennial herb typically blooming in March to December.
Distribution: Northeastern San Diego and eastern Riverside counties between 100 to 3,300 feet in elevation.
Habitat: Washes, canyons, and abandoned agricultural fields in Sonoran desert scrub.
Observations within Survey Area: California ditaxis were observed in the western portion of the Survey Area in the abandoned agricultural fields between Kaiser Road and Rice Road. Roughly over 100 individuals of this species were mapped in fall 2021 and were observed but not mapped in 2023.

Ribbed cryptantha (*Johnstonella costata*)

Listing: CRPR 4.3
Description: Annual herb typically blooming in February – May.
Distribution: Inyo, San Bernardino, Riverside, northeastern San Diego, and Imperial counties into southern Nevada, Arizona, and Baja California, Mexico; below 1,650 feet in elevation.
Habitat: Sandy soils of creosote bush scrub and dunes of the Mojave and Sonoran Deserts.
Observations within Survey Area: Thousands of individuals were observed in the sandier soils of the eastern portion of the Survey Area between the Wiley's Well Rest Stop area and the Ford Dry Lake Road area. See also Appendix C, Photos 7 and 10.

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Appendix A

Figures

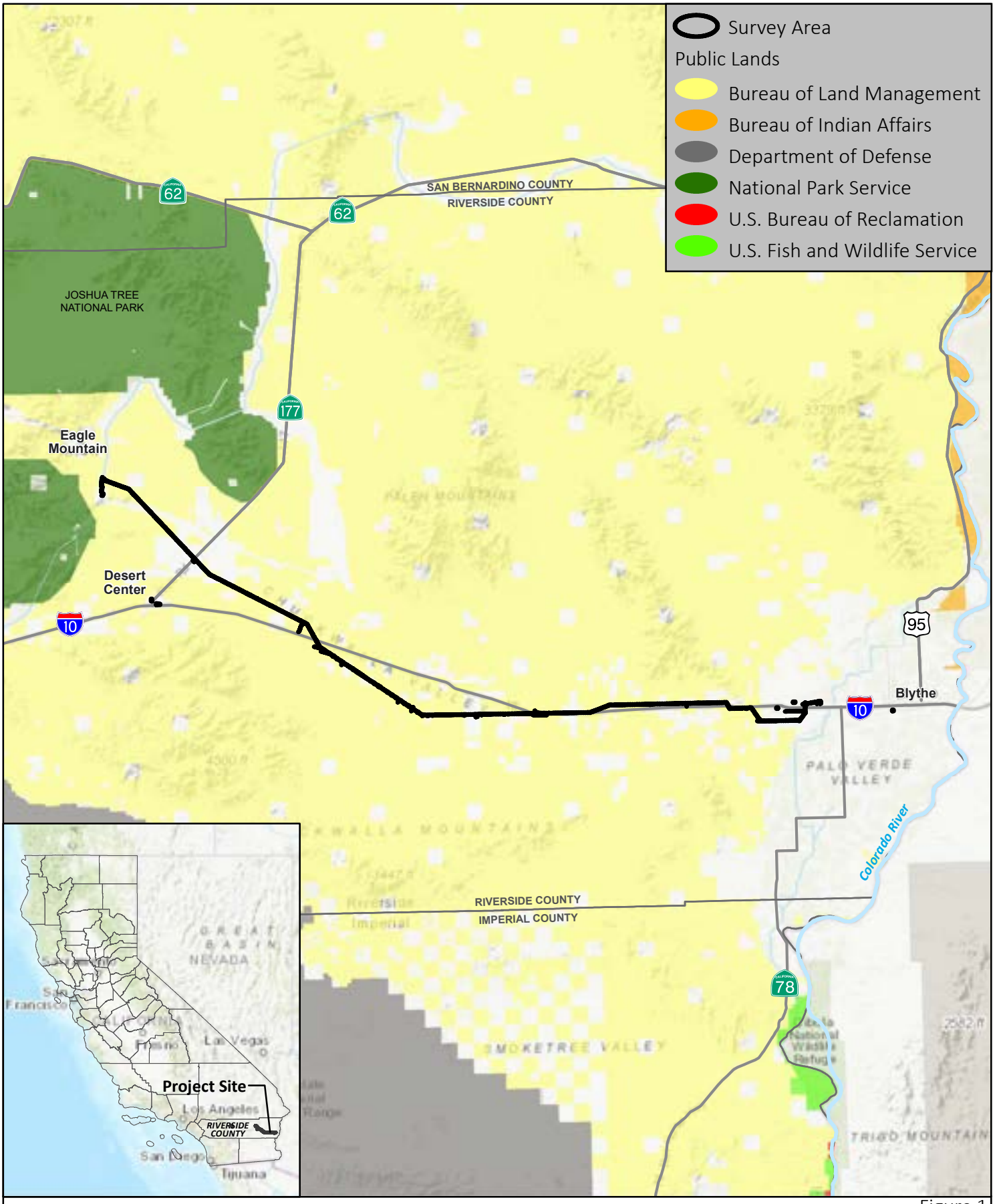


Figure 1

Project Overview

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE
RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

Survey Area
USGS 7.5' Quadrangles

33.82484,
-115.45279

33.81158,
-115.45276

BUZZARD SPRING

VICTORY PASS

EAST OF VICTORY PASS

HAYFIELD SPRING

DESERT CENTER

CORN SPRING

TBD

33.715322,
-115.40122

33.70764,
-115.27014

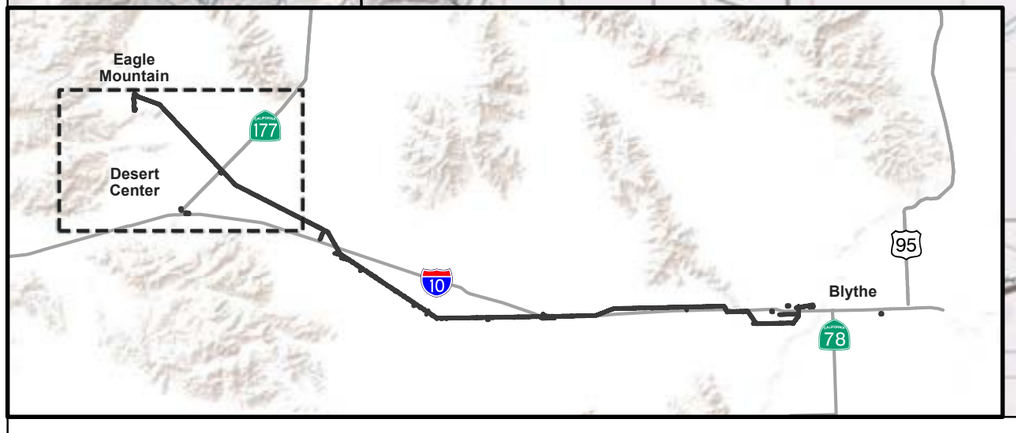


Figure 2-1

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 1 Mile

Survey Area
USGS 7.5' Quadrangles

33.70764,
-115.27014

CORN SPRING

SIDEWINDER WELL

FORD DRY LAKE

PILOT MOUNTAIN

AZTEC MINES

EAST OF AZTEC MINES

33.60523
-115.05182

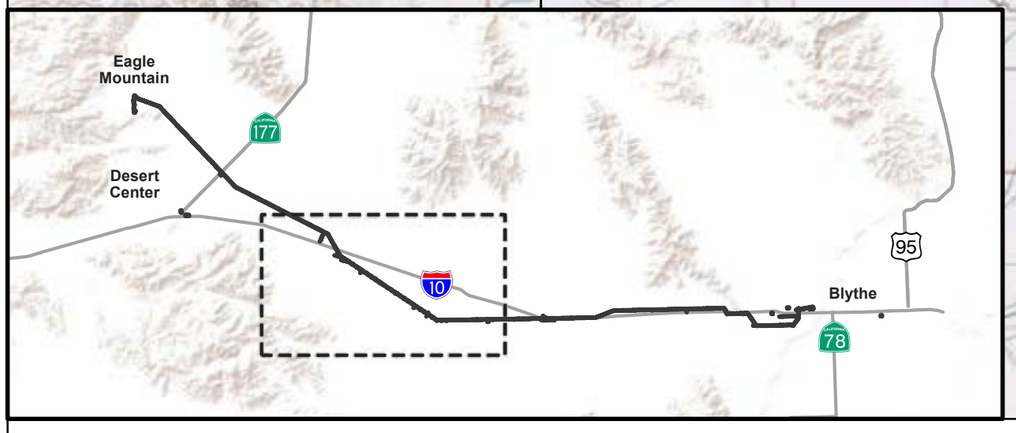


Figure 2-2

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 1 Mile

Survey Area
USGS 7.5' Quadrangles

FORD DRY LAKE

MCCOY SPRING

MCCOY PEAK

EAST OF
AZTEC MINES

HOPKINS WELL

ROOSEVELT MINE

CHUCKWALLA VALLEY

33.60674
-115.0171

33.60768,
-114.77798

Eagle Mountain
Desert Center
Blythe
177
10
95
78

Figure 2-3

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 1 Mile

Survey Area
USGS 7.5' Quadrangles

MCCOY PEAK
MCCOY WASH
BLYTHE NE
ROOSEVELT MINE
RIPLEY
BLYTHE

33.60774
-114.76202

33.60245,
-114.60171

Eagle Mountain
Desert Center
Blythe

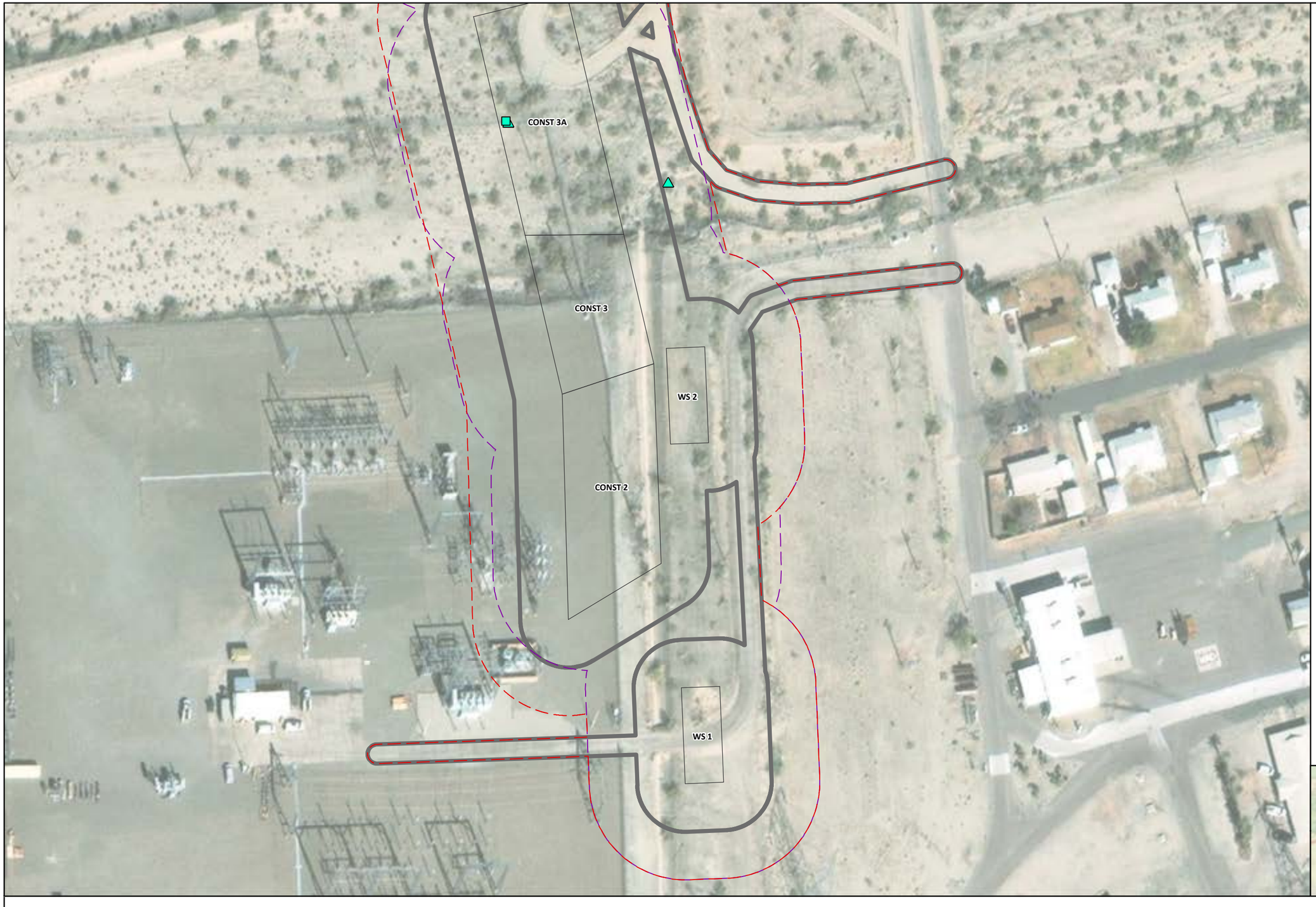
Figure 2-4

Project Vicinity

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 1 Mile



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

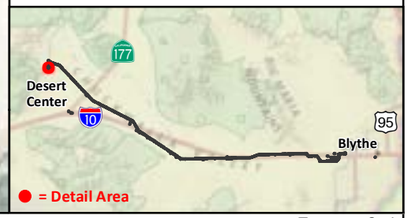


Figure 3-1

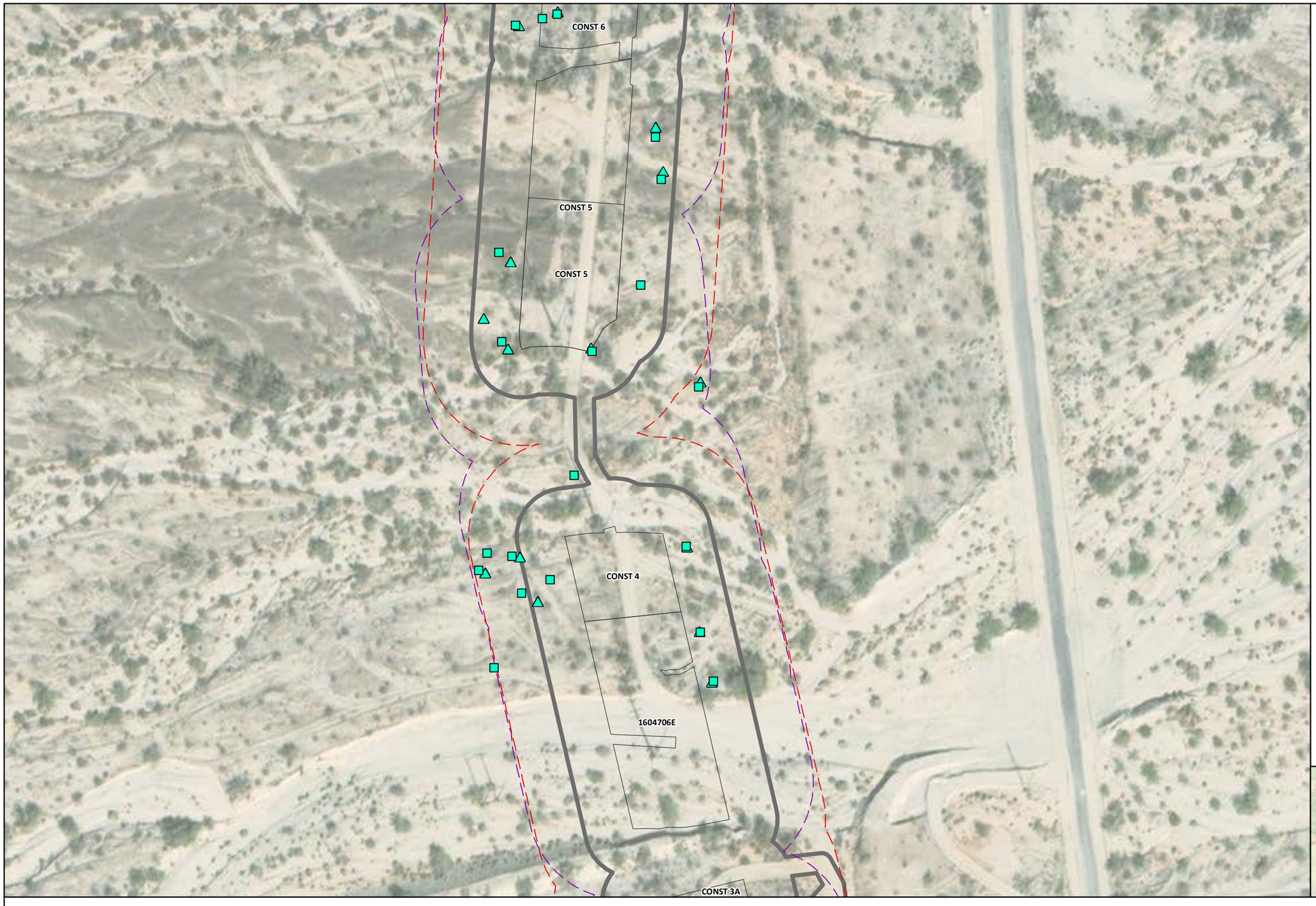
Special-status Plant Observations - Sheet #1

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

Figure 3-2

Special-status Plant Observations - Sheet #2

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

Figure 3-3

Special-status Plant Observations - Sheet #3

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

1604717E

CONST 10

CONST 9

1604714E

CONST 8

Project Work Area

2023 Rare Plant Survey Area

2021 Rare Plant Survey Area

2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

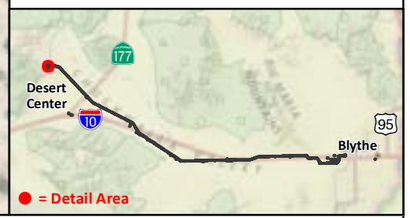


Figure 3-4

Special-status Plant Observations - Sheet #4

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 3-5

Special-status Plant Observations - Sheet #5

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

Figure 3-6

Special-status Plant Observations - Sheet #6

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

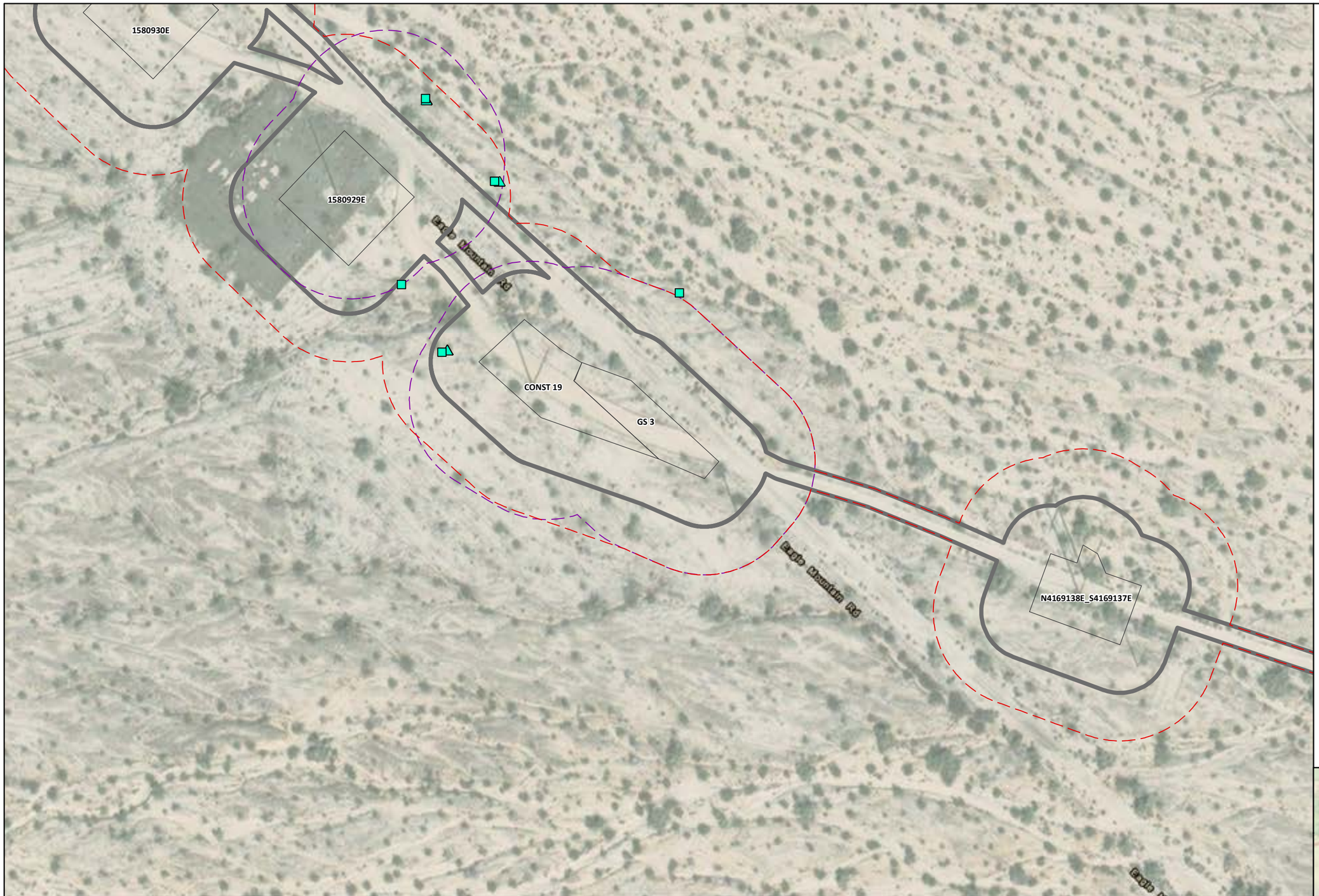
Figure 3-7

Special-status Plant Observations - Sheet #7

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)*

2017 Survey Results

Alverson's Foxtail Cactus (*Coryphantha alversonii*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

Figure 3-8

Special-status Plant Observations - Sheet #8

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results
- Crucifixion Thorn (*Castela emoryl*)*

2017 Survey Results
- Crucifixion Thorn (*Castela emoryl*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

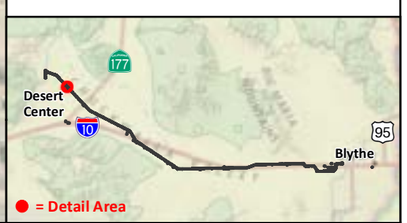


Figure 3-9

Special-status Plant Observations - Sheet #9

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

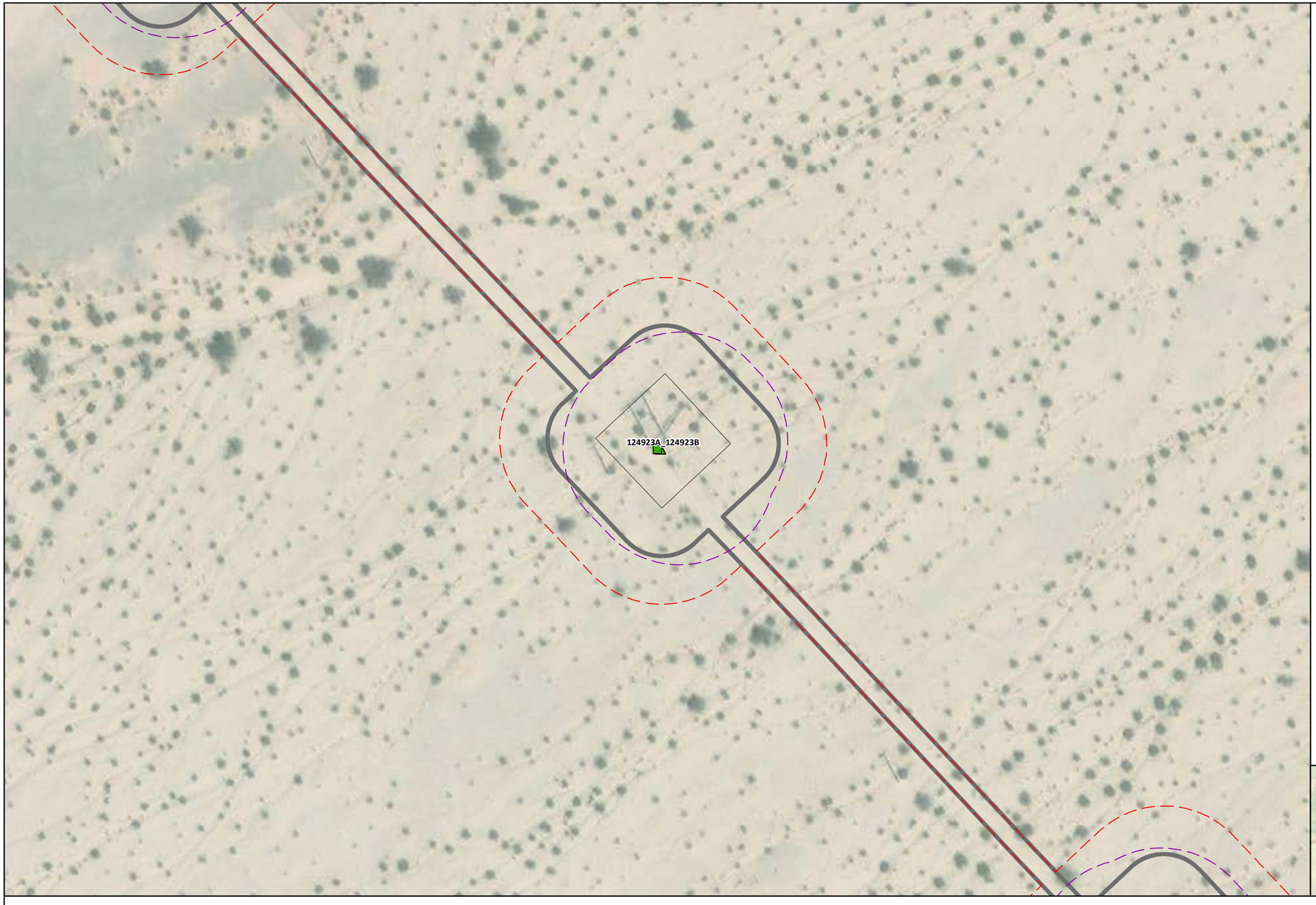
Figure 3-10

Special-status Plant Observations - Sheet #10

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

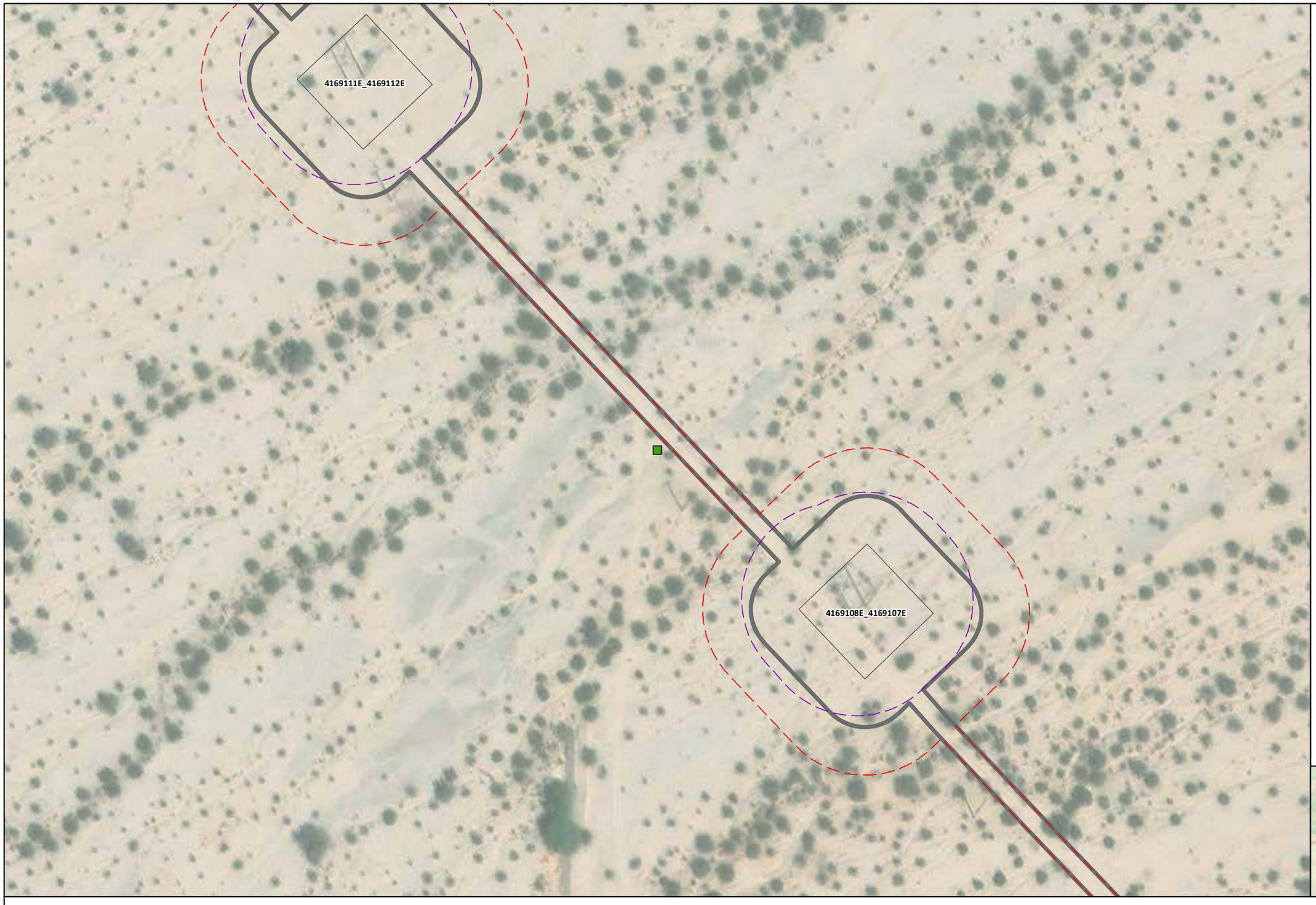
Figure 3-11

Special-status Plant Observations - Sheet #11

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-12

Special-status Plant Observations - Sheet #12

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

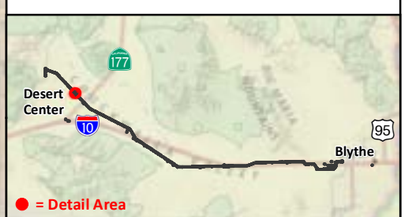


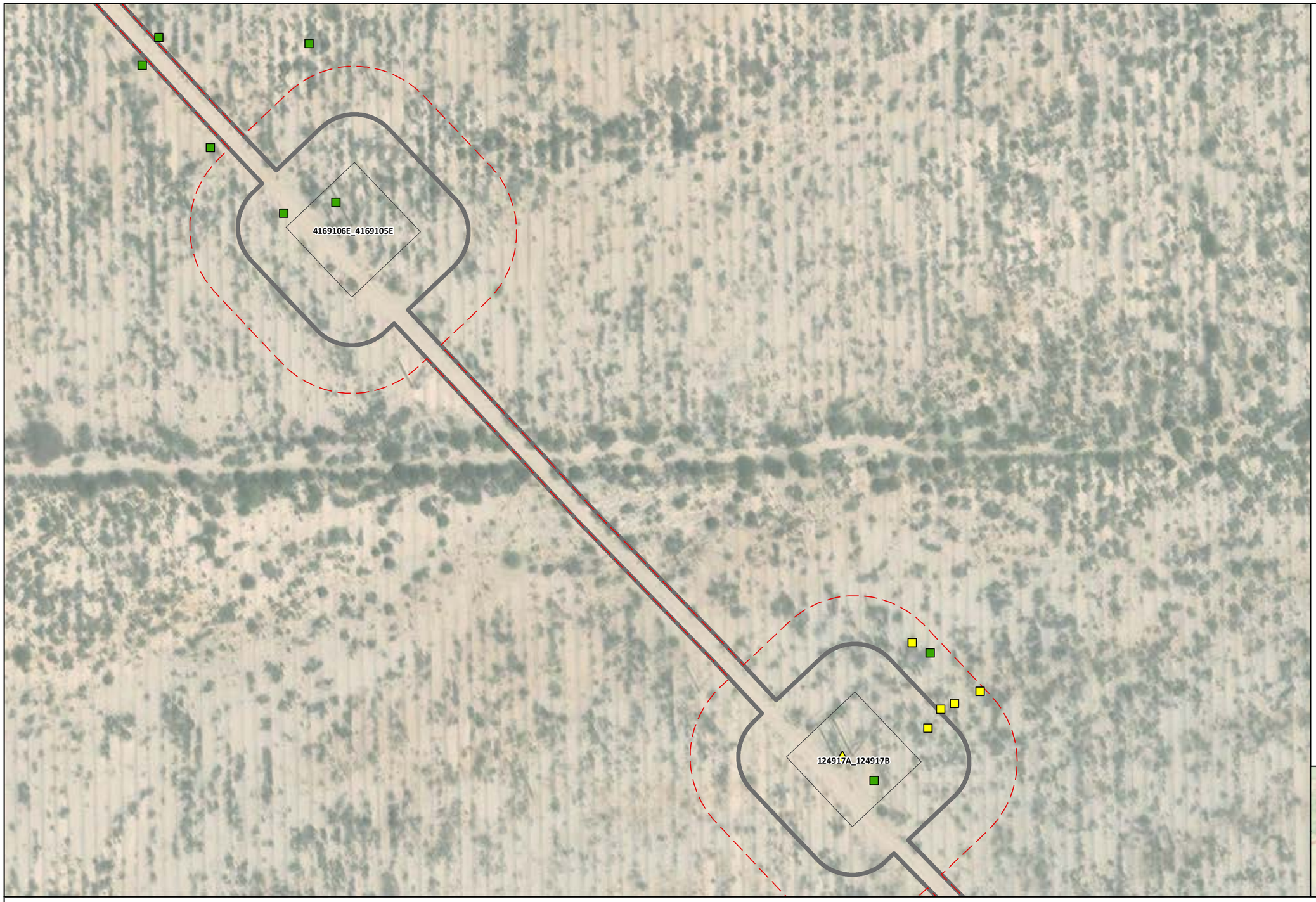
Figure 3-13

Special-status Plant Observations - Sheet #13

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 3

2021 Survey Results

California Ditaxis (*Ditaxis serrata* var. *californica*)*

2017 Survey Results

California Ditaxis (*Ditaxis serrata* var. *californica*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

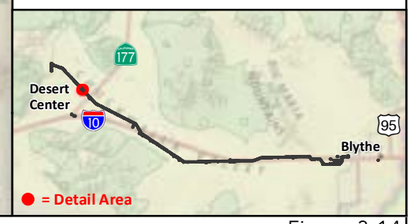


Figure 3-14

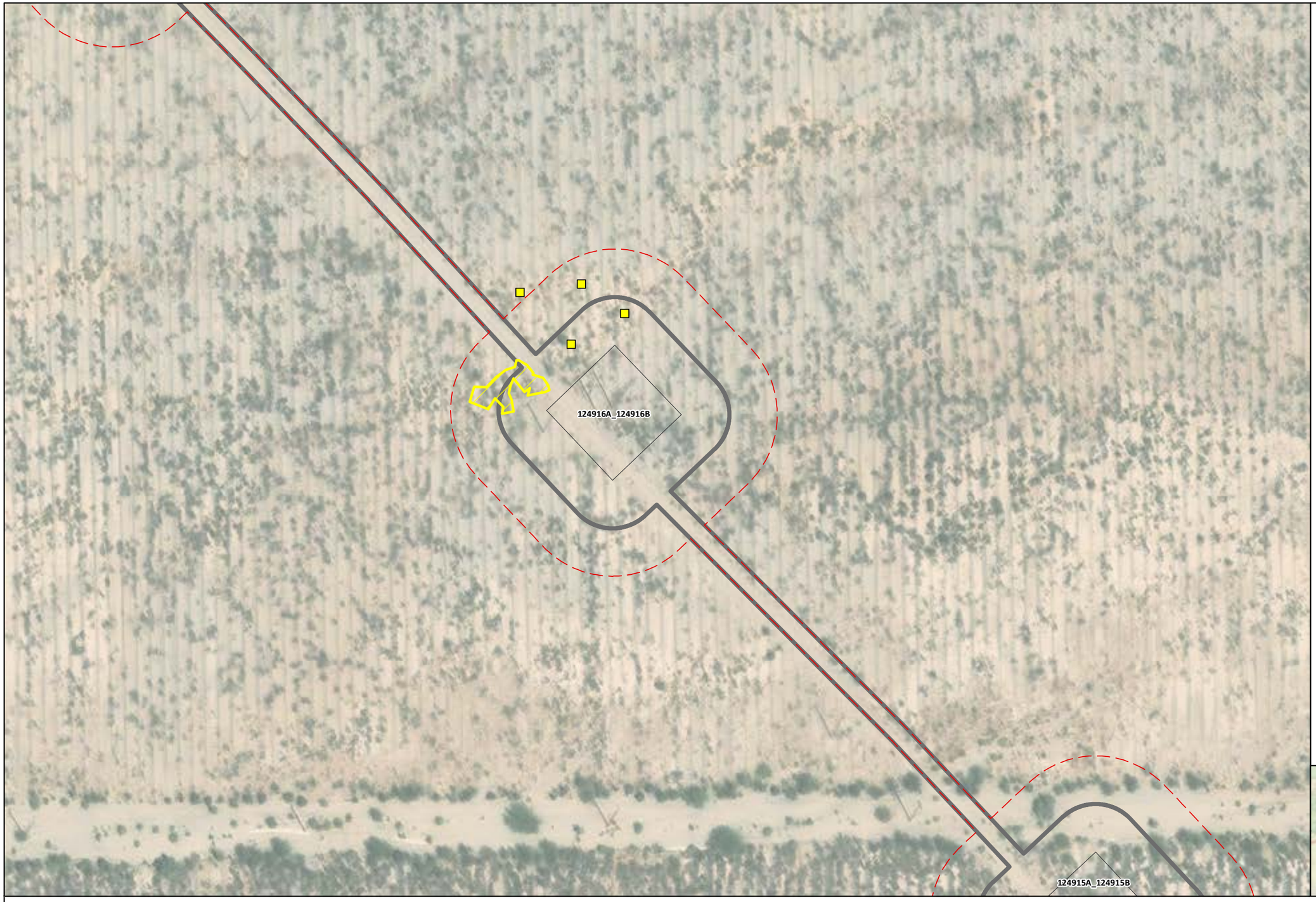
Special-status Plant Observations - Sheet #14

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 3

2021 Survey Results

California Ditaxis (*Ditaxis serrata* var. *californica*)*

California Ditaxis (*Ditaxis serrata* var. *californica*)*

* Perennial plant species mapped during fall 2021 surveys and observed or presumed to still be present during spring 2023 surveys.

Figure 3-15

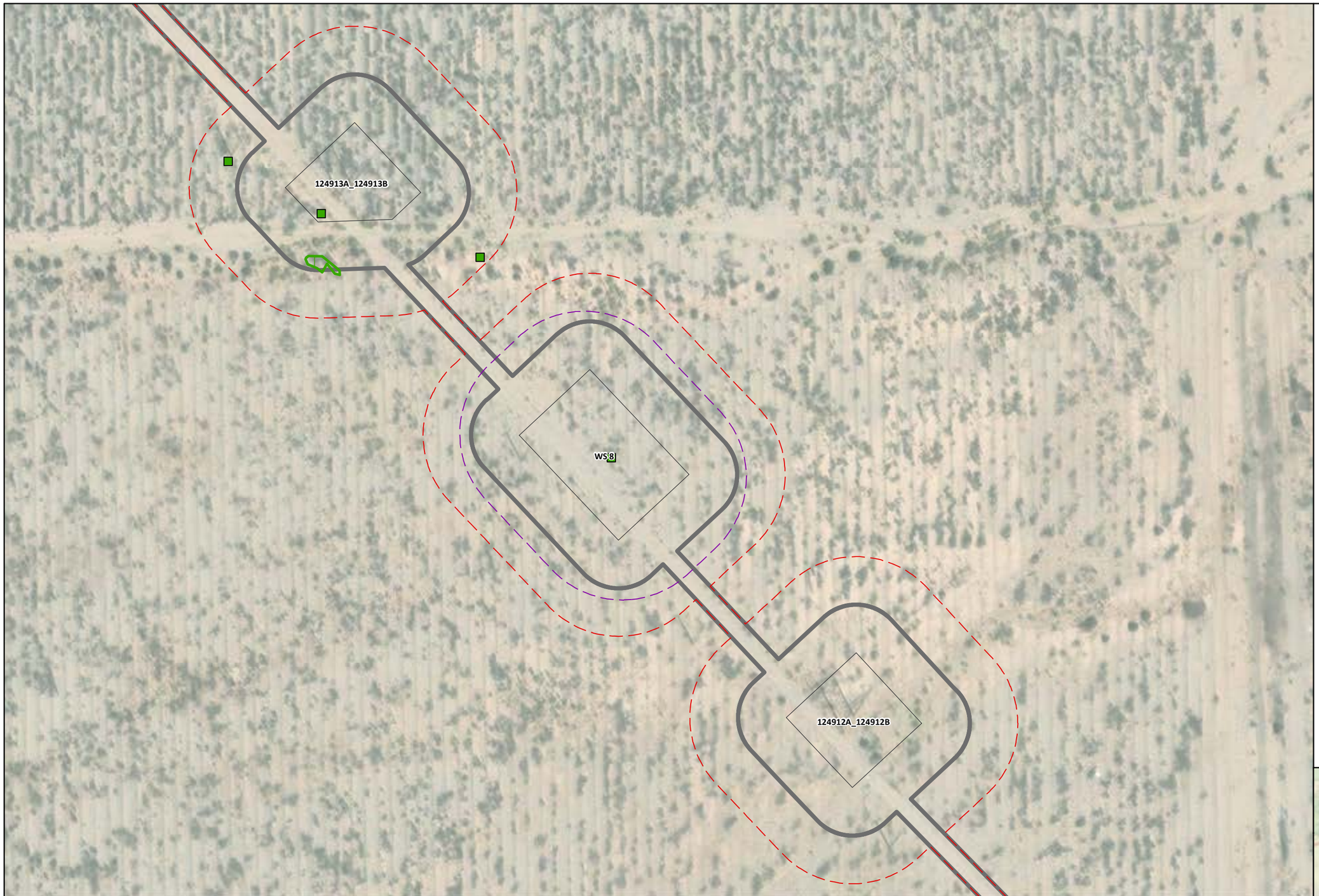
Special-status Plant Observations - Sheet #15

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-16

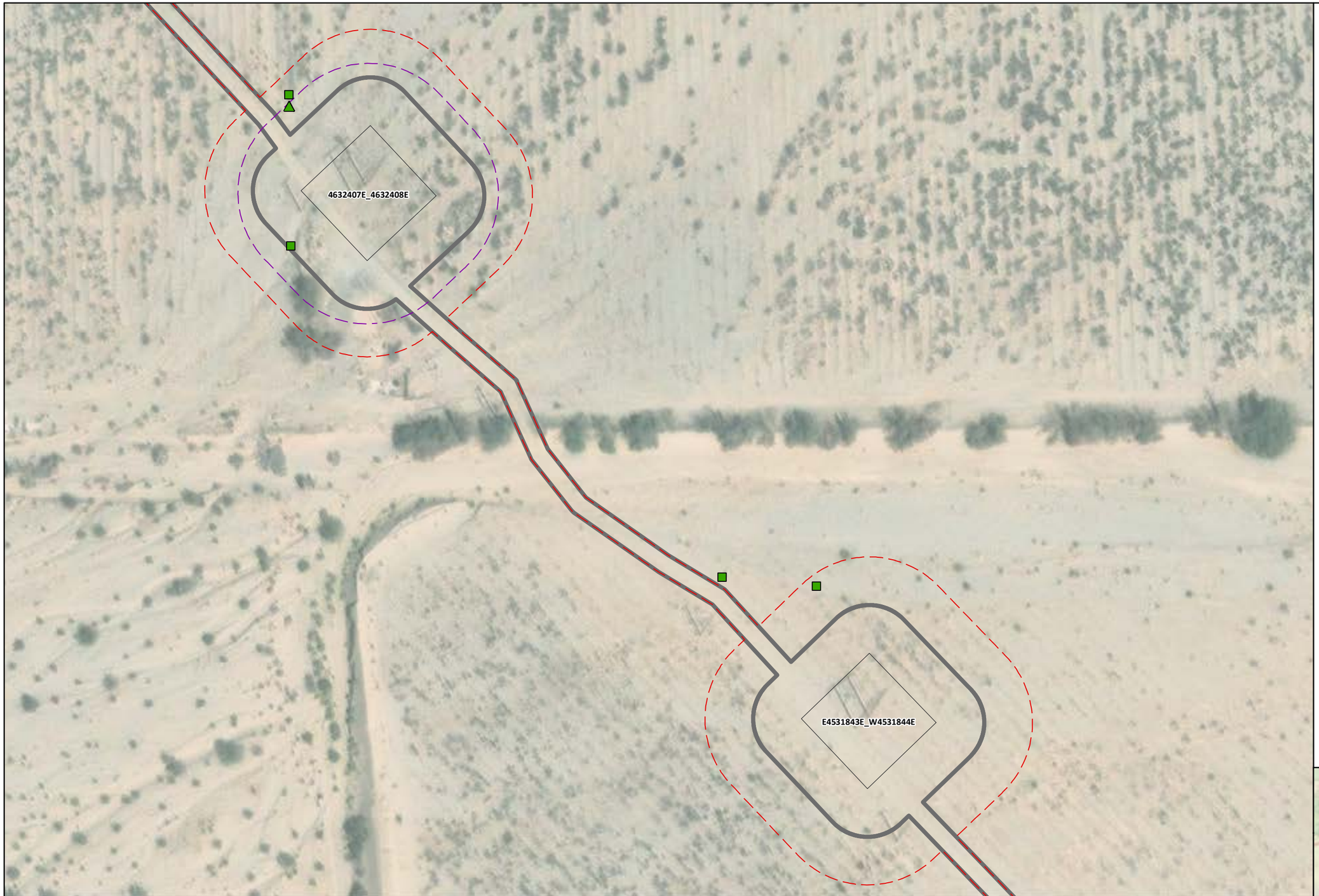
Special-status Plant Observations - Sheet #16

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-17

Special-status Plant Observations - Sheet #17

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 3

2017 Survey Results

California Ditaxis
(*Ditaxis serrata* var. *californica*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant
(*Proboscidea althaeifolia*)

Figure 3-18

Special-status Plant Observations - Sheet #18

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

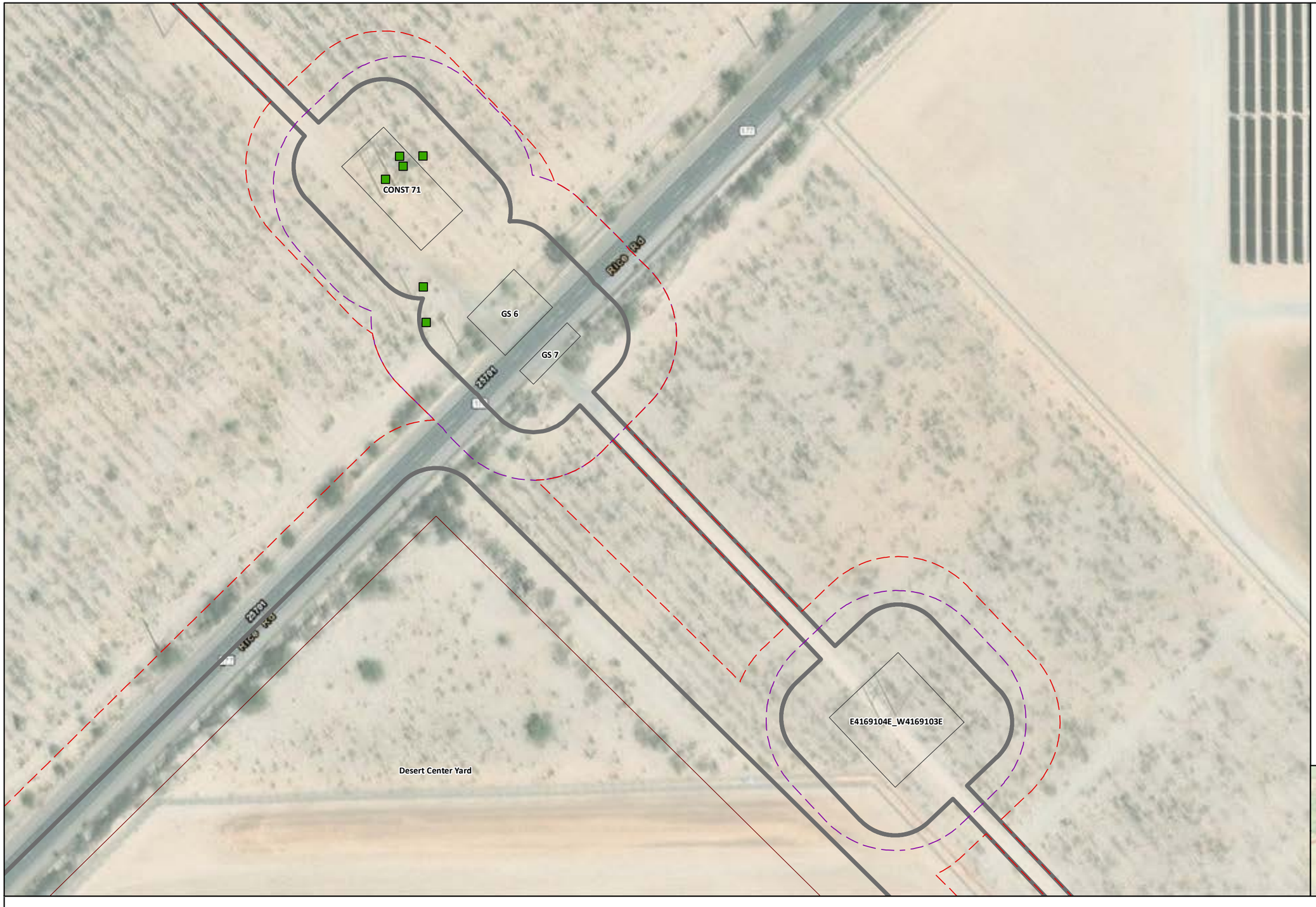


Figure 3-19

Special-status Plant Observations - Sheet #19

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant
(*Proboscidea althaeifolia*)

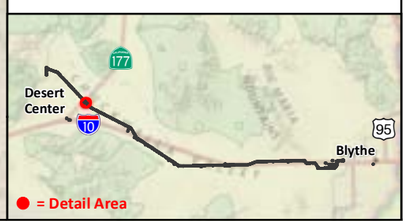


Figure 3-20

Special-status Plant Observations - Sheet #20

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant
(*Proboscidea althaeifolia*)

Figure 3-21

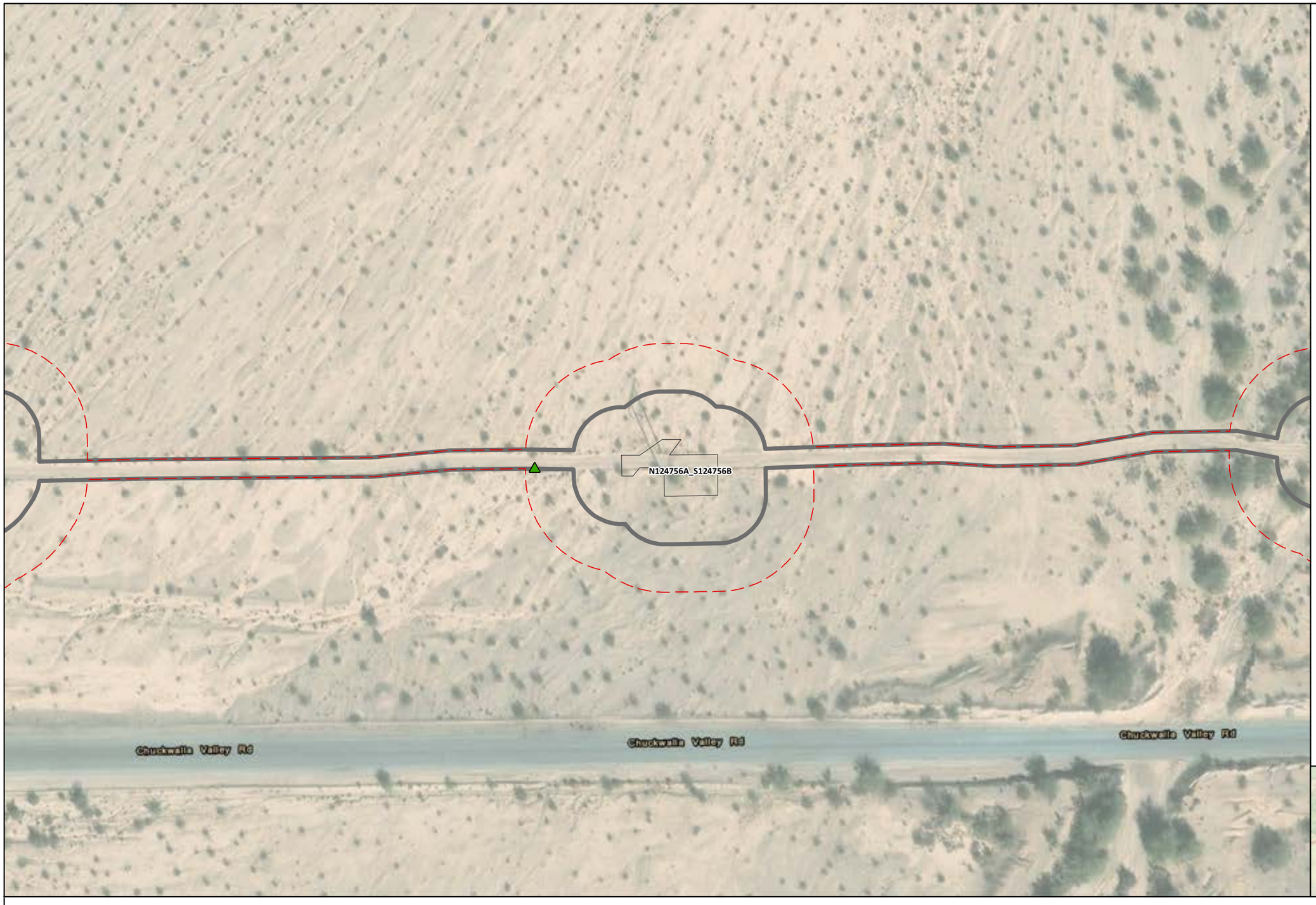
Special-status Plant Observations - Sheet #21

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area

2023 Rare Plant Survey Area

2021 Rare Plant Survey Area

California Rare Plant Rank 4

2017 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-22

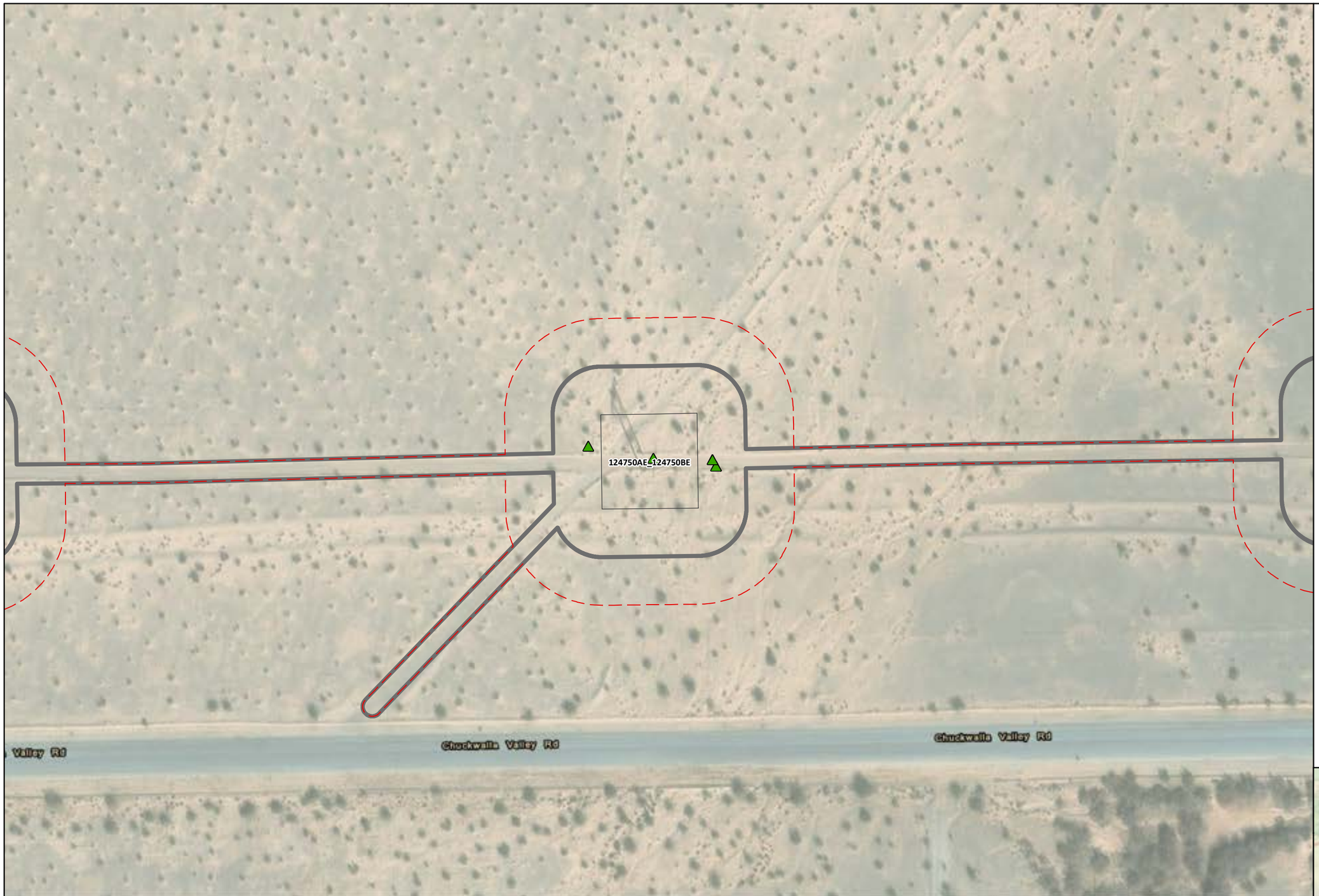
Special-status Plant Observations - Sheet #22

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 4

2017 Survey Results

Desert Unicorn Plant
(*Proboscidea althaeifolia*)

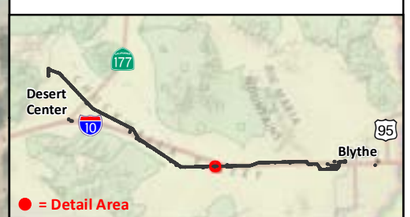


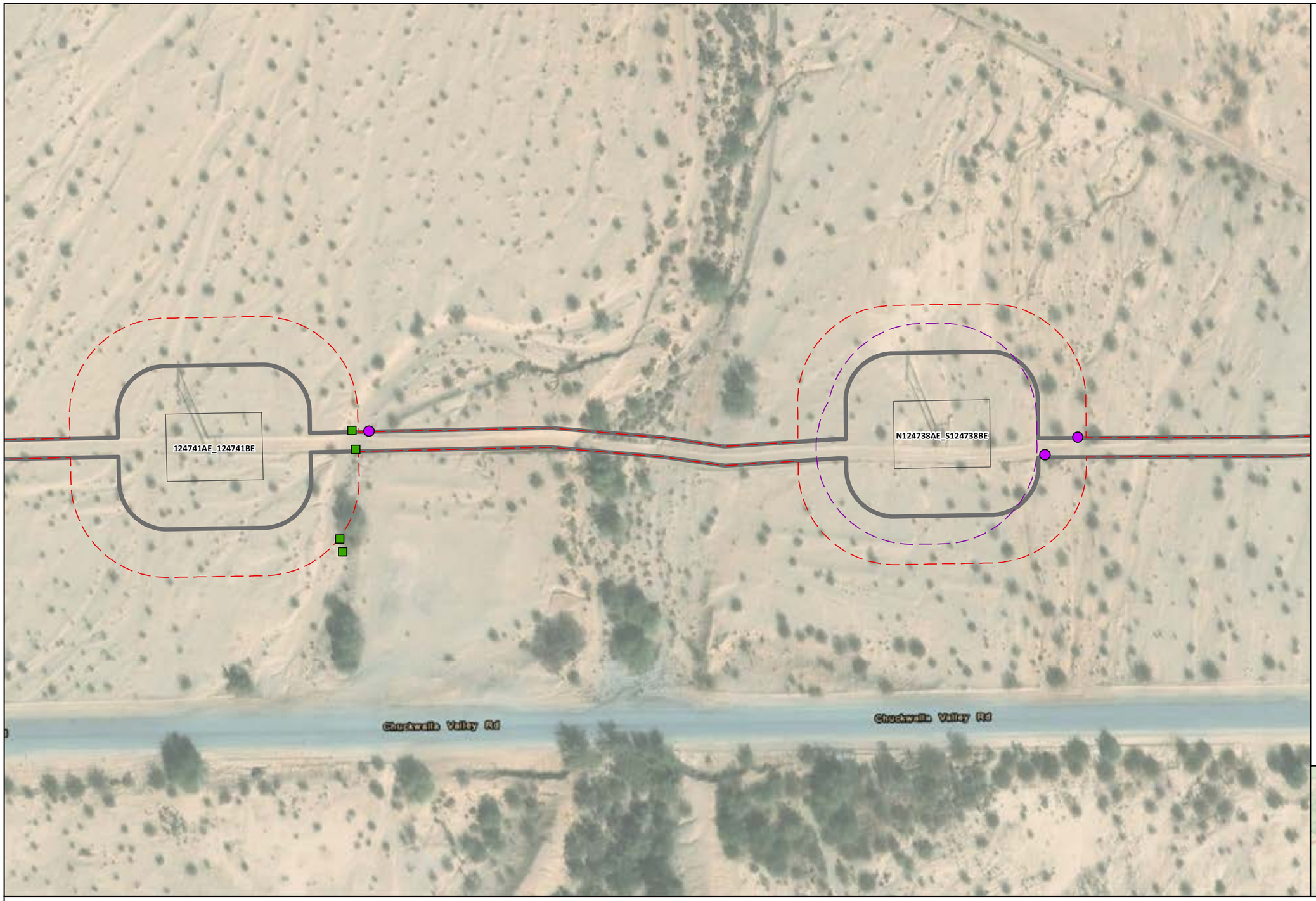
Figure 3-23

Special-status Plant Observations - Sheet #23

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch (*Astragalus insularis* var. *harwoodii*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-24

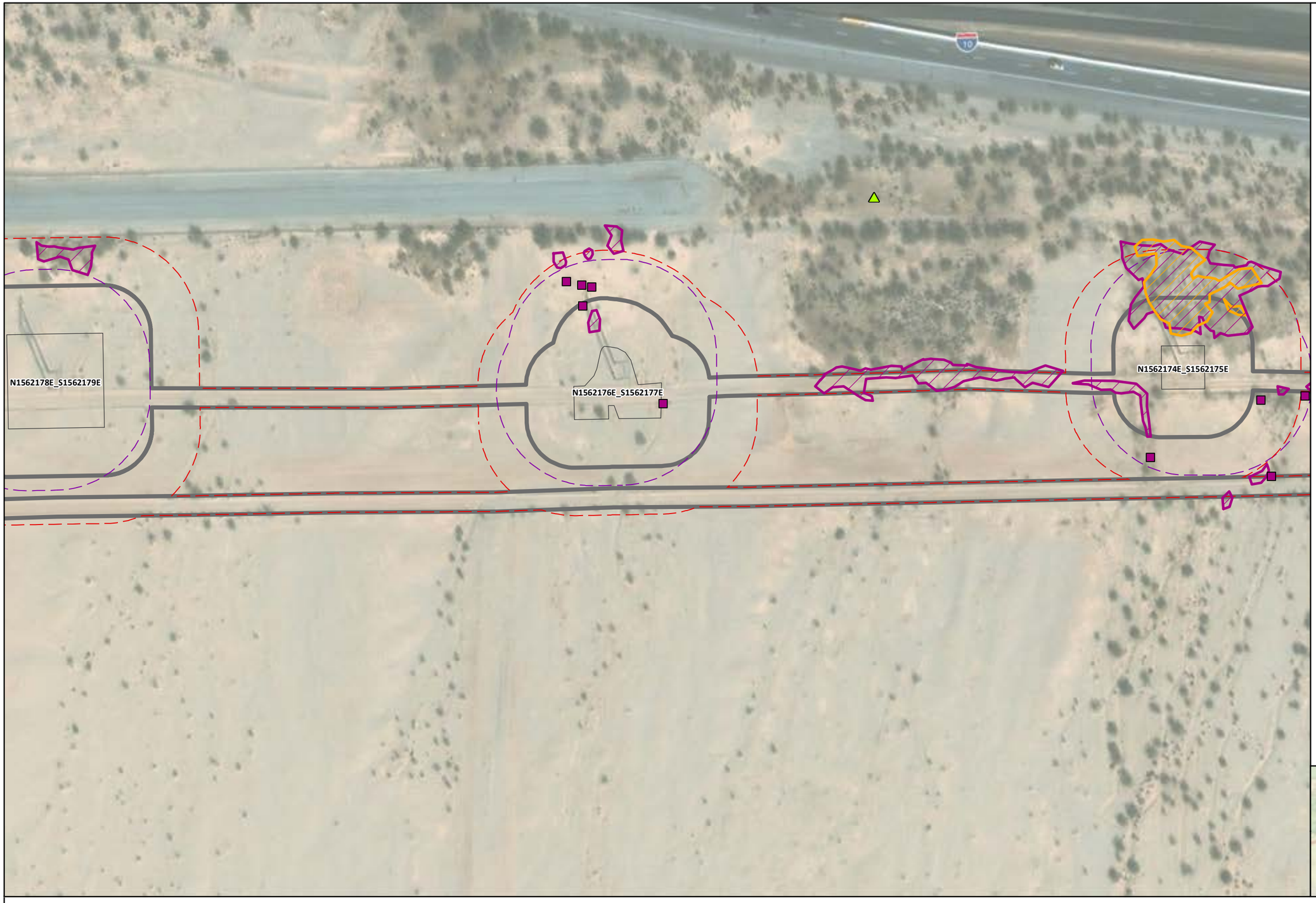
Special-status Plant Observations - Sheet #24

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results

Abrams' Spurge (*Euphorbia abramsiana*)

Abrams' Spurge (*Euphorbia abramsiana*)

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

2017 Survey Results

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

Figure 3-25

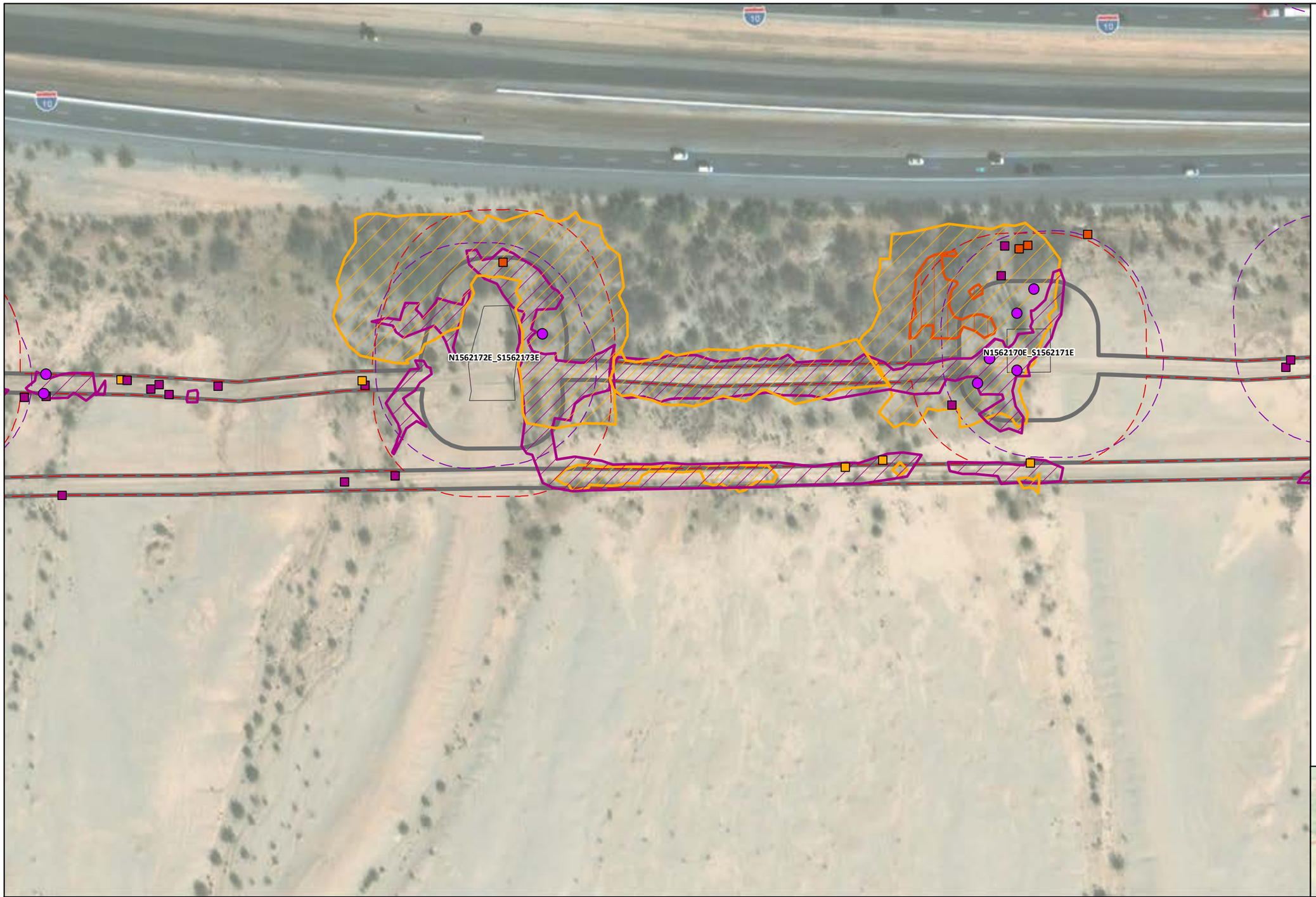
Special-status Plant Observations - Sheet #25

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results
- Harwood's Milk-Vetch (*Astragalus insularis* var. *harwoodii*)

2021 Survey Results
- Abrams' Spurge (*Euphorbia abramsiana*)
- Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)
- Abrams' Spurge (*Euphorbia abramsiana*)
- Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

California Rare Plant Rank 4

2021 Survey Results
- Watson's Amaranth (*Amaranthus watsonii*)
- Watson's Amaranth (*Amaranthus watsonii*)

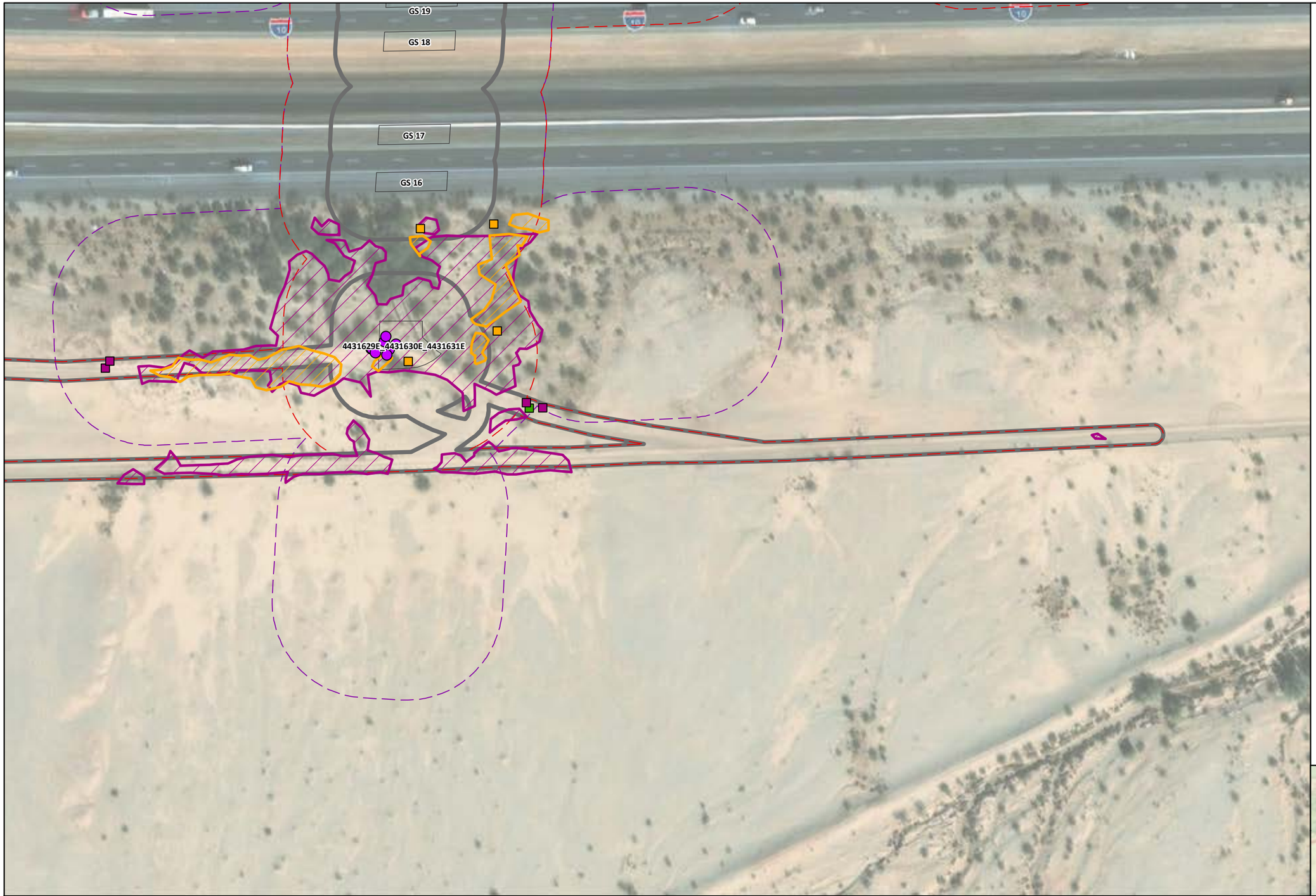
Figure 3-26

Special-status Plant Observations - Sheet #26

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch (*Astragalus insularis* var. *harwoodii*)

2021 Survey Results

Abrams' Spurge (*Euphorbia abramsiana*)

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

Abrams' Spurge (*Euphorbia abramsiana*)

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

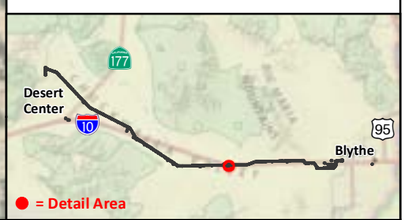


Figure 3-27

Special-status Plant Observations - Sheet #27

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

2023 Rare Plant Survey Area

2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results

Abrams' Spurge
(*Euphorbia abramsiana*)

Figure 3-28

Special-status Plant Observations - Sheet #28

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results

Abrams' Spurge
(*Euphorbia abramsiana*)

Abrams' Spurge
(*Euphorbia abramsiana*)

2017 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

4431626E_4431627E_4431628E

WS 31

GS 19

GS 18

GS 17

Desert Center

Blythe

= Detail Area

Figure 3-29

Special-status Plant Observations - Sheet #29

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results

Abrams' Spurge (*Euphorbia abramsiana*)
Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)
Abrams' Spurge (*Euphorbia abramsiana*)
Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)
Watson's Amaranth (*Amaranthus watsonii*)

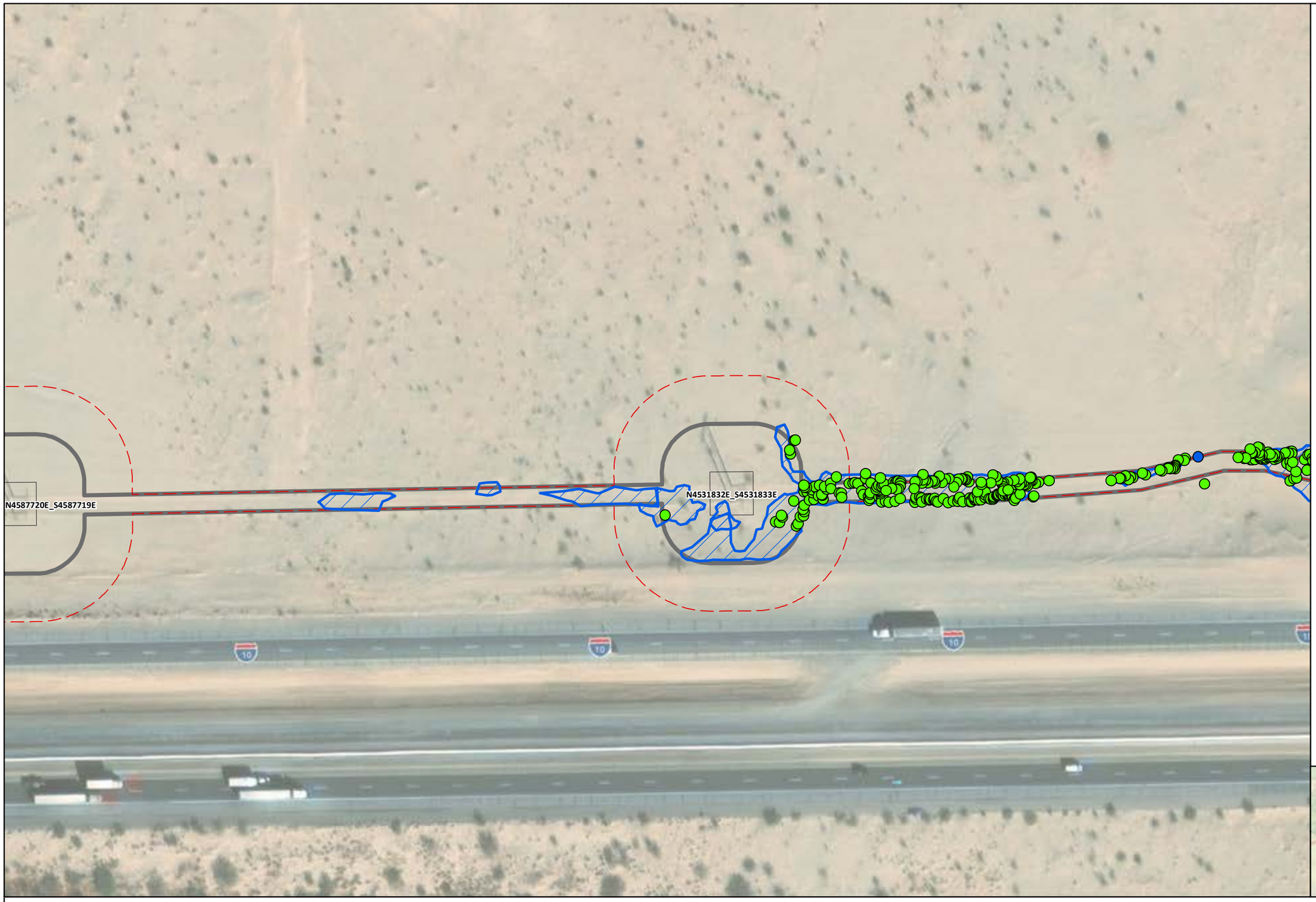
Figure 3-30

Special-status Plant Observations - Sheet #30

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Gravel Milkvetch (*Astragalus sabulonum*)

California Rare Plant Rank 4

2023 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

Ribbed Cryptantha (*Johnstonella costata*)

Figure 3-31

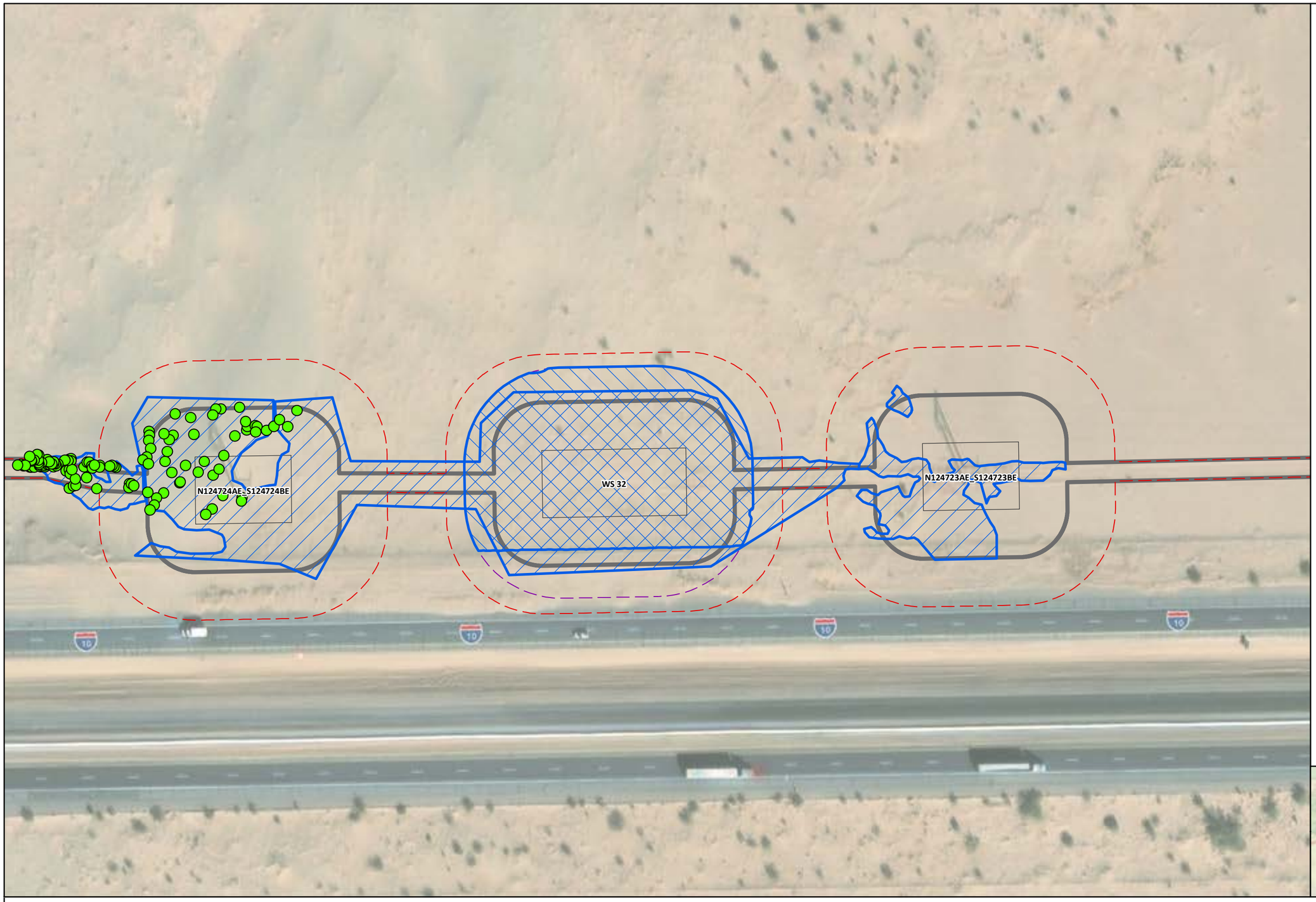
Special-status Plant Observations - Sheet #31

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Gravel Milkvetch (*Astragalus sabulonum*)

California Rare Plant Rank 4

2023 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

2017 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

Figure 3-32

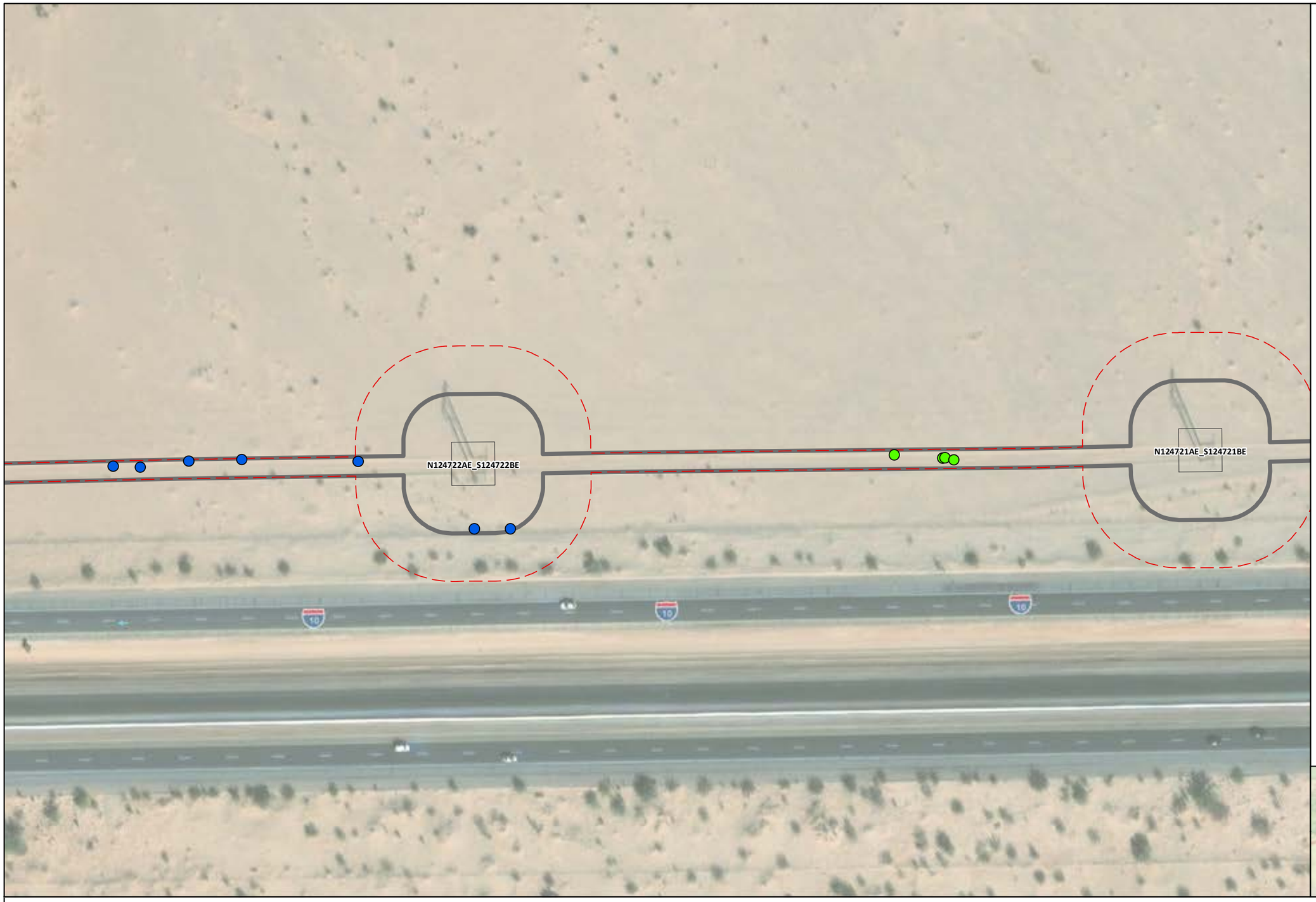
Special-status Plant Observations - Sheet #32

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Gravel Milkvetch (*Astragalus sabulonum*)

California Rare Plant Rank 4

2023 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

Figure 3-33

Special-status Plant Observations - Sheet #33

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Gravel Milkvetch (*Astragalus sabulonum*)

California Rare Plant Rank 4

2023 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-34

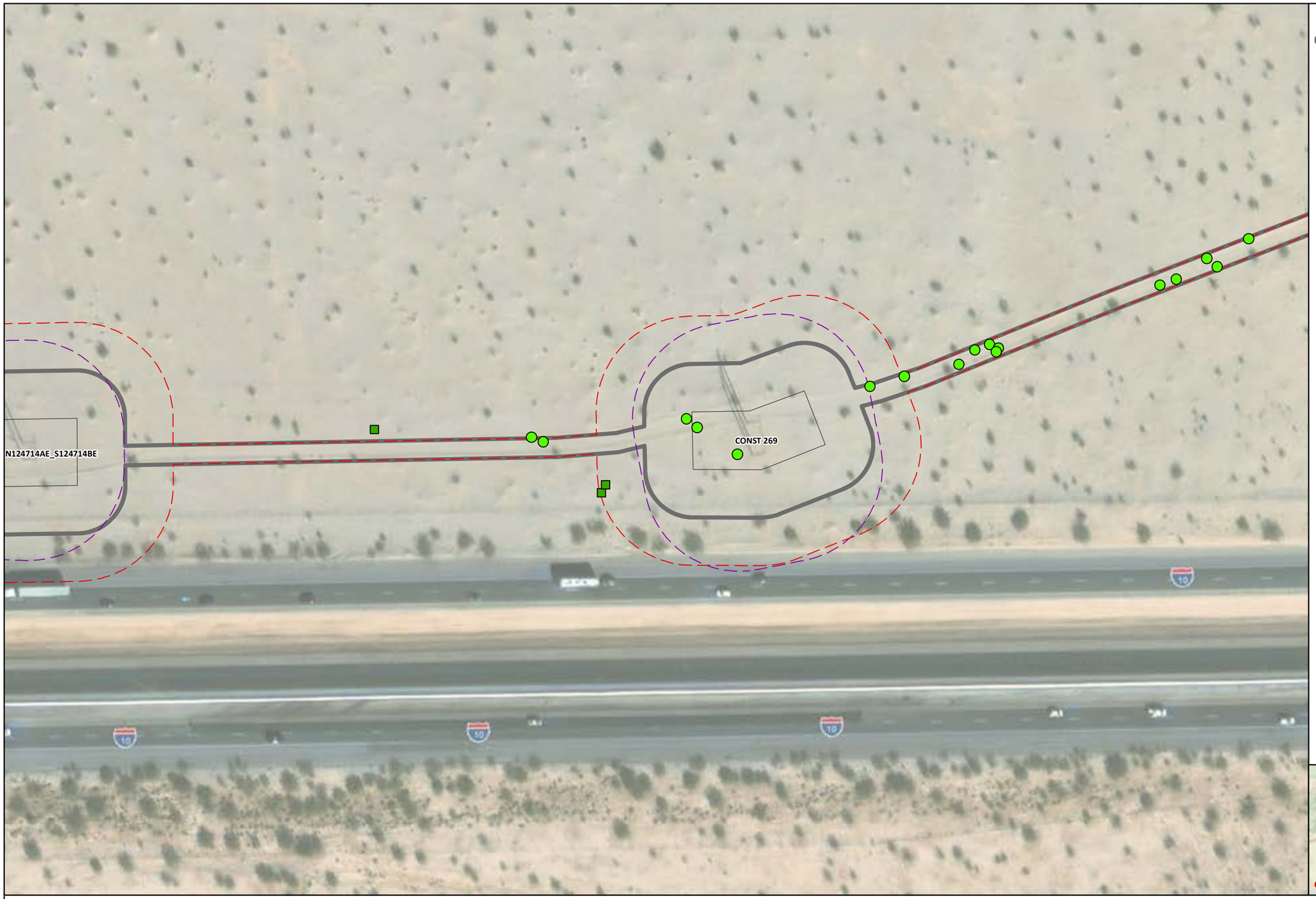
Special-status Plant Observations - Sheet #34

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Gravel Milkvetch (*Astragalus sabulonum*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-35

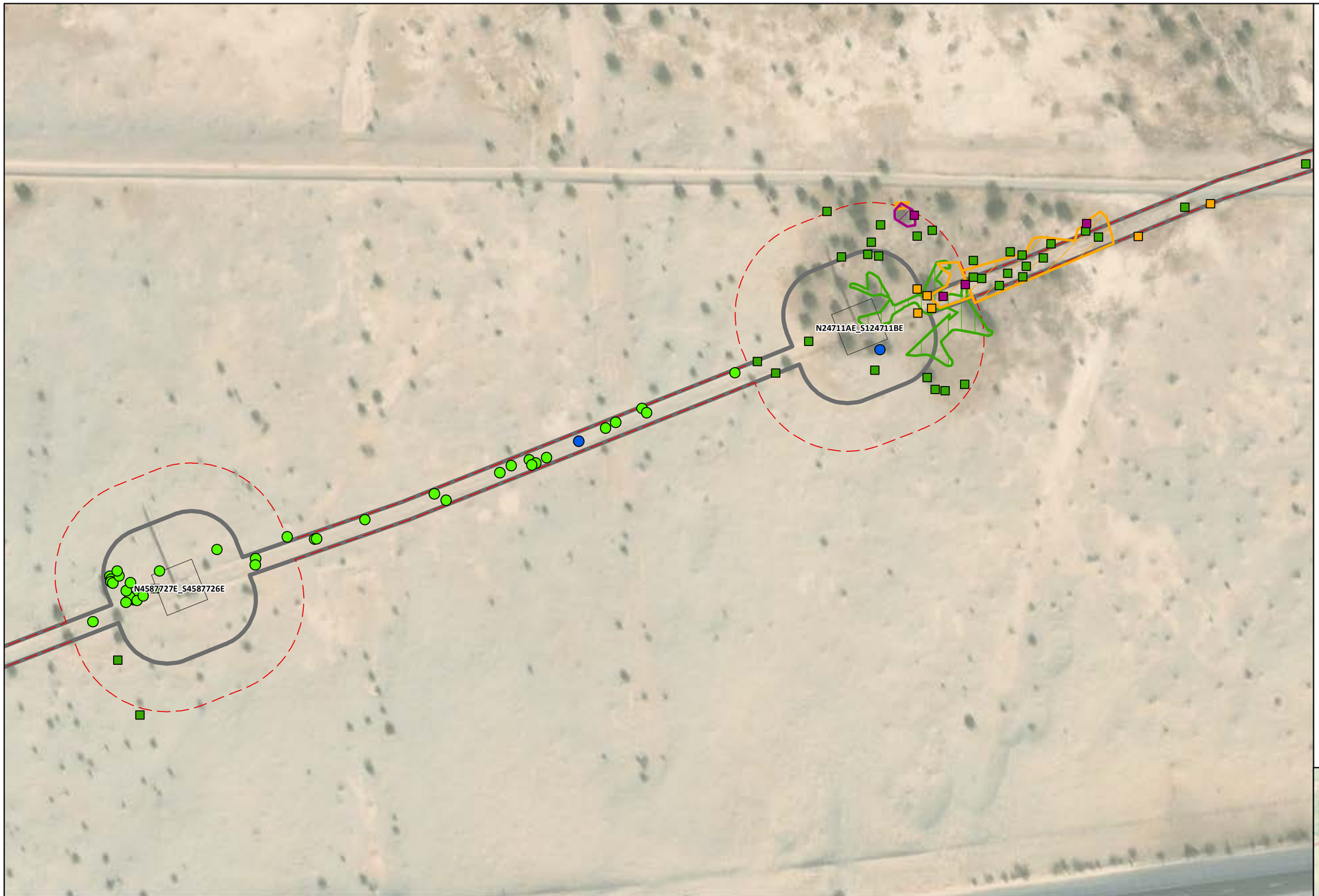
Special-status Plant Observations - Sheet #35

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results
- Gravel Milkvetch (*Astragalus sabulonum*)

2021 Survey Results
- Abrams' Spurge (*Euphorbia abramsiana*)
- Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)
- Abrams' Spurge (*Euphorbia abramsiana*)
- Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

California Rare Plant Rank 4

2023 Survey Results
- Ribbed Cryptantha (*Johnstonella costata*)

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

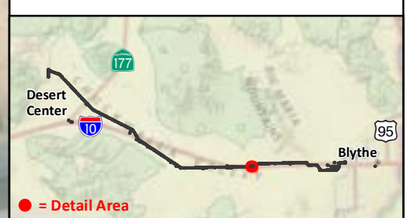


Figure 3-36

Special-status Plant Observations - Sheet #36

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

N124709AE_S124709BE

N124710AE_S124710BE

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results

Abrams' Spurge (*Euphorbia abramsiana*)
Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)
Abrams' Spurge (*Euphorbia abramsiana*)
Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)
Desert Unicorn Plant (*Proboscidea althaeifolia*)

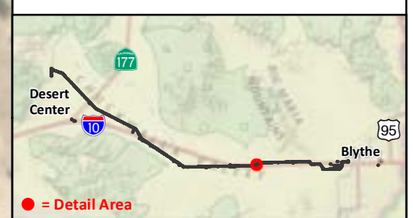


Figure 3-37

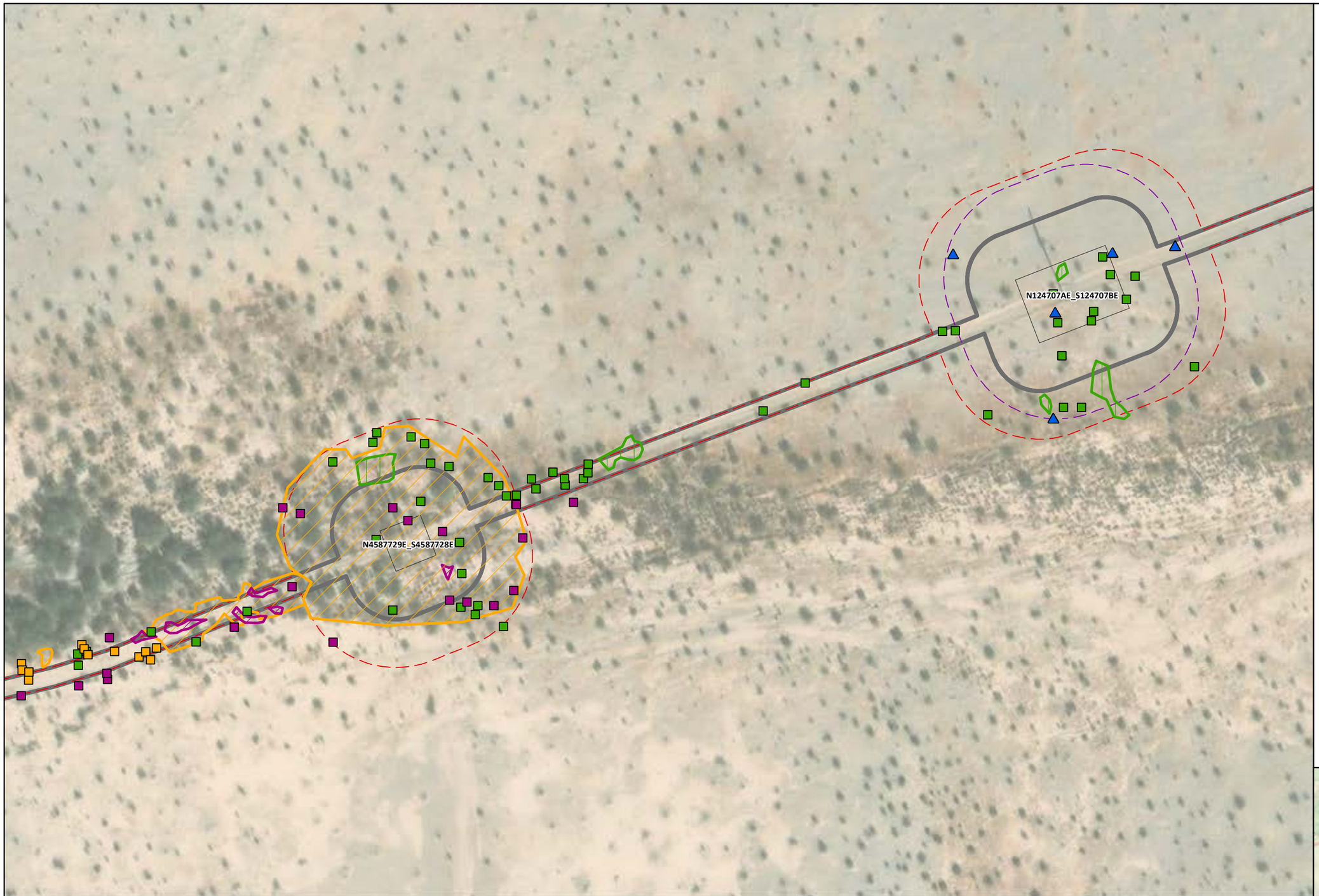
Special-status Plant Observations - Sheet #37

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2021 Survey Results

Abrams' Spurge (*Euphorbia abramsiana*)

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

Abrams' Spurge (*Euphorbia abramsiana*)

Roughstalk Witch Grass (*Panicum hirticaule* ssp. *hirticaule*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

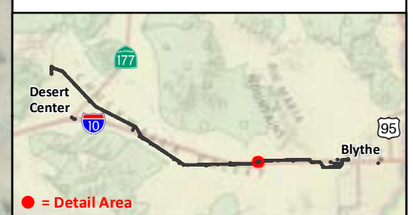


Figure 3-38

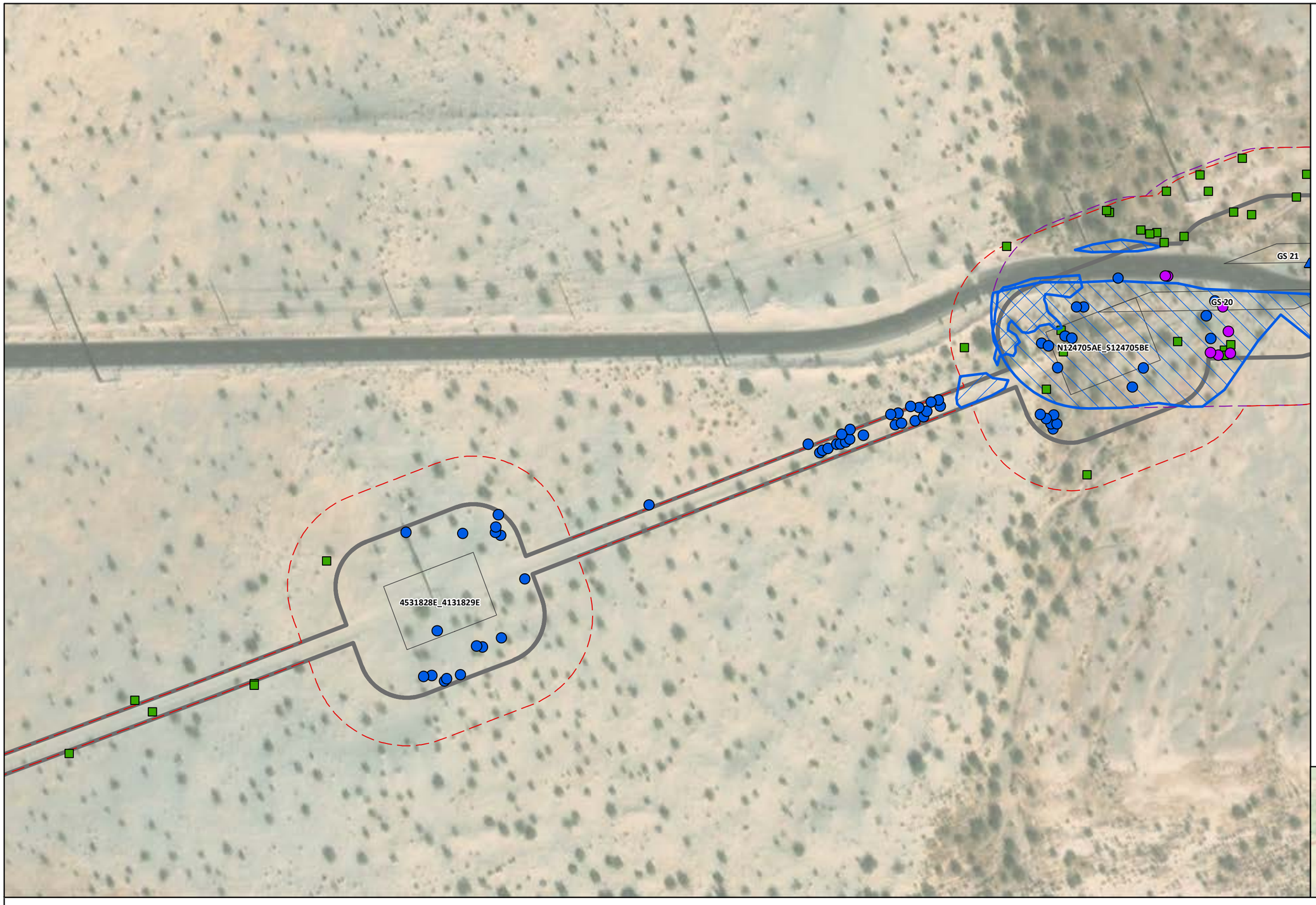
Special-status Plant Observations - Sheet #38

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results
- Harwood's Milk-Vetch (*Astragalus insularis* var. *harwoodii*)

California Rare Plant Rank 4

2023 Survey Results
- Ribbed Cryptantha (*Johnstonella costata*)
- Ribbed Cryptantha (*Johnstonella costata*)

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results
- Ribbed Cryptantha (*Johnstonella costata*)
- Ribbed Cryptantha (*Johnstonella costata*)

Figure 3-39

Special-status Plant Observations - Sheet #39

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch (*Astragalus insularis* var. *harwoodii*)

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

Ribbed Cryptantha (*Johnstonella costata*)

Figure 3-40

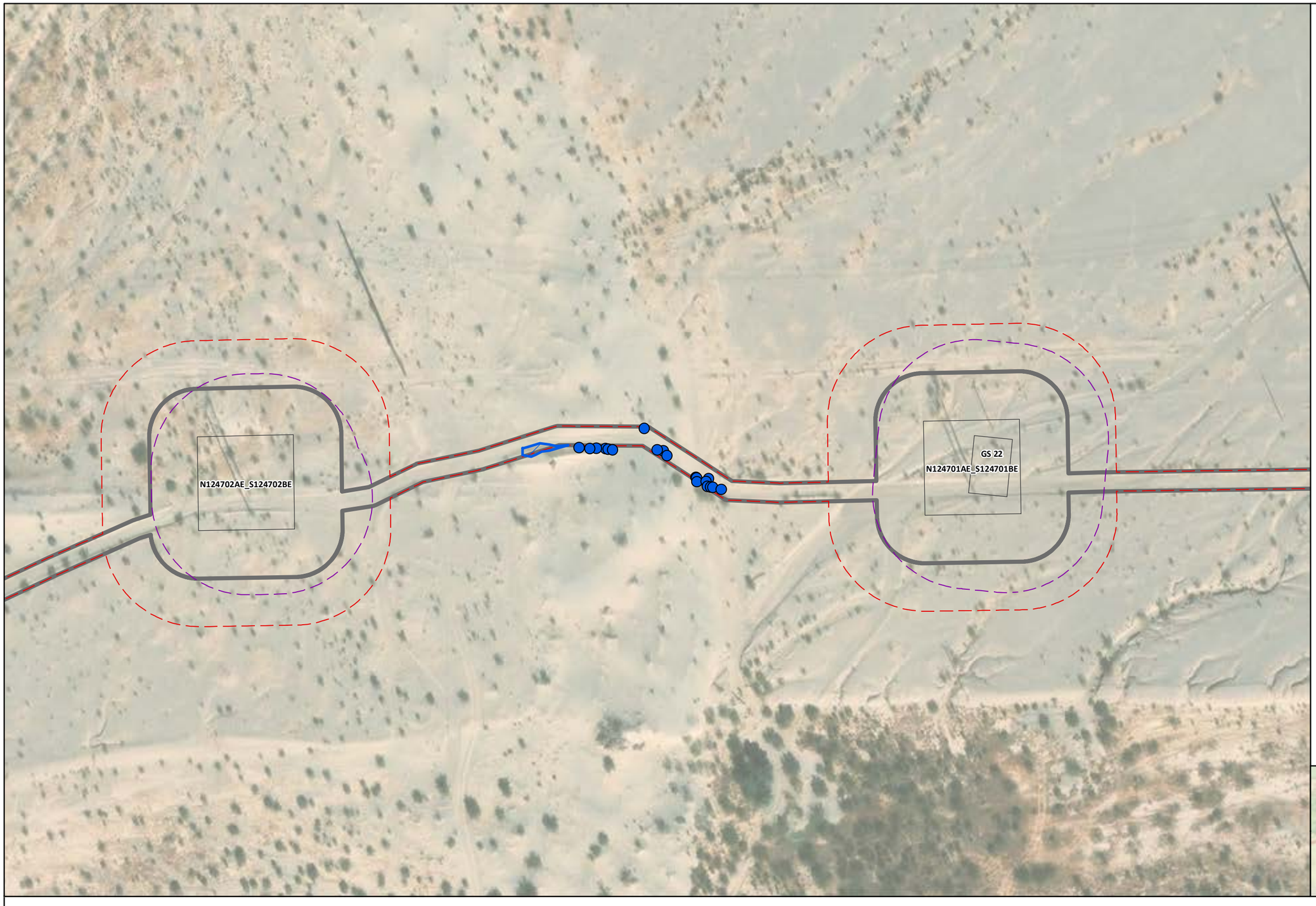
Special-status Plant Observations - Sheet #40

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2023 Survey Results

Ribbed Cryptantha (*Johnstonella costata*)

Ribbed Cryptantha (*Johnstonella costata*)

Figure 3-41

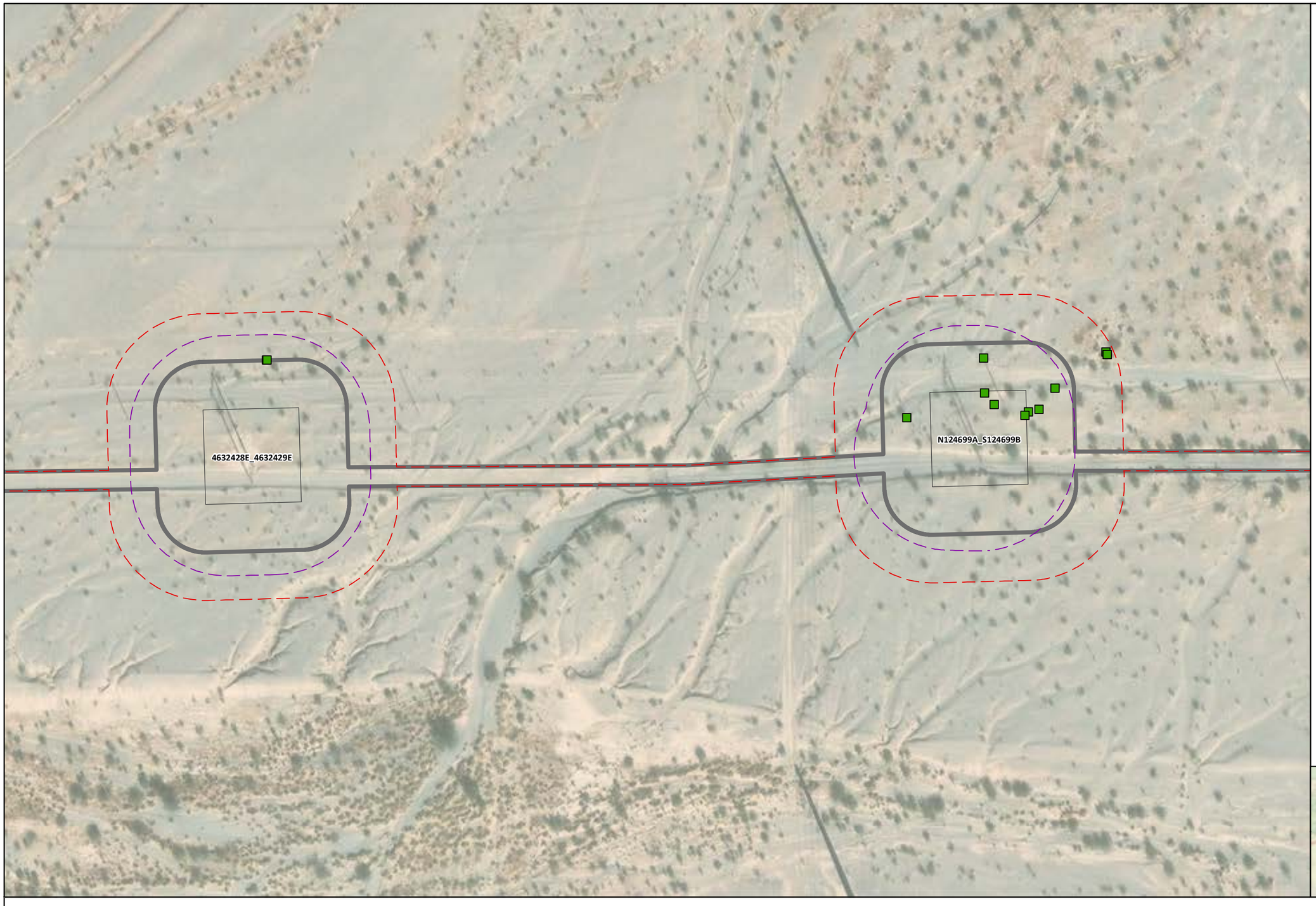
Special-status Plant Observations - Sheet #41

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-42

Special-status Plant Observations - Sheet #42

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

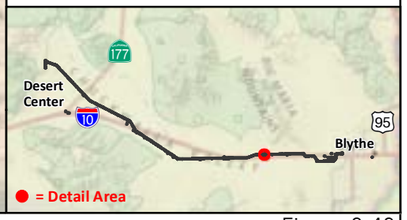


Figure 3-43

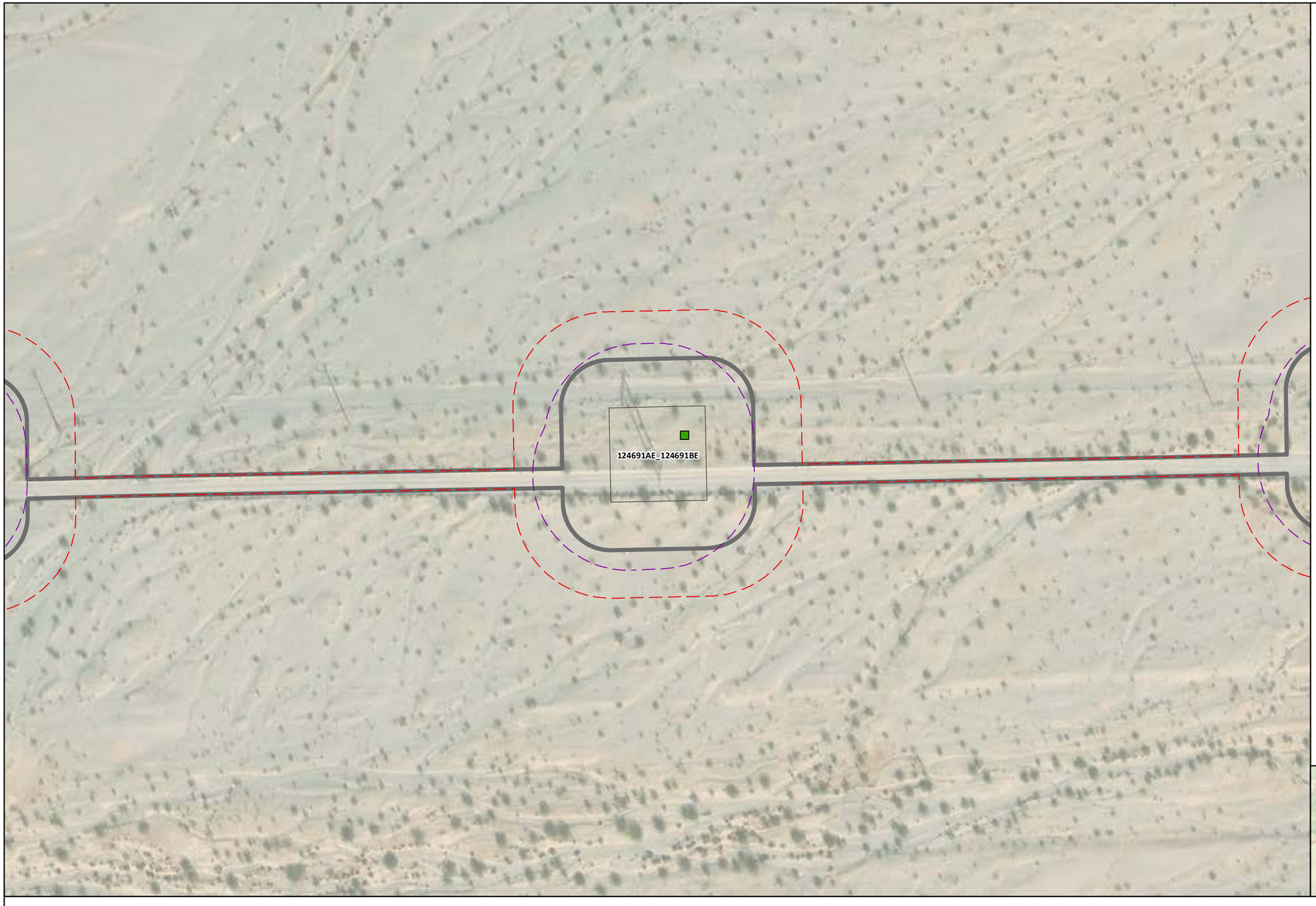
Special-status Plant Observations - Sheet #43

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-44

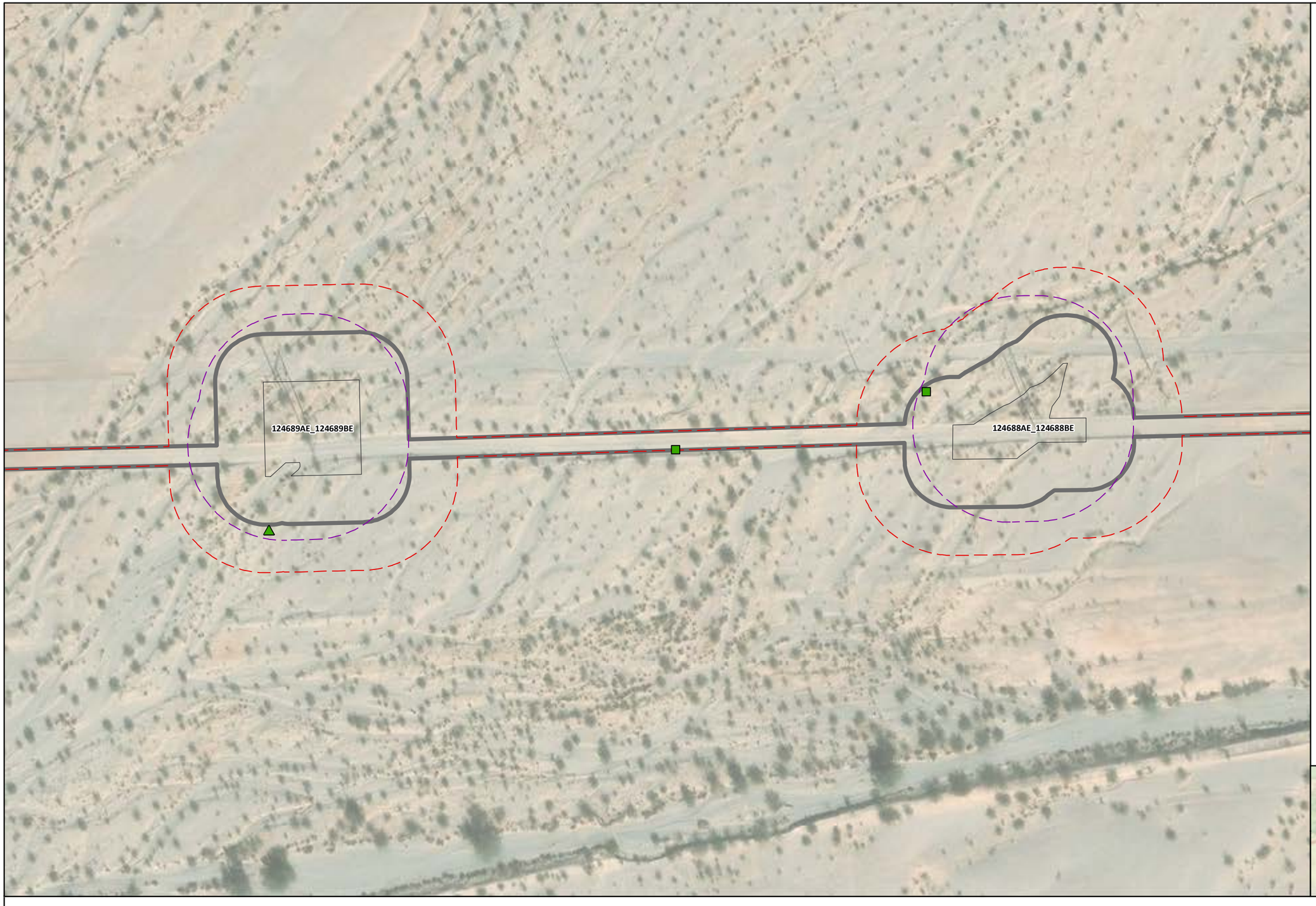
Special-status Plant Observations - Sheet #44

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results
- Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-45

Special-status Plant Observations - Sheet #45

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

2017 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

Figure 3-46

Special-status Plant Observations - Sheet #46

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant
(*Proboscidea althaeifolia*)

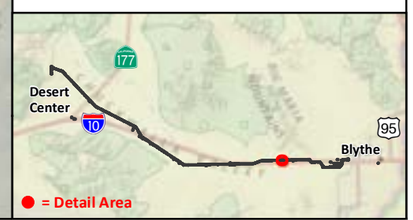


Figure 3-47

Special-status Plant Observations - Sheet #47

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

N124681AE_S124681BE

N124680AE_S124680BE

Project Work Area

2023 Rare Plant Survey Area

2021 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant
(*Proboscidea althaeifolia*)

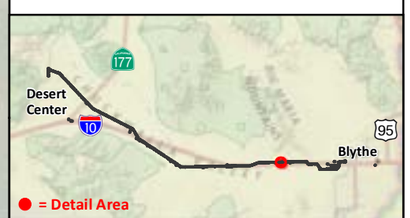


Figure 3-48

Special-status Plant Observations - Sheet #48

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 4

2021 Survey Results

Desert Unicorn Plant (*Proboscidea althaeifolia*)

= Detail Area

Figure 3-49

Special-status Plant Observations - Sheet #49

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

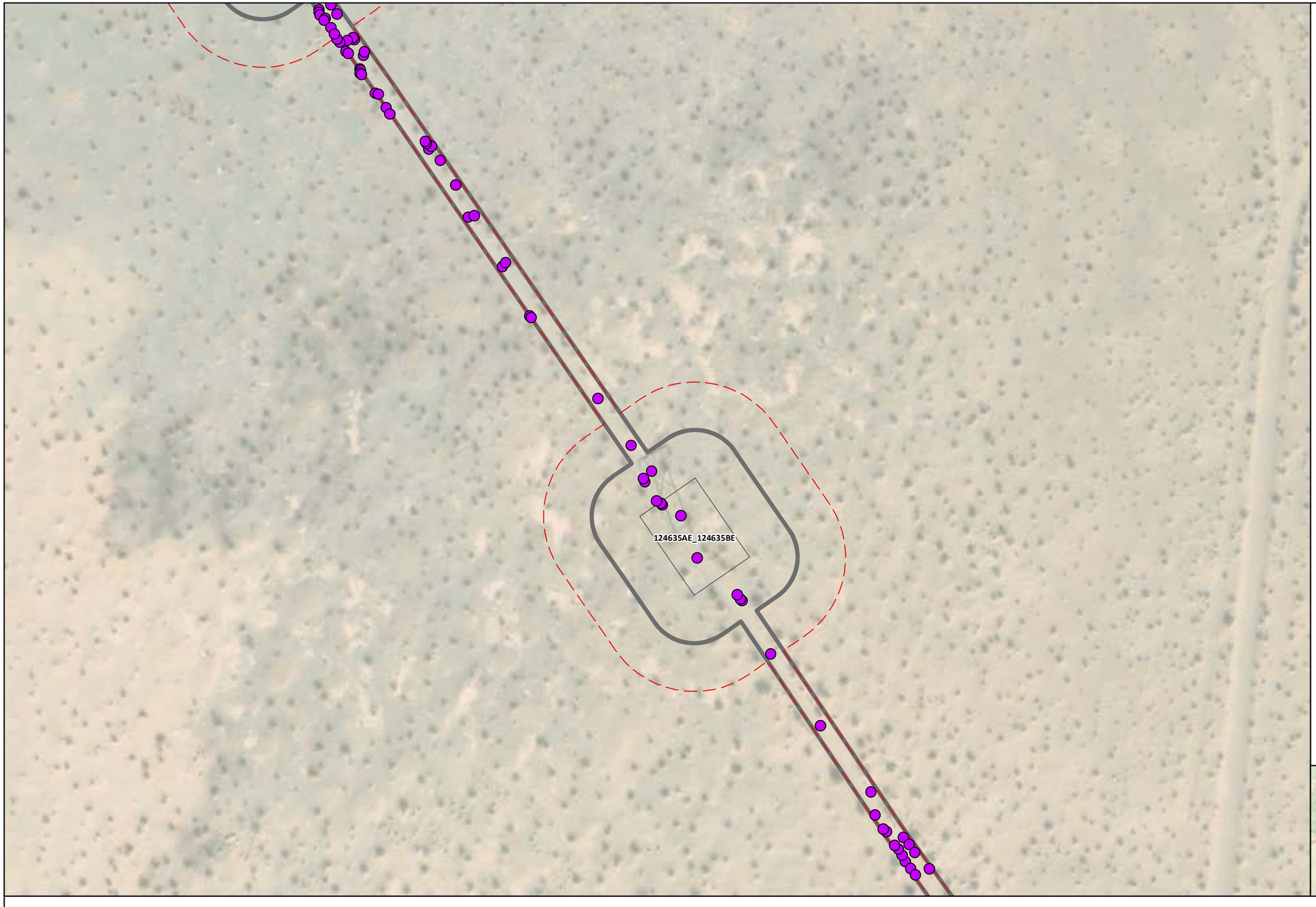
Figure 3-50

Special-status Plant Observations - Sheet #50

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

Figure 3-51

Special-status Plant Observations - Sheet #51

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

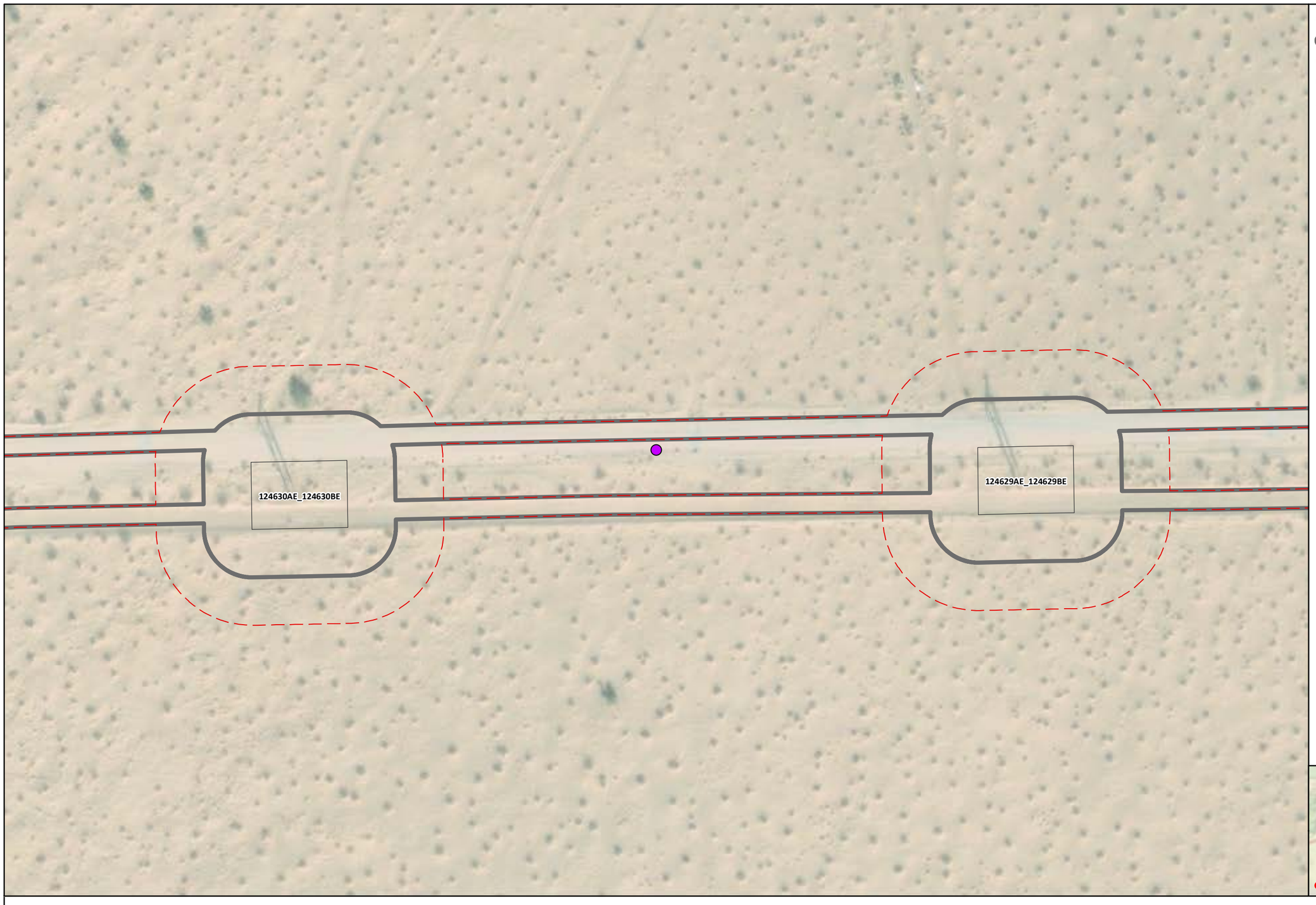
Figure 3-52

Special-status Plant Observations - Sheet #52

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

Figure 3-53

Special-status Plant Observations - Sheet #53

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

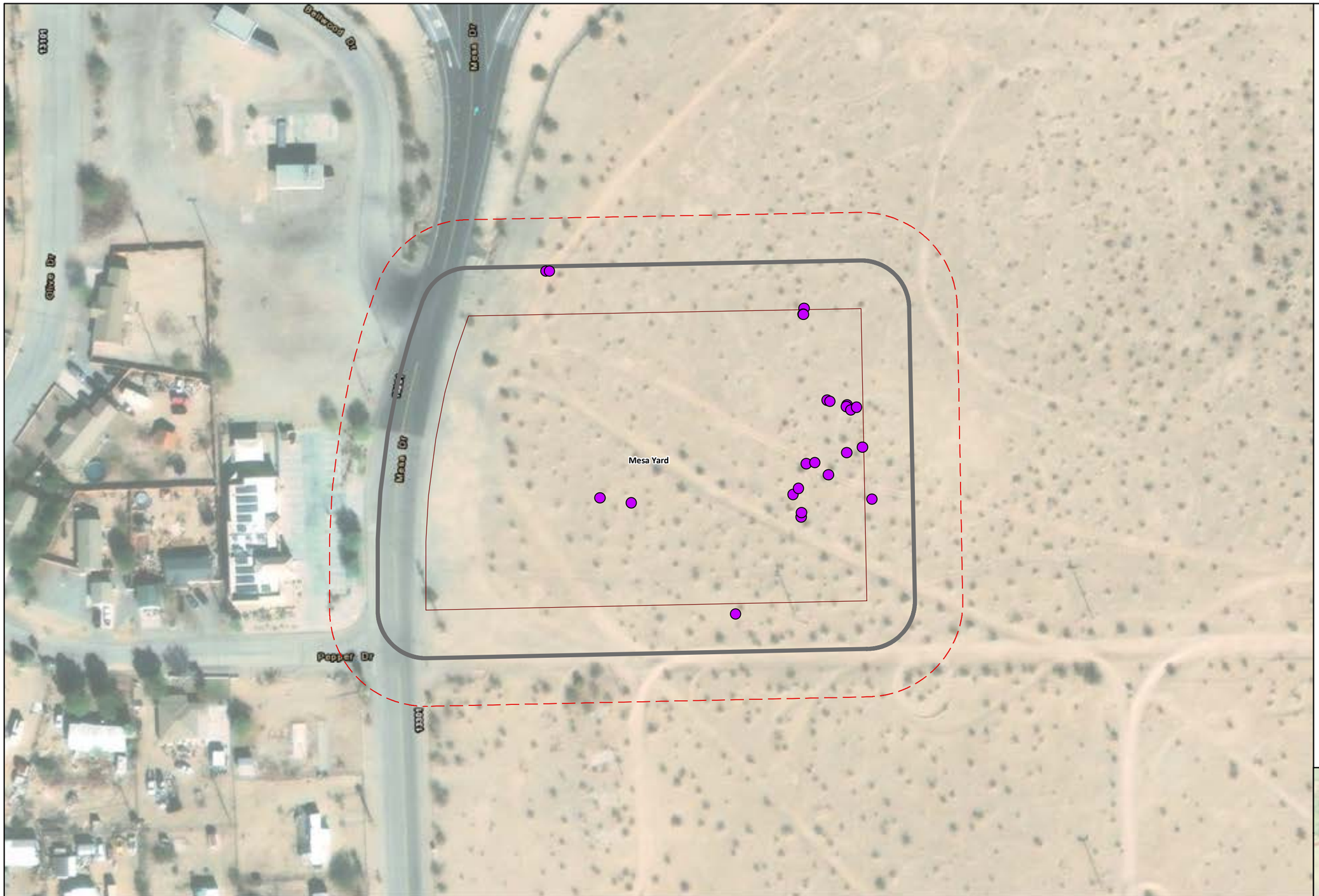
Figure 3-54

Special-status Plant Observations - Sheet #54

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



Contractor Material Yard
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

Figure 3-55

Special-status Plant Observations - Sheet #55

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

Figure 3-56

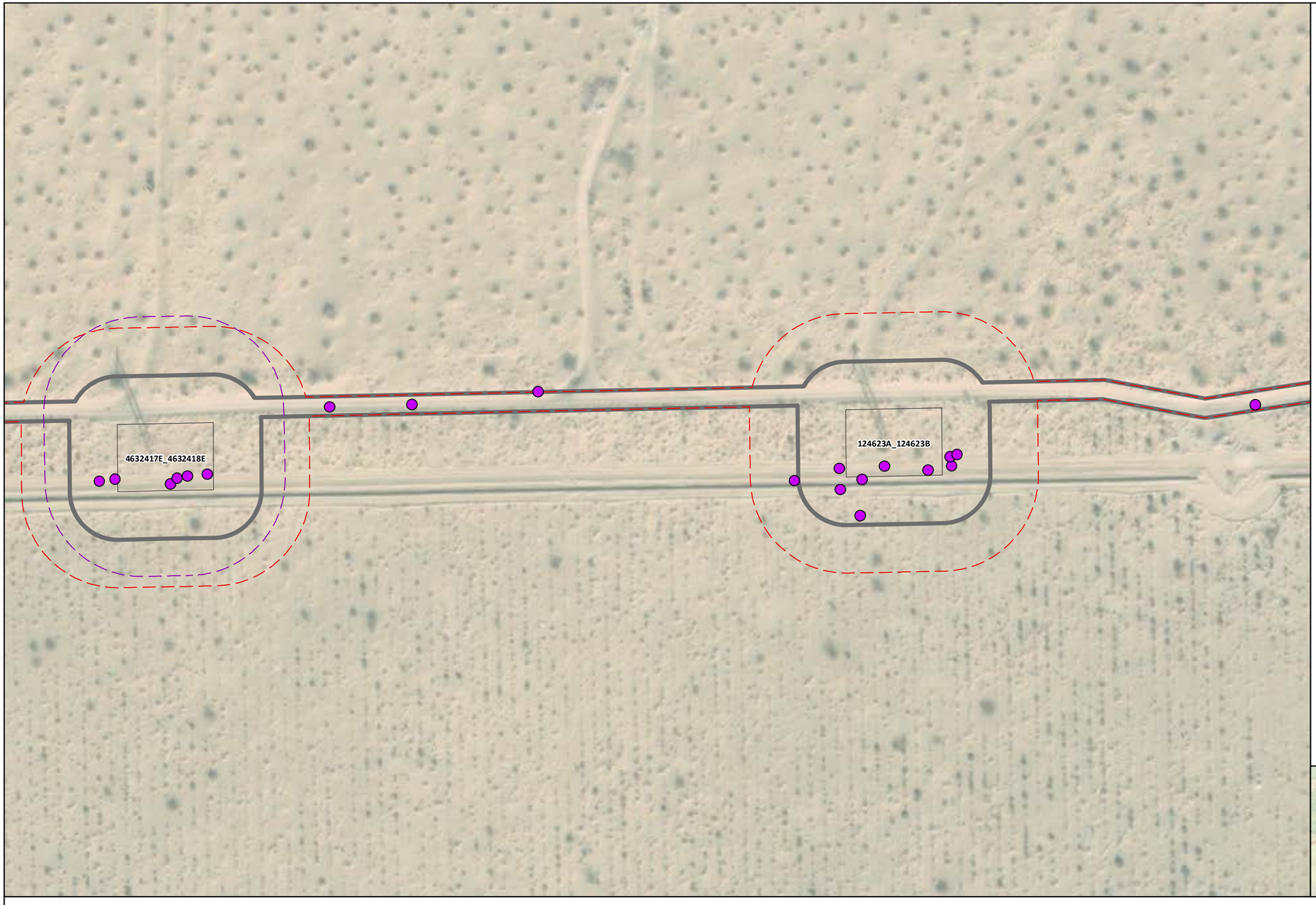
Special-status Plant Observations - Sheet #56

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
2017 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

Figure 3-57

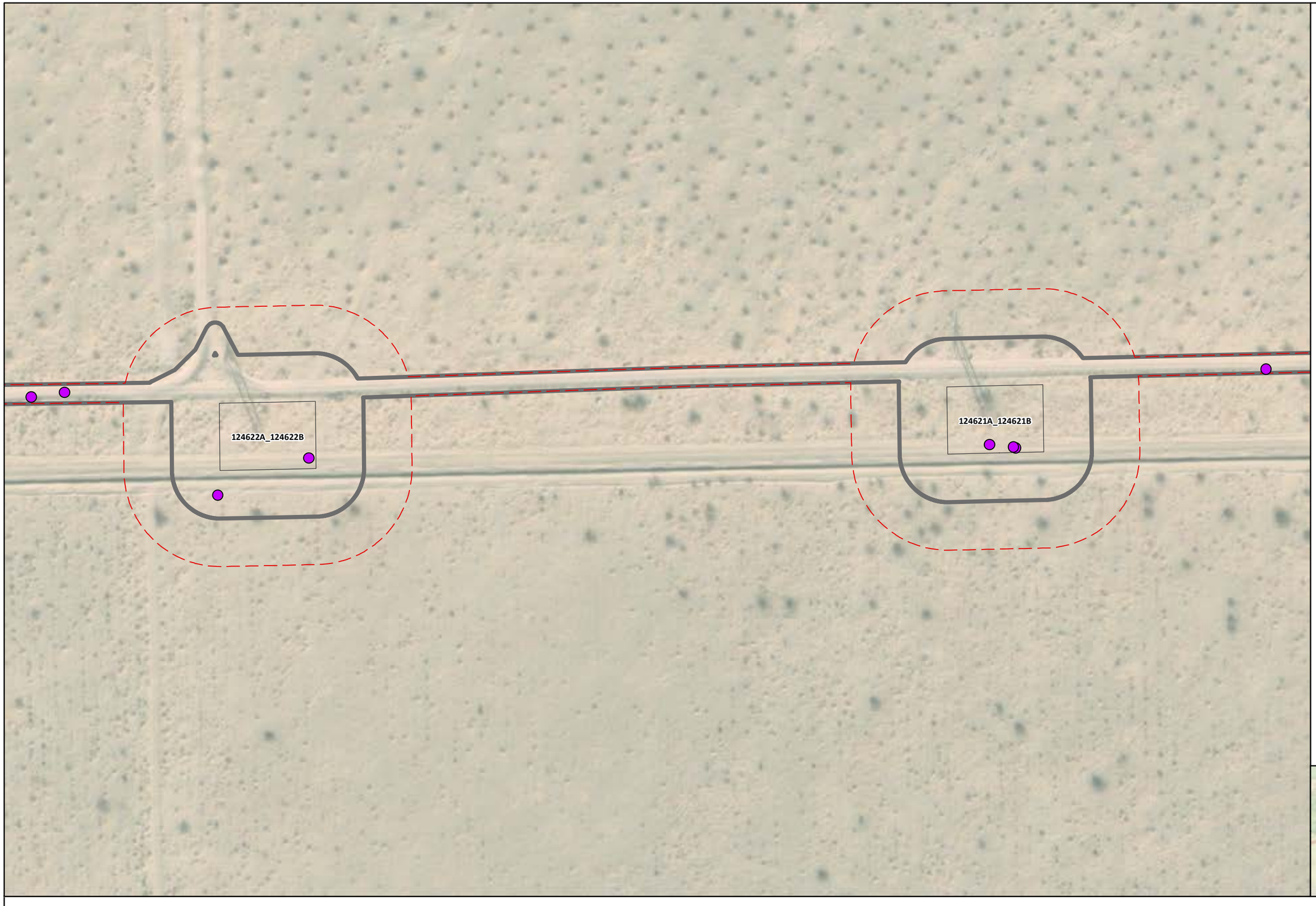
Special-status Plant Observations - Sheet #57

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

Figure 3-58

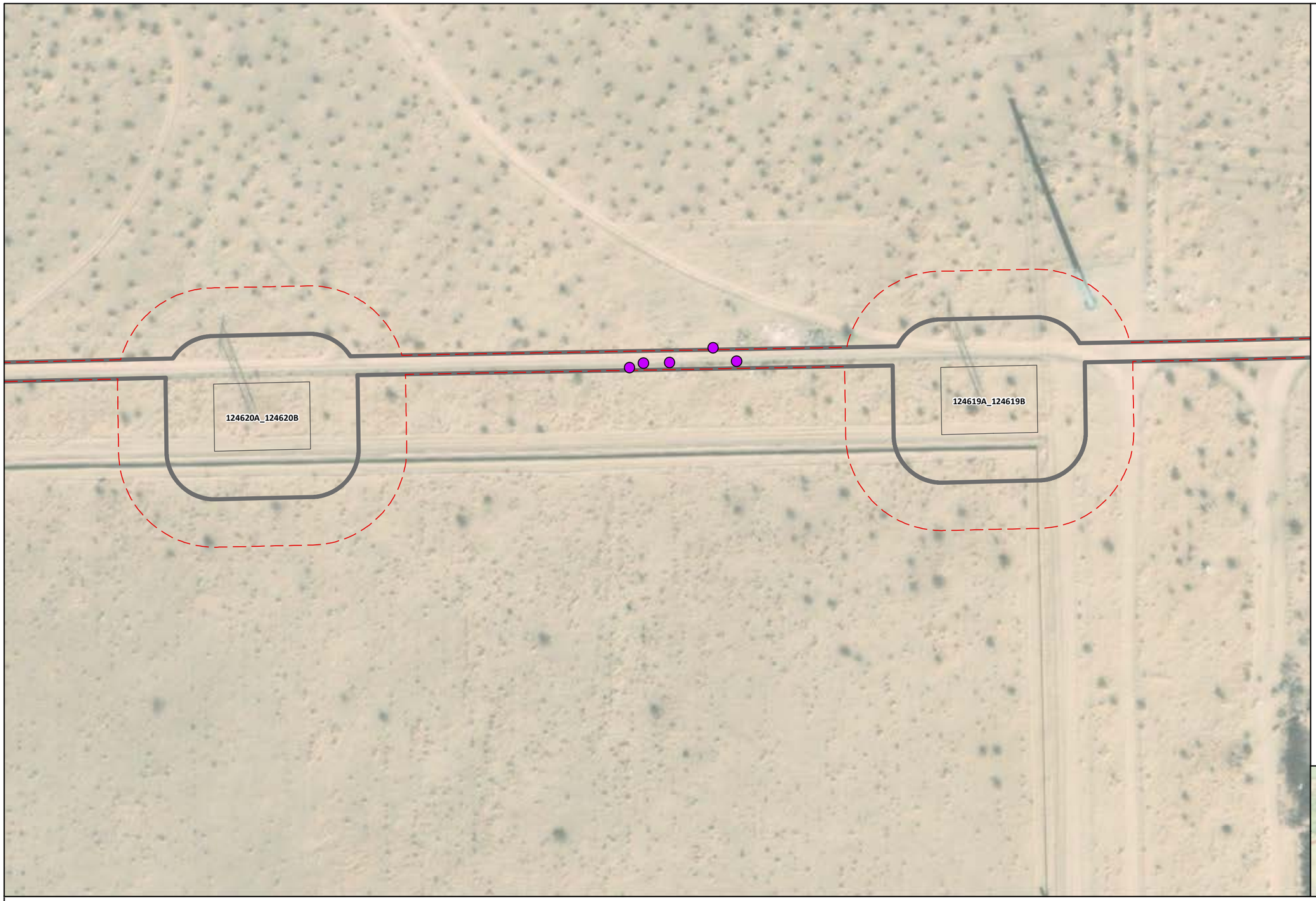
Special-status Plant Observations - Sheet #58

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

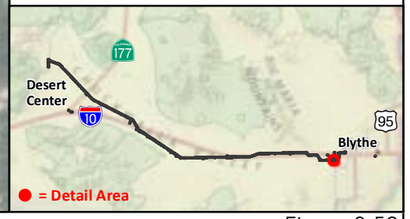


Figure 3-59

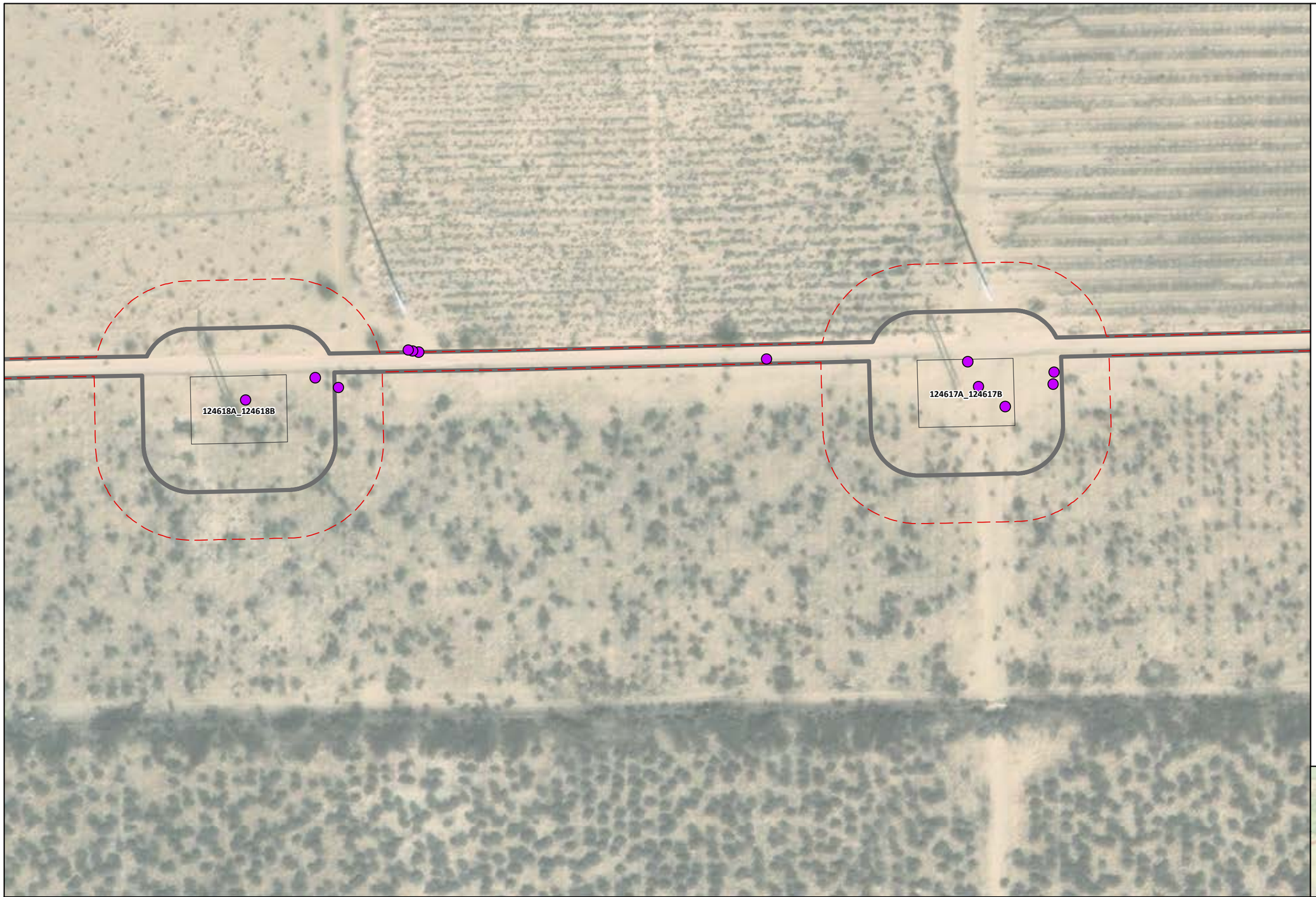
Special-status Plant Observations - Sheet #59

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



Project Work Area
2023 Rare Plant Survey Area
2021 Rare Plant Survey Area

California Rare Plant Rank 2B

2023 Survey Results

Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

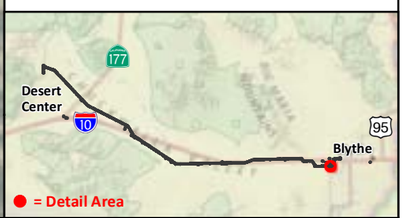


Figure 3-60

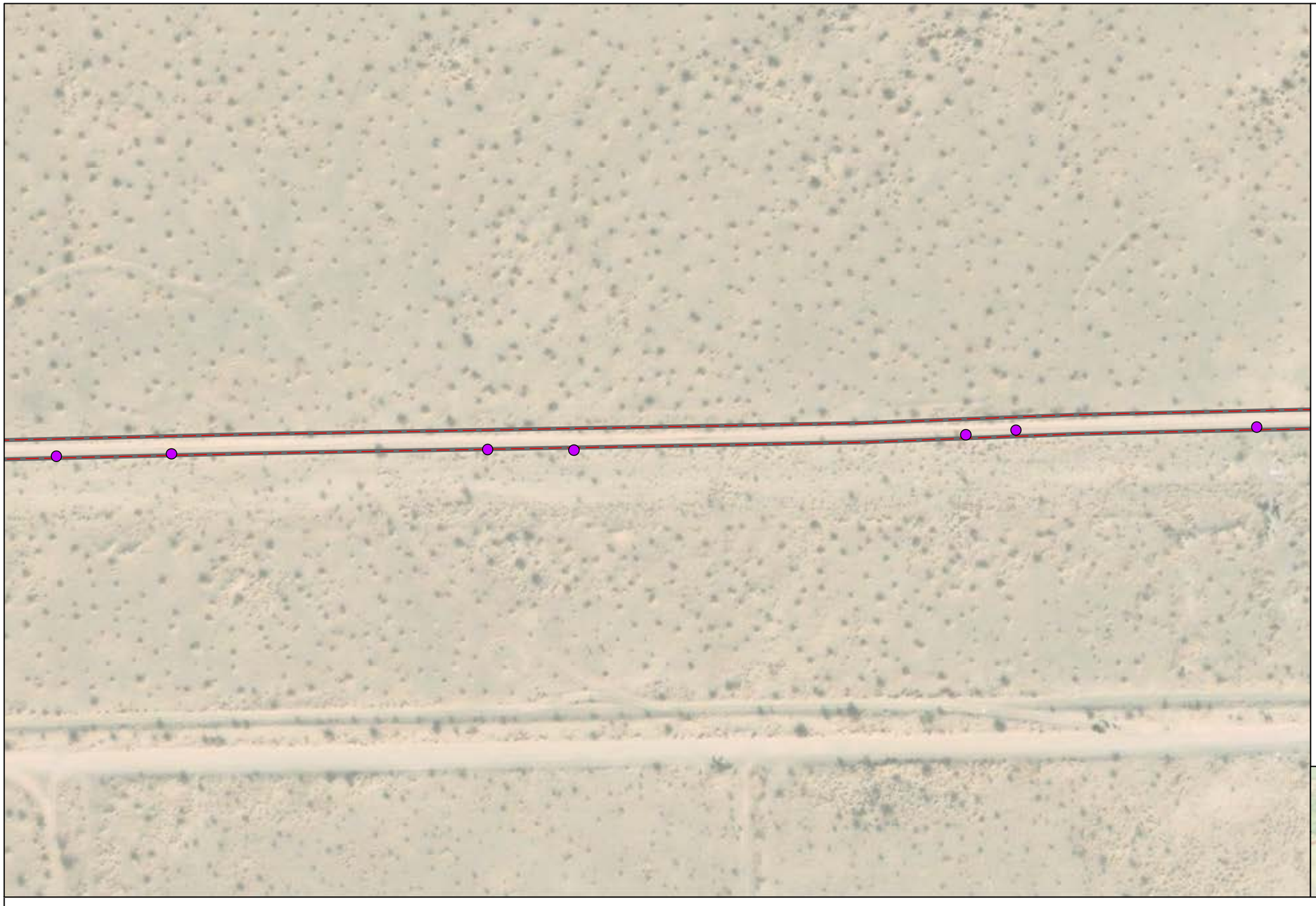
Special-status Plant Observations - Sheet #60

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 100 Feet



2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
California Rare Plant Rank 2B
2023 Survey Results
Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

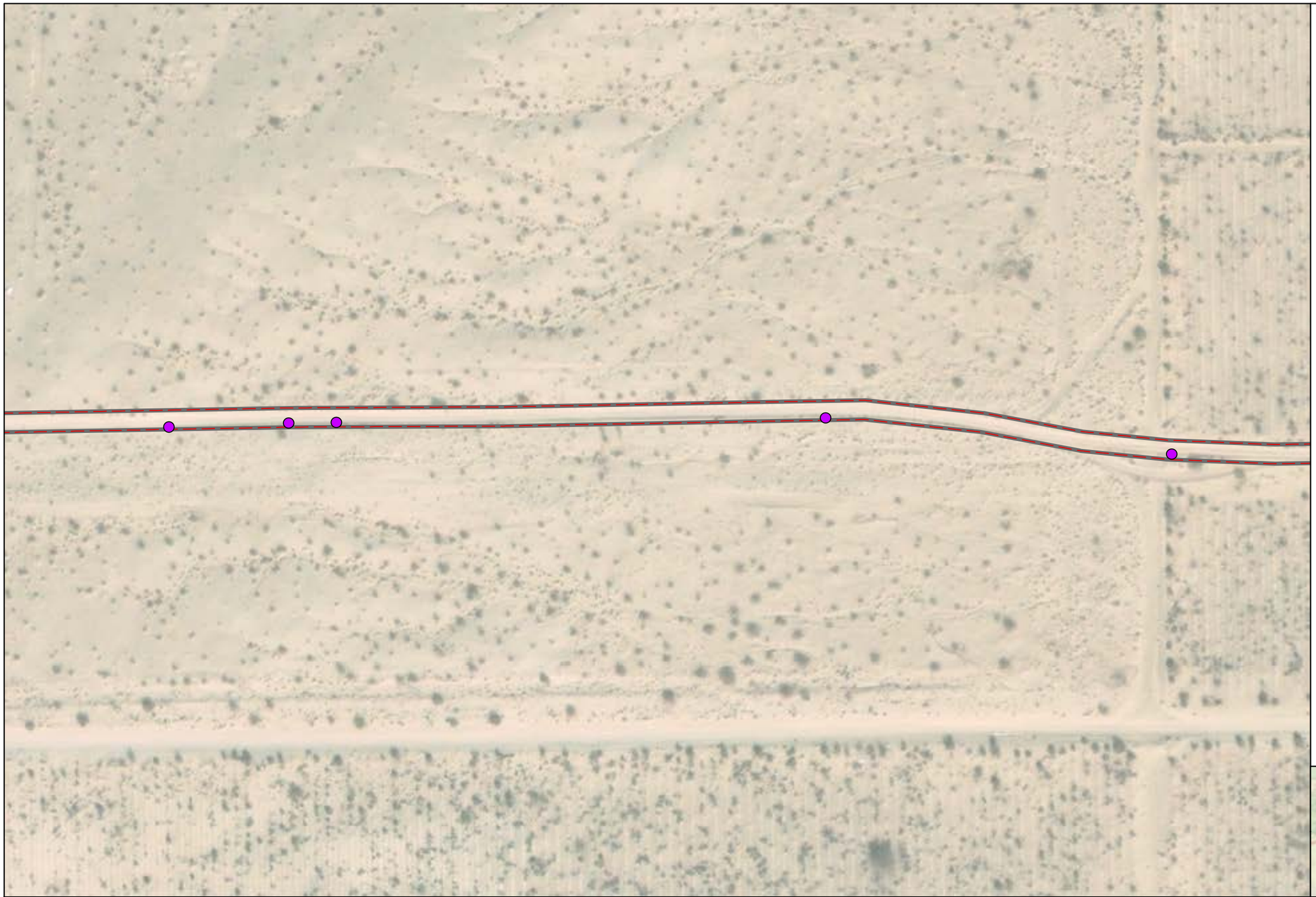
Figure 3-61

Special-status Plant Observations - Sheet #61

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet



2023 Rare Plant Survey Area
2021 Rare Plant Survey Area
California Rare Plant Rank 2B
2023 Survey Results
Harwood's Milk-Vetch
(*Astragalus insularis* var. *harwoodii*)

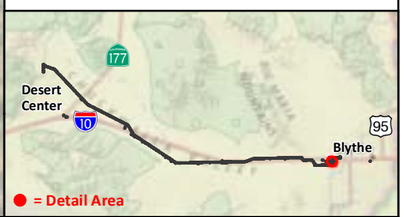


Figure 3-62

Special-status Plant Observations - Sheet #62

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N
0 100 Feet

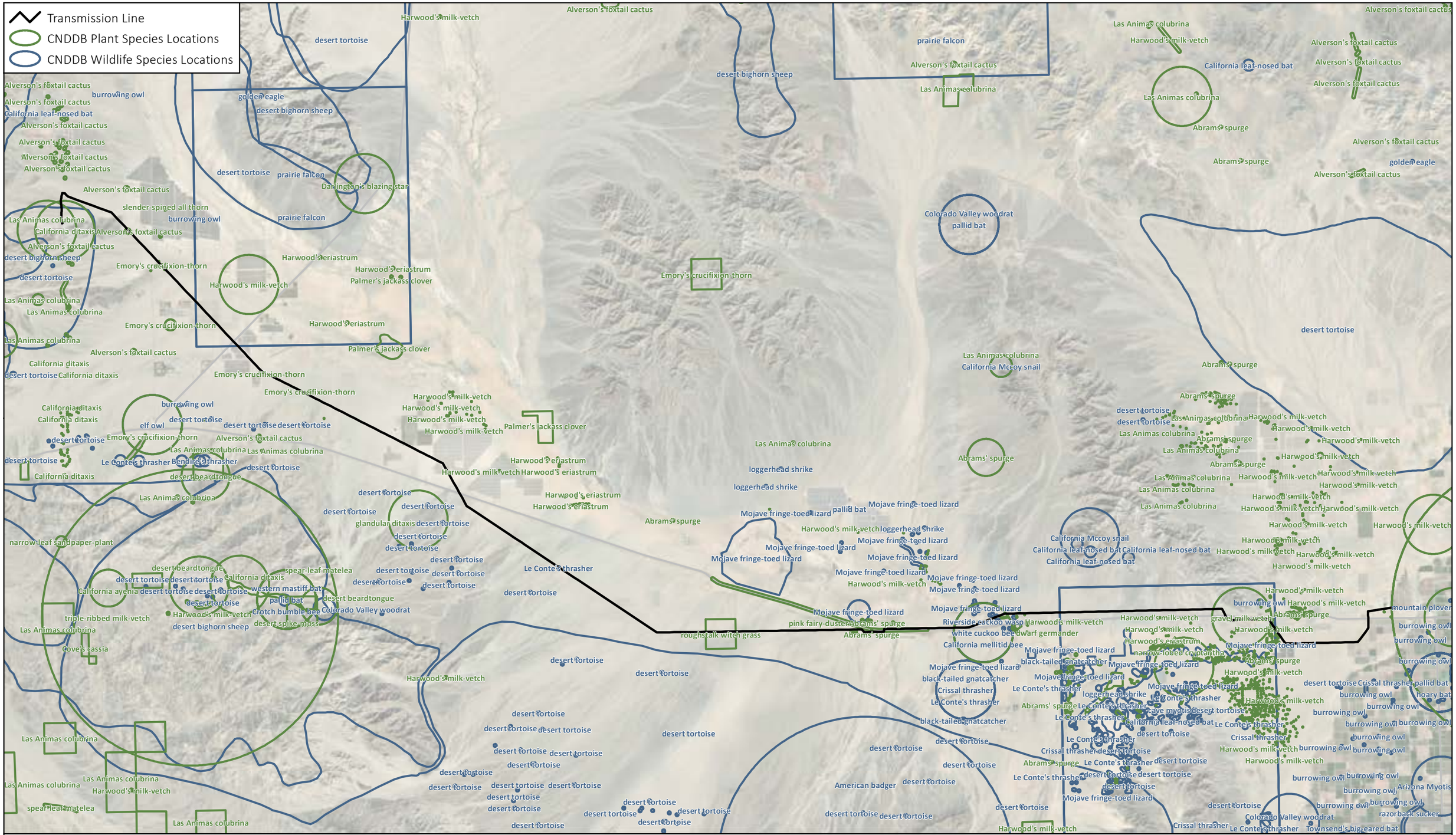


Figure 4

CNDDB

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
2023 SPECIAL-STATUS PLANT SURVEY REPORT

Artemis Environmental Services, Inc.

N

0 3 Miles

Figure 1 Project Overview

Figure 2 Project Vicinity

Figure 3 Special-status Plant Observations

Figure 4 CNDDB

Appendix B

Special-status Plant Species Evaluation of Potential to Occur

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
SPECIAL-STATUS PLANT SPECIES EVALUATION OF POTENTIAL TO OCCUR

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Abronia villosa var. ***aurita*** chaparral sand-verbena	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Jan-Sep	Annual herb found in sandy soils within chaparral, coastal scrub, and desert dunes. 245-5,250 ft.	Absent: Conspicuous herb not observed during surveys. No records for this species within two miles.
Acleisanthes longiflora angel trumpets	Fed: State: CRPR: REG:	-- -- 2B.3 NECO	May	Perennial herb found on carbonate soils in Sonoran desert scrub. 295-310 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Amaranthus watsonii Watson's amaranth	Fed: State: CRPR: REG:	-- -- 4.3 NECO	Apr-Sep	Annual herb found in coastal dunes, desert dunes and sands, and weakly saline areas. 165-1,310 ft.	Occurs: Hundreds of individuals were observed in 2021 at several tower sites near Ford Dry Lake.
Ambrosia monogyra singlewhorl burrobrush	Fed: State: CRPR: REG:	-- -- 2B.2 --	Aug-Nov	Perennial shrub found in sandy soils within chaparral and Sonoran desert scrub. 35-1,640 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Androstephium breviflorum small-flowered androstephium	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-Apr	Perennial bulbiferous herb found in desert dunes and bajadas of Mojavean desert scrub. 720-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Astragalus crotalariae Salton milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Jan-Apr	Perennial herb found on sandy or gravelly soils in Sonoran desert scrub. 195-820 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Astragalus insularis var. ***harwoodii*** Harwood's milk-vetch	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	Jan-May	Annual herb found on sandy or gravelly soils in desert dunes and Mojavean desert scrub. 0-2,330 ft.	Occurs: Hundreds of individuals were observed in 2017 and 2023 south of Blythe airport and near Ford Dry Lake.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Astragalus lentiginosus* var. *borreganus Borrego milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-May	Annual herb found in Mojavean desert scrub and sandy Sonoran desert scrub. 100-2,935 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Astragalus lentiginosus* var. *coachellae Coachella Valley milk-vetch	Fed: State: CRPR: REG:	FE -- 2B.2 --	Feb-May	Annual or perennial herb found in desert dunes, and sandy Sonoran desert scrub. 130-2,150 ft.	Absent: There are records for this species within five miles the Project, but it has not been observed within 500 ft. of the Project. Not observed during surveys.
Astragalus nutans Providence Mountains milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Mar-Jun (Oct)	Annual herb found on sandy or gravelly soils in Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland, and Sonoran desert scrub. 1,475-6,400 ft.	Unlikely: There are historic records within five miles of the Project. Not observed during surveys. Dry spring conditions may have precluded detection.
Astragalus sabulonum gravel milk-vetch	Fed: State: CRPR: REG:	-- -- 2B.2 --	Feb-Jun	Annual or perennial herb found on flats, washes, and roadsides in desert dunes, Mojavean desert scrub, Sonoran desert scrub on usually sandy and sometimes gravelly soils. 195-3,050 ft.	Occurs: Hundreds of individuals were observed in 2023 between Wiley's Well Rest Stop area and Ford Dry Lake Road area.
Astragalus tricarinatus triple-ribbed milk-vetch	Fed: State: CRPR: REG:	FE -- 1B.2 DCREP, CDCA	Feb-May	Perennial herb found on sandy or gravelly soils in Joshua tree "woodland" and Sonoran desert scrub. 1,475-3,905 ft.	Absent: There are records for this species within two miles of the Project. Not observed during surveys. Dry spring conditions may have precluded detection.
Ayenia compacta California ayenia	Fed: State: CRPR: REG:	-- -- 2B.3 --	Mar-Apr	Perennial herb found in rocky areas of Mojavean desert scrub and Sonoran desert scrub. 490-3,595 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Calliandra eriophylla pink fairy-duster	Fed: State: CRPR: REG:	-- -- 2B.3 NECO	Jan-Mar	Perennial deciduous shrub found on sandy or rocky soils in Sonoran desert scrub. 395-4,920 ft.	Absent: There are records for this species within 500 ft. of the Project, but it has not been observed in the vicinity within the past 25 years. Not observed during surveys. Dry spring conditions may have precluded detection due to being deciduous.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Castela emoryi Emory's crucifixion-thorn	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	(Apr) Jun-Jul (Sep-Oct)	Perennial deciduous shrub found on gravelly soils in Mojavean desert scrub, Sonoran desert scrub, and playas. 295-2,380 ft.	Occurs: One individual was observed in 2021 and 2023 at one tower site north of Desert Center. Two individuals were observed outside the Survey Area in 2017 (approximately 225 feet northwest of Poles 124932AE, 124932BE).
Chaenactis carphoclinia* var. *peirsonii Peirson's pincushion	Fed: State: CRPR: REG:	BLMS -- 1B.3 --	Mar-Apr	Annual herb found on sandy soils in Sonoran desert scrub. 10-1,640 ft.	Unlikely: There are records for this species within five miles of the Project, but it has not been observed in vicinity in the past 25 years. Not observed during surveys. Dry spring conditions may have precluded detection.
Chylismia arenaria sand evening-primrose	Fed: State: CRPR: REG:	-- -- 2B.2 --	Nov-May	Annual or perennial herb found on sandy or rocky soils in Sonoran desert scrub. -260-705 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Cladium californicum California sawgrass	Fed: State: CRPR: REG:	-- -- 2B.2 --	Jun-Sep	Perennial rhizomatous herb found in meadows and seeps, marshes, and alkaline or freshwater swamps. 195-5,250 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Colubrina californica Las Animas colubrina	Fed: State: CRPR: REG:	-- -- 2B.3 NECO, CDCA	Apr-Jun	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. 35-3,280 ft.	Absent: There are recent records for this species within 500 ft. of the Project. Individuals were not detected during 2021 and 2023 surveys; however, dry spring conditions may have prevented its detection due to being deciduous.
Condalia globosa* var. *pubescens spiny abrojo	Fed: State: CRPR: REG:	-- -- 4.2 NECO	Mar-May (Nov)	Perennial deciduous shrub found in Sonoran desert scrub. 280-3,280 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Coryphantha alversonii foxtail cactus	Fed: State: CRPR: REG:	-- -- 4.3 NECO, CDCA	Apr-Jun (Sep-Oct)	Perennial stem-succulent found on sandy or rocky, usually granitic, soils in Mojavean desert scrub and Sonoran desert scrub. 245-5,005 ft.	Occurs: Dozens of individuals were observed in 2017, 2021, and 2023 near the Eagle Mountain Station.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Cryptantha pterocarya* var. *stenoloba narrow-lobed cryptantha	Fed: State: CRPR: REG:	-- -- 2B.1 --	Mar-Apr	Annual herb found in desert dunes. 510-1,200 ft.	Absent: There are records for this species within one mile of the Project. No individuals were detected during surveys. Dry spring conditions may have precluded detection.
Cylindropuntia munzii Munz's cholla	Fed: State: CRPR: REG:	BLMS -- 1B.3 NECO, CDCA	May	Perennial stem-succulent found on sandy or gravelly soils in Sonoran desert scrub. 490-1,970 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Ditaxis claryana glandular ditaxis	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	Oct-Mar	Perennial herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. 0-1,525 ft.	Absent: There are records for this species within two miles of the Project, but it has not been observed in the vicinity in the past 25 years. Not observed during surveys. Dry spring conditions may have precluded detection.
Ditaxis serrata* var. *californica California ditaxis	Fed: State: CRPR: REG:	-- -- 3.2 NECO, CDCA	Mar-Dec	Perennial herb found in Sonoran desert scrub. 100-3,280 ft.	Occurs: Dozens of individuals of this species were observed in 2021 at several tower sites north of Desert Center.
Eriastrum harwoodii Harwood's eriastrum	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Mar-Jun	Annual herb found in desert dunes. 410-3,000 ft.	Absent: There are records for this species within two miles the Project. Not observed within the Survey Area but dozens observed at reference population in 2023.
Eschscholzia androuxii Joshua Tree poppy	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-May (Jun)	Annual herb found on sandy, gravelly, and/or rocky soils in desert washes, flats, and slopes in Joshua tree "woodland" and Mojavean desert scrub. 1,920-5,530 ft.	Does Not Occur: There are no records for this recently described species occurring within five miles of the Project. Not observed during surveys.
Euphorbia abramsiana Abrams' spurge	Fed: State: CRPR: REG:	-- -- 2B.2 --	(Aug) Sep-Nov	Annual herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. 15-4,300 ft.	Occurs: Thousands of individuals were observed in 2021. Species is fairly common from the Wiley's Well Rest Stop area west to the Ford Dry Lake area.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Euphorbia arizonica Arizona spurge	Fed: State: CRPR: REG:	-- -- 2B.3 --	Mar-Apr	Perennial herb found on sandy soils in Sonoran desert scrub. 165-985 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Euphorbia jaegeri Orocopia Mountains spurge	Fed: State: CRPR: REG:	BLMS -- 1B.1 --	Oct-May	Perennial shrub found in rocky hillsides and arroyos and gravelly or rocky crevices on granitic, carbonate, or metamorphic substrates in Mojavean desert scrub. 1,970-2,790 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Funastrum utahense Utah vine milkweed	Fed: State: CRPR: REG:	-- -- 4.2 --	(Mar) Apr-Jun (Sep), (Oct)	Perennial herb found on sandy or gravelly soils in Mojavean desert scrub and Sonoran desert scrub. 330-4,710 ft.	Absent: There are records for this species within two miles the Project. Not observed during surveys.
Horsfordia alata pink velvet-mallow	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-Dec	Perennial shrub found on rocky soils in Sonoran desert scrub. 330-1,640 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Horsfordia newberryi Newberry's velvet-mallow	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-Dec	Perennial shrub found on rocky soils in Sonoran desert scrub. 10-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Hymenoxys odorata bitter hymenoxys	Fed: State: CRPR: REG:	-- -- 2B.1 --	Feb-Nov	Annual herb found in sandy areas in riparian scrub and Sonoran desert scrub. 150-490 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Imperata brevifolia California satintail	Fed: State: CRPR: REG:	-- -- 2B.1 --	Sep-May	Perennial rhizomatous herb found in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and mesic riparian scrub. 0-3,985 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Jaffueliobryum wrightii Wright's jaffueliobryum moss	Fed: State: CRPR: REG:	-- -- 2B.3 --	--	Moss found in dry openings and rock crevices on carbonate substrates in alpine dwarf scrub, Mojavean desert scrub, and pinyon and juniper woodland. 525-8,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Johnstonella (Cryptantha) costata ribbed cryptantha	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-May	Annual herb found in desert dunes and sandy soils in Mojavean desert scrub and Sonoran desert scrub. 195-1,640 ft.	Occurs: Thousands of individuals were mapped in 2017 and 2023 between Wiley's Well Rest Stop area and Ford Dry Lake area.
Johnstonella (Cryptantha) holoptera winged cryptantha	Fed: State: CRPR: REG:	-- -- 4.3 NECO	Mar-Apr	Annual herb found in Mojavean desert scrub and Sonoran desert scrub. 330-5,545 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Juncus cooperi Cooper's rush	Fed: State: CRPR: REG:	-- -- 4.3 --	Apr-May (Aug)	Perennial herb found in mesic, alkaline or saline meadows and seeps. 855-5,805 ft.	Does Not Occur: There are no records for this species within five miles of the Project and suitable habitat does not occur in the Project. Not observed during surveys.
Koeberlinia spinosa var. ***tenuispina*** slender-spined all thorn	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	May-Jul	Perennial deciduous shrub found in riparian woodland, Sonoran desert scrub. 490-1,675 ft.	Absent: Conspicuous shrub not observed during surveys.
Lycium parishii Parish's desert-thorn	Fed: State: CRPR: REG:	-- -- 2B.3 --	Mar-Apr	Perennial shrub found in coastal scrub and Sonoran desert scrub. 445-3,280 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Lycium torreyi Torrey's box-thorn	Fed: State: CRPR: REG:	-- -- 4.2 --	(Jan), (Feb) Mar-Jun (Sep), (Oct), (Nov)	Perennial shrub found on sandy or rocky soils in washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub. 165-4,005 ft.	Absent: There are records for this species within five miles of the Project, but it has not been observed in vicinity in the past 75 years. Not observed during surveys. Dry spring conditions may have precluded detection due to being deciduous.
Matelea parvifolia spearleaf	Fed: State: CRPR: REG:	-- -- 2B.3 NECO	Mar-May (Jul)	Perennial herb found in rocky sites in Mojavean desert scrub and Sonoran desert scrub. 1,445-3,595 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Mentzelia puberula Darlington's blazing star	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-May	Perennial herb found on sandy or rocky soils in Mojavean desert scrub and Sonoran desert scrub. 295-4,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Mentzelia tricuspis spiny-hair blazing star	Fed: State: CRPR: REG:	-- -- 2B.1 --	Mar-May	Annual herb found on slopes and in washes on sandy or gravelly soils in Mojavean desert scrub. 490-4,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Monardella robisonii Robison's monardella	Fed: State: CRPR: REG:	BLMS -- 1B.3 NECO, CDCA	(Feb) Apr-Sep (Oct)	Perennial rhizomatous herb found in pinyon and juniper woodland. 2,000-4,920 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Nemacaulis denudata* var. *gracilis slender cottonheads	Fed: State: CRPR: REG:	-- -- 2B.2 --	(Mar) Apr-May	Annual herb found in coastal dunes, desert dunes, and Sonoran desert scrub. 165-1,310 ft.	Absent: There is one record for this species occurring within two miles of the eastern-most end of Project. Not observed during surveys.
Opuntia [Cylindropuntia] wigginsii Wiggins' cholla	Fed: State: CRPR: REG:	-- -- 3.3 NECO	Mar	Perennial stem-succulent found on sandy soils in Sonoran desert scrub. 100-2,905 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Panicum hirticaule* ssp. *hirticaule roughstalk witch grass	Fed: State: CRPR: REG:	-- -- 2B.1 --	Aug-Dec	Annual herb found in sandy or silty depressions in desert dunes, Joshua tree "woodland", Mojavean desert scrub, and Sonoran desert scrub. 150-4,315 ft.	Occurs: Thousands of individuals observed in 2021. Species is fairly common from the Wiley's Well Rest Stop area west to the Ford Dry Lake area.
Penstemon pseudospectabilis* ssp. *pseudospectabilis desert beardtongue	Fed: State: CRPR: REG:	-- -- 2B.2 --	Jan-May	Perennial herb found most often in sandy washes, and sometimes in rocky washes in Mojavean desert scrub and Sonoran desert scrub. 260-6,350 ft.	Absent: There are historic records for this species within 500 ft. of the Project. Not observed during surveys.
Petalonyx linearis narrow-leaved sandpaper plant	Fed: State: CRPR: REG:	-- -- 2B.3 --	Mar-May	Subshrub found in rocky canyons to sandy washes and dunes. 0-3200 ft.	Unlikely: No records for this species within two miles and not observed during Spring surveys.
Phaseolus filiformis slender-stem bean	Fed: State: CRPR: REG:	-- -- 2B.1 --	Apr	Annual herb found in Sonoran desert scrub. 410-410 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Pholisma sonorae sand food	Fed: State: CRPR: REG:	BLMS -- 1B.2 NECO	(Mar) Apr-Jun	Perennial herb parasitic found on sandy soils in desert dunes and Sonoran desert scrub. 0-655 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Physalis lobata lobed ground-cherry	Fed: State: CRPR: REG:	-- -- 2B.3 NECO	(May) Sep-Jan	Perennial herb found on decomposed granitic soils in Mojavean desert scrub and playas. 1,640-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Pilostyles thurberi Thurber's pilostyles	Fed: State: CRPR: REG:	-- -- 4.3 --	Dec-Apr	Perennial herb parasitic on Psorothamnus, especially Psorothamnus emoryi. Found in Sonoran desert scrub. 0-1,200 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Polygala acanthoclada thorny milkwort	Fed: State: CRPR: REG:	-- -- 2B.3 --	May-Aug	Perennial shrub found in chenopod scrub, Joshua tree "woodland", and pinyon and juniper woodland. 2,495-7,495 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Portulaca halimoides desert portulaca	Fed: State: CRPR: REG:	-- -- 4.2 --	Sep	Annual herb found on sandy soils in Joshua tree "woodland". 3,280-3,935 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Proboscidea althaeifolia desert unicorn-plant	Fed: State: CRPR: REG:	-- -- 4.3 NECO	May-Sep (Oct)	Perennial herb found on gently sloping sandy flats and washes and sometimes roadsides in Sonoran desert scrub. 280-3,280 ft.	Occurs: Hundreds of individuals observed in 2021. Species is frequent in several areas in the eastern and western sections of the Project.
Pseudorontium cyathiferum Deep Canyon snapdragon	Fed: State: CRPR: REG:	-- -- 2B.3 --	Feb-Apr	Annual herb found on rocky soils in Sonoran desert scrub. 0-2,625 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Saltugilia latimeri Latimer's woodland-gilia	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Mar-Jun	Annual herb found on rocky or sandy often granitic soils, sometimes in washes, within chaparral, Mojavean desert scrub, and pinyon and juniper woodland. 1,310-6,235 ft.	Unlikely: There is a historic record for this species within five miles of the Project. Not observed during surveys. Dry spring conditions may have precluded detection.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Salvia eremostachya desert sage	Fed: State: CRPR: REG:	-- -- 4.3 --	Mar-May	Perennial evergreen shrub found on rocky or gravelly soils in Sonoran desert scrub. 2,295-4,595 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Salvia greatae Orocopia sage	Fed: State: CRPR: REG:	BLMS -- 1B.3 NECO, CDCA	Mar-Apr	Perennial evergreen shrub found in Mojavean desert scrub and Sonoran desert scrub. 130-2,705 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Selaginella eremophila desert spike-moss	Fed: State: CRPR: REG:	-- -- 2B.2 --	(May) Jun (Jul)	Perennial rhizomatous herb found on gravelly or rocky soils in chaparral and Sonoran desert scrub. 655-4,250 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Senna covesii Coves' cassia	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	Mar-Jun (Aug)	Perennial herb found on dry sandy desert washes and slopes in Sonoran desert scrub. 740-4,250 ft.	Absent: There are no records for this species occurring within two miles of the Project. Not observed during surveys.
Spermolepis [Ammoselinum] giganteum desert scaleseed	Fed: State: CRPR: REG:	-- -- 2B.1 --	Mar-Apr	Annual herb found in Sonoran desert scrub. 1,310-1,310 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Stylocline sonorensis mesquite neststraw	Fed: State: CRPR: REG:	-- -- 2A NECO	Apr	Annual herb found in Sonoran desert scrub(sandy). 1,395-1,395 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Tetracoccus hallii Hall's tetracoccus	Fed: State: CRPR: REG:	-- -- 4.3 --	Jan-May	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. 100-3,935 ft.	Absent: There are records for this species within five miles of the Project. Not observed during surveys.
Teucrium cubense ssp. ***depressum*** dwarf germander	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-May (Sep-Nov)	Annual herb found on desert dunes and playa margins in Sonoran desert scrub. 150-1,310 ft.	Absent: There are records for this species within 500 ft. of the Project, but the species has not been observed in the vicinity within the past 25 years. Not observed during surveys.

Scientific Name Common Name	—Status—		Flowering Period	Habitat and Elevation	Potential to Occur and Analysis
Tiquilia canescens **var. *pulchella*** Chocolate Mountains tiquilia	Fed: State: CRPR: REG:	-- -- 3.2 --	Feb-May	Perennial shrub found on ridges, or in washes and sometimes slopes in Sonoran desert scrub. 820-2,295 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.
Wislizenia refracta **ssp. *palmeri*** Palmer's jackass clover	Fed: State: CRPR: REG:	-- -- 2B.2 NECO	Jan-Dec	Perennial deciduous shrub found in chenopod scrub, desert dunes, Sonoran desert scrub and Sonoran thorn woodland. 0-985 ft.	Unlikely: No records for this species within two miles and not observed during Spring surveys.
Xylorhiza cognata Mecca-aster	Fed: State: CRPR: REG:	BLMS -- 1B.2 NECO	Jan-Jun	Perennial herb found in Sonoran desert scrub. 65-1,310 ft.	Does Not Occur: There are no records for this species occurring within five miles of the Project. Not observed during surveys.

Sensitivity Status Key

Federal (Fed):
BLMS = BLM Sensitive
FE = Federally Endangered
-- = No Listing

State of California (State):
-- = No Listing

Regional (REG):
CDCA = California Desert Conservation Area Covered
DRECP = Desert Renewable Energy Conservation Plans Covered
NECO = Northern and Eastern Colorado Desert Coordinated Management Plan
-- = No Listing

State (California):
California Rare Plant Rank (CRPR):
1A = Plants presumed extinct in California
1B = Plants rare and endangered in California and throughout their range
2A = Plants presumed extirpated in California, but more common elsewhere
2B = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which more information is needed; a review list
4 = Plants of limited distribution; a watch list
.1 = Seriously threatened in California (over 80 percent of occurrences threatened, high degree and immediacy of threat)
.2 = Moderately threatened in California (20 to 80 percent of occurrences threatened, moderate degree and immediacy of threat)
.3 = Not very threatened in California (less than 20 percent of occurrences threatened, low degree and immediacy of threat or no current threats known)

Appendix C

Representative Photographs

Photo 1: Harwood's milk-vetch observed at CNDDB Occurrence #16 during the reference check (3/8/2023).

Photo 2: Harwood's milk-vetch fruits observed at CNDDB Occurrence #16 during the reference check (3/8/2023).

Photo 3: Ribbed cryptantha observed at during the reference check for Harwood's milk-vetch at CNDDB Occurrence #16 (3/8/2023).

Photo 4: Harwood's eriastrum observed at CNDDB Occurrence #27 during the reference check (4/13/2023).

Photo 5: Harwood's milk-vetch habitat in the Survey Area (3/14/2023).

Photo 6: Harwood's milk-vetch with fruits in the Survey Area (3/14/2023).

Photo 7: Gravel milk-vetch and ribbed cryptantha habitat in the Survey Area (3/16/2023).

Photo 8: Gravel milk-vetch growing with Harwood's milk-vetch in the Survey Area (3/16/2023).

Photo 9: Gravel milk-vetch with fruits in the Survey Area (3/16/2023).

Photo 10: Ribbed cryptantha in the Survey Area (3/15/2023).

Appendix D

Plant Species Observed

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
PLANT SPECIES OBSERVED, MARCH 2023

Family	Scientific Name	Common Name	Status
Agavaceae	*Hesperocallis undulata*	desert lily	
Aizoaceae	*Trianthema portulacastrum*	desert horsepurslane	
Amaranthaceae	*Tidestromia suffruticosa* var. *oblongifolia*	honeysweet	
Apocynaceae	*Asclepias subulata*	rush milkweed, ajamete	
Apocynaceae	*Funastrum cynanchoides* var. *hartwegii*	Hartweg's milkvine	
Apocynaceae	*Funastrum hirtellum*	trailing townula	
Apocynaceae	*Nerium oleander**	oleander	
Arecaceae	*Phoenix canariensis**	Canary Island date palm	
Arecaceae	*Washingtonia filifera*	California fan palm	
Asteraceae	*Ambrosia acanthicarpa*	annual bur-sage	
Asteraceae	*Ambrosia dumosa*	white bursage	
Asteraceae	*Ambrosia salsola*	burrobrush	
Asteraceae	*Baileya pauciradiata*	lax flower	
Asteraceae	*Baileya pleniradiata*	wooly marigold	
Asteraceae	*Bebbia juncea*	sweetbush	
Asteraceae	*Calycoseris wrightii*	white tack-stem	
Asteraceae	*Chaenactis carphoclinia* var. *carphoclinia*	pebble pincushion	
Asteraceae	*Chaenactis stevioides*	desert pincushion	
Asteraceae	*Dicoria canescens*	desert dicoria	
Asteraceae	*Encelia farinosa*	brittlebush, incienso	
Asteraceae	*Encelia farinosa*	brittlebush	
Asteraceae	*Encelia frutescens*	rayless encelia	
Asteraceae	*Geraea canescens*	desert sunflower	
Asteraceae	*Monoptilon bellioides*	Mohave desert star	
Asteraceae	*Palafoxia arida* var. *arida*	desert spanish-needle	
Asteraceae	*Perityle emoryi*	Emory's rockdaisy	
Asteraceae	*Peucephyllum schottii*	pygmy cedar	
Asteraceae	*Pluchea sericea*	arrow weed	
Asteraceae	*Pluchea sericea*	arrow weed	
Asteraceae	*Rafinesquia neomexicana*	desert chicory	
Asteraceae	*Sonchus asper* ssp. *asper**	prickly sow thistle	
Asteraceae	*Stephanomeria pauciflora*	wire-lettuce	
Boraginaceae	*Cryptantha angustifolia*	narrow leaved cryptantha	
Boraginaceae	*Cryptantha maritima*	white-haired cryptantha	
Boraginaceae	*Emmenanthe penduliflora*	whispering bells	
Boraginaceae	*Johnstonella costata*	ribbed cryptantha	CRPR 4.3
Boraginaceae	*Pectocarya heterocarpa*	hairy-leaved comb-bur	
Boraginaceae	*Pectocarya platycarpa*	wide-toothed pectocarya	
Brassicaceae	*Brassica tournefortii**	Sahara mustard	
Brassicaceae	*Dithyrea californica*	spectacle-pod	
Brassicaceae	*Lepidium lasiocarpum* var. *lasiocarpum*	sand peppergrass	

Family	Scientific Name	Common Name	Status
Brassicaceae	*Sisymbrium irio**	London rocket	
Cactaceae	*Coryphantha alversonii***	foxtail cactus**	CRPR 4.3
Cactaceae	*Cylindropuntia echinocarpa*	golden cholla, silver cholla	
Cactaceae	*Cylindropuntia ramosissima*	diamond cholla, pencil cactus	
Cactaceae	*Ferocactus cylindraceus*	California barrel cactus	
Cactaceae	*Mammillaria tetrancistra*	common fishhook cactus	
Cactaceae	*Opuntia basilaris*	beavertail cactus	
Caryophyllaceae	*Achyronychia cooperi*	onyx flower	
Chenopodiaceae	*Atriplex canescens*	four-wing saltbush	
Chenopodiaceae	*Atriplex hymenelytra*	desert-holly	
Chenopodiaceae	*Atriplex polycarpa*	allscale saltbush	
Chenopodiaceae	*Chenopodium murale**	nettle-leaf goosefoot	
Chenopodiaceae	*Salsola paulsenii**	barbwire Russian thistle	
Chenopodiaceae	*Suaeda nigra*	bush seepweed	
Cucurbitaceae	*Brandegea bigelovii*	desert star-vine	
Cucurbitaceae	*Brandegea bigelovii*	desert star-vine	
Cucurbitaceae	*Cucurbita palmata*	coyote melon	
Ehretiaceae	*Tiquilia plicata*	fanleaf crinklemat	
Euphorbiaceae	*Croton californicus*	California croton	
Euphorbiaceae	*Ditaxis serrata* var. *californica***	California ditaxis**	CRPR 3.2
Euphorbiaceae	*Euphorbia polycarpa*	small-seed sandmat	
Euphorbiaceae	*Stillingia spinulosa*	annual stillingia	
Fabaceae	*Acmispon* sp.	bird's-foot trefoil	
Fabaceae	*Acmispon strigosus*	Bishop's lotus	
Fabaceae	*Astragals aridus*	annual desert milk-vetch	
Fabaceae	*Astragalus insularis* var. *harwoodii*	Harwood's milk-vetch	CRPR 2B.2
Fabaceae	*Astragalus sabulonum*	gravel milk-vetch	CRPR 2B.2
Fabaceae	*Dalea mollis*	silky dalea	
Fabaceae	*Dalea mollissima*	soft prairie clover	
Fabaceae	*Hoffmannseggia glauca*	pig-nut	
Fabaceae	*Marina parryi*	Parry's false prarie-clover	
Fabaceae	*Medicago sativa**	alfalfa	
Fabaceae	*Olneya tesota*	ironwood	
Fabaceae	*Olneya tesota*	ironwood	
Fabaceae	*Parkinsonia florida*	blue palo verde	
Fabaceae	*Parkinsonia florida*	blue palo verde	
Fabaceae	*Prosopis glandulosa* var. *torreyana*	honey mesquite	
Fabaceae	*Prosopis* sp.	mesquite	
Fabaceae	*Prosopis velutina**	velvet mesquite	
Fabaceae	*Psorothamnus emoryi*	dyebush	
Fabaceae	*Psorothamnus spinosus*	smoke tree	
Fabaceae	*Senegalia greggii*	catclaw acacia	
Fouquieriaceae	*Fouquieria splendens*	ocotillo	
Geraniaceae	*Erodium texanum*	desert filaree	

Family	Scientific Name	Common Name	Status
Hydrophyllaceae	*Phacelia crenulata*	notch-leaved phacelia	
Hydrophyllaceae	*Phacelia distans*	wild heliotrope	
Krameriaceae	*Krameria bicolor*	white rhatany	
Lamiaceae	*Condea emoryi*	desert-lavender	
Loasaceae	*Mentzelia longiloba*	many-flowered mentzelia	
Malvaceae	*Eremalche rotundifolia*	desert five-spot, desert fivespot	
Malvaceae	*Malva* sp.*	mallow	
Malvaceae	*Sphaeralcea angustifolia*	narrow-leaved globemallow	
Myrtaceae	*Eucalyptus* sp.*	eucalyptus	
Namaceae	*Nama demissa*	purplemat	
Nyctaginaceae	*Abronia villosa* var. *villosa*	hairy sand verbena	
Nyctaginaceae	*Allionia incarnata*	trailing windmills	
Nyctaginaceae	*Mirabilis laevis* var. *villosa*	wishbone bush	
Onagraceae	*Chylismia claviformis*	browneyes	
Onagraceae	*Chylismia brevipes*	yellow cups	
Onagraceae	*Chylismia claviformis*	browneyes	
Onagraceae	*Eremothera boothii*	evening-primrose	
Onagraceae	*Oenothera deltoides*	birdcage evening-primrose	
Onagraceae	*Oenothera primiveris*	yellow desert evening primrose	
Orobanchaceae	*Aphyllon cooperi*	burroweed strangler	
Papaveraceae	*Eschscholzia minutiflora*	pygmy poppy	
Plantaginaceae	*Plantago ovata*	island plantain	
Poaceae	*Aristida adscensionis*	six weeks, three-awn	
Poaceae	*Cynodon dactylon**	Bermuda grass	
Poaceae	*Hilaria rigida*	big galleta	
Poaceae	*Phalaris minor**	Mediterranean canary grass	
Poaceae	*Schismus* sp.*	schismus	
Poaceae	*Triticum* sp.*	wheat	
Polemoniaceae	*Langloisia setosissima* ssp. *setosissima*	bristly langloisia	
Polemoniaceae	*Loeseliastrum schottii*	Schott's calico	
Polygonaceae	*Eriogonum trichopes*	little desert trumpet	
Polygonaceae	*Chorizanthe brevicornu*	brittle spineflower	
Polygonaceae	*Chorizanthe corrugata*	wrinkled spineflower	
Polygonaceae	*Chorizanthe rigida*	rigid spineflower, devil's spineflower	
Resedaceae	*Oligomeris linifolia*	narrow-leaf oligomeris	
Rosaceae	*Rubus ursinus*	California blackberry	
Simaroubaceae	*Castela emoryi***	crucifixion thorn**	CRPR 2B.2
Simmondsiaceae	*Simmondsia chinensis*	jojoba	
Solanaceae	*Lycium andersonii*	Anderson thornbush	
Solanaceae	*Lycium fremontii*	Fremont's boxthorn	
Solanaceae	*Physalis crassifolia*	desert ground-cherry	
Tamaricaceae	*Tamarix aphylla**	evergreen saltcedar, athel	
Viscaceae	*Phoradendron californicum*	desert mistletoe	

Family	Scientific Name	Common Name	Status
Zygophyllaceae	*Fagonia laevis*	California fagonbush	
Zygophyllaceae	*Larrea tridentata*	creosote bush	

*Non-native species

**Rare plants mapped during the Fall 2021 survey, but not during the Spring 2023 survey.

Appendix H

Desert Tortoise Survey Report (Jacobs 2017)

AQUATIC RESOURCES DELINEATION REPORT FOR THE EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT

Riverside County, California

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September 2021

Artemis Environmental Services, Inc.

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EXECUTIVE SUMMARY

Artemis Environmental Services, Inc. (Artemis Environmental) performed an aquatic resource delineation on behalf of Southern California Edison (SCE) for the Eagle Mountain-Blythe (EM-B) 161-kiloVolt (kV) Transmission Line Rating Remediation (TLRR) Project (Project). The Project would entail operations and maintenance activities for the correction of identified discrepancies on existing subtransmission facilities.

This aquatic resource delineation report (ARDR) summarizes the existing conditions within the Survey Area, the methodologies employed prior to and during field work, and the results of the delineation survey, including data and mapping of the amount, type, and location of aquatic resources.

The Survey Area where the delineation was conducted was comprised of individual work sites, plus an 82-foot (25-meter) buffer, encompassing approximately 369 acres. All potential waters of the U.S. identified within the Survey Area were determined to be ephemeral drainages within isolated watersheds; and therefore, there are no wetland or non-wetland waters of the U.S. regulated by the U.S. Army Corps of Engineers (USACE) within the Survey Area per 40 CFR 230.3(s) as it was codified prior to 2015.[1] The Survey Area contained the amount and type of aquatic resources reported in Table 1. Overall, aquatic resources totaled 38.92 acres and 48,536 linear feet within the Survey Area. This includes 19.01 acres of Regional Water Quality Control Board (RWQCB)-jurisdictional aquatic resources and 38.92 acres of California Department of Fish and Wildlife (CDFW)-jurisdictional streambed.

[1] The U.S. Environmental Protection Agency (EPA) and USACE are interpreting waters of the U.S. consistent with pre-2015 regulatory regime until further notice. See Current Implementation of Waters of the United States | US EPA.

Table 1.Summary of Aquatic Resources Within the Survey Area

Aquatic Resource Type	Amount	
Waters of the State (RWQCB/CDFW Jurisdiction)[1]	**Acres[4]**	**Linear Feet**
Basin	8.44	NA
Ditch/Canal	0.30	1,660
Unvegetated Channel	8.88	42,405
Vegetated Channel	1.39	4,472
Subtotal Waters of the State (RWQCB/CDFW Jurisdiction)	*19.01*	*48,536*
Waters of the State (CDFW Exclusive Jurisdiction)		
Basin - Bank	0.13	NA
Ditch/Canal - Channel Bank[2]	0.21	1,660
Unvegetated Channel - Channel Bank[2]	2.50	42,405
Vegetated Channel - Channel Bank[2]	0.04	4,472
Watercourse[3]	17.03	NA
Subtotal Waters of the State (CDFW Exclusive Jurisdiction)	*19.91*	*48,536*
Grand Total RWQCB Jurisdiction	**19.01**	**48,536**
Grand Total CDFW Jurisdiction	**38.92**	**48,536**

RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife

[1] Defined by Ordinary High Water Mark (OHWM) limits. Includes intrastate isolated waters. Includes stream channels within watercourse polygons.

[2] Includes individual stream channel banks within watercourse polygons.

[3] Linear distances for watercourses are the same as the linear distances for the vegetated and unvegetated channels, located within the watercourse. Does not include acreage and linear distance of individual stream channels and channel banks within watercourse polygons.

[4] All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

1.0 INTRODUCTION

Artemis Environmental Services, Inc. (Artemis Environmental) performed an aquatic resource delineation on behalf of Southern California Edison (SCE) for the Eagle Mountain-Blythe (EM-B) 161-kiloVolt (kV) Transmission Line Rating and Remediation (TLRR) Project (Project). The purpose of this Project is to increase the phase-to-ground or phase-to-phase clearance for the EM-B subtransmission line. The Project is needed to comply with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) standards, and the revised California Public Utilities Commission (CPUC) General Order (GO) 95. SCE requires that all circuits meet or exceed the most stringent strength, clearance, and reliability requirements of those regulating bodies. GO 95, while not applicable to the NERC transmission ratings requirements, requires greater mechanical and electrical performance. SCE has determined that all of its lines will meet the requirements of GO 95 and that any remediation efforts requiring new construction will meet the latest SCE standards. Without the Project, sufficient clearance for the line(s) is not available, and the circuit has the potential to short out, reducing reliability, and increasing public health, safety, and environmental hazards.

1.1 PROJECT APPLICANT AND PROPERTY OWNER

Contact information for the Project applicant is:

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The Project applicant representative will accompany regulatory agencies to the Project site upon request. The Project is located on a combination of BLM-administered lands, incorporated and unincorporated portions of Eastern Riverside County, and private land. The portion of the Project located on BLM-administered land includes approximately 34 miles and 397 acres, which are subject to right-of-way (ROW) Grant CALA-0149780. There is also a 7-mile overlap with the existing Devers-Palo Verde 2 (DVP2) ROW.

1.2 LOCATION AND DIRECTIONS

The Project is located in an existing ROW that extends approximately 53 miles between the existing Eagle Mountain and Blythe Substations. The existing line traverses lands managed by the BLM (approximately 34.5 linear miles) and privately-owned lands (approximately 18.5 linear miles). The Project is located in the Chuckwalla Valley, from Desert Center to Blythe, Riverside County, California. The Project area is in the Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, and Ripley 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles. Refer to Appendix A, Figures 2-1 through 2-4: Vicinity Map. The Project is located completely within the Northern

and Eastern Colorado Desert Coordinated Management Plan area and the Desert Renewable Energy Conservation Plan land use plan amendment area of the California Desert Conservation Area.

The Eagle Mountain Substation is located 3 miles south of the town of Eagle Mountain, approximately 7 miles north of Interstate 10 (I-10), and 400 feet west of the intersection of Kaiser Truck Road and Power Line Road. The Blythe Substation is located one-quarter mile north of I-10 and 840 feet east of the intersection of Buck Boulevard and Hobsonway in Blythe, California (Appendix A, Figure 1: Regional Location Map).

Directions to the western end of the Project: Take Interstate (I)-10, exit 177 for Rice Road, turn left on Kaiser Road and continue until Phone Line Road. Turn left on Phone Line Road, which turns into Kaiser Truck Road ending at the Eagle Mountain Substation. The remainder of the Project can be accessed via dirt access roads running along the EM-B subtransmission alignment.

1.3 Project Description

TLRR is a compliance-based program implemented to bring SCE's transmission system in compliance with updated NERC and WECC standards, and the revised California Public Utilities Commission GO 95. SCE requires that all circuits meet or exceed the most stringent strength, clearance, and reliability requirements of those regulating bodies. GO 95, while not applicable to the NERC transmission ratings requirements, requires greater mechanical and electrical performance. SCE has determined that all of its facilities will meet the requirements of GO 95 and that any remediation efforts requiring new construction will meet the latest SCE standards.

Without the TLRR program, some circuit spans lack sufficient clearances between conductors and other conductors, structures, and/or the ground to meet the requirements of GO 95 during peak and emergency loading conditions (i.e., discrepancy). These discrepancies reduce overall system reliability because they limit the circuit operating potential. The TLRR program intends to address approximately 11,783 discrepancies among approximately 300 circuits throughout SCE's service territory through a variety of remediation options, including replacing existing conductors and existing structures. The EM-B Project is one project in SCE's broader TLRR program.

The purpose of the Project is to resolve approximately 168 phase-to-ground clearance discrepancies along the EM-B 161-kV circuit by replacing the existing conductors and replacing select structures to meet the line rating clearance requirement for the circuit.

The Project consists of the following components:

- Replacing approximately 53 circuit miles of the existing 161-kV 336.4 Merlin and Linnet aluminum conductor, steel reinforced (ACSR) with new 336 Oriole ACSR between Eagle Mountain and Blythe Substations (i.e., re-conductor)
- Installing approximately 1 mile of overhead ground wire along the segment of the circuit extending north from Eagle Mountain Substation

- Removing 25 Pumco steel poles with foundations and 1 single wood pole and replacing them with 17 tubular steel poles (TSPs) with foundations (9 of the Pumco steel poles that will be removed will be not replaced)
- Replacing 16 wood three-pole dead-end structures with 16 three-pole TSPs with foundations
- Replacing 11 wood H-frame structures with 11 lightweight steel (LWS) H-frame structures

The Pumco steel poles to be removed support the EM-B 161-kV circuit, two 66-kV underbuild circuits, and a 12-kV underbuild circuit. These Pumco steel poles and their associated overhead ground wire and underbuilds are in the portion of the alignment extending for approximately 1 mile north from the Eagle Mountain Substation.

Currently the EM-B line is comprised of 375 structures. This includes 322 structures that will not be removed or replaced as part of this Project. The Project includes removal of 53 structures and replacement with 44 structures, resulting in a total of 366 structures on the EM-B line after completion of the Project (a net reduction of 9 structures). For the structures that are removed, the existing disturbance areas (e.g., stub roads and cleared area) will no longer be maintained as disturbance areas upon completion of construction.

Ground-disturbing activities will occur within disturbance areas defined as structure replacement work areas, existing structure sites, wire setup sites, and guard structure sites, and Project activities will occur within the network of existing unpaved access roads. Two laydown yards, which will be used for staging equipment and materials and as a place for personnel to meet, have been identified for the Project. The laydown yards are established; therefore, no additional disturbance will be required for their use for the Project. In addition, access to these work areas will be provided by paved public roads and a network of existing unpaved access roads maintained by SCE along the existing ROW. Project construction activities and disturbance areas, including the laydown yard and access roads, are described in detail in the following sections.

1.3.1 Disturbance Types

Generally, the level of disturbance for this Project is expected to be more like a distribution project than a high capacity (e.g., 220/500kV) transmission line. The conductor has a relatively small diameter and, therefore, lighter weight. Additionally, the EM-B structures are not as high as the lattice steel structures often associated with high-capacity transmission lines. Therefore, the equipment that will be used is smaller and weighs less than comparable transmission line equipment. This means less workspace is required – in some cases, the existing access roads can be used to minimize disturbances typically created at wire sites – and the equipment creates less disturbance where off-road work areas are required. This Project requires little to no grading, much of the equipment will be rubber-tired, and the light-weight nature of the equipment translates to minimized ground disturbance. The following are descriptions of the types of disturbance typical of transmission and distribution projects. The disturbance levels expected for the Project are identified, but other disturbance levels are provided for comparison. This information has been provided to give context to the descriptions of the disturbance areas and work activities described below.

Clearing and Grading. Clearing and grading is the highest level of ground disturbance. For vegetated sites, large vegetation such as shrubs and trees are first removed, and vegetation such as grasses and forbs are mowed to the ground surface. Grading includes altering the elevations and contours of the site by cutting and filling within the site using native materials and/or by importing fill material. Where the engineered sites are permanent, mulched vegetation is removed from the site and subsoil and topsoil are mixed during the grading process. The hydrology of the site may be altered or obstructed. Where the engineered sites are temporary, mulched vegetation and topsoil may be salvaged for replacement and upon completion of the work, the site is returned to the original grades and contours, and topsoil and vegetative mulch is replaced to the extent feasible. Clearing and grading is typical of transmission construction where the natural topography is dynamic and engineered areas are required temporarily (e.g., crane pad) or permanently (e.g., building pad, tower pad). Typical equipment includes large bulldozers and excavators. No clearing and grading activities are anticipated for this Project.

Minor Grading. Minor grading activities consist of the removal of surface vegetation, where necessary, and blading to remove potholes, ruts, and other surface irregularities, leaving a relatively flat site. Vegetation clearing is avoided to the extent feasible. Where vegetation must be removed, care is taken to retain the root structure to the extent feasible. With minor grading, no slope engineering occurs. Rather, the original slopes and contours of the site are retained to the extent feasible, but the site is "smoothed out." The hydrology of the site is not altered or obstructed. Example equipment used to perform minor grading includes skid steers. Typically, the depth of soil disturbance is limited to topsoil, although some subsoil may be mixed in. This practice is typical for sites where small, rubber-tired equipment is sufficient to complete the work and topography is not dynamic. Minor grading will be required at select Project sites, such as where the TSPs will be erected and pull sites featuring dynamic topography. At these sites, larger cranes will be required. Where wood poles are replaced with LWS structures, however, minor grading likely will not be required.

Drive and Crush. With drive and crush, minor vegetation trimming may be required, but the root structures of existing vegetation are retained. Site preparation using grading equipment is not required – no blading or grading occurs. Rather, the equipment required to perform the task (e.g., crane, pulling machine, pickup truck) drive over and set up on the native vegetation and soils. The original grade, contours, and hydrology are retained. To the extent feasible, SCE will endeavor to employ drive and crush methods as the highest level of disturbance for the Project.

Foot Traffic Only. At sites featuring foot traffic, vehicles and equipment are parked on nearby existing disturbed areas (e.g., access roads, Operations and Maintenance [O&M] work area) and personnel access and perform work within the site on foot. To the extent feasible, impacts at structure sites where the structure will not be replaced will be limited to foot traffic only. Where feasible, construction vehicles and equipment will be parked within the access roads and/or existing disturbed areas such that the structures can be reached without overland travel.

1.3.2 Disturbance Areas

Structure Replacement Work Area. Structure work areas will contain the removal and replacement of existing structures. To the extent feasible, drive and crush is favorable over minor grading (i.e., leveling) as it preserves the vegetation to the extent possible. Due to the lightweight nature of the structures, lightweight equipment can be used. In addition, to the extent feasible, equipment will be positioned within the roadway, O&M work areas, or other previously disturbed areas. Vegetation removal and/or minor grading will only occur if and where absolutely necessary. If vegetation removal is needed, the root structures will remain intact. No clearing and grading is anticipated.

Existing Structure Work Areas. For the existing structure locations where structure replacement will not occur, the existing hardware that suspends the conductors will be replaced. To the extent feasible, equipment will be limited to the existing disturbed areas (e.g., access roads and O&M work areas), and workers will access the sites using foot traffic only. Where equipment such as boom trucks cannot reach from the existing disturbed areas, drive and crush will be used to position the equipment near the structures. It is important to note that some of these disturbance areas and/or portions thereof will not be used. However, for the purpose of assessing the estimated maximum potential impacts, these areas are included in the Project mapping and included in the impact analysis.

Wire Setup Sites. Wire setup sites are locations where equipment will be setup to assist with wire stringing. Once the new structures have been erected and hardware replaced on the existing structures, the new conductors can be installed (i.e., re-conductoring or wire stringing). These locations may also be used for splicing and other aspects of wire stringing. Approximately 50 wire setup sites have been designed and are included in the Project mapping. Wire setup sites will be located primarily within the ROW, although a few will be located outside the ROW on privately owned land. Wire setup sites will be accessed from the existing roads via drive and crush (overland travel) to the extent feasible, although minor grading may be required at some sites. No clearing and grading is anticipated at the wire setup sites.

Guard Structure Sites. Guard structure sites are located where temporary facilities will be installed at transportation, flood control, and utility crossings for wire stringing/removal activities. These structures are designed to keep a conductor from sagging below conventional stringing height. To the extent feasible, drive and crush will be employed at guard structure sites, especially where the guard structures are comprised of parked boom trucks.

Ancillary Sites. Ancillary sites, such as splicing, sagging, and anchor sites, are for activities associated with wire stringing that will not occur within the specific wire setup site construction work areas. The exact locations will be determined during construction, based on the final pull plans and field conditions. These activities will be limited to the disturbance areas described above or the limits of the existing access roads.

Laydown Yards. SCE proposes to use the Ragsdale and Mirage Laydown Yards during construction. The Ragsdale Laydown Yard is located immediately north of I-10 in the northeastern region of the intersection of I-10 and Rice Road in Desert Center. The Mirage Laydown Yard is located at SCE's existing Mirage Substation east of the intersection of Ramon Road and Vista De Oro in Thousand Palms. The yards will be

used for staging equipment and materials, and as a location for construction personnel to meet. Each of the chosen yards is previously developed, with fence, gates, and a prepared surface.

Five additional Laydown Yards, including the DPV2, Desert Center, Mesa, DPV3, and Chuckwalla Laydown Yards were evaluated for the Project. All of the prospective yards are included in the attached figure(s); however, only the Ragsdale and Mirage Laydown Yards are proposed for use at this time.

Access Roads. The Project sites will be accessed via existing access roads that approximately parallel the alignment, inside and outside the ROW and through the structures in some locations. The access roads extend toward the ROW from Kaiser Truck Road, Eagle Mountain Road, Chuckwalla Valley Road, and Hobsonway. Several unpaved dirt roads also provide access to the ROW. For example, a portion of the ROW is accessed by an unpaved road that extends 1.25 miles east from the intersection of Paled Dunes Drive and Interstate 10 (I-10); a road extending 1.25 miles from Citrus Drive east toward the ROW near Blythe; and a road extending from a point 0.25 mile west of the intersection of Hobsonway and Keim Boulevard near Blythe. No new permanent roads will be constructed for the Project. Overland travel will only occur within designated disturbance areas.

As described above, the conductor associated with this Project is lighter weight than the conductor associated with a high capacity transmission line. Therefore, smaller and lighter weight equipment is required to complete the work and alternative methods can be employed. For example, in some locations, wire stringing equipment and equipment associated with ancillary activities (e.g., splicing) may be set up within the limits of the approximately 12- to 20-foot-wide existing access roads. This approach will limit impacts to native vegetation typically associated with wire setup sites and splicing sites. The access roads proposed for use during Project execution are identified in the mapping for the Project.

1.3.3 Construction Activities

The following is a detailed description of the construction activities associated with the Project.

Structure Removal/Replacement. The Project involves removing 25 Pumco steel poles and 1 single wood pole and replacing them with 17 TSPs with foundations (9 of the Pumco steel poles that will be removed will be not replaced), replacing 16 wood three-pole dead-end structures with 16 three-pole TSPs with foundations, and replacing 11 wood H-frame structures with 11 LWS H-frame structures. In general, each new structure will be installed adjacent to the existing structure that it is to replace. However, at a few locations where a structure is to be removed and not replaced, the replacement structure for the nearest existing structure that is to be replaced will be installed at a location somewhere between the two existing structures rather than immediately adjacent to the one being replaced. All removal and replacement activities will occur within a delineated structure replacement work area.

New Tubular Steel Poles. For each new TSP, whether stand-alone or part of a three-pole structure, one new concrete foundation, approximately 4 to 8 feet across and 20 to 40 feet deep, will be installed within the delineated structure replacement work area to support the new pole. A line truck with an auger attachment or low-profile drill rig will drill the hole. The excavated material from the hole (approximately 23 cubic yards) will be spread using a small bulldozer to create a level pad for a 35-ton crane to stage. To the extent feasible, existing disturbed areas will be selected for the location of the crane pad in order to avoid impacts to native

vegetation. Where crane pads must be located in native vegetation, prior to constructing the crane pad, the top approximately 2-4 inches of topsoil will be salvaged from the area subject to ground disturbance, stockpiled onsite, and re-spread in the temporary disturbance area upon completion of construction. Once the foundation has been drilled, a rebar cage will be placed into the foundation hole using a crane. The footing steel will then be set, and concrete will be poured to fill each foundation hole. The concrete will be delivered in ready-mixed concrete trucks, with approximately two to three concrete truck loads per each new foundation. An approved wash-out container will be onsite during concrete work.

Once the concrete footing has cured, a TSP will be delivered to the site using a flatbed truck. The TSP will be offloaded by either a crane or a rough terrain (RT) forklift. Each section of the structure will be erected and assembled with a crane. Once the new TSP has been erected, the line crew will proceed to "de-clip" the existing conductor on the existing structures and transfer the conductor into travelers on the new TSPs using a crane and/or boom trucks.

Along the approximately one mile of the alignment where the Pumco steel poles support the two 66-kV underbuilds and a 12-kV underbuild, along with the 161-kV circuit, the underbuilds will be spread using hot arms or another SCE-approved method prior to installation of replacement TSPs. This activity will be conducted using a crane or bucket truck. The purpose is to separate the energized conductor to allow sufficient clearances to erect the new structure in between while limiting line outage durations.

The work area around each new TSP will vary based on terrain and available space. Temporary grading areas will be restored using a small bulldozer and the site will be returned to its natural condition once structure installation is complete. Excess dirt from the excavations will either be used to recontour the site or will be spread over the existing access road and compacted.

New Direct-Bury Lightweight Steel Poles. At each location, a line truck with an auger attachment or low-profile drill rig will dig two holes approximately 8 to 15 feet deep. The excavated material from the holes (approximately 4 to 6 cubic yards per hole) will be used to create a level pad for the RT crane to stage. To the extent feasible, existing disturbed areas will be selected for the location of the crane pad in order to avoid impacts to native vegetation. Where crane pads must be located in native vegetation, prior to constructing the crane pad, the top approximately 2-4 inches of topsoil will be salvaged from the area subject to ground disturbance, stockpiled onsite, and re-spread in the temporary disturbance area upon completion of construction. The H-frame vertical sections will be set upright in the holes using a crane. The holes will be backfilled with pea-gravel and slurry (sand, water, 2-sac slurry cement). Then, the crane will be used to place a LWS pole horizontally between the two upright poles. These activities will occur within a delineated structure replacement work area.

The work area around each new H-frame will vary based on terrain and available space. Temporary grading areas will be restored, and the site will be returned to its natural condition once structure installation is complete. Excess dirt from the excavations will either be used to recontour the site or spread over the existing ROW road and compacted.

Existing Structure Removal. Once installation of the new structures is finished and the existing conductor has been transferred to the new structures, all structures that have been replaced will be removed.

Wooden poles will be removed completely. A digger-derrick, crane, or similar equipment will be used to extract wooden poles from the ground. The removed wooden poles will be transported off site intact using a flatbed truck. The holes left behind by the wood poles will be back filled with the dirt excavated for the new structures. These activities will occur within the delineated structure replacement work areas and adjacent access roads.

The Pumco steel poles will be dismantled in sections that will be brought to the ground, then further dismantled. A crane will be used to hold the structure during removal of each section. The sections will be sheared onsite and broken down into sections that can be hauled off with a flatbed truck. The foundations of the old structures will be excavated two feet below ground grade using a backhoe and small bulldozer and cut off, and the excavated area around the foundation will be back filled with the dirt excavated from new structure foundations. These activities will occur within the delineated structure replacement work areas and adjacent access roads. The excavated concrete will be hauled off site using dump trucks.

Re-conductoring. Re-conductoring (wire stringing) includes all activities associated with the removal of existing conductor and installation of the new conductors. Wire stringing is typically divided into separate "pulls" from one dead-end structure to another. Due to angles, freeway crossings, and other factors, based on current planning, the Project will involve 50 pulls. Some pulls will involve only the segment between two adjacent structures while others will be longer. The individual activities associated with re-conductoring are detailed in the following subsections.

Re-conductoring activities occur at many disturbance areas for any given pull, including structure replacement work areas (where a new structure is part of the pull), existing structure work areas (for the purpose of modifying the hardware for wire stringing and then reverting it back to insulators), wire setup sites (location of the pulling machinery), guard structure sites (placement of guard structures), and within the limits of the existing access roads (splicing, etc.).

Work Activities at Structures Along the Re-conductor Segment. Every structure along the line, including both new structures and those not being replaced, will be accessed for hardware replacement and re-conductoring activities for conductor replacement and overhead ground wire replacement. Structures will be accessed by rubber-tired pick-up trucks and bucket trucks. The existing conductor will be "rigged" and lifted out of the existing conductor shoe. The existing ceramic insulators will be replaced with new polymer type insulators, including all the associated hardware used to pin the insulator to the tower. Then a roller, approximately 25 to 30 inches in diameter will be hung from the bottom of the newly installed insulator and the old conductor will be placed into the roller so it can be pulled out and replaced with new conductor. The existing conductor will be used to pull in the new conductor. Similar activities will take place for the overhead ground wire. At the 44 new structures, this activity will occur in the same structure work area used for the replacement activity. At each of the 322 existing structures that are not replaced, this work will be completed within a designated work area including the structure.

Once the new conductor has been installed and sagged in that section, the wire crews will come back to each tower, take the conductor out of the rollers, and then "clip" it in to the new conductor shoe on suspension structures and pin it in the dead-end structures.

Work Activities for the Removal of Line Sleeves. Existing line sleeves (a device which is used to splice conductors together) are typically "cut out" and replaced with pulling socks (a device that will connect the two ends of the conductor back together). The old line sleeves could separate during the installation phase of the new conductor, so they need to be replaced with line socks. These line sleeves are typically located mid-span between two structures. The specific locations, which will be identified prior to construction start, will be within defined disturbance areas or existing access roads. Cutting out the sleeves and installing socks requires access from the ground (typically with a boom truck). Line sleeve locations will be accessed by boom trucks.

Work Activities to Install Guard Structures. Approximately 40 temporary guard structures would be installed. Guard structures usually consist of two wood pole "uprights" and one wood pole in a horizontal position at the top of the uprights, which looks similar to an H-frame. These structures keep the moving conductors from touching the ground or contacting the electrical circuits. These structures are used to protect existing road and electrical crossings. Guard structures could be between 40 to 100 feet high, depending on the crossing being protected. To install the guard structures, holes will be drilled with a line truck with an auger attachment, approximately 24 to 38 inches in diameter and approximately 4 to 10 feet deep. The wood pole uprights are then set into the holes using boom truck-like equipment. On top of the upright structures a wood pole cross arm will be hung. After the new conductor has been installed and "clipped-in," the guard structures will be removed using a crane, and the holes will be filled and compacted in with native dirt.

In some cases, the wood poles could be substituted with the use of specifically equipped boom trucks or, at highway crossings, temporary netting could be installed, if required by the governing transportation agency.

Work Activities at Wire Setup Sites. Wire setup sites are required to pull out the existing conductors and install the new conductors. They are required at specific locations along the entire length of the Project. Approximately 50 sites would be required. Most of the wire setup sites have been selected so that minimal ground disturbance will be required. The equipment will "drive and crush" to the site; no access roads will be required for wire setup sites. Minor leveling using a small bulldozer may be required to provide a flat surface for the equipment to stage. At the pulling end, a machine with a take-up reel mounted on a truck chassis will be connected to the existing conductor. The existing conductor will be connected to the new conductor at the tensioning end. As the existing conductor or hard line is pulled out, the new conductor will be pulled in. A reel is attached to the puller that will wind up the existing conductor. This reel can hold several thousand feet of old conductor. Once the reel is full, a crane or forklift will be used to remove the full reel and replace it with an empty reel. The process is repeated until all the old conductor located in that pull section has been removed and replaced with the new conductor.

At the tensioning end of the pull, a machine is mounted on a truck that has a bull wheel. Behind this machine is a conductor reel truck (or trailer) with the new conductor reels mounted on it. The conductor is "fed" through the tensioning machine bull wheel that acts as a braking device as the conductor is being "paid" out.

At both pulling and tensioning sites, screw-in anchors will be used to secure the conductors and free them from the pulling and tensioning machines. A screw-in anchor is a long metal rod with an auger at one end and an eye at the opposite end. The anchor is screwed into the ground at the pulling and tensioning sites, with the top eye portion exposed to secure the conductor. Once the conductor has been brought to final sag and the two ends of the conductors are sleeved together, the conductor is let up. The screw-in anchors are then removed, and the process is repeated at the next pulling/tensioning site. A sagging cat with a winch will connect to the new conductor and pull it to final sag.

As described above, at some locations wire setup activities would occur using the existing roads rather than within a delineated wire setup site. At these locations, activity would be confined to within the existing roadbed. Construction equipment would not travel, operate, or maneuver beyond the edge of the road at these locations; however, equipment outriggers may have to be placed outside of the road prism for safety. In these instances, cribbing or other padding will be implemented to prevent ground disturbance and/or damage to existing vegetation.

Work Activities at Sleeve/Splice Sites. To try to reduce ground disturbance as much as possible, wire setup sites have been spaced far apart. As a result, multiple reels of new conductor will have to be sleeved/spliced together for each pull section (per each phase). While the new conductor is being pulled in, the reels will be temporally "socked" together. Once the pulling operation is complete, a sleeve will be installed to permanently splice the reels together. Installing the sleeves will require access to the sleeve locations from the ground. A boom truck will access each of these sites and crews will be lifted up to splice the sleeves. This method of sleeving/splicing multiple reels per pull section drastically reduces the number of sleeve/splice sites. Sleeve/splice sites will not require ground-disturbing work; all work can be completed from existing access roads or designated disturbance areas.

Access/Spur Road Maintenance. Access and spur road repairs would be conducted on an as needed basis. Access and spur road repairs include maintaining a vegetation - free corridor (to facilitate access and prevent fires) and blading to smooth over washouts, eroded areas, and washboard surfaces. Access and spur road repair could include brushing (i.e., trimming or removal of shrubs) on the road surface or roadside berm to keep vegetation from intruding into the roadway.

1.3.4 Post-Construction Activities

The Project incorporates the use of existing disturbed areas to the extent feasible. No clearing and grading is expected, although minor grading (i.e., leveling) may be required at some locations. While some native vegetation may need to be removed, "drive and crush" methods will be used to the extent possible to preserve the root structures and seed bank. To the extent feasible, rubber-tired equipment will be used, and positioned within the existing disturbed areas. Following completion of construction, the disturbance areas will be returned to pre-disturbance contours and, where native vegetation is affected, will be revegetated.

Equipment, tools, and vehicles will be required to arrive clean and free of weed propagules to prevent the introduction or spread of noxious and invasive weed species.

1.3.5 Equipment

The following is a list of the construction equipment SCE anticipates using during Project execution:

- Pickup/Tool trucks
- Cement trucks
- Conductor puller, tensioning, stringing equipment(s)
- Auger
- Bulldozer
- Sag cat
- Forklifts
- Conductor reel stands
- Lightweight crane
- Flatbed trucks
- Skid steer
- Moto-grader

1.3.6 Schedule

Construction of the Project is scheduled to start in the fourth quarter of 2022 and continue for approximately eight months. To the extent feasible, construction will be scheduled outside the desert tortoise's more active periods, which are April through May and September through October. Due to constraints such as scheduled outages from the California Independent System Operator (CAISO) and customer load demands, this may not be possible. SCE will implement best management practices and any required mitigation measures to minimize impacts to sensitive resources regardless of the time of year.

1.3.7 Operations and Maintenance

The Project involves the upgrade of existing facilities. Upon completion of the construction phase of the Project, O&M activities will resume. Due to the recent upgrades, fewer and less frequent maintenance activities will be required at first. Over time, O&M is expected to increase to similar levels as before Project implementation, as the infrastructure requires ongoing maintenance. Because O&M is part of the baseline conditions, the activities are not considered part of the Project.

1.4 Survey Area Site Description, Landscape Setting

The Survey Area consists of construction-related work areas along the existing EM-B subtransmission alignment. An 82-foot (25-meter) buffer was added around each work area where ground disturbance is anticipated. Due to proximity of work areas to each other, some work areas and their associated buffers were merged together to form a single larger Survey Area resulting in a total of 388 individual survey sites. Therefore, the delineation was conducted within 388[2] individual survey sites encompassing approximately

[2] Part of survey site 66 (Desert Center Yard) was previously delineated by Artemis Environmental Services, Inc. in October 2016 for the Devers-Colorado River #1 550-kV Project. Therefore, this site was not re-surveyed, but data from the October 2016 survey for

369 acres. Appendix B: Table 2, Aquatic Resource Delineation Survey Sites and SCE Work Area identification (ID) and Area provides a cross-walk of the survey site numbers with SCE's work area ID information. The work area IDs have been abbreviated to designate the type of activity to be conducted. For example, WS 1 is wire site 1 where wire stringing for reconductoring will occur. The sizes of the work areas and survey sites are also provided in Appendix B: Table 2, Aquatic Resource Delineation Survey Sites and SCE Work Area IDs and Area.

The Survey Area is located entirely within the Sonoran Desert Bioregion of California. The larger Sonoran Desert Bioregion includes the Colorado Desert and Upper Sonoran Desert sections of California and Arizona, and a portion of the Chihuahuan Basin and Range Section in Arizona and New Mexico (McNab and Avers 1994). Specifically, the existing EM-B subtransmission alignment traverses the Chuckwalla Valley and Palo Verde Valley and Mesa subregions of the Sonoran Desert. The Survey Area traverses most of the Chuckwalla Valley and skirts south of Ford Dry Lake, continuing through Palo Verde Mesa and the Palo Verde Valley in Blythe.

Elevations within the Survey Area are relatively low, ranging from approximately 270 feet above median sea level (amsl) in the eastern portion of the Survey Area near Blythe to approximately 1,000 feet amsl near Victory Pass at the western end of the Survey Area. The McCoy Mountains are the topographical divide between watersheds in the eastern portion of the Survey Area that drain into dry lake beds north of the Survey Area, and watersheds in the eastern portion of the Survey Area that drain into McCoy Wash north of the Survey Area.

that site are included herein. In addition, the proposed Project engineering was revised after completion of the delineation resulting in some construction areas to be removed from the Project to avoid impacts. As a result, associated Survey Areas were also removed from this ARDR. However, three of these areas were used to complete data forms and cross-sections for representative channel types as described in Section 5.3. Therefore, these three survey sites are included in this ARDR even though they do not have an associated construction work area ID in order to keep the representative data in the forms.

2.0 REGULATORY SETTING

The following section briefly summarizes the federal and state statutes and regulations pertaining to the aquatic resources delineation conducted for the Survey Area.

2.1 FEDERAL STATUTES AND REGULATIONS

2.1.1 CLEAN WATER ACT SECTION 404

Under Section 404 of the Clean Water Act (CWA), the USACE regulates the discharge of dredged or fill material into jurisdictional waters of the U.S., which include those waters listed in 33 CFR 328.3 (Definitions).[3] During the period in which the field surveys for this ARDR were performed, the *Clean Water Rule: Definition of Waters of the U.S.* (2015 Clean Water Rule) was in effect, but subsequent to field surveys, the regulations defining waters of the U.S. changed several times. The 2015 Clean Water Rule was published in the Federal Register at 80 FR 37054 and became effective August 28, 2015. The U.S. EPA and USACE repealed the 2015 Clean Water Rule on October 22, 2019 (effective December 23, 2019) and issued the *Navigable Waters Protection Rule* (NWPR) on April 21, 2020 (85 FR 22250). The NWPR became effective on June 22, 2020. Under the NWPR, all "ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools" are not jurisdictional waters of the U.S. Because the Survey Area is located in the desert regions of California, all features in the Survey Area would be considered ephemeral, and therefore, not jurisdictional waters of the U.S. On June 9, 2021, the U.S. EPA and USACE announced their intention to start a new rulemaking process to redefine waters of the U.S. In the meantime, on August 30, 2021, a U.S. District Judge for the District of Arizona vacated and remanded the NWPR in the case of *Pascua Yaqui Tribe* v. *U.S. Environmental Protection Agency*, No. CV-20-00266-TUC-RM (D. Arizona Aug. 30, 2021). In light of this order, the U.S. EPA and USACE have halted implementation of the NWPR and are interpreting waters of the U.S. consistent with the regulations in place prior to the 2015 Clean Water Rule until further notice. The pre-2015 Clean Water Rule era requires following the guidance developed in 2007 and 2008 for implementing the definition of waters of the U.S. following the *Rapanos v. United States*, and *Carabell v. United States* Supreme Court decisions (USACE 2008).

Despite changes in regulations regarding the definition of waters of the U.S., for this delineation, all potential waters of the U.S. including ephemeral features were identified and mapped at the time surveys were conducted in 2017 and 2019 using the Ordinary High Water Mark (OHWM). See Section 5.0 Methodology. As noted in Section 6.0 Results, the Survey Area does not contain waters of the U.S. that would be regulated by USACE under pre-2015 regulations and guidance, the 2015 Clean Water Rule, or the NWPR because under all scenarios, the waters are located in isolated watersheds.

USACE is authorized, as delegated by the U.S. EPA, to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. USACE must determine that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to aquatic

[3] 51 FR 41250, November 13, 1986, as amended at 58 FR 45036, August 25, 1993; 80 FR 37104, June 29, 2015; 83 FR 5200, February 6, 2018; 85 FR 22250, April 21, 2020.

resources or if significant degradation would occur to waters of the U.S. or wetlands. This ARDR presents findings to support a USACE determination of whether their jurisdiction extends to the aquatic resources identified in the Survey Area. The USACE South Pacific Division (Los Angeles District) regulates this area and would be the agency to determine jurisdiction.

2.1.2 Clean Water Act Section 401

Section 401 of the CWA requires states to certify that any activity that may result in discharge into waters of the U.S. will comply with state water quality standards. All permits issued by USACE under Section 404 of the CWA require certification pursuant to Section 401. The RWQCB, as delegated by the U.S. EPA and State Water Resources Control Board, is the state agency responsible for issuing a CWA Section 401 Water Quality Certification or waiver. If USACE verifies that their jurisdiction does not extend to the aquatic resources in the Survey Area, then a Section 404 permit and Section 401 Certification would not be required. The Survey Area would be subject to RWQCB Region 7 (Colorado River Basin) jurisdiction.

2.2 State Statutes and Regulations

2.2.1 California Porter-Cologne Act

Waste Discharge Requirements

Section 13000 *et seq.* of the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne Act) authorizes the RWQCB to regulate discharges of waste and fill material to waters of the state, including isolated waters and wetlands. The Porter-Cologne Act requires a "person discharging waste, or proposing to discharge waste, within any region that could affect the quality of waters of the State" (Cal Water Code § 13260(a)(1)) to file a report of waste discharge, unless waived (Cal Water Code § 13260(b)). "Waste" is broadly defined to include "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal" (Cal Water Code § 13050(d)). "Waters of the state" is also broadly defined to include "any surface water or groundwater, including saline waters, within the boundaries of the state" (Cal Water Code § 13050(e)). Therefore, any discharge of dredged or fill materials is also required to obtain a Waste Discharge Requirement (WDR), or Waiver.

Pursuant to State Water Resources Control Board (SWRCB) Order No. 2003-0017-DWQ, discharges of dredged or fill material that have received 401 Certification are eligible for a Waiver of a WDR under Cal Water Code § 13269. Projects that are not eligible for a 401 Certification must obtain an individual WDR or Waiver, unless a General Order is applicable. For projects with impacts totaling less than 0.2 acre, SWRCB Order No. 2004-0004-DWQ allows a streamlined process for obtaining a WDR for dredged or fill discharges to waters deemed by the USACE to be outside of federal jurisdiction.

Wetland Riparian Area Protection Policy

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State* (California Wetland Policy). The California Wetland Policy

became effective May 28, 2020 and stipulates additional procedures and requirements for obtaining approval from waters boards for discharge of dredged or fill materials to state waters. These additional requirements may include a USACE-verified ARDR, an alternatives analysis, and where projects result in a "net loss" of waters, a detailed compensatory mitigation plan that includes:

- A watershed profile,
- An assessment of the overall condition of the aquatic resources proposed to be impacted and their stressors using a method approved by the permitting authority,
- A description of how impacts and compensatory mitigation would not cause a net loss of aquatic resources based on the watershed profile,
- Ecological performance standards, monitoring, and long-term protection and management,
- Timetables for implementing compensatory mitigation, and
- An assessment of reasonably foreseeable impacts associated with climate change and measures to avoid and minimize those impacts if required by the permitting authority.

However, discharges of dredged or fill materials to waters of the state that are regulated under a General Order are not subject to the requirements of the California Wetland Policy and should follow instructions for applying under the applicable General Order (SWRCB 2019). The SWRCB or RWQCB Region 7 will review and authorize the Project pursuant to the Porter-Cologne Act and the California Wetland Policy.

2.2.2 California Fish and Game Code Section 1600

California Fish and Game Code (CFGC) Sections 1600-1617 require notification to CDFW if a proposed activity has the potential to detrimentally affect a stream, and thereby, wildlife resources that depend on a stream for continued viability. All streams present on a proposed project site must be identified to characterize the potential for adverse project-related impacts on the stream and associated wildlife. Under CFGC Sections 1600 *et seq.*, CDFW regulates activities that would adversely affect fish and wildlife resources due to (1) diversion or the obstruction of the natural flow of a stream; (2) substantial changes to the bed, channel, or banks of a stream, or the use of any material from the bed, channel, or banks; and (3) the disposal of debris or waste materials that may pass into a stream. CDFW jurisdiction can only be applied once stream presence is identified and a project design is developed to a level of detail adequate to perform impact analysis.

In practice, the CDFW may assert its jurisdiction under CFGC Sections 1600 *et seq.* over activities to the top of the bank (stream or lake), or to the outer edge of the riparian vegetation, whichever is wider. Determining jurisdiction based on these parameters in the dry desert regions of California prove challenging. Therefore, in coordination with the California Energy Commission, CDFW has developed guidance for determining jurisdictional waters of the state for desert aquatic features as described in detail in Section 5.2.2 Delineation of State Waters. The Survey Area would be subject to CDFW Region 6 (Inland Deserts Region) jurisdiction.

3.0 Environmental Setting

This section describes the existing conditions in terms of vegetation, hydrology and soils.

3.1 Vegetation

3.1.1 Vegetation Communities

The Survey Area is located in the Colorado Desert within the Sonoran Desert Bioregion (Baldwin 2012). The physiographic line separating the Mojave and Sonoran Desert Bioregions is not always clear, but overall the Sonoran Desert Bioregion is lower, warmer, and somewhat distinct floristically. The western end of the Survey Area is closer to the Mojave Desert Bioregion. Conspicuous members of the flora in the Sonoran Desert that are generally absent from the Mojave Desert include blue palo verde (*Parkinsonia florida*), ironwood (*Olneya tesota*), ocotillo (*Fouquieria splendens* ssp. *splendens*), and chuparosa (*Justicia californica*).

The majority of the Survey Area is dominated by upland habitats comprised primarily of creosote bush (*Larrea tridentata*) and/or white bursage (*Ambrosia dumosa*). Desert pavement and/or areas with desert varnish were also observed within upland areas of the Survey Area. These areas were generally devoid of vegetation or exhibited a sparse cover of creosote bush. The large alluvial fans in the western portion of the Survey Area are vegetated with vast stands of blue palo verde - ironwood woodland. These woodlands occur both in upland areas and within desert washes.

In desert dry washes, vegetation community composition generally exhibited an increased cover of ironwood, blue palo verde, cheesebush (*Ambrosia salsola*) and occasionally desert lavender (*Hyptis emoryi*) and catclaw acacia (*Senegalia greggii*) near the western portion of the Survey Area. Table 3 identifies the vegetation communities within the Survey Area. Surveys for vegetation communities were conducted by AECOM Technical Services, Inc. to support biological review and reporting (AECOM 2016). All vegetation alliances listed conform to the classification provided in *A Manual of California Vegetation, Second Edition* (Sawyer *et al.* 2009).

Table 3. Vegetation Communities Within the Survey Area

Vegetation Communities	Area (Acre)
Active Agriculture	31.5
Alkali weed - salt grass playas and sinks	8.1
Allscale scrub	0.7
Big galleta shrub-steppe	0.2
Blue palo verde - ironwood woodland	80.0
Cheesebush - sweetbush scrub	0.6
Creosote bush - white bursage scrub	78.6
Creosote bush scrub	68.9
Desert Pavement	11.5
Developed	26.1
Disturbed	52.9
Mesquite bosque, mesquite thicket	1.6
Mojave-Sonoran desert dunes	1.1

Vegetation Communities	Area (Acre)
Open Water	0.3
Ornamental/Landscaped	0.3
Rigid spineflower – hairy desert sunflower	1.7
Smoke tree woodland	0.7
Tamarisk thickets	0.3
Tournefort's mustard and other rudural forb patches	0.7
White bursage scrub	3.3
TOTAL	368.9

3.1.2 Hydrophytic and Wash Dependent Vegetation

Hydrophytic and wash dependent plant species associated with the vegetation communities identified in Section 3.1.1 are reported in Table 4. Only plant species with hydrophytic indicators of Obligate (OBL), Facultative Wetland (FACW), and Facultative (FAC) will be considered for the definition of wetlands to meet the hydrophytic plant community wetland parameter (Environmental Laboratory 1987).

Table 4.Wash Dependent Plant Species within the Survey Area

Scientific Name	Common Name	NWPL Indicator Status
Atriplex lentiformis	quailbush	FAC
Chloracantha spinosa var. *spinosa*	Mexican devilweed	FAC
Tamarix aphylla	Athel tamarisk	FAC

Source: Lichvar et al. 2016, NWPL website list available at: http://wetland-plants.usace.army.mil/

3.2 Hydrology

3.2.1 Surface Water

This section summarizes surface water conditions as reported by both the Watershed Boundary Dataset (WBD) and CalWater 2.2.1 datasets within the Survey Area.

Watershed Boundary Dataset

The Survey Area overlaps two USGS watersheds identified in the Watershed Boundary Dataset (USDA-NRCS, USGS, EPA 2017): Southern Mojave (18100100) and Imperial Reservoir (15030104) (Appendix A, Figure 3: Watershed Boundary Dataset). Table 5 summarizes the location of these watersheds within the Survey Area, and whether the watershed drains into or connects with a Traditionally Navigable Water (TNW).

Table 5.Watersheds within Survey Area

Individual Survey Site IDs	Watershed (HUC 8 Code)	Connection to TNW
1 through 316	Southern Mojave (18100100)	No. Drains to isolated playas.
317 through 388	Imperial Reservoir (15030104)	Yes. To McCoy Wash and onto the Colorado River.

Note: Watershed boundaries correspond to the eight-digit Hydrologic Unit Code (HUC 8)

Drainages within the Southern Mojave Watershed (18100100) flow north into isolated playas, including Hayfield Lake west of Desert Center, and Ford Dry Lake approximately 22 miles west of Blythe, California. These playas are intrastate isolated waters and are not TNWs.

The ephemeral drainages on the western end of the Imperial Reservoir Watershed (15030104) drain from the McCoy Mountains north of the Survey Area and the Mule Mountains south of the Survey Area. The washes generally develop from stormwater runoff originating in unnamed ephemeral washes that flow west to east from these mountains into a large alluvial fan that generally comprises the Palo Verde Mesa, which flows into the McCoy Wash. The McCoy Wash is a large ephemeral wash that drains 210 square miles of the Palo Verde Mesa (including the McCoy Mountains, Little Maria Mountains, and Big Maria Mountains). McCoy Wash has an indirect hydrological connection to the Colorado River through a system of drains and canals owned and operated by the Palo Verde Irrigation District (PVID). The PVID system contains approximately 141 miles of canals and drains that capture irrigation return flows and stormwater back to the Colorado River (PVID 2015). The Colorado River is a TNW. The McCoy Wash is located north of the Survey Area approximately 5.8 miles from the nearest aquatic feature mapped within the eastern end of the Survey Area. As noted in Section 6.0 Results, the ephemeral features flowing through the Survey Area flow south, instead of north, away from McCoy wash and abate into upland approximately 6 miles from the McCoy wash, and therefore, do not form a significant nexus connection to the McCoy Wash. In addition, these features abate into upland approximately 3 miles from the nearest PVID drain, Rannells Drain, and therefore, do not form a significant nexus connection to the PVID system.

CalWater Dataset

The entire Survey Area is located in the Colorado River hydrologic region subject to RWQCB Region 7 (Colorado River Basin) jurisdiction. The Survey Area traverses two different hydrologic units (HUs), and three different hydrologic areas (HAs). Refer to Appendix A, Figure 4: CalWater Watersheds. Table 6 identifies the watershed where each site within the Survey Area is located.

Table 6.CalWater Watersheds within Survey Area

Individual Survey Site #s	CalWater Watershed (HU, HA)	CalWater #
1 through 145	Chuckwalla, Palen	10717.20
146 through 316	Chuckwalla, Ford	10717.10
317 through 388	Colorado River, Palo Verde	10715.40

Note: All watersheds are within the Colorado River hydrologic region and RWQCB Region 7.

Beneficial Uses

According to the Colorado River Region Basin Plan (RWQCB 2014), agricultural use is the predominant beneficial use of water in the Colorado River Basin Region, with the major irrigated acreage being located in the Coachella, Imperial and Palo Verde Valleys. The second major category of beneficial use, water for municipal and industrial purposes, is also located largely in these valleys. The third major category of beneficial use, recreational use of surface waters, represents another important segment of the Region's economy.

Beneficial uses for potential receiving waters in the watersheds where the Survey Area is located are provided in Table 7. Based on the type and duration of proposed discharges (see impacts discussion), Project activities will not degrade beneficial uses. In Table 7, beneficial use abbreviations are defined as follows:

- MUN (municipal and domestic supply),
- AGR (agricultural supply),
- AQUA (aquaculture),
- FRSH (freshwater habitat),
- IND (industrial service supply),
- GWR (ground water recharge),
- REC I (water contact recreation),
- REC II (non-contact water recreation),
- WARM (warm freshwater habitat),
- COLD (cold freshwater habitat),
- WILD (wildlife habitat),
- POW (hydropower generation),
- RARE (preservation of rare, threatened, or endangered species).

Table 7.Beneficial Uses for Potential Downstream Receiving Waters in the Southern Mojave and Imperial Reservoir Watersheds

Waterbody	Beneficial Uses[1]												
	MUN	AGR	AQUA	FRSH	IND	GWR	REC I	REC II	WARM	COLD	WILD	POW	RARE
Colorado River[2]	X	X	X		X	X	X	X	X	X[3]	X	X	X
Palo Verde Valley Canals[2]	P	X	X			X	X[4]	X[4]	X		X		
Palo Verde Valley Drains[2]							X[5]	X[4]	X		X		
Unlisted Perennial and Intermittent Streams	P					I X	I P X	I X	I X		I X		[6]
Ephemeral Washes				I		I		I	[7]		I		

Source: RWQCB 2014

[1] Beneficial use designations are defined as follows: X (present use), P (potential use), I (intermittent use).

[2] As noted in Section 6.0 Results, the existing features in the Survey Area do not have a significant nexus or connectivity to the Colorado River, Palo Verde Valley Canals, or Palo Verde Valley Drains.

[3] Limited to reach from Parker Dam to Nevada State Line.

[4] Unauthorized use.

[5] The only REC I usage known to occur is from fishing activity.

[6] Rare, endangered, or threatened wildlife may exist in or utilize some of these waterways.

[7] Use, if any, to be determined on a case-by-case basis.

IMPAIRED WATERBODIES

CWA Section 303(d)(1)(A) requires states to identify surface waters impaired by pollution (i.e., do not meet water quality standards), and to establish total maximum daily loads (TMDLs) for pollutants causing the impairments. On June 30, 2015, the EPA approved California's 2012 Section 303(d) list of impaired water bodies for the Colorado River Basin. Although outside of the Survey Area, the Colorado River is listed as an impaired waterbody for selenium at the reach within the Imperial Reservoir Watershed (SWRCB 2012). No impaired waters are located within the Survey Area. Furthermore, as noted in Section 6.0 Results, the waters within the Survey Area are not hydrologically connected to impaired waters within the watershed. Thus, Project activities will not directly discharge pollutants to any 303(d) listed water bodies.

3.2.2 GROUNDWATER

The Chuckwalla Valley groundwater basin encompasses approximately 940 square miles in eastern Riverside County and underlies the Palen and Chuckwalla Valleys where a majority of the western end of the Survey Area is located. Depth to groundwater in the Chuckwalla Valley is not expected to be greater than approximately 140 to 160 feet (Everett *et al*. 2013). The Chuckwalla Valley groundwater basin is recharged by a combination of runoff percolating from the surrounding mountains and precipitation on the valley floor. Groundwater levels in the basin have been stable according to well monitoring (DWR 2004).

The Colorado River groundwater basin encompasses approximately 884 square miles and includes the Palo Verde Mesa and Palo Verde Valley groundwater basins where a majority of the eastern end of the Survey Area is located. Public supply wells in these basins range from 230 to 460 feet (Dawson and Belitz 2012). These basins are recharged primarily from the Colorado River.

3.2.3 FEMA FLOODPLAIN

According to the Federal Emergency Management Agency (FEMA) Flood Hazard maps, the Survey Area is widely unmapped and designated as Flood Zone D (FEMA 2020). Zone D areas are areas of undetermined, but possible flood hazards.

3.3 SOILS

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey was consulted to determine which soil types were present within the Survey Area (NRCS 2019a). Detailed mapping of soils series from the NRCS SSURGO database are not available for a majority of the Survey Area. Broader scale soils maps for the area are available from the NRCS STATSGO data set (NRCS 2019a). STATSGO map units are statistical summaries of attributes from all of the component soils used to characterize the map unit, and each map unit can have multiple components. Four STATSGO mapping units composed of ten soil series occur within the Survey Area (Appendix A, Figure 5: Soils): Cherioni-Hyder-Cipriano, Aco-Rositas-Carrizo, Gilman-Rositas-Indio, and Rositas-Carsitas-Dune Land. Table 8 summarizes the soil mapping units within the Survey Area. Only basic descriptions of the soil mapping units are available; therefore, a summary of each component soil series for these map units is provided below based on the

NRCS *Official Soil Series Descriptions* (NRCS 2019b). None of the component soil series are listed as hydric soils.

Table 8.Soils within the Survey Area

Unit ID	Soil Association	Survey Site(s)	Acres
CA928	Cherioni-Hyder-Cipriano	1 - 240, 287 - 344	267.3
CA654	Aco-Rositas-Carrizo	345 – 387	51.6
CA653	Gilman-Rositas-Indio	388	6.3
CA921	Rositas-Carsitas-Dune Land	240* - 286	43.6

*Site 240 crosses two soil associations.

3.3.1 Cherioni-Hyder-Cipriano

The Cherioni-Hyder-Cipriano mapping unit is characterized by very shallow soils formed in alluvium over volcanics. Soil types are gravelly fine sandy loam, extremely gravelly sandy loam, and very gravelly loam.

Cherioni

The Cherioni series consists of very shallow and shallow to a hardpan and bedrock, somewhat excessively drained soils that formed in slope alluvium on volcanic bedrock. Cherioni soils are on fan terraces or hills and have slopes of 0 to 70 percent. The mean annual precipitation for locations where this soil series is present is about 4 inches and the mean annual air temperature is about 72 degrees Fahrenheit. Cherioni series soils are somewhat excessively drained with medium to rapid runoff and moderate permeability. Cherioni soils are used for livestock grazing. Present vegetation is creosote bush, paloverde, saguaro, cholla, ocotillo, triangleleaf bursage and ratany (NRCS 2019b).

Hyder

The Hyder series consists of very shallow and shallow, somewhat excessively drained soils that formed in alluvium from rhyolite and related volcanic rocks. Hyder soils are on mountains and hills and have slopes of 1 to 70 percent. The mean annual precipitation for locations where this soil series is present is about 7 inches and the mean annual air temperature is 72 degrees Fahrenheit. Hyder series soils are somewhat excessively drained; high to high runoff; moderate or moderately rapid permeability. Hyder soils are used for livestock grazing, wildlife habitat and recreation. The present vegetation is creosote bush, white bursage, brittlebush, buckhorn cholla, and littleleaf paloverde (NRCS 2019b).

Cipriano

The Cipriano series consists of shallow and very shallow to a hardpan, somewhat excessively drained soils that formed in fan alluvium from volcanic rock. Cipriano soils are on fan terraces and have slopes of 0 to 55 percent. The mean annual precipitation for locations where this soil series is present is about 6 inches and the mean annual air temperature is about 71 degrees Fahrenheit. Cipriano series soils are somewhat excessively drained with low to very high runoff and moderate permeability. Cipriano soils are used mainly for livestock grazing and wildlife habitat. Present vegetation is creosote bush, paloverde, staghorn and

chainfruit cholla, saguaro, ocotillo and triangle bursage, with some fluffgrass and sixweeks grama (NRCS 2019b).

3.3.2 Aco-Rositas-Carrizo

The Aco-Rositas-Carrizo mapping unit is characterized by soils formed in mixed alluvium and in sandy deposits blown from alluvium. Soil types include sandy to coarse sandy loam, fine sand, stony sand, very gravelly coarse sand, and very stony coarse sand.

Aco

The Aco series consists of very deep, well to somewhat excessively drained soils that formed in mixed alluvium on terraces slightly above the flood plain. Slopes are 0 to 8 percent. The mean annual precipitation for locations where this soil series is present is about 4 inches and the mean annual air temperature is about 72 degrees Fahrenheit. Aco series soils are well to somewhat excessively drained; permeability is moderately rapid. Runoff is mostly low; a few more sloping areas may have medium runoff. In recent years some areas have been brought under irrigation and are used for growing citrus, alfalfa, and melons. Principal native plants are creosote bush, white bursage, and a few minor annuals (NRCS 2019b).

Carrizo

The Carrizo series consists of very deep, excessively drained soils formed in mixed igneous alluvium. Carrizo soils are on numerous landforms on flood plains, fan piedmonts and bolson floors. Slopes range from 0 to 15 percent. The mean annual precipitation for locations where this soil series is present is about 4 inches and the mean annual air temperature is about 71 degrees Fahrenheit. Carrizo series soils are excessively drained with negligible to low runoff, and high saturated hydraulic conductivity. These soils are used for rangeland, recreation and wildlife habitat. Present vegetation is creosote bush, burrobush, and range ratany (NRCS 2019b).

Rositas

The Rositas series consists of very deep, somewhat excessively drained soils formed in sandy eolian material. Rositas soils are on dunes and sand sheets. Slope ranges from 0 to 30 percent with hummocky or dune micro relief. Mean annual precipitation for locations where this soil series is present is about 4 inches and the mean annual air temperature is about 72 degrees Fahrenheit. Rositas series soils are somewhat excessively drained with negligible to low runoff and rapid permeability. Rositas soils are used for rangeland and wildlife habitat, and growing citrus fruits, grapes, alfalfa, and truck crops. Present vegetation is creosote bush, white bursage, desert buckwheat and mesquite (NRCS 2019b).

3.3.3 Gilman-Rositas-Indio

The Gilman-Rositas-Indio mapping unit is characterized by soils formed on alluvium, dunes, and dune sheets. Includes soils formed on the Colorado River floodplain. Soil types include fine sand, very fine sandy loam, silt loam, and loam.

GILMAN

The Gilman series consists of very deep, well drained soils that formed in stratified stream alluvium. Gilman soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent. The mean annual precipitation for locations where this soil series is present is about 7 inches and the mean annual air temperature is about 71 degrees Fahrenheit. Gilman series soils are well drained with slow runoff and moderate permeability (NRCS 2019b).

ROSITAS

Description provided above in Section 3.3.2.

INDIO

The Indio series consists of very deep, well or moderately well drained soils formed in alluvium derived from mixed rock sources. Indio soils are on alluvial fans, lacustrine basins and flood plains and have slopes of 0 to 3 percent. The mean annual precipitation for locations where this soil series is present is about 4 inches and the mean annual air temperature is about 72 degrees Fahrenheit. Indio soils are well or moderately well drained. Some irrigated areas with a water table have tile drains to maintain water below depths of 3 to 5 feet and to remove soluble salts. Runoff is slow. Permeability is moderate. Indio soils are used for irrigated cropland and livestock grazing. Common crops are cotton, barley, grapes, citrus, dates, and other crops. In other areas, the present vegetation is shadscale, bursage, arrowweed, and other plants. Such areas provide ephemeral grazing in unusually wet years (NRCS 2019b).

3.3.4 ROSITAS-CARSITAS-DUNE LAND

The Rositas-Carsitas-Dune mapping unit are characterized by soils that are generally formed in alluvium and sandy aeolian material from the alluvium, which includes sand dune deposits. Soil types include gravelly to coarse gravelly sand and fine sand.

ROSITAS

Description provided above in Section 3.3.2.

CARSITAS

The Carsitas series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rocks. The Carsitas soils are on alluvial fans, fan aprons, valley fills, dissected remnants of alluvial fans and in drainageways. Slopes range from 0 to 30 percent. The mean annual precipitation for locations where this soil series is present is about 75 millimeters (3 inches) and the mean annual air temperature is about 77 degrees Fahrenheit. Carsitas series soils are somewhat excessively drained with negligible to low runoff, and high saturated hydraulic conductivity. Altered drainage may occur where irrigation or seepage has caused a seasonal water table at 2 to 5 feet. Torrential summer thundershowers occasionally produce enough runoff to flood the soil for brief periods. The soils are used for watershed, wildlife habitat and recreation. They are a source of sand and gravel for construction

material. Vegetation is sparse creosote bush, burrobush, barrel cactus, mesquite, and paloverde. Where irrigation water is available, the soils are used for growing citrus and grapes (NRCS 2019b).

Dune Land

No information for this soil series is available from the NRCS.

4.0 Precipitation and Climate Data Analysis

In the Survey Area, the temperature typically varies from 37.4° Fahrenheit to 108.4° Fahrenheit over the course of the year, with an annual average max temperature of 88.3 ° Fahrenheit and an annual average minimum temperature is 55.0° Fahrenheit (Western Regional Climate Center [WRCC], 2020). The annual total precipitation averages 3.81 inches (WRCC 2020).

According to the NRCS Agricultural Applied Climate Information System (AgACIS), the nearest weather station collecting climate and precipitation data with 10 years of data available near the Survey Area is the Blythe Automated Surface Observing System (ASOS) station. A total of 0.57 inch of rainfall was recorded in the three months prior to the field survey performed in July 2017, and 0.62 inch and was recorded in the three months prior to the field survey performed in August 2019; as reported in Table 9 (AgACIS 2020). The average monthly precipitation for the Blythe ASOS station (NOAA 2020) is provided in Appendix C, Climatological Data: WETS. Overall, rainfall in 2017 totaled 3.24 inches and is below the 30-year annual average total rainfall of 3.46 inches, whereas rainfall in 2019 totaled 3.51 inches and is above the 30-year annual average total rainfall of 3.48 inches (NOAA 2020).

Table 9.Observed Precipitation Near Survey Area During Three Months Preceding Field Surveys

Weather Station	Date	Rainfall (inches)
Prior to July 17 - 23, 2019		
Blythe ASOS, CA	May 1 - 31, 2017	0.55
Blythe ASOS, CA	June 1 - 30, 2017	0.00
Blythe ASOS, CA	July 1 - 31, 2017	0.02
Prior to April 24, 2019		
Blythe ASOS, CA	February 1 - 28, 2019	0.33
Blythe ASOS, CA	March 1 - 31, 2019	0.19
Blythe ASOS, CA	April 1 - 30, 2019	0.10
Prior to January 4, 2021		
Blythe ASOS, CA	October 1 – 31, 2020	0.00
Blythe ASOS, CA	November 1 – 30, 2020	*
Blythe ASOS, CA	December 1 – 31, 2020	*

Source: AgACIS 2020

* 26 or more days of data missing.

The Antecedent Precipitation Tool (APT; Version 1.0.13) was used to evaluate climatic conditions of two representative watersheds within the Survey Area for the range of dates the delineation field work was completed: July 17-23, 2017 and August 24, 2019 (Table 10; see also Appendix C, Climatological Data: Watershed Sampling Summary). The APT Watershed Sampling Summary provided in Appendix C that was generated for the Imperial Reservoir: City of Blythe-Palo Verde Valley Subwatershed (HUC 150301040804) summarizes precipitation and climatic data for 21-22 sampling points for the 3 months prior to the delineation field survey dates of July 17 and 23, 2017. These data determine that 100 percent of those 21-22 sampling points exhibited precipitation and climate within the normal range of conditions recorded within the within HUC 150301040804 and indicates that typical year conditions were present during the 2017 field surveys. The APT Watershed Sampling Summary that was generated for Southern Mojave: Lower

Palen Lake Subwatershed (HUC 181001005003) summarizes precipitation and climatic data for 4-5 sampling points for the 3 months prior to the delineation field survey dates of July 17 and 23, 2017. These data varied from 100 percent of those 4 sampling points exhibiting precipitation and climate within the normal range of conditions to 80 percent of 5 sample points exhibiting wetter than normal conditions recorded within the within HUC 181001005003.

Table 10.Antecedent Precipitation Tool Sampling Results

Date	PDSI Value	PDSI Class	Season	ARC Score	Antecedent Precip Condition
HUC 150301040804					
7/17/2017	-0.31	Normal	Dry Season	13	Normal Conditions
7/23/2017	-0.31	Normal	Dry Season	13	Normal Conditions
4/24/2019	2.34	Moderate wetness	Dry Season	15	Wetter than Normal
HUC 181001005003					
7/17/2017	-0.31	Normal	Dry Season	12.5	Normal Conditions
7/23/2017	-0.31	Normal	Dry Season	15	Wetter than Normal
4/24/2019	2.34	Moderate wetness	Dry Season	14.25	Normal Conditions

Source: Antecedent Precipitation Tool, generated on 12/3/2020

Analysis of the APT precipitation and climatic data for HUC 150301040804 support that typical year conditions were present between July 17 and 23, 2017 and that wetter conditions were present on August 24, 2019. The Antecedent Precipitation Score (derived from the Antecedent Condition Calculation of the three prior months) of 13 between July 17 and 23, 2017 indicates that climatic conditions were normal. This corresponds to the drought index (PDSI; based on data from NOAA) indication of normal conditions for July 17 and 23, 2017 whereas the drought index for April 24, 2019 indicate moderately wet conditions.

5.0 Investigation Methodology

Data regarding aquatic resources present within the Survey Area were obtained through a review of pertinent literature and field reconnaissance, both of which are described below.

5.1 Pre-Field Literature Review and Desktop Analysis

The purpose of the literature review and desktop analysis is to obtain contextual information relevant to the site to be surveyed, which may not be evident from the ground during field surveys. The following sources were consulted to gain a better understanding of the physical and hydrologic setting of the Survey Area:

- 7.5-minute USGS topographic quadrangle maps
- Aerial maps of the Survey Area
- The National Wetlands Inventory (NWI) Wetlands and Riparian Google Earth file (USFWS 2019)
- The WBD (USGS 2019)
- The web-based NRCS Web Soil Survey (NRCS 2019a)
- The National List of Hydric Soils (NRCS 2015)
- Previous habitat and waters assessments conducted by AECOM and Artemis Environmental in 2016 (AECOM 2016).

USACE is in the process of developing and implementing a Stream Duration Assessment Method (SDAM) for determining streamflow duration in the Arid West region, which should be used to distinguish intermittent and ephemeral features. However, this SDAM was not developed at the time the delineation field work was conducted for this ARDR. The SDAM has only recently been released in Beta version for the Arid West as of March 2021. The flow regime of features delineated as waters of the U.S. within the Survey Area are characterized as ephemeral based on absence of water flow and primary hydrology indicators during field visits conducted in February 2021 and August 2021.

5.2 On-site Field Survey

Three Artemis Environmental waters specialists, Ed Kentner, Antonette Gutierrez and Jordan Zylstra, conducted a formal aquatic resources delineation of the Survey Area from July 17 through July 23, 2017. A follow-up delineation field survey was conducted by Antonette Gutierrez on April 24, 2019 to assess whether features were modified since the original surveys conducted in 2017. Any modifications were incorporated into the revised data included herein. From January 4, 2021 through January 6, 2021, three Artemis Environmental waters specialists, Ed Kentner, Antonette Gutierrez and Jordan Zylstra surveyed additional structure work areas that were added to the Project. The Survey Area consists of individual survey sites as described in Section 1.4 Survey Area. All survey sites were accessible, and the delineation was completed by conducting pedestrian surveys. However, a portion of survey site 21 was not surveyed in 2017 or 2019 because it was previously surveyed by Artemis Environmental in October 2016.

5.2.1 Delineation of Federal Waters

On-site Wetland Investigation

Jurisdictional waters of the U.S. include those waters listed in 33 Code of Federal Regulations (CFR) 328.3 (Definitions of Waters of the United States). All potential waters of the U.S. were delineated to their jurisdictional limits as defined by 33 CFR 328.4 (Limits of Jurisdiction). Pre-field analysis and field surveys confirmed the potential presence of both non-wetland waters and wetland waters of the U.S. Therefore, potential wetland waters of the U.S. were delineated pursuant to the three-parameter methods and according to the following:

(1) *Corps of Engineers Wetland Delineation Manual* (Manual; Environmental Laboratory 1987),

(2) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Environmental Laboratory 2008), and

(3) Applicable U.S. Army Corps of Engineers (USACE) Regulatory Guidance Letters (RGLs).

If one of the three wetland parameters (i.e., dominance of hydrophytic vegetation) was not observed, no Wetland Determination Data Forms were completed and potential aquatic resources were evaluated for presence of an OHWM, as described below.

On-site Non-wetland Waters and OHWM Investigation

Potential non-wetland waters of the U.S. were delineated based on field indicators to define and identify the lateral extent of the OHWM, as defined by 33 CFR 328.3(c)(7) and according to the following:

(1) *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008),

(2) *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar 2010),

(3) *Distribution of Ordinary High Water Mark (OHWM) Indicators and their Reliability in Identifying the Limits of "Waters Of The United States" in Arid Southwestern Channels* (Lichvar et al. 2006),

(4) *Channel Classification across Arid West Landscapes in Support of OHW Delineation* (Lefebvre et al. 2013), and

(5) Applicable USACE RGLs.

Five major ephemeral/intermittent channel forms occur within the Arid West: (1) alluvial fans, (2) compound channels, (3) discontinuous ephemeral channels, (4) single-thread channels with associated floodplains, and (5) anastomosing channels (Lichvar and McColley 2008). Although all five channel forms were observed within the Survey Area, they were mapped generally as "ephemeral stream channel" or watercourse (as described below under CDFW Jurisdiction).

Between the time of completing the field surveys and completing this report, recent changes in regulations have transpired related to defining waters of the U.S. At the time of field surveys in 2017 and 2019, the 2015 Clean Water Rule was in effect, and at the time of field surveys in 2021, the NWPR was in effect. As

of August 30, 2021, a U.S. District Judge for the District of Arizona vacated and remanded the NWPR in the case of *Pascua Yaqui Tribe* v. *U.S. Environmental Protection Agency*, No. CV-20-00266-TUC-RM (D. Arizona Aug. 30, 2021). In light of this order, the U.S. EPA and USACE have halted implementation of the NWPR and are interpreting waters of the U.S. consistent with the regulations in place prior to the 2015 Clean Water Rule until further notice. The pre-2015 Clean Water Rule regulations require following the guidance developed in 2007 and 2008 for implementing the definition of waters of the U.S. following the *Rapanos v. United States*, and *Carabell v. United States* Supreme Court decisions (USACE 2008). Under this guidance, the USACE jurisdiction will be determined as follows:

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to TNWs
- Non-navigable tributaries of TNWs that are relatively permanent (i.e., the tributaries typically flow year-round or have continuous flow at least seasonally)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally
- Wetlands adjacent to such tributaries
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies will apply the significant nexus evaluation as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if in combination they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters
- Significant nexus includes consideration of hydrologic and ecologic factors.

5.2.2 Delineation of State Waters

RWQCB Jurisdiction

Aquatic features under the purview of RWQCB were delineated pursuant to the federal methodology for federally defined wetland and non-wetland waters (see Section 5.3, above) *and* Section 13000 *et seq.* of the California Water Code (CWC; 1969 Porter-Cologne Water Quality Control Act). The term "waters of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (CWC § 13050[e]). Jurisdictional waters of the State include those waters also under the jurisdiction of the federal government; however, the definition of waters of the State is broader than that for waters of the U.S. in that all waters are considered to be a water of the state regardless of circumstances or condition, including isolated waters pursuant to the California Porter-Cologne Act. However, waters of

the State must still show wetland parameters (defined below) to be considered wetland waters or OWHM-indicators to be considered non-wetland waters.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State* (California Wetland Policy, SWRCB 2019). The California Wetland Policy became effective May 28, 2020 and stipulates procedures and requirements for obtaining approval from waters boards for discharge of dredged or fill materials to state waters. The California Wetland Policy largely models the USACE guidance for defining a wetland, which includes areas with wetland hydrology, wetland soils, and wetland plants (i.e., the three-parameter test for delineating a wetland). However, an area may be a wetland even if it does not support vegetation according to the California Wetland Policy. Therefore, an area may be considered a state wetland even if it is unvegetated with the intent that vegetated and unvegetated wetlands will be regulated in the same manner. Nevertheless, this would not be applicable in most desert regions where the Survey Area is located.

Porter-Cologne authorizes the SWRCB to adopt, review, and revise policies for all waters of the State. It also directs the nine RWQCBs to develop and implement regional Basin Plans that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region (CWC 13050[j]). According to implementation language in the Basin Plans, the RWQCB's authority to protect water quality from waste discharges is limited to the regulation of 'controllable water quality factors,' those actions, conditions, or circumstances resulting from human activities that may influence the quality of waters of the State and that may be reasonably controlled. CWC Section 13170 also authorizes the SWRCB to adopt water-quality control plans on its own initiative.

Overall, RWQCB jurisdiction was based on the definition of waters of the State identified above, and the California Wetland Policy, but also considered whether resources present a 'beneficial use' as outlined in the Water Quality Control Plan for the Lahontan Region (Basin Plan) (RWQCB 1995 [as amended]). Aquatic resources were considered under the purview of RWQCB if it was determined that any type of aquatic and/or aquatic-related features occurring within the Survey Area would also present a 'beneficial use,' and therefore, be considered a substantial aquatic feature that persists at more frequently rather than a short duration event occurring infrequently over spans of decades. In this case, aquatic features would include all ephemeral washes, ditches, and basins but would exclude the 100-year floodplain and swales because these features do not regularly convey surface water, present no distinguishable aquatic habitat, and would quickly infiltrate into the soil and/or abate into upland if active. Ditches and basins that convey water into larger riverine features are considered to present a beneficial use of actively conveying surface water with connectivity to streams and active floodplains and would be under the purview of RWQCB. In addition, basins often present distinguishable aquatic habitat as a beneficial use. Therefore, the delineation of RWQCB waters is concurrent with the lateral extent of the OHWM as described above for delineation of federal waters, but also would include ditches and basins determined to be isolated state waters that possess wetland parameters based on the California Wetland Policy or OHWM-indicators. To be mapped as an isolated water, the basins and ditches included OHWM-indicators such as water marks along edges and banks; changes in soil characteristics such as soil cracking; shelving; destruction of vegetation such as matted vegetation or lack of vegetation; or, presence of litter and debris indicating flows.

CDFW Jurisdiction

The California Department of Fish and Wildlife (CDFW) usually extends its jurisdictional limit to the top of a stream bank, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider. Therefore, jurisdictional boundaries subject to California Fish and Game Code (CFGC) §§ 1600-1617 encompass an area that is greater than the lateral extent of the OHWM. Delineation of CDFW-exclusive jurisdictional waters were mapped to include the streambed (non-wetland waters of the U.S.) and the lateral extent of the top of bank above the streambed. Adjacent riparian habitat, if present, was also mapped as CDFW-exclusive jurisdiction.

Mapping Episodic Stream Activity

To map the type and extent of CDFW-jurisdictional watercourses, this delineation followed the *Mapping Episodic Stream Activity Field Guide* (MESA), which was published in 2014 (Brady and Vyverberg 2014, CEC 2014). MESA parameters were used to delineate the limits of CDFW jurisdiction at all survey sites. However, MESA data forms were only completed at a subset of representative sites (See Section 5.3 Agency Forms). MESA states that the "stream" definition in Title 14, California Code of Regulations (CCR), Section 1.72 (14 CCR 1.72) is not the definition to be used when determining CDFW jurisdiction over a stream in desert aquatic habitats. Rather, CDFW asserts that the 14 CCR 1.72 stream definition, developed to address a specific sports fishing issue that came before the California Fish and Game Commission, is not used by CDFW in general (particularly in arid settings), and does not apply to CFGC Section 1600 et seq. (CEC 2014). The definitions currently used in practice by CDFW are those used in MESA. Definitions of aquatic features according to MESA are detailed below.

> *MESA Stream Definition* - CDFW defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators." The "historic hydrologic regime" is defined in practice by CDFW as circa 1800 to the present. A *stream* may have more than one active channel or, as is more often the case, secondary channels that receive water only during higher flow events. Where present, *low flow channels*, *active channels*, *banks* associated with these channels, *floodplains*, and stream-associated vegetation, all lie within the bounds of a single larger channel, designated as the watercourse channel to discriminate between it and similar but smaller secondary features that lie within its bounds (Brady and Vyverberg 2014). Thus, for this delineation, some locations were delineated as CDFW jurisdictional "watercourse" based on this definition. Additionally, individual channels not located within a larger watercourse were delineated according to the more traditional top of the channel bank, where appropriate.
>
> *MESA Swale Definition* - MESA defines swales as depressions or hollows where runoff from the surrounding uplands accumulates. CDFW recognizes that swales that yield channel flow are important sources of water, sediment, nutrients, and other materials during runoff, and are considered source areas to and integral parts of streams. Often swales do not have a developed bed and bank. Instead, swales have a smooth, subtle transition from

the "head" of the swale to the "bed" of the swale, with no clear impressionable line or shelving resulting from surface water flow. If a feature was determined to contribute to a surface hydrologic connection between upland and aquatic features and if the feature was identifiable as part of a network, then it was delineated as part of the watercourse as discussed above. Or if the feature exhibited the beginning of bed/bank development, it was delineated as stream channels as discussed above. For this delineation, the width of swales was delineated as non-jurisdictional waters. However, CDFW may choose to assert jurisdiction over some swales on a case-by-case basis.

MESA Terrace Definition - MESA defines terrace as one of a series of level surfaces in a stream valley, flanking and paralleling the stream channel, originally occurring at or below, but not above the level of the stream, and representing the dissected remnants of an abandoned floodplain, stream bed, or valley floor produced during a former (and higher) stage of erosion and deposition. Thus, for this delineation, areas identified as terrace are not included as part of the watercourse, are considered upland, and are not subject to CDFW jurisdiction. This included areas that contained heavy reddening of soils, pebbles, and rocks indicating a lack of hydrological activity for long periods, or areas with strong soil development, or more diverse and established vegetation communities.

5.2.3 Non-Jurisdictional Features

Non-jurisdictional features (e.g., erosional rills, swales) were mapped and photographed in the field using the same mapping standards as described in Section 5.2.4 Mapping Standards. However, non-jurisdictional features are not presented in Figures 6-1 through 6-187 (Appendix A, Figures 6-1 through 6-187: Aquatic Resources Survey Results).

5.2.4 Mapping Standards

All spatial and attribute data were populated using the Environmental Systems Research Institute (ESRI) Collector application for ArcGIS running on an Apple iPad or iPhone. Potentially jurisdictional areas were mapped using an Arrow 100 sub-meter accurate receiver connected to the Apple devices through a Bluetooth connection. Global Positioning System (GPS) collected spatial data were imported into ArcMap software for post-field processing as described in Section 5.4 Post-Field Data Processing and Quality Assurance/Control. All required fields as specified in the SCE JD Schema version 2.5 were collected in the field or during the post-field data processing phase discussed in Section 5.4 if those values did not require field work to populate.

All vegetation data were collected according to the standardized list of vegetation types contained in the SCE GIS schema for aquatic resources delineations. Vegetation community mapping was not conducted. Vegetation community data were only collected to complete agency field forms, or populate required JD Schema fields. The description of vegetation types occurring in the Survey Area were derived from previous vegetation mapping (AECOM 2016) using the vegetation alliances contained in *A Manual of California Vegetation, Second Edition* (Sawyer *et. al*. 2009).

5.2.5 Photographs

Photographs were taken of all features, jurisdictional and non-jurisdictional. At least three photos were taken for jurisdictional features (one upstream, one downstream, and one of the OHWM and/or top of bank), and at least one photo was taken for non-jurisdictional features, and for every feature determined to be a watercourse under CDFW jurisdiction. Only representative photographs for each feature type, or where proposed Project components may impact jurisdictional features, are included in Appendix D: Photo Log. All photos are numbered according to Survey Site ID.

5.3 Agency Forms

No USACE Wetland Determination Data Forms were completed because no potential wetland areas were encountered during field work (see Section 6.0 Results). The 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet (OHWM Datasheet) and the MESA Data Sheet were completed at five survey sites to collect data representative of the diversity of channel types that occur in the Survey Area, including, single thread channels, compound channels, braided channels, and distributary channels. Cross-section sketches of channels and vegetation associations were prepared; however, soil profile analysis, and elevation data were not collected.

Delineation transects were evaluated at the representative survey sites to collect agency form data, and document transitions between landform types consistent with the agency's landform type definitions. CDFW MESA data was collected to document transitions between upland, and watercourse landforms (Appendix E: Completed MESA Forms). USACE OHWM data were collected to document transitions between low-flow channel, active floodplain, and low terrace landforms (Appendix F: Completed USACE OHWM Forms). Landform type points that correspond with the completed agency forms were plotted on the delineation results figures to identify landform transition locations.

5.4 Post-Field Data Processing and Quality Assurance/Control

After the field delineation was completed, all collected dated including electronic data, photographs, and handwritten notes were evaluated to determine the location, type, and amount of delineated waters. GPS collected spatial data were imported into ArcMap software. Spatial data errors were corrected and discontinuous line work was edited to rectify discontinuous topology. Polygons were created from centerlines of mapped linear features based on the average width data collected. All acreage and linear distances were calculated using ArcMap.

5.5 ARDR Preparation

This ARDR was prepared in accordance with USACE Los Angeles District *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2017), *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016), and *Aquatic Resource Delineation Report Submittal Workshop* (USACE 2019).

6.0 Results: Description of All Wetlands and Other Non-Wetland Waters

All potential aquatic resources waters are mapped on Figures 6-1 through 6-187 (Appendix A, Figures 6-1 through 6-187: Aquatic Resources Survey Results). Representative photographs of delineated waters are provided in Appendix D: Photo Log. Corresponding photograph points are provided on the Delineation Results Figures and descriptions and photo direction information is provided in the captions of the photos in Appendix D: Photo Log. Table 11 presents a summary of the type, jurisdiction, and amount of waters delineated within the Survey Area. Additional tables of delineation results by jurisdiction and survey site are provided in Appendix G: Tables of Results by Survey Site.

Table 11.Aquatic resources Within the Survey Area

Aquatic Resource Type	Amount	
Waters of the State (RWQCB/CDFW Jurisdiction)[1]	**Acres[4]**	**Linear Feet**
Basin	8.44	NA
Ditch/Canal	0.30	1,660
Unvegetated Channel	8.88	42,405
Vegetated Channel	1.39	4,472
Subtotal Waters of the State (RWQCB/CDFW Jurisdiction)	*19.01*	*48,536*
Waters of the State (CDFW Exclusive Jurisdiction)		
Basin - Bank	0.13	NA
Ditch/Canal - Channel Bank[2]	0.21	1,660
Unvegetated Channel - Channel Bank[2]	2.50	42,405
Vegetated Channel - Channel Bank[2]	0.04	4,472
Watercourse[3]	17.03	NA
Subtotal Waters of the State (CDFW Exclusive Jurisdiction)	*19.91*	*48,536*
Grand Total RWQCB Jurisdiction	**19.01**	**48,536**
Grand Total CDFW Jurisdiction	**38.92**	**48,536**

RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife

[1] Defined by Ordinary High Water Mark (OHWM) limits. Includes intrastate isolated waters. Includes stream channels within watercourse polygons.

[2] Includes individual stream channel banks within watercourse polygons.

[3] Linear distances for watercourses are the same as the linear distances for the vegetated and unvegetated channels, located within the watercourse. Does not include acreage and linear distance of individual stream channels and channel banks within watercourse polygons.

[4] All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

6.1 Federal Aquatic Resources

6.1.1 Wetland Waters

No areas potentially meeting the federal wetland definition were identified within the Survey Area. No wetland plant species were observed in the densities or assemblages that would normally indicate the presence of a hydrophytic plant community. Hydrology indicators including shallow mud cracks and

drainage patterns were observed within the Survey Area. However, these indicators were observed in upland areas dominated by creosote scrub or in predominantly unvegetated areas where riverine processes were observed. Thus, because the observed hydrology indicators did not co-occur with hydrophytic vegetation communities, subsurface soils investigations were not conducted and no USACE wetland determination data forms were completed.

6.1.2 Non-Wetland Waters

Vegetated and unvegetated stream channels possessing an OHWM that may be waters of the U.S. were delineated within Survey Area. However, as discussed in Section 6.2.2 Non-Wetland Waters – Isolated Waters, all of these features were determined to be isolated state waters that are non-navigable, non-relatively permanent waters that lack a surface water or significant nexus connection with a TNW or a tributary thereof.

6.2 State Aquatic Resources

6.2.1 Wetland Waters

For the same reasons described in Section 6.1.1 Wetland Waters, no wetland waters of the state were delineated.

6.2.2 Non-Wetland Waters – Isolated Waters

After reviewing aerial imagery, WBD Data, USGS 7.5-minute quadrangle maps, APT data, and performing a field survey, it is concluded that intrastate isolated waters were delineated within Survey Areas located in the Southern Mojave HUC 18100100 and Imperial Reservoir Watershed HUC 15030104 watersheds. All features delineated as ditch/canal, basin, vegetated channel, unvegetated channel, channel bank, and watercourse are non-tributary, ephemeral features, i.e. aquatic resources that contain surface water flowing or pooling only in direct response to precipitation in a typical year, and are intrastate isolated waters of the state. As noted in Table 10 above, the APT data indicate that the conditions at the time of survey were normal or wetter than normal. None of the features delineated contained water at the time of surveys. All features were characterized as dry, compound channels composed of a network of braided channels and multiple low-flow channels and scattered desert wash woodland species.

State Waters in the Southern Mojave Watershed

Survey sites 1 through 316 are located within the Southern Mojave HUC 18100100 Watershed, which does not have a perennial or intermittent tributary within its boundaries and it does not have an outlet. Rather, the watershed is composed of smaller sub-basins that transport waters after rain events to intrastate dry lake beds. The Chuckwalla Valley, which originates at Chiriaco Summit and slopes east toward Blythe (the eastern terminus of the Survey Area), contains three large dry lake beds: Hayfield Lake, Palen Lake, and Ford Dry Lake. All the waters within the Southern Mojave watershed drain to or toward these dry lakes.

The features flowing to these dry lakes are intrastate isolated waters because Palen Dry Lake and Ford Dry Lake are not TNWs nor are they tributaries to TNWs.[4]

Most of the features delineated in this watershed are unvegetated and vegetated ephemeral dry washes and channels that possess OHWM and are within the jurisdiction of the RWQCB. Representative cross-section details are provided in Figure 6, sheets 6, 45, 65, 70, and 82, and OHWM data sheets are provided in Appendix F. Watercourse consisting of floodplains and alluvial terraces were also mapped in this watershed as CDFW-exclusive jurisdiction. The features in survey sites 20, 21, 55, 56, and 297 – 300 were mapped as ditches or canals, and areas near the I-10 described below that cause ponded water to form basins. These features are concurrently RWQCB and CDFW jurisdiction.

The delineated features located north of I-10 (sites 1 through 133), drain east or northeast in distributary alluvial fans and either abate into upland near Palen Lake or drain to Ford Dry Lake. The delineated features within survey sites 134 through 249 that drain north toward I-10 are channelized through a system of diversion dikes or levees located upstream of the survey sites, and flow under I-10 through culverts that drain toward Ford Dry Lake. Survey sites 244 – 249, 252 – 257, 261 – 268, and 271 – 275 are located immediately adjacent to the I-10 freeway where water frequently ponds as a result of the diversion dikes and levee systems causing basins to form supporting vegetation communities consisting of Alkali weed – salt grass playas and sinks, and Allscale scrub.

Many channels within survey sites 134 through 249 are located in areas immediately downstream of the levee system such that the channels are no longer active and are hydrologically disconnected from historic flows from their upstream water sources in the mountains. According to MESA guidance (Brady and Vyverberg 2014, p. 30, emphasis added):

> In episodic streams where flow may only occur every few years, evidence of that flow (activity) may be hard to recognize. However, it is incumbent on the field investigator to recognize the difference between a truly abandoned channel (**one that has become hydrologically disconnected from its source**), and one that has simply not experienced recent flow.

In the case of the channels immediately downstream of the levees, they have become hydrologically disconnected from the upstream source waters from the mountains in the southwest. In addition, some channels do not connect to flow through the diversion dikes and into the culverts under I-10 such that they have become hydrologically disconnected from Ford Dry Lake. Precipitation runoff at these sites is limited to the very small watershed downstream of the levees and many of these channels are now functionally equivalent to swales. Because they are hydrologically disconnected to waters of the state, these streams were mapped as non-jurisdictional "relict" channels ("paleo" channels in the SCE schema) or swales per the MESA guidance. As noted in Section 5.2.4 Non-jurisdictional Features, these paleo channels are not identified in the figures, but are available to review upon request.

[4] On December 15, 2015, the USACE determined that Palen Dry Lake and Ford Dry Lake do not form a connection with the Colorado River or any other TNW (see approved jurisdictional determination for USACE File No. SPL-2015-00572-TWJ available at: AJD201500572.pdf (army.mil).

A similar levee system is located on the north side of I-10 in the vicinity of survey sites 281 – 310, and sites 331 – 334 (in the Imperial Reservoir Watershed described below). Survey sites in this area are located both upstream and downstream of the levee system, and some channels in the area have been hydrologically disconnected from upstream water sources by diversion structures.

State Waters in the Imperial Reservoir Watershed

Survey sites 317 through 388 are located within the Imperial Reservoir HUC 15030104 Watershed. Survey sites 319 – 321, 323 – 326, 328, 331 – 334, 336, 339, and 341 have delineated features in them that possess OHWM. Sites 317 through 332 are located north of the I-10 freeway, site 333 spans the freeway, and the remaining sites are located south of the I-10 freeway. Surface water for all the sites located north of the I-10 freeway originates in an alluvial fan system at the base of the McCoy Mountains and is hydrologically connected to the delineated channels within the survey sites by unnamed ephemeral wash channels. To the south of the I-10 freeway, all the delineated channels within the survey sites are hydrologically disconnected from upstream flows originating to the north of the freeway by a system of diversion dikes and ditches protecting the freeway, and by the freeway berm itself. Flows in the delineated channels located south of the freeway are therefore limited to surface runoff originating in the land area located south of the freeway.

The delineated channels within survey sites 319 – 321, 323 – 326, and 328 are each ephemeral wash channels that flow to the south about 1/4 mile into a constructed ditch located immediately north of the I-10 freeway berm and running parallel to it. The ditch flows about two miles to the east where it forms a confluence with Palowalla Ditch, a constructed diversion feature associated with the levee system protecting the freeway. The delineated channels within sites 331 - 333 flow directly into the same ditch paralleling the freeway berm at a location about 1/2 mile upstream of its confluence with Palowalla Ditch. The delineated channels within survey site 334, 336, and 338 - 339 is an ephemeral wash that flows into a larger unnamed ephemeral wash located about 250 feet downstream. The larger unnamed wash flows to the east-southeast for about 3/4 of a mile before forming a confluence with Palowalla Ditch. Survey sites 340 and 341 is located in an abandoned borrow pit and conveys surface runoff from the pit through a convoluted system of disturbed excavated areas, washes and roadbeds. Flows from survey site 341 eventually drain into an ephemeral wash channel that flows about 1/2 mile to the southeast where it abates into sandy uplands.

With the exception of the channel located in survey site 341, which abates into uplands, Palowalla Ditch is the receiving water body for all of the delineated stream channels within the portion of the Survey Area that is in the Imperial Reservoir Watershed. From the site of its last confluence with a delineated channel, Palowalla Ditch flows to the southeast for about 1.5 miles before abating into sandy uplands in the Palo Verde Mesa. There are no surface channels, streams, ditches, or washes present that could covey flows from the area of abatement to the nearest water body with a hydrologic connection to the Colorado River – Rannells Drain – which is located about 3 1/4 miles to the southeast of the upland terminus of Palowalla Ditch. Therefore, neither Palowalla Ditch nor any of the delineated channels located at survey sites within the Imperial Reservoir Watershed form a hydrological connection with any tributary or territorial seas, and

none of these features are considered waters of the U.S. Table 12 summarizes the abatement location for streams flowing through survey site 341 and the Palowalla Ditch.

Table 12.Intrastate Isolated Waters in the Imperial Reservoir HUC 15030104Watershed

Survey Site #	Abatement Point Quad Map Name	Distance From Colorado River (miles)	Abatement Point (latitude, longitude)
341	Roosevelt Mine	12.6	33.6038°, - 114.754°
319 - 339	Roosevelt Mine	12.2	33.5923°, - 114.7514°

Based on this cumulative evaluation of pre-survey and field survey findings, applicable regulations/agency guidance, and applicable case law, it is determined that the features identified in the Survey Area do not form either a surface water or Significant Nexus connection with the TNWs and are therefore considered isolated and not within the purview of the USACE or the CWA. In conclusion, the features identified within the Survey Area within the Imperial Reservoir Watershed are intrastate, isolated waters with no apparent interstate or foreign commerce connection.

6.3 Deviation from NWI

As shown in comparison to Appendix A, Figure 3: Watershed Boundary Dataset, the aquatic resources identified and mapped in this ARDR are more numerous than those mapped in the NHD. Within the Survey Area, the aquatic resources mapped in the NHD correspond with most of the larger washes and some of the distinct tributaries to those washes and/or dry lake beds, and delineate the path of water flow as opposed to encompassing the multiple low-flow channels within the associated active floodplains. Differences between those aquatic resources mapped in both this ARDR and the NHD would be the result of the changing flow patterns over time and variability in widths of stream complexes.

7.0 Discussion and Conclusions

The Survey Area contains the amount and type of aquatic resources as reported in Table 11. Included in the waters of the state (RWQCB/CDFW Jurisdiction) are vegetated and unvegetated stream channels that possess OHWM but are only subject to state jurisdiction because these streams are intrastate, isolated waters with no apparent interstate or foreign commerce connection. It should be noted that for the streams evaluated as lacking jurisdiction, only USACE and U.S. EPA can determine whether such waters are in fact isolated and/or non-jurisdictional waters. Typically, an Approved Jurisdictional Determination (AJD) request package must be prepared and provided to USACE to facilitate an AJD that the waters delineated as intrastate isolated waters are in fact isolated.

7.1 Potential Impacts

The Project has been designed to minimize impacts to sensitive resources, including aquatic features, to the extent feasible. SCE went through a process of reducing work area footprints to avoid impacts to the maximum extent feasible while maintaining safety requirements and the ability to implement the purpose and need of the Project. SCE conducted a site visit with Artemis Environmental specialists during November 2017 after the field surveys had been completed. The purpose of the visit was to identify construction work areas that could be moved outside of aquatic features. A majority of the work areas were able to be re-engineered. As a result, impacts from the proposed Project have been greatly reduced from the original design. Based on the original design in July 2017, impacts to RWQCB jurisdiction was reduced from 0.45 acre to 0.09 acre, and impacts to CDFW jurisdiction was reduced from 2.78 acre to 0.67 acre (See Table 13).

The Project involves upgrade of existing infrastructure. To the extent feasible, Project work areas are co-located with existing disturbed areas such as access roads and work areas near the existing structures. Existing access roads will be used – no new access roads will be created. “Drive and crush” methods will be used to the extent possible. Where vegetation removal is required, care will be taken to preserve existing root structures and seed bank. Because the structures are mostly light-weight poles and because the lower voltage conductor and underbuild circuits are light-weight (relative to transmission infrastructure), light-weight rubber-tired equipment (e.g., cranes, bucket trucks) will be used to accomplish the work to the extent feasible. This approach will minimize surface disturbance and soil compaction, and impacts to aquatic resources. Nevertheless, the Project involves activities that could result in impacts to aquatic resources. These activities include:

- Minor leveling activities at wire setup sites to ensure equipment stabilization
- Vegetation clearing, or crushing, and overland travel at work areas
- Possibly installing temporary wood poles, approximately 60-80 feet tall, at guard structure sites
- Installing temporary erosion control fencing, berms, and other erosion control measures to comply with Stormwater Pollution Prevention Plan (SWPPP) requirements

For the purposes of calculating impacts, the entire Project area footprint was considered temporarily impacted where minor grading, leveling, or ground disturbance activities would occur, which typically

involves discharge of fill materials. Drive and crush activities, which will occur mostly in existing structure work areas as described in Section 2, were not considered impacts to waters because soils would not be disturbed, fill materials would not be discharged, and flows would not be obstructed or disrupted. Permanent impacts were calculated based on the structure footprints and include only the area associated with the footings of each structure. Considering the Project involves replacement of existing structures incorporating direct bury and direct replacement, where possible, the net permanent impacts are negligible as reported below in Table 13. Overall, construction activities would result in the temporary loss of CDFW-jurisdictional features in the form of 0.08 acre (129 linear feet) of unvegetated channels and bank, and 0.48 acre of watercourse. Temporary fill in the form of excavated native soils for minor grading and leveling is anticipated to be 138 cubic yards. Total temporary impacts will be 0.56 acre (129 linear feet) as reported in Table 13. Because the Proposed Project involves removal and replacement of existing structures, incorporating direct bury methods where possible, the net permanent impacts are 60.6 square feet (or less than 0.001 acre). Permanent fill in the form of concrete for construction of pole foundations is anticipated to be a net 159.6 cubic yards.

Table 13.Potential Impacts to Jurisdictional Waters of the U.S. and State

Waters Type	Impact Type	Amount	
		acres	linear feet
Waters of the State (RWQCB/CDFW Jurisdiction)			
Basin	None	0.00	NA
Ditch/Canal	None	0.00	0
Unvegetated Channel	Temporary Fill from Structure Replacement and Wire Setup	0.08	128.7
Vegetated Channel	None	0.00	0
Subtotal Waters of the State (RWQCB/CDFW Jurisdiction)		*0.08*	*128.7*
Waters of the State (CDFW Exclusive Jurisdiction)			
Ditch/Canal - Channel Bank	None	0.00	0
Unvegetated Channel - Channel Bank	Temporary Fill from Structure Replacement and Wire Setup	<0.01	0
Vegetated Channel - Channel Bank	None	0.00	0
Watercourse	Fill from Structure Replacement, Wire Setup, and Guard Pole	0.48	NA
Subtotal Waters of the State (CDFW Exclusive Jurisdiction)		*0.48*	*0*
Grand Total RWQCB Jurisdiction		**0.08**	**128.7**
Grand Total CDFW Jurisdiction		**0.56**	**128.7**

Areas disturbed by temporary construction activities will be returned to preconstruction conditions, to the extent feasible, following the construction period. All temporary wood poles, equipment, temporary fencing, and materials will be removed after construction is complete. Seeding efforts, if required by the SWPPP, will occur on a one-time basis following construction activities, and no supplemental irrigation will be applied. The temporarily impacted areas will be hand seeded. Seed will be gently raked into the ground

to allow seeds to fall into crevices where it will be more protected from wind and herbivory. Fertilizer use will not be necessary during seed restoration activities, and natural recolonization will occur in areas temporarily disturbed.

7.2 RECOMMENDATIONS

The Proposed Project will likely require 1) submittal of an AJD package to USACE, 2) authorization from RWQCB Region 7 to discharge waste (i.e., fill material) to waters of the state, and 3) a Lake or Streambed Alteration Agreement (LSAA) from CDFW for impacts to CDFW-jurisdictional waters of the state. Requisite authorizations are discussed individually in this section.

7.2.1 APPROVED JURISDICTIONAL DETERMINATION

AJDs and Preliminary Jurisdictional Determinations (PJDs) are tools used by USACE to implement Section 404 of the CWA. An AJD is defined at 33 CFR 331.2 as a

> document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. Approved JDs are clearly designated appealable actions and will include a basis of JD with the document.

Regulatory Guidance Letter 16-01 dated October 2016 further states:

> AJDs are definitive, official determinations that there are, or that there are not, jurisdictional aquatic resources on a parcel and the identification of the geographic limits of jurisdictional aquatic resources on a parcel can only be made by means of an AJD. AJDs may be either "stand-alone" AJDs or AJDs associated with permit actions. Some "stand-alone" AJDs may later be associated with permit actions, but at time of issuance are not related to a permit application. A "stand-alone" AJD may be requested so that impacts to jurisdictional aquatic resources may be avoided or minimized during the planning stages of a project, or it may be requested in order to fulfill a local/state authorization requirement... [USACE] will issue an AJD upon receiving a request for a formal determination regarding the jurisdictional status of aquatic resources on a parcel, whether or not the request specifically refers to an "AJD." An AJD:
>
> 1. will be used if USACE is determining the presence or absence of jurisdictional aquatic resources on a parcel;
> 2. will be used if USACE is identifying the geographic limits of jurisdictional aquatic resources on a parcel;
> 3. will remain valid for a period of five years (subject to certain limited exceptions explained in RGL 05-02);
> 4. can be administratively appealed through the USACE administrative appeal process set out at 33 CFR Part 331...

An AJD may be requested using the "Request for Corps Jurisdictional Determination" form (Request Form). Even if the requestor does not use the Request Form, the same information and signature should be submitted to the Corps district with each request. To start the process, SCE would submit the formal request for a jurisdictional determination and would coordinate with USACE on the intent and purpose of the request to facilitate completing a Request Form.

7.2.2 Waste Discharge Requirements

Because the Proposed Project does not contain federal jurisdictional waters, a Section 404 permit would not be required, and therefore, a Section 401 Certification would not be required. However, the Project must then obtain an individual WDR, or Waiver, unless a General Order applies. The Proposed Project will result in 0.08 acre (128.7 linear feet) of impacts to isolated waters of the state. SWRCB Order No. 2004-0004-DWQ, a general WDR, authorizes the discharge of fill material to isolated state waters where the discharge would not affect more than 0.20 acre and 400 linear feet of a waters of the state. A notice of intent must be submitted to Region 7 RWQCB at least 45 days prior to the discharge to obtain coverage under the general WDR. It is recommended to discuss options with Region 7 RWQCB to determine whether submitting a ROWD as a request for issuing individual WDRs may be required, or whether coverage under the general WDRs may be permitted. A pre-application meeting with the agency will assist in determining the best approach for authorizing discharges to isolated waters.

7.2.3 Streambed Alteration Agreement

The Proposed Project may adversely affect a total of 0.56 acre (128.7 linear feet) of streambeds subject to CDFW jurisdiction. An LSAA with CDFW will likely be required. Therefore, a Notification of Lake or Streambed Alteration must be submitted to CDFW Inland Deserts Region.

7.3 Disclaimer Statement

The findings and conclusions presented in this report, including the location and extent of aquatic resource areas subject to regulatory jurisdiction, represent the professional opinion of Artemis Environmental Services. These findings and conclusions should be considered preliminary and at final discretion of the applicable resource agency. Verification of this ARDR and a jurisdictional determination must be made solely by the USACE, RWQCB and CDFW.

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Appendix A

Figures

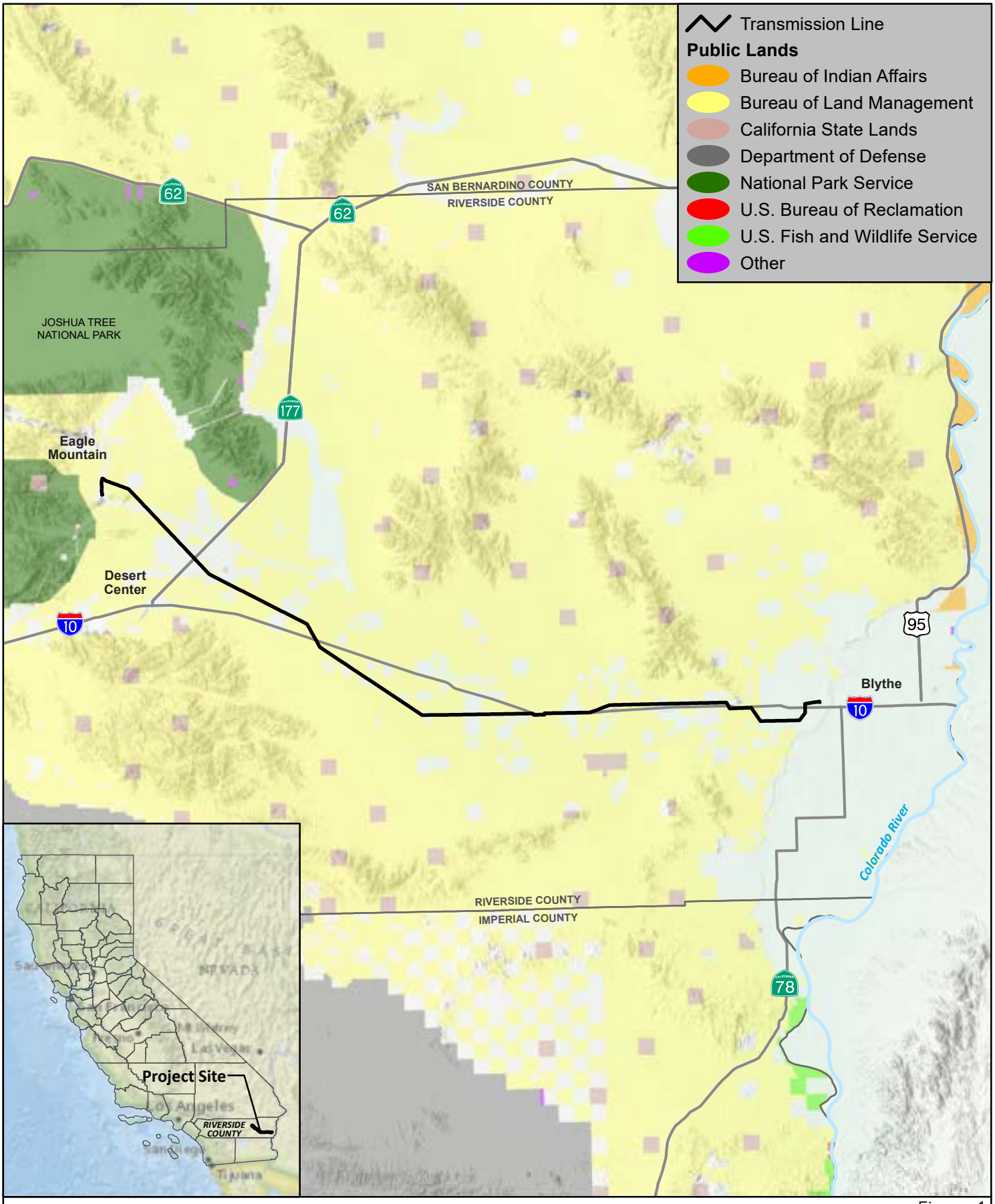


Figure 1

Regional Location Map

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE
RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

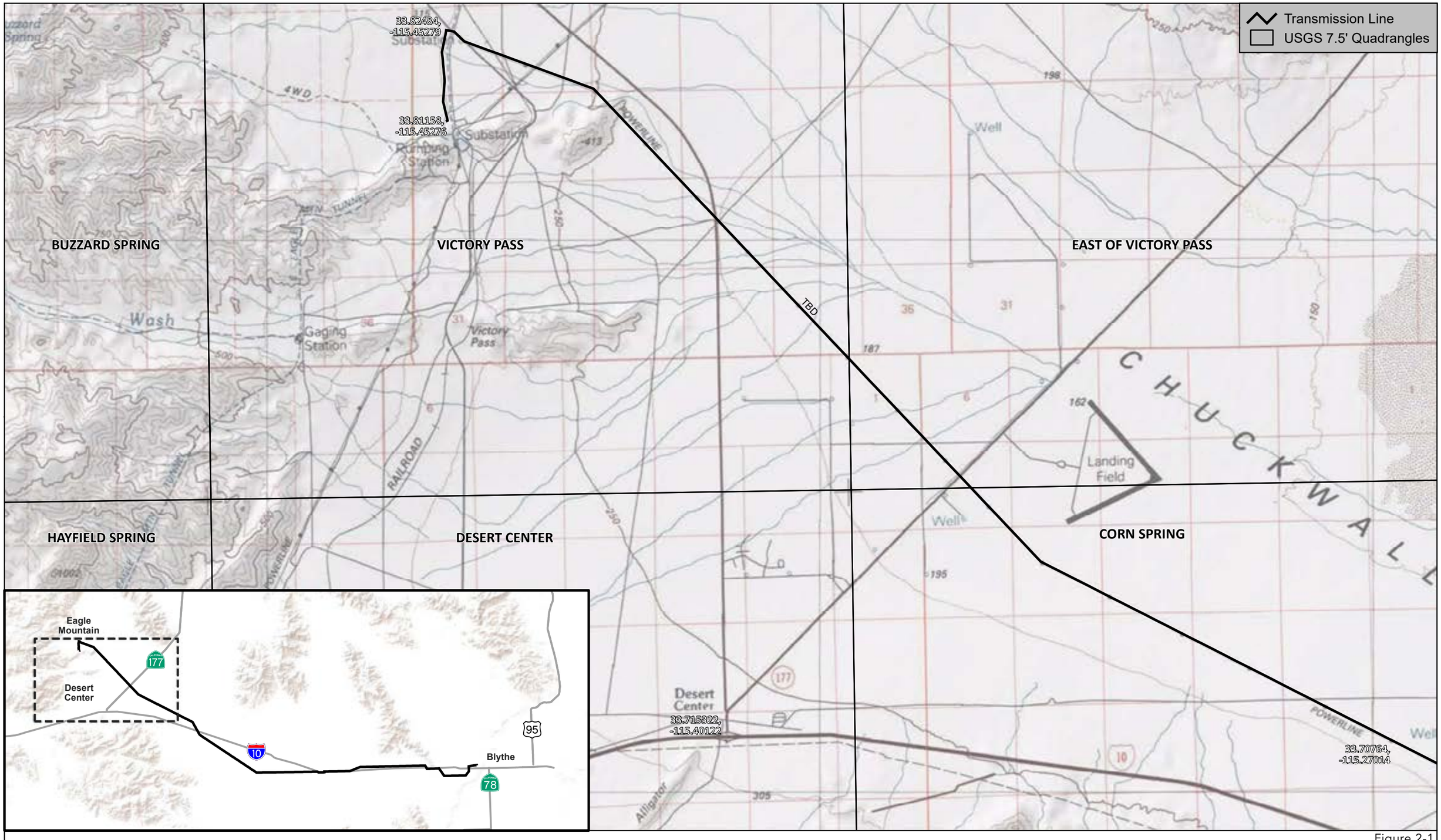


Figure 2-1

Vicinity Map

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 1 Miles

Transmission Line
USGS 7.5' Quadrangles

33.70764,
-115.27014

CORN SPRING

SIDEWINDER WELL

FORD DRY LAKE

PILOT MOUNTAIN

AZTEC MINES

EAST OF AZTEC MINES

33.60523
-115.05182

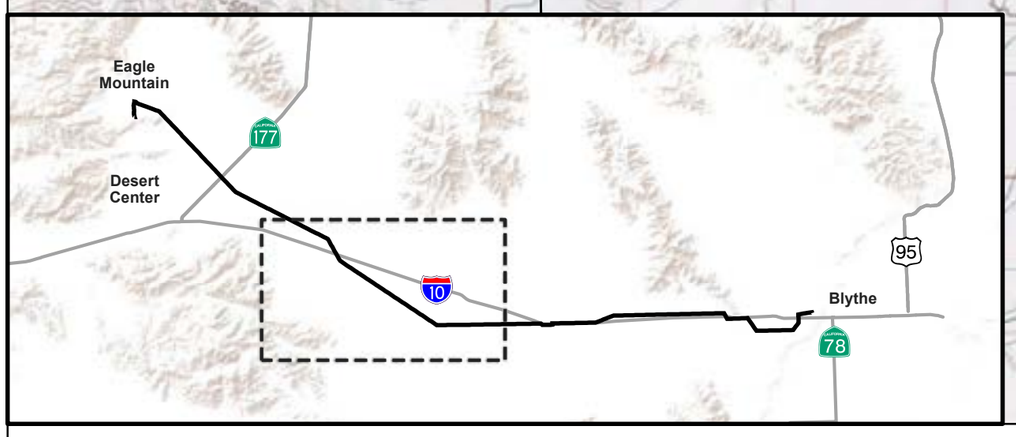


Figure 2-2

Vicinity Map

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 1 Miles

Transmission Line
USGS 7.5' Quadrangles

FORD DRY LAKE

MCCOY SPRING

MCCOY PEAK

EAST OF
AZTEC MINES

HOPKINS WELL

ROOSEVELT MINE

CHUCKWALLA VALLEY

38.60674
-115.0171

38.60768,
-114.77798

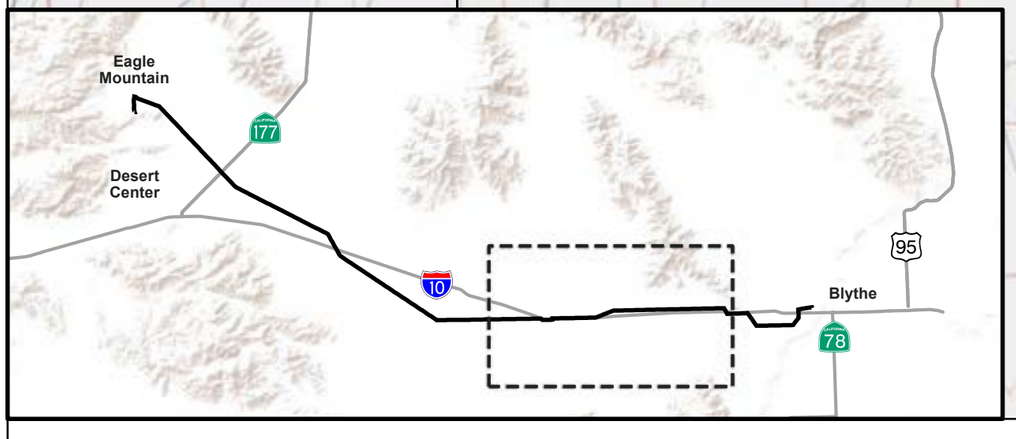


Figure 2-3

Vicinity Map

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 1 Miles

Transmission Line
USGS 7.5' Quadrangles

MCCOY PEAK
MCCOY WASH
BLYTHE NE
ROOSEVELT MINE
RIPLEY
BLYTHE

33.60774
-114.76202

33.60245,
-114.60171

Eagle Mountain
Desert Center
Blythe

Figure 2-4

Vicinity Map

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 1 Miles

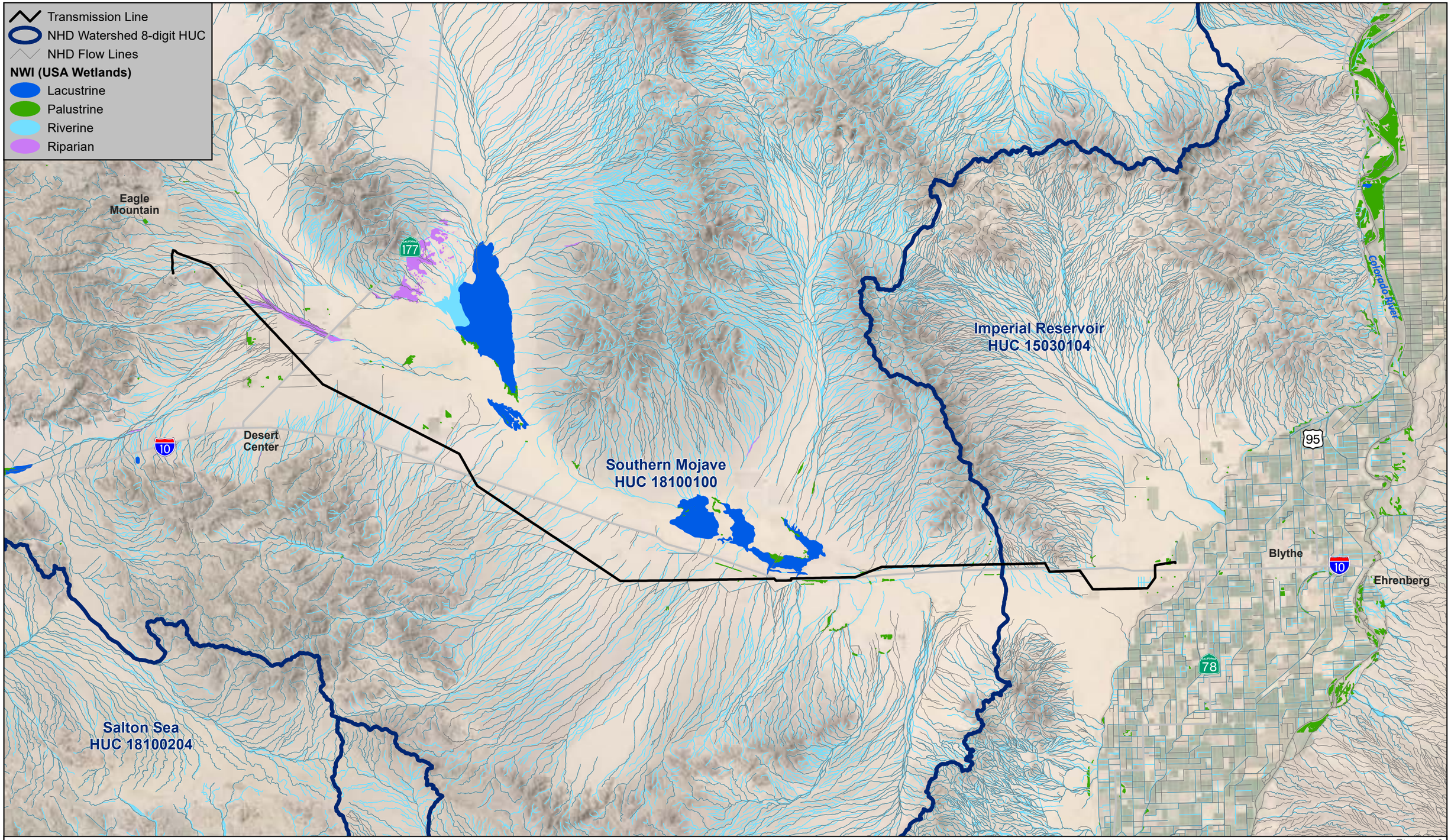


Figure 3

Watershed Boundary Dataset

SCE EAGLE MOUNTAIN-BLYTHE
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 4 Miles

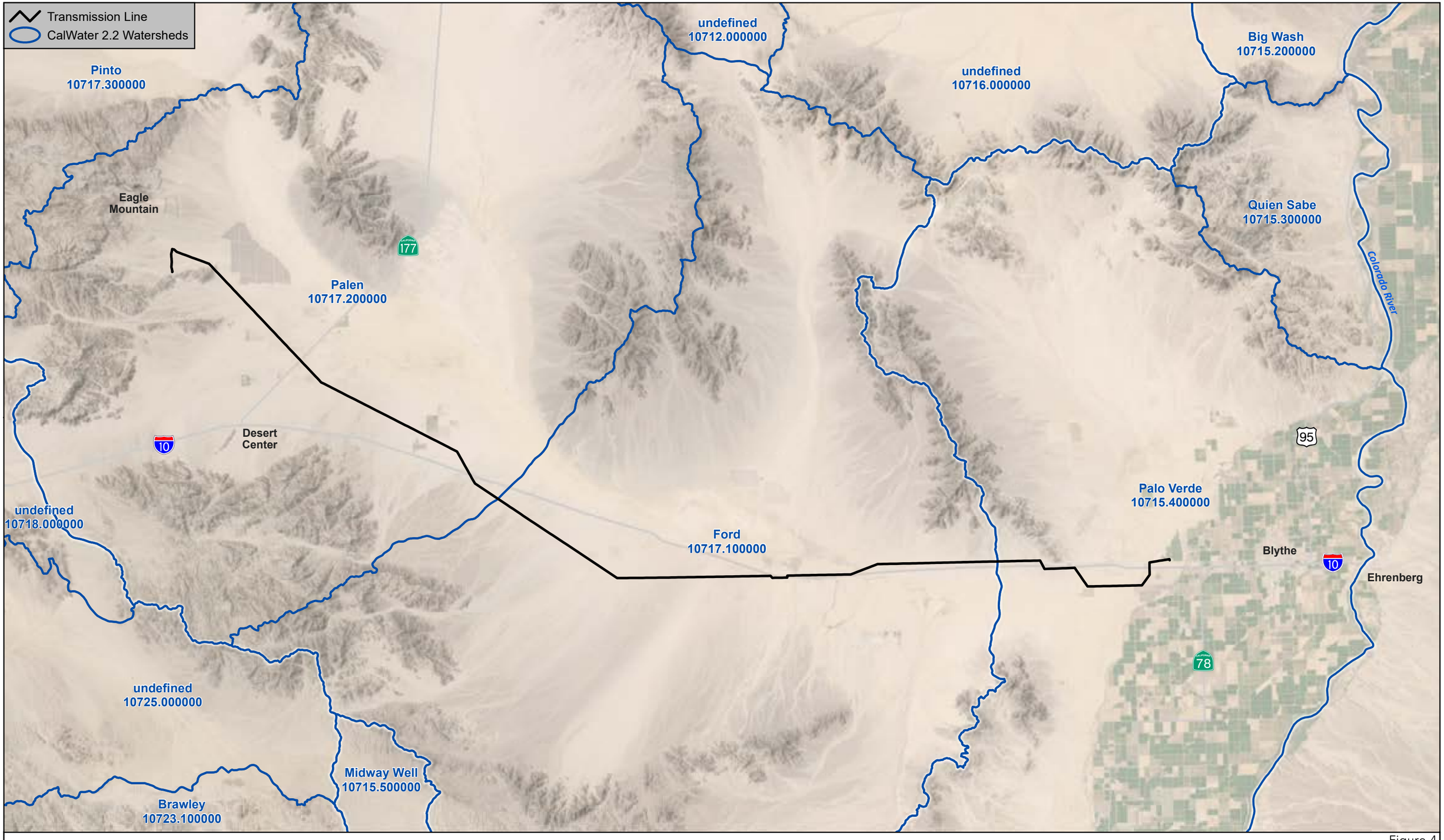


Figure 4

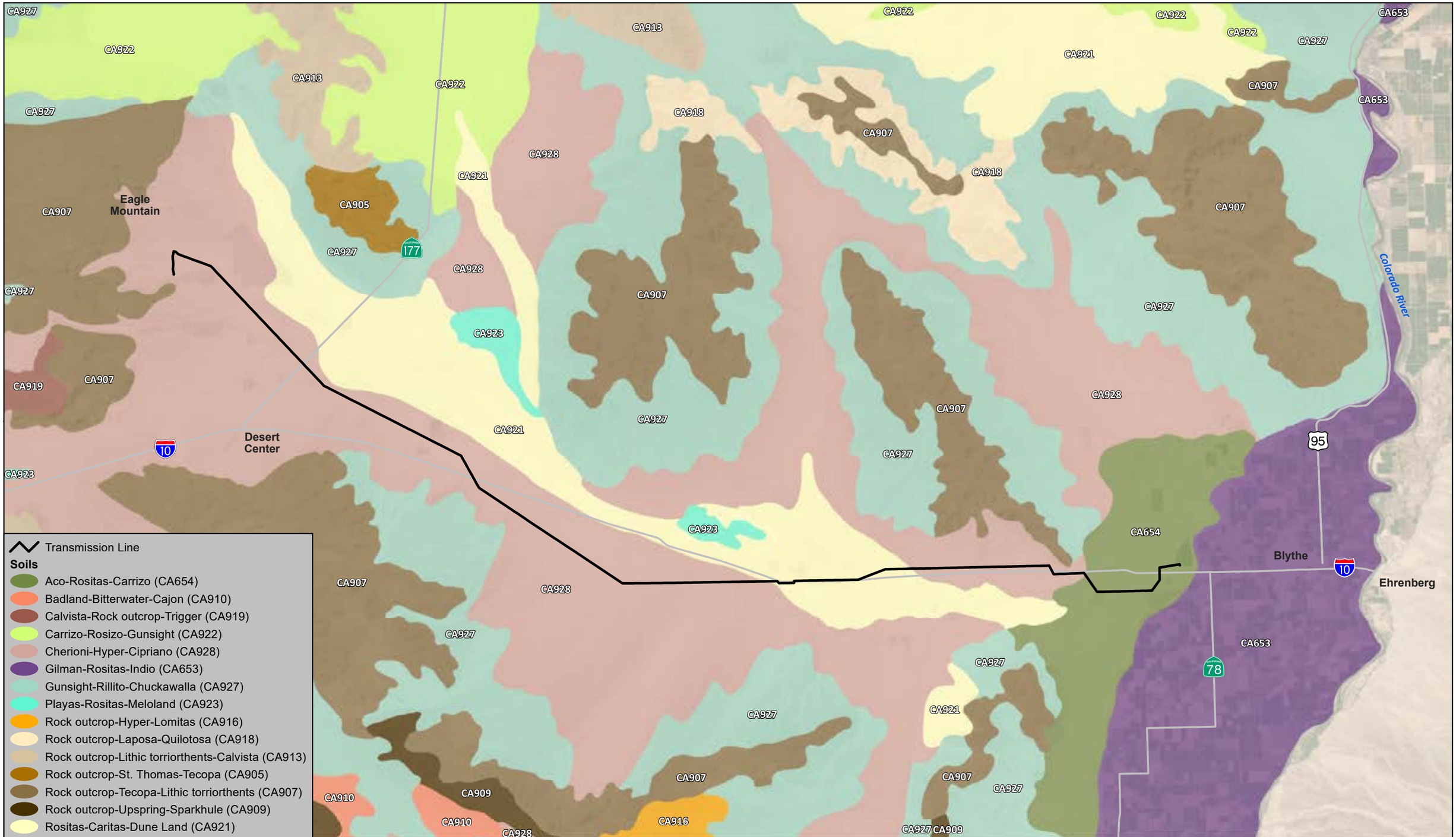
CalWater Watersheds

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 4 Miles



Source: USDA/NRCS 2017

Figure 5

Soils

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

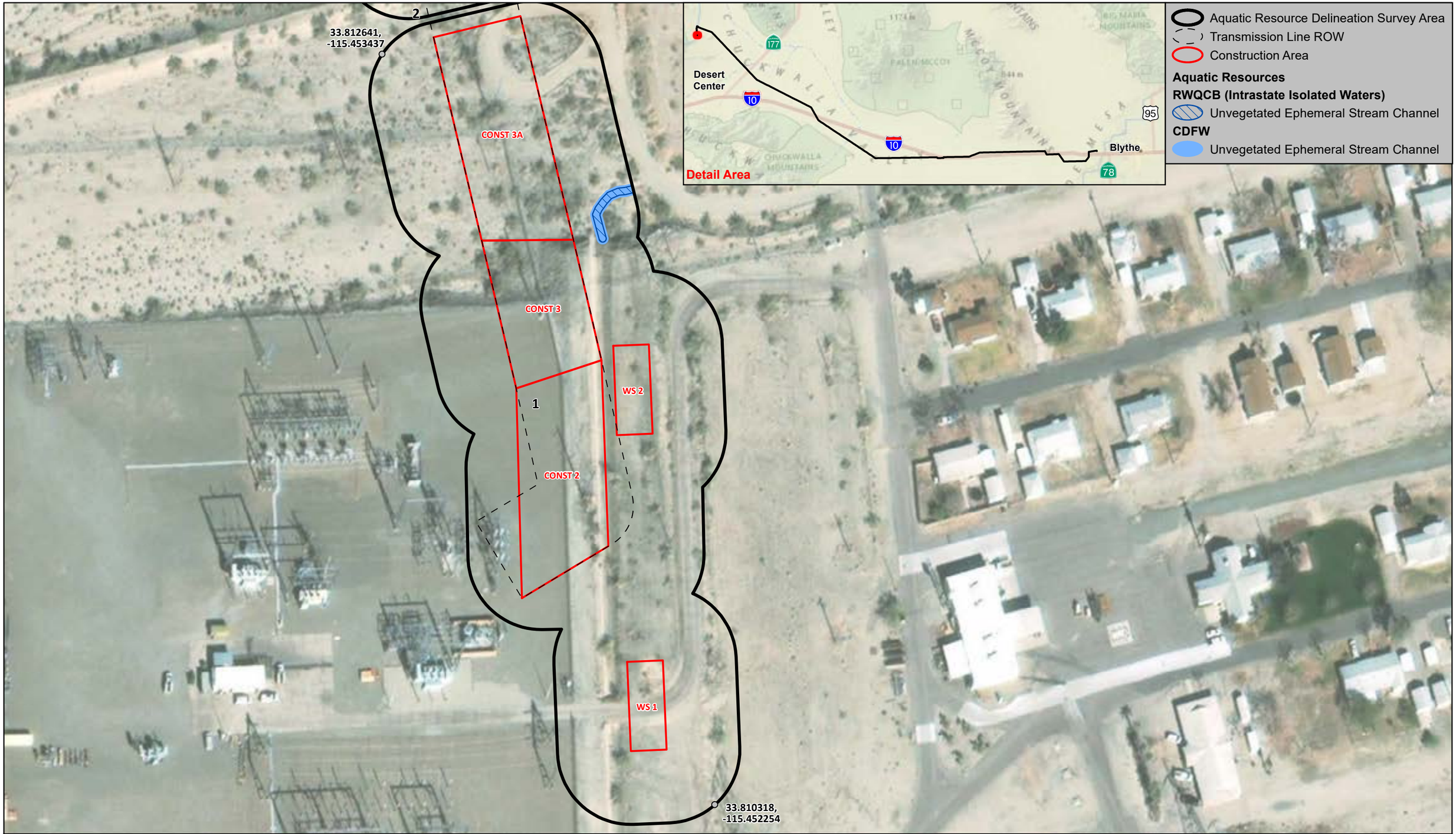


Figure 6-1

Aquatic Resource Survey Results - Sheet #1

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

33.815307,
-115.45385

CONST 6

CONST 5

CONST 5

2

CONST 4

1604706E

33.812905,
-115.452788

1

Aquatic Resource Delineation Survey Area
Transmission Line ROW
Construction Area

Aquatic Resources

RWQCB (Intrastate Isolated Waters)

Vegetated Ephemeral Stream Channel
Unvegetated Ephemeral Stream Channel

CDFW

Vegetated Ephemeral Stream Channel
Unvegetated Ephemeral Stream Channel
Watercourse

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-2

Aquatic Resource Survey Results - Sheet #2

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

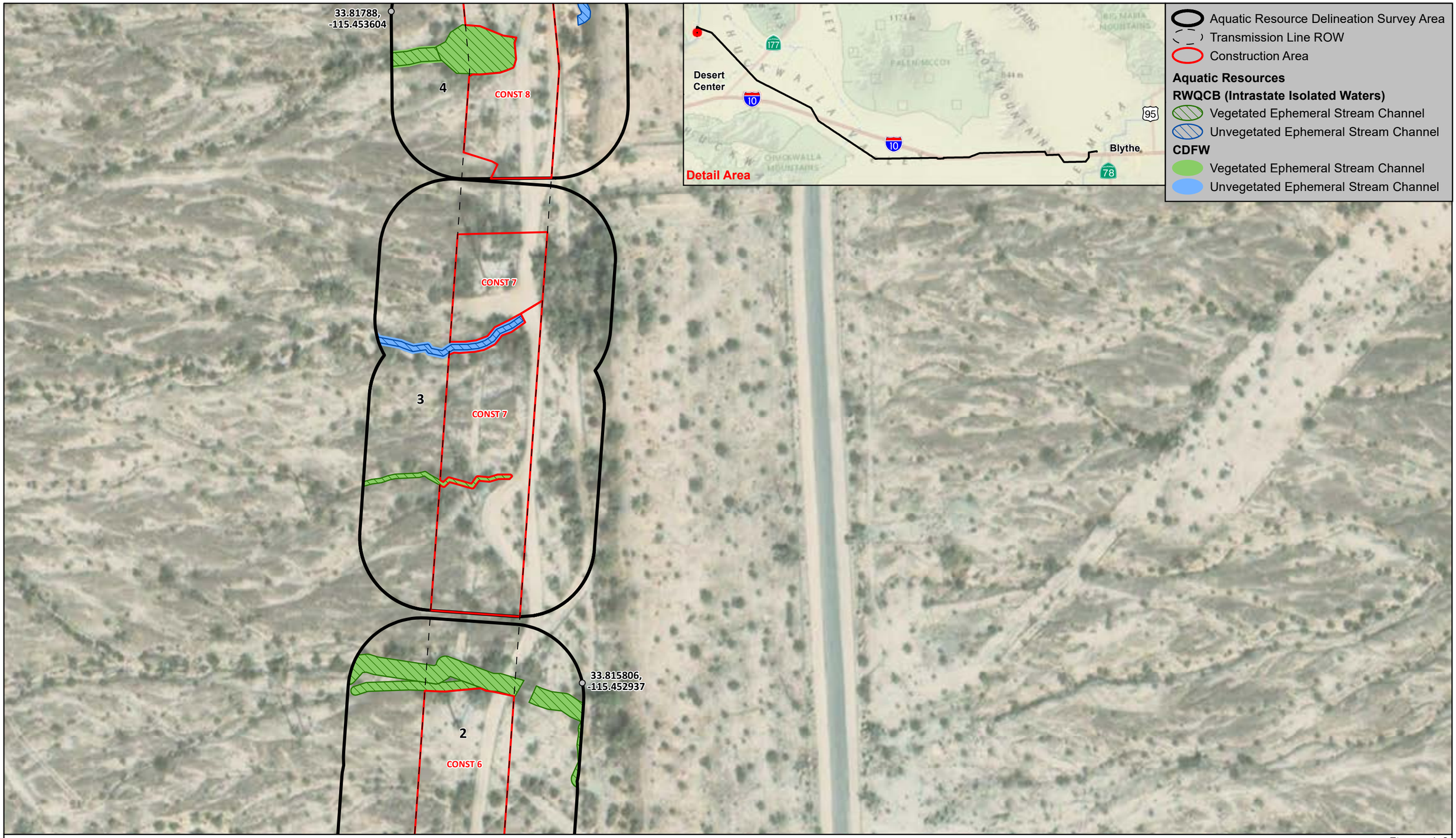


Figure 6-3

Aquatic Resource Survey Results - Sheet #3

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

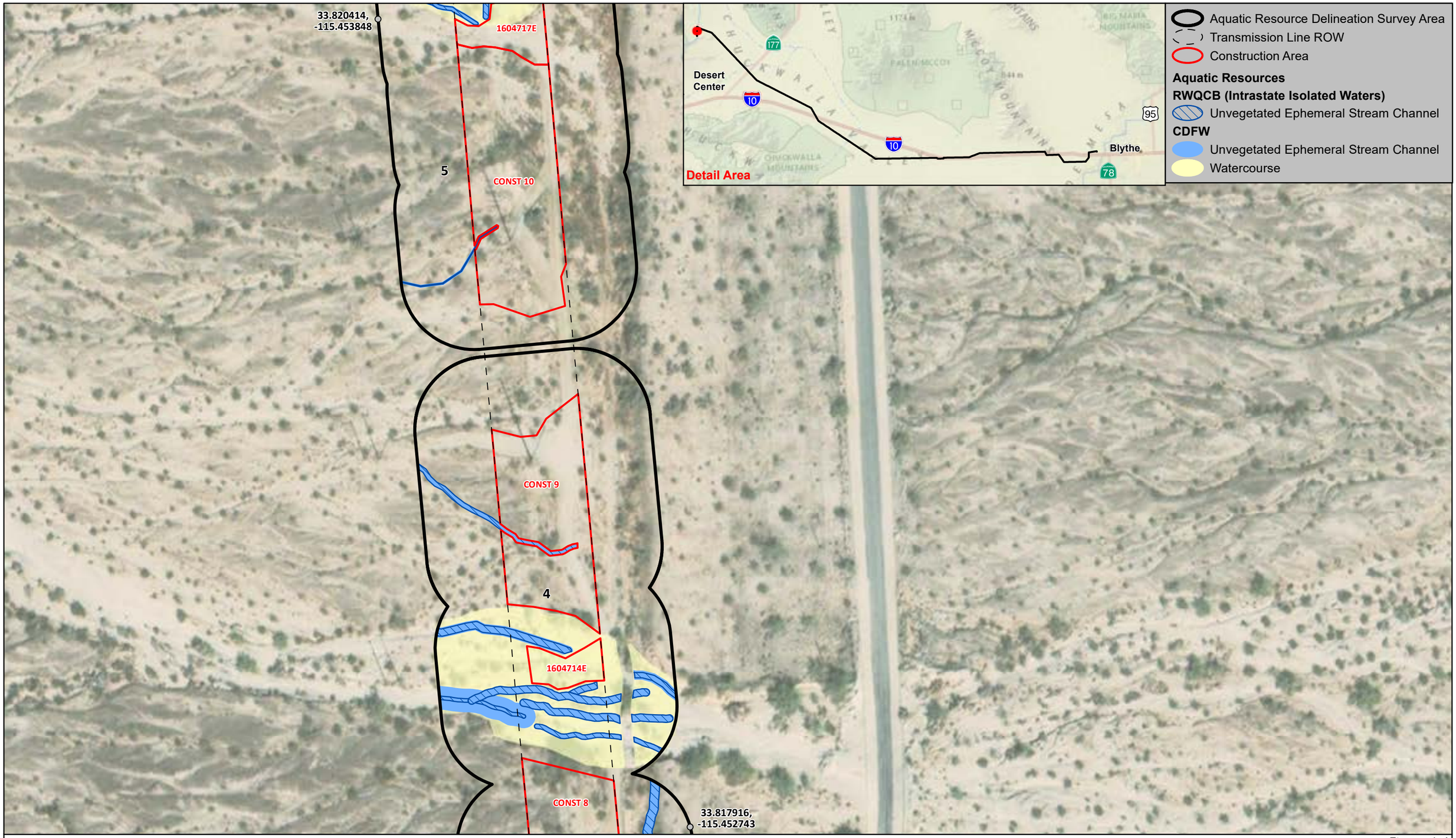


Figure 6-4

Aquatic Resource Survey Results - Sheet #4

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

33.822983,
-115.453901

1604721E

7

CONST 12

CONST 11

6

1604718E

5

1604717E

33.820498,
-115.452984

Aquatic Resource Delineation Survey Area
Transmission Line ROW
Construction Area

Aquatic Resources

RWQCB (Intrastate Isolated Waters)

Unvegetated Ephemeral Stream Channel

CDFW

Unvegetated Ephemeral Stream Channel
Watercourse

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-5

Aquatic Resource Survey Results - Sheet #5

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

33.825514,
-115.453257

1604725E

CONST 14

7

1604723E

CONST 13

See Inset Maps

33.82312,
-115.452992

1604721E

Palo Verde Mesa

Palo Verde Rd

Desert Center

Blythe

Detail Area

177

10

95

78

Aquatic Resource Delineation Survey Area
Transmission Line ROW
Construction Area
Photo Locations
Delineated Transect

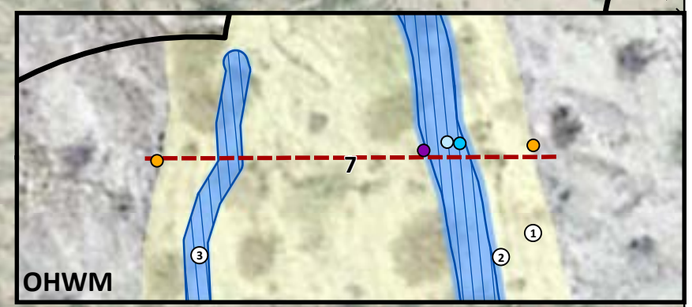
OHWM Landform Type
- Active Floodplain
- Low-Flow
- Low-flow - Floodplain Boundary
- Upland

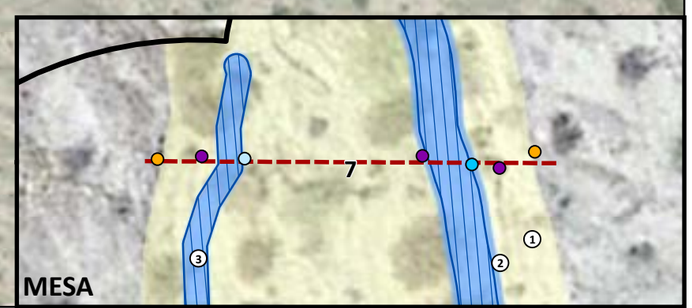
MESA Landform Type
- Floodplain
- Low-flow Channel
- Secondary Channel
- Upland

Aquatic Resources

RWQCB (Intrastate Isolated Waters)
- Vegetated Ephemeral Stream Channel
- Unvegetated Ephemeral Stream Channel

CDFW
- Vegetated Ephemeral Stream Channel
- Unvegetated Ephemeral Stream Channel
- Watercourse





Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-6

Aquatic Resource Survey Results - Sheet #6

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

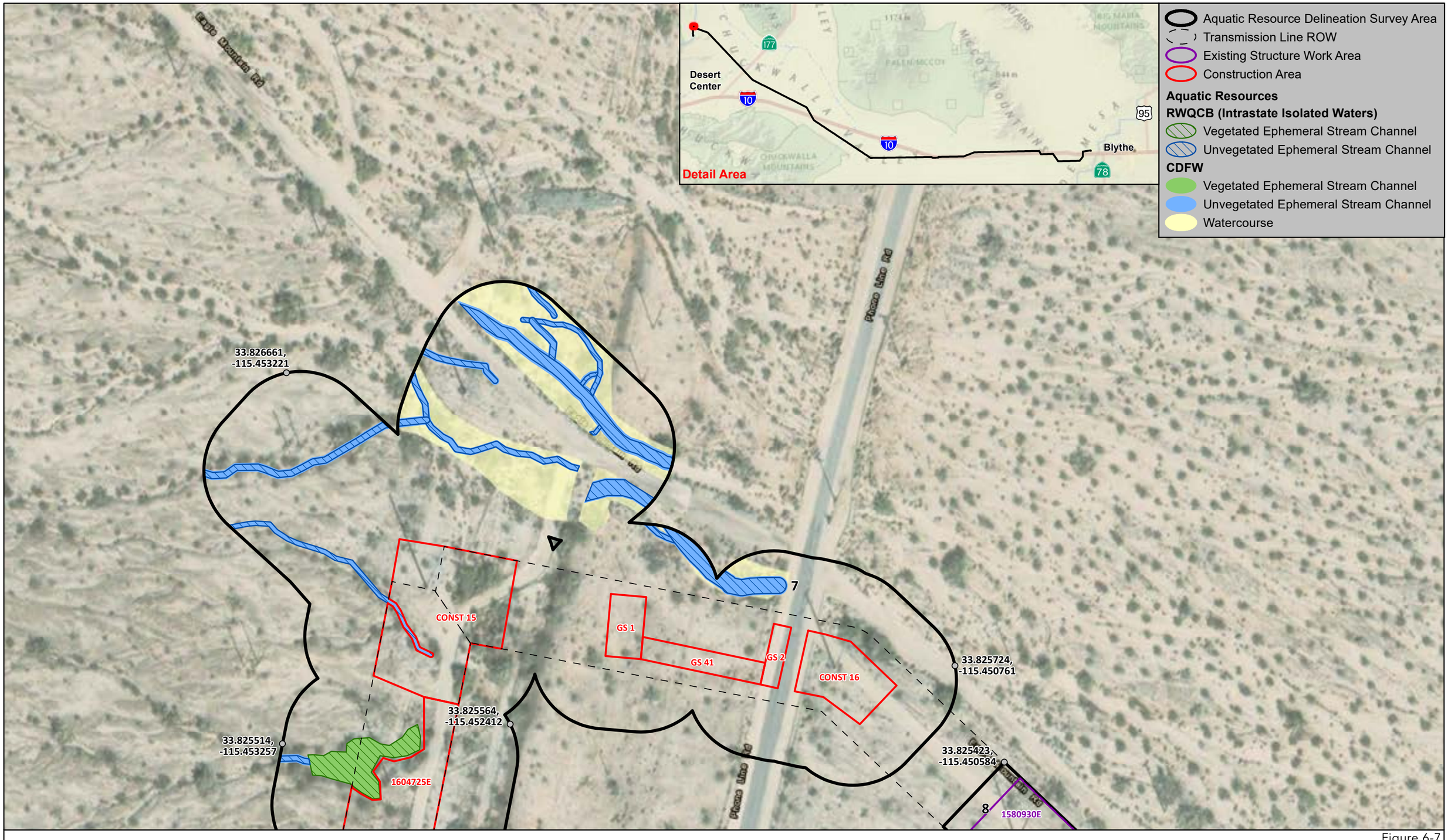


Figure 6-7

Aquatic Resource Survey Results - Sheet #7

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N 0 100 Feet

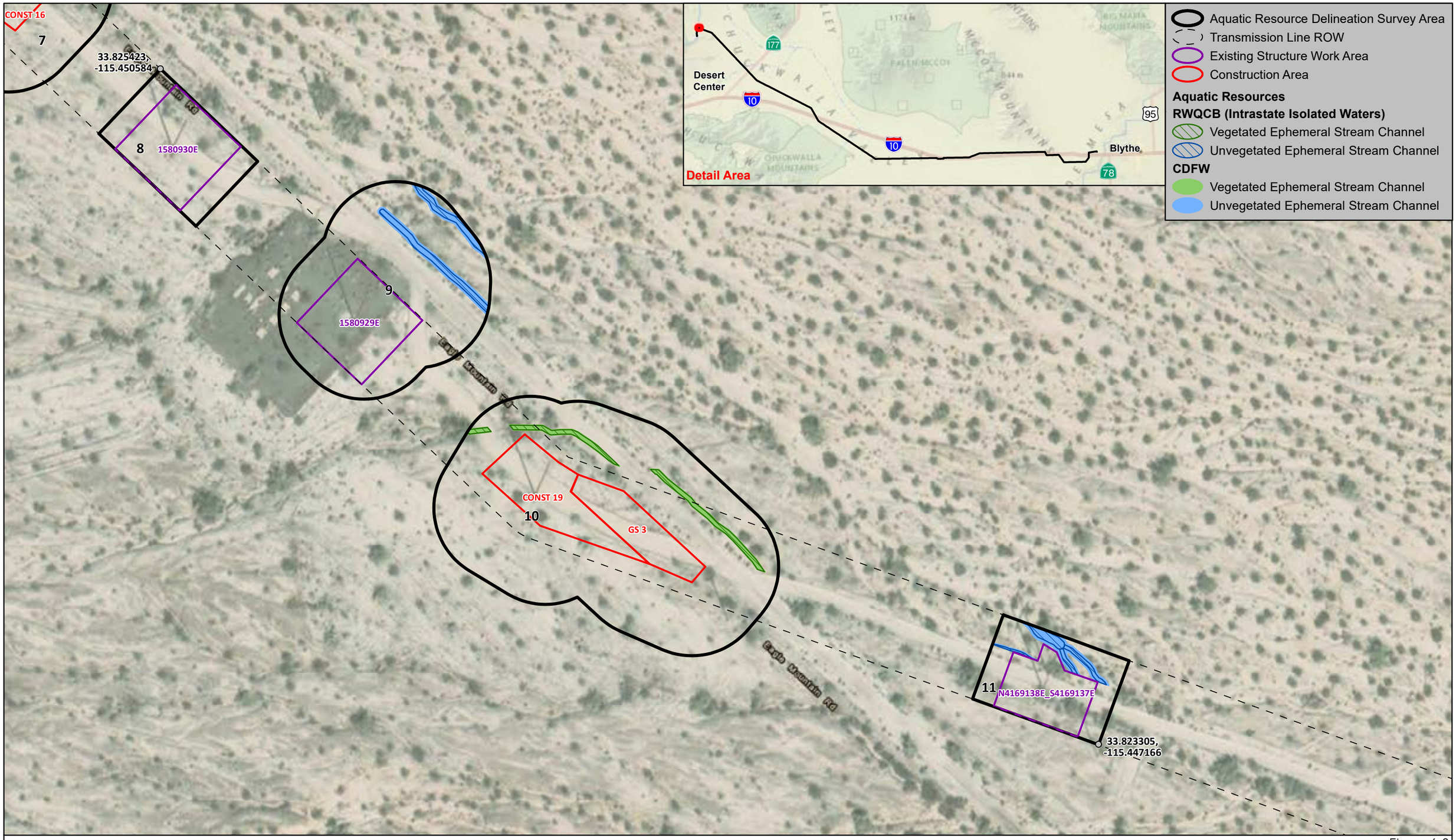


Figure 6-8

Aquatic Resource Survey Results - Sheet #8

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

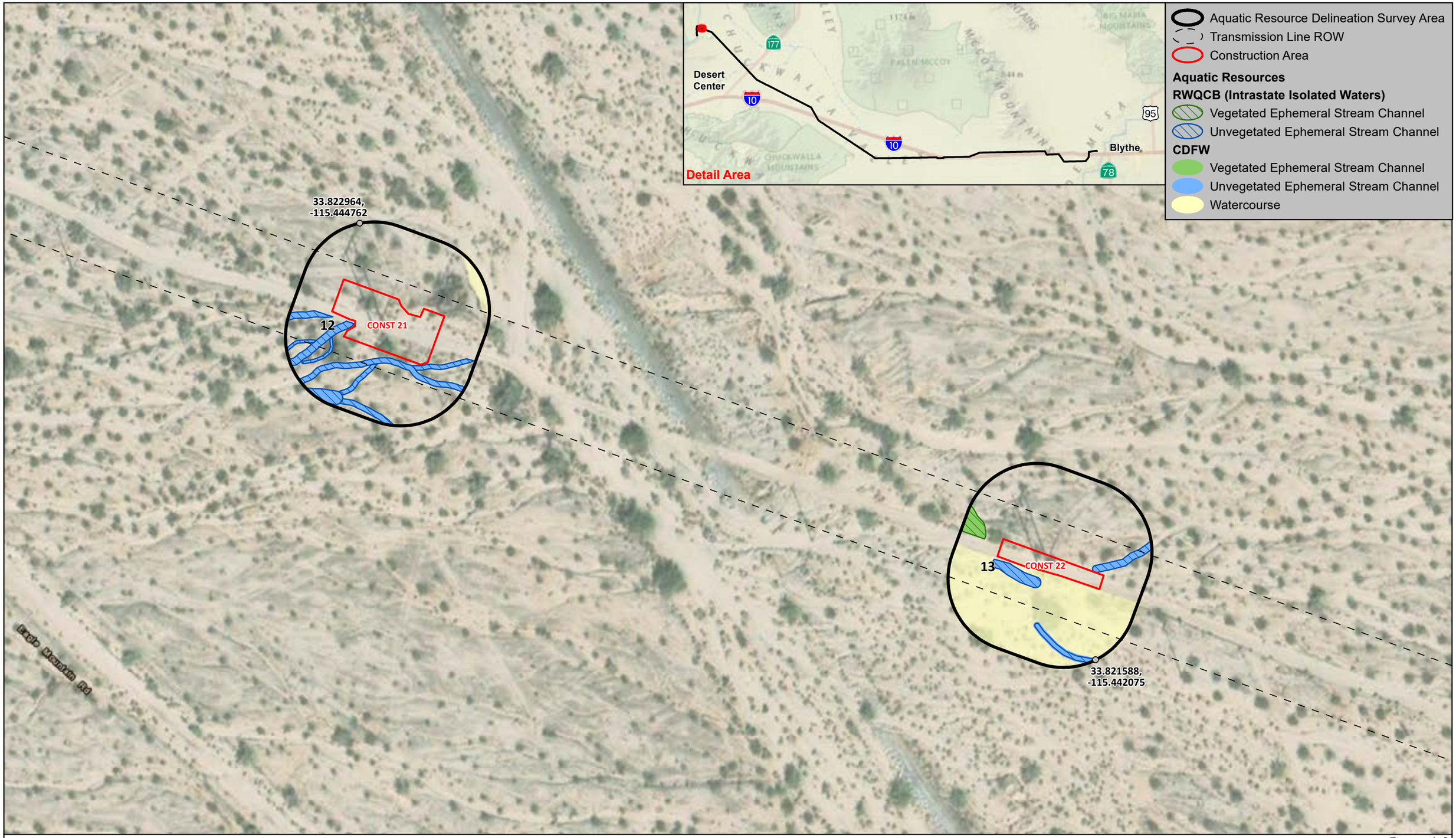


Figure 6-9

Aquatic Resource Survey Results - Sheet #9

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

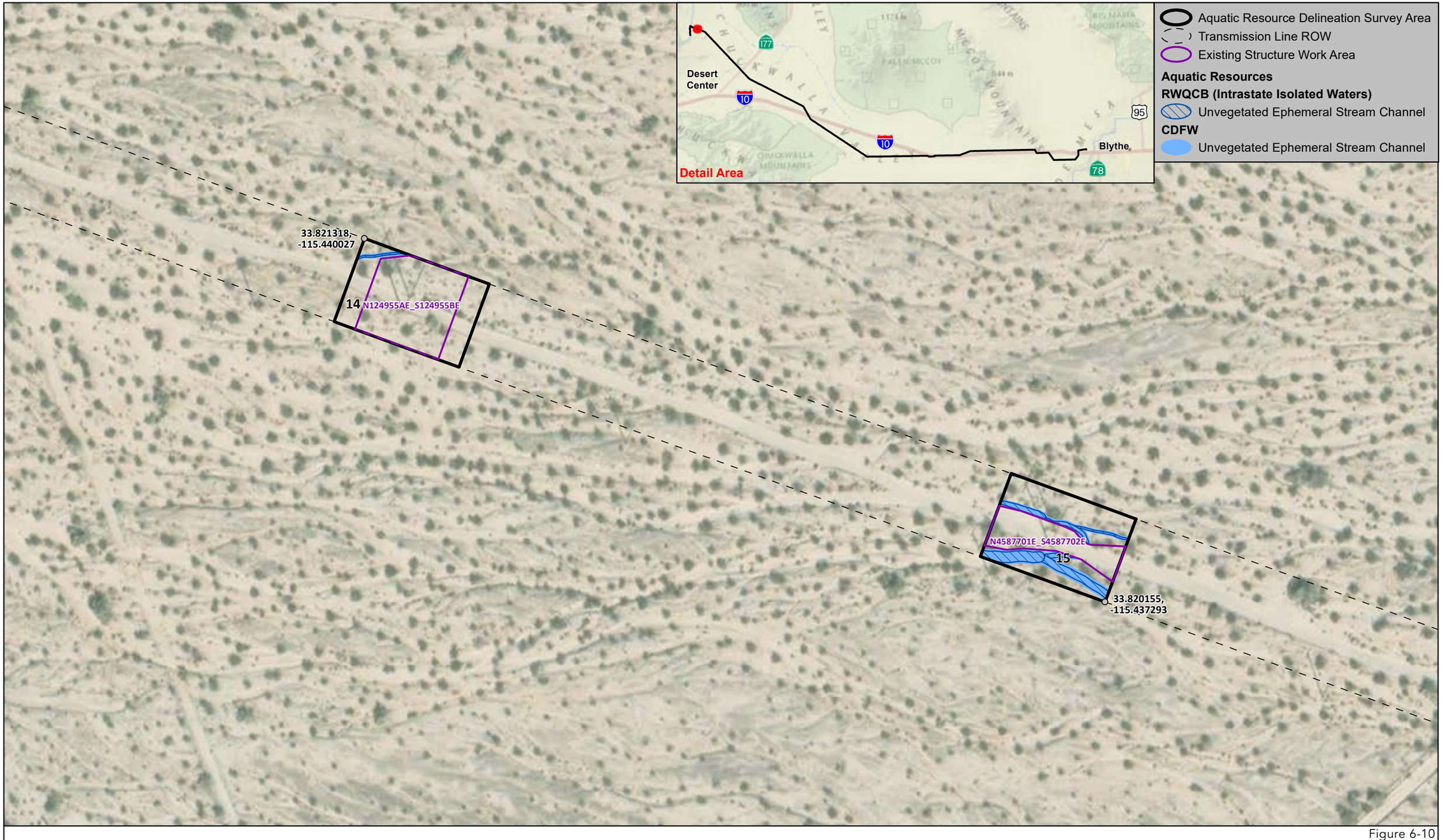


Figure 6-10

Aquatic Resource Survey Results - Sheet #10

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

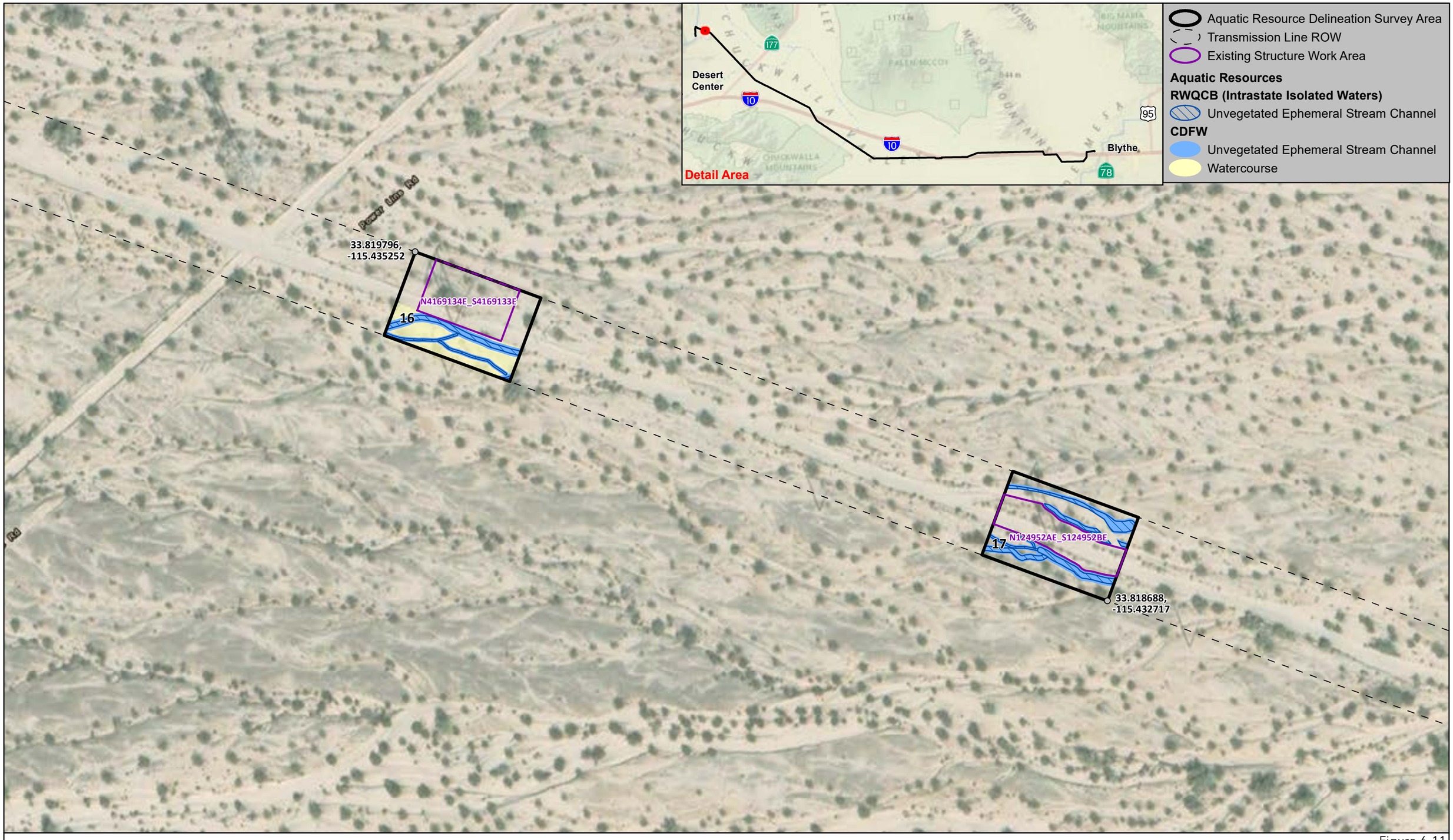


Figure 6-11

Aquatic Resource Survey Results - Sheet #11

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

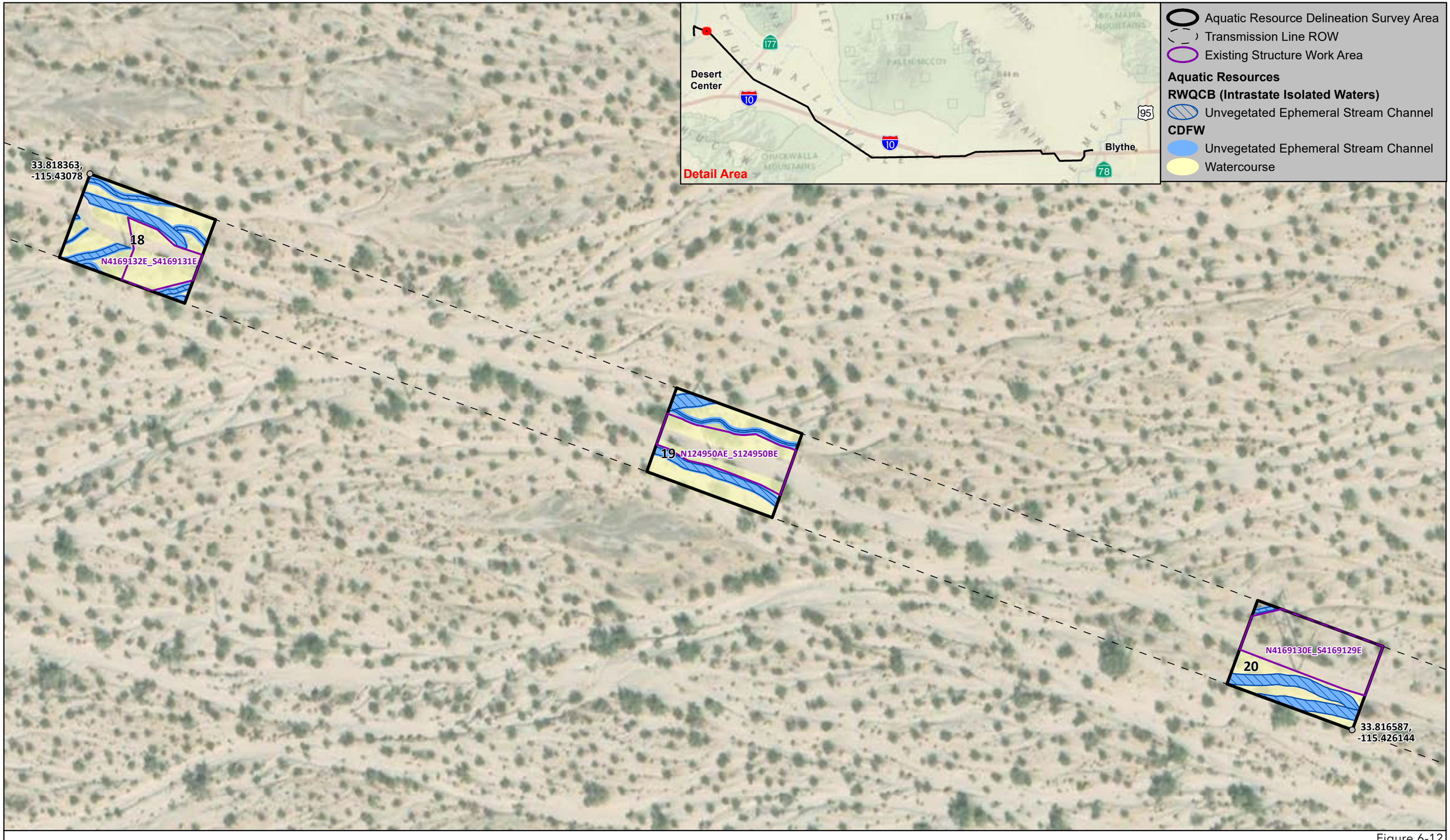


Figure 6-12

Aquatic Resource Survey Results - Sheet #12

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

33.816599,
-115.424993

WS 5

21

1 2

CONST 30

WS 6

3 4

33.815315,
-115.423613

N4169128E_S4169127E

22

33.814437,
-115.422091

Desert Center

177

10

10

95

Blythe

78

Detail Area

Aquatic Resource Delineation Survey Area
Transmission Line ROW
Existing Structure Work Area
Construction Area
Photo Locations

Aquatic Resources

RWQCB (Intrastate Isolated Waters)

Vegetated Ephemeral Stream Channel
Unvegetated Ephemeral Stream Channel

CDFW

Vegetated Ephemeral Stream Channel
Unvegetated Ephemeral Stream Channel
Watercourse

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-13

Aquatic Resource Survey Results - Sheet #13

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Figure 6-14

Aquatic Resource Survey Results - Sheet #14

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

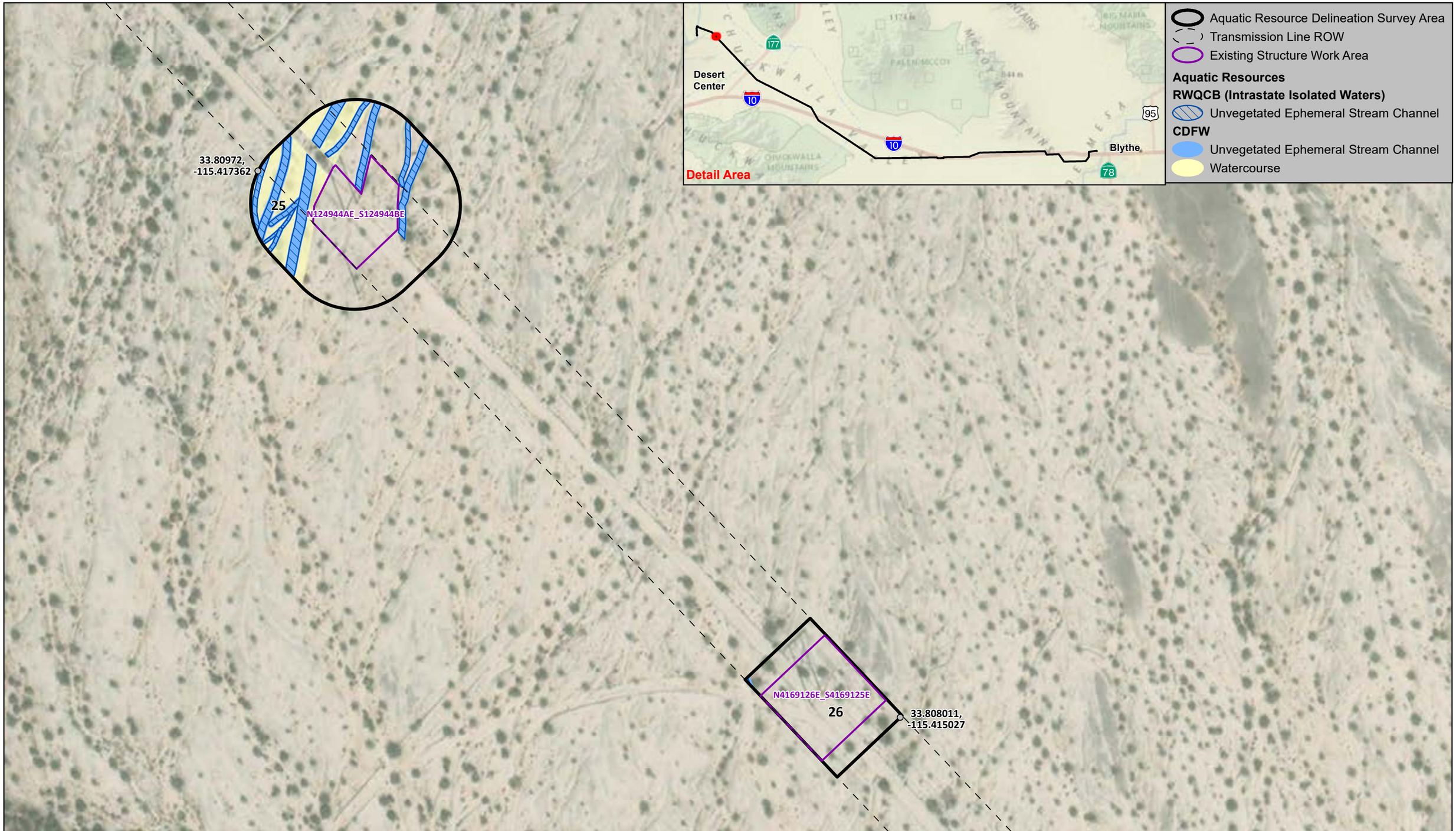


Figure 6-15

Aquatic Resource Survey Results - Sheet #15

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

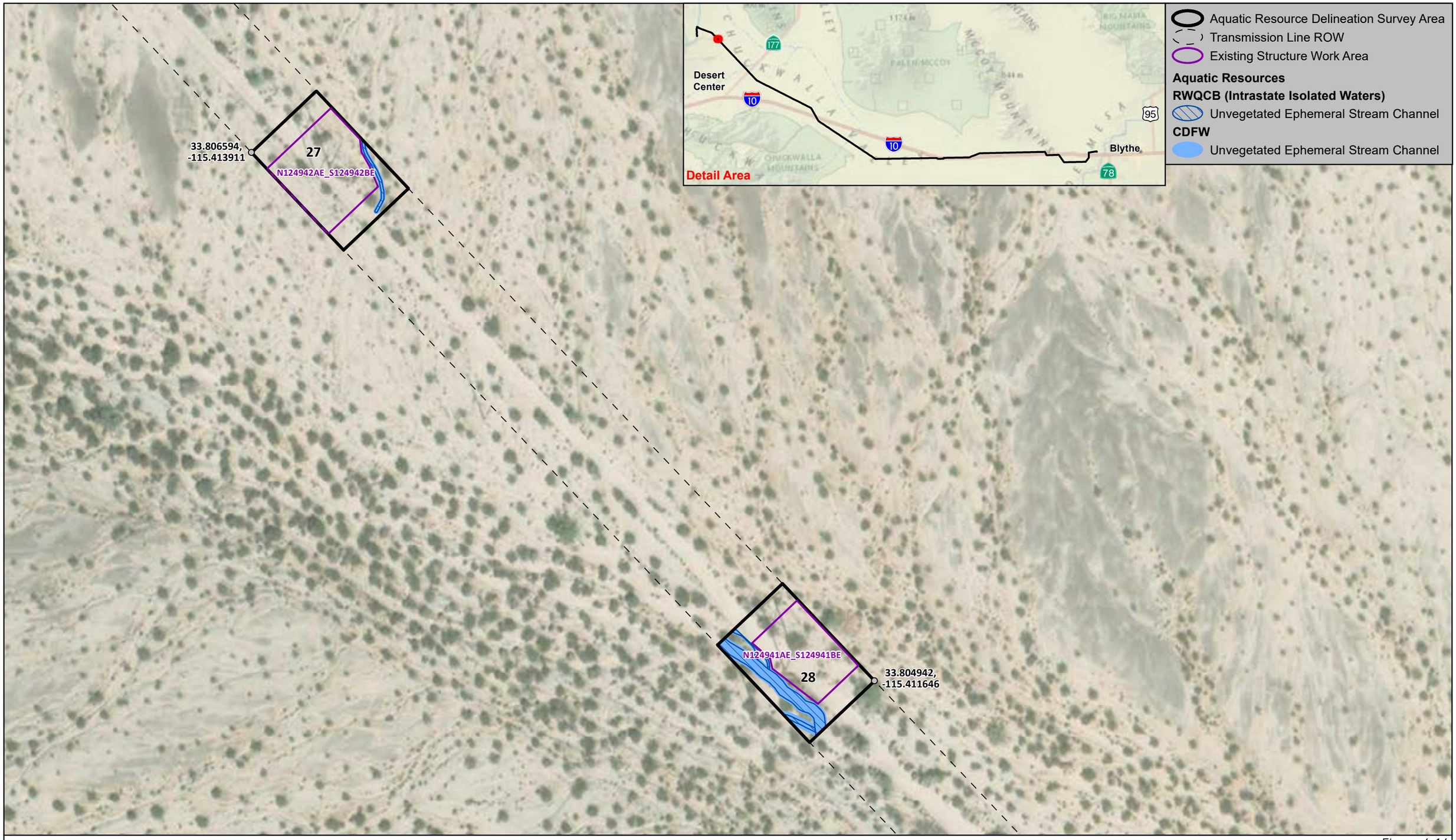
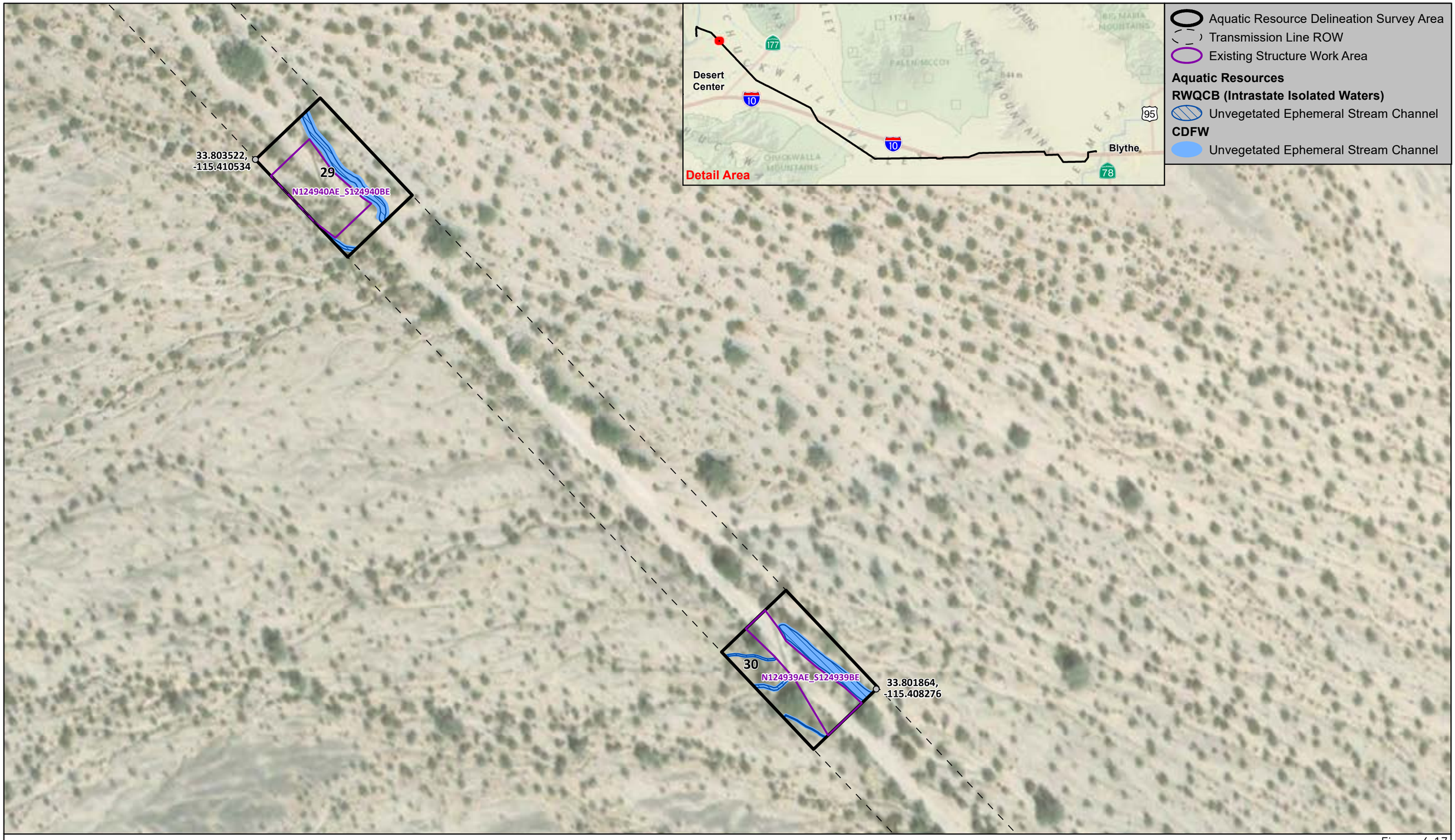


Figure 6-16

Aquatic Resource Survey Results - Sheet #16

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.



Artemis Environmental Services, Inc.

Figure 6-17

Aquatic Resource Survey Results - Sheet #17

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

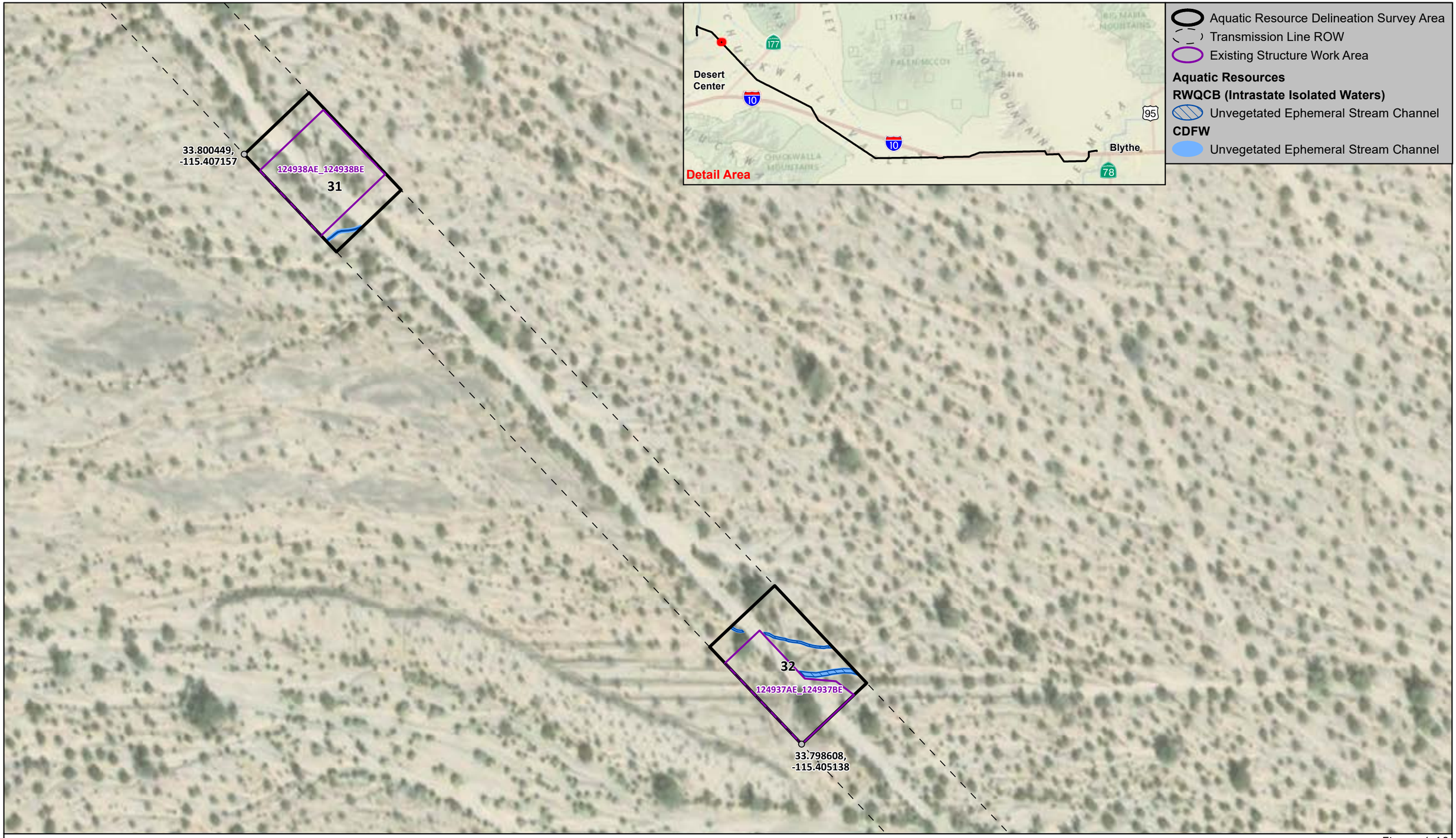


Figure 6-18

Aquatic Resource Survey Results - Sheet #18

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

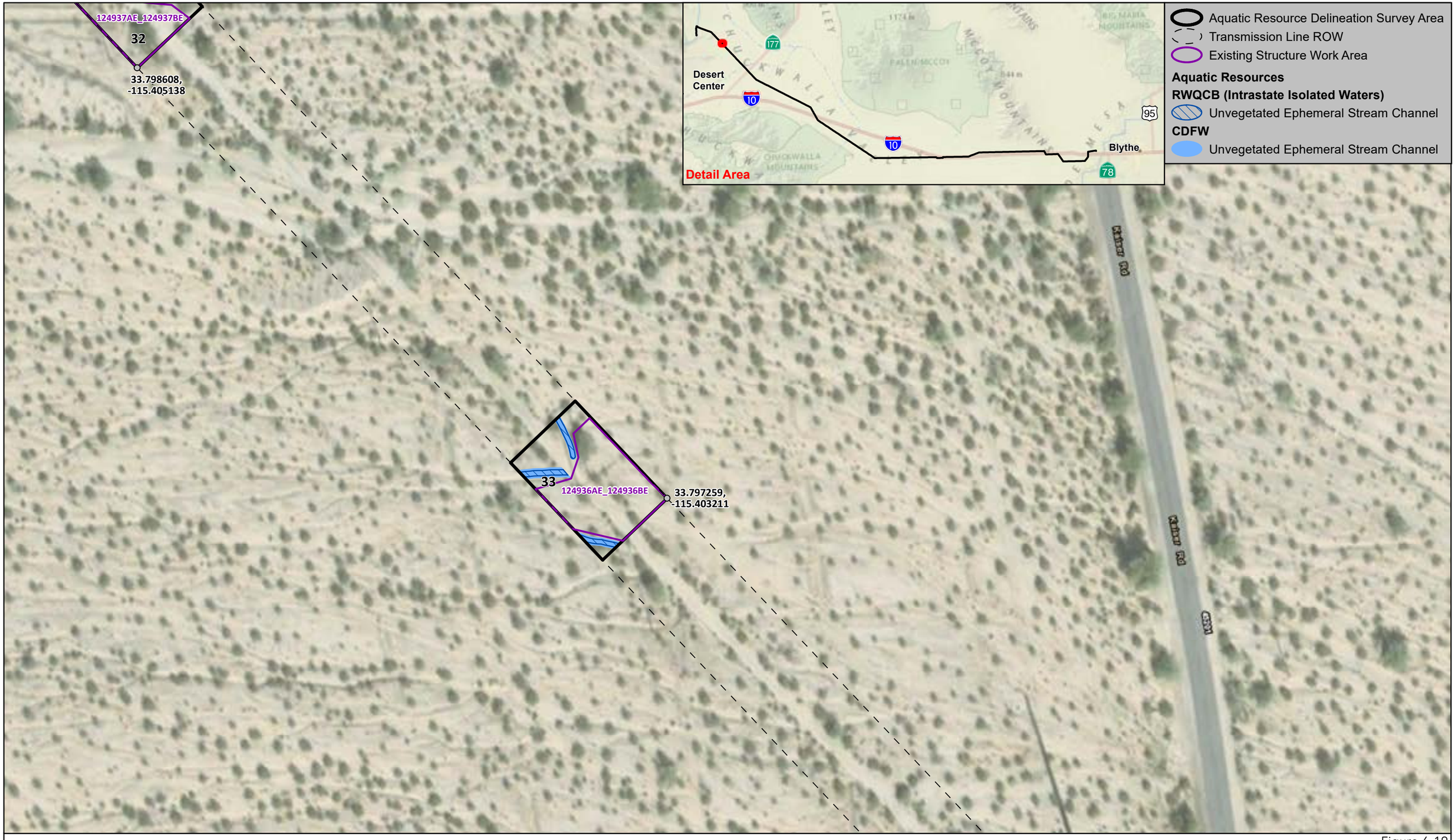


Figure 6-19

Aquatic Resource Survey Results - Sheet #19

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

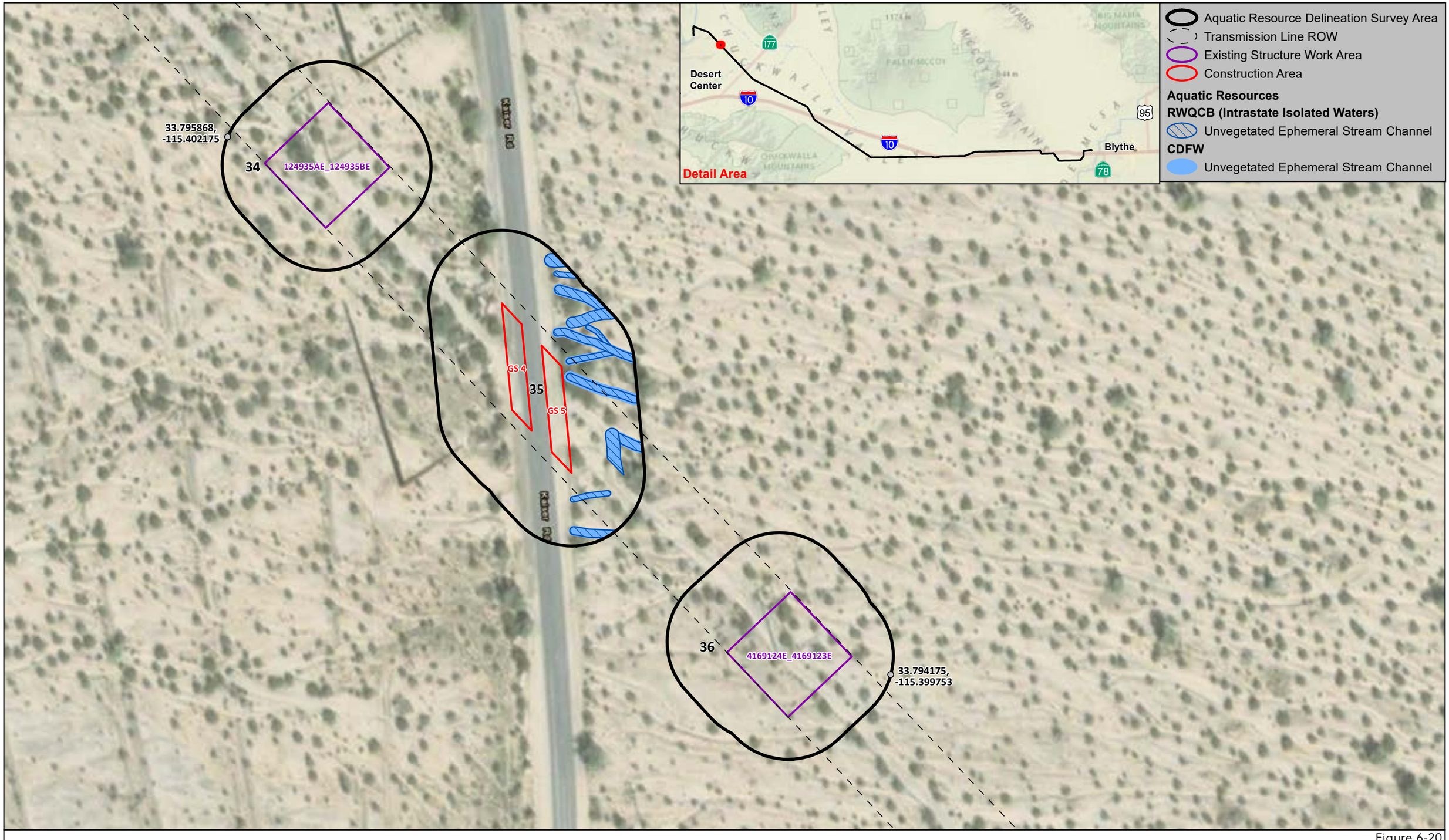


Figure 6-20

Aquatic Resource Survey Results - Sheet #20

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

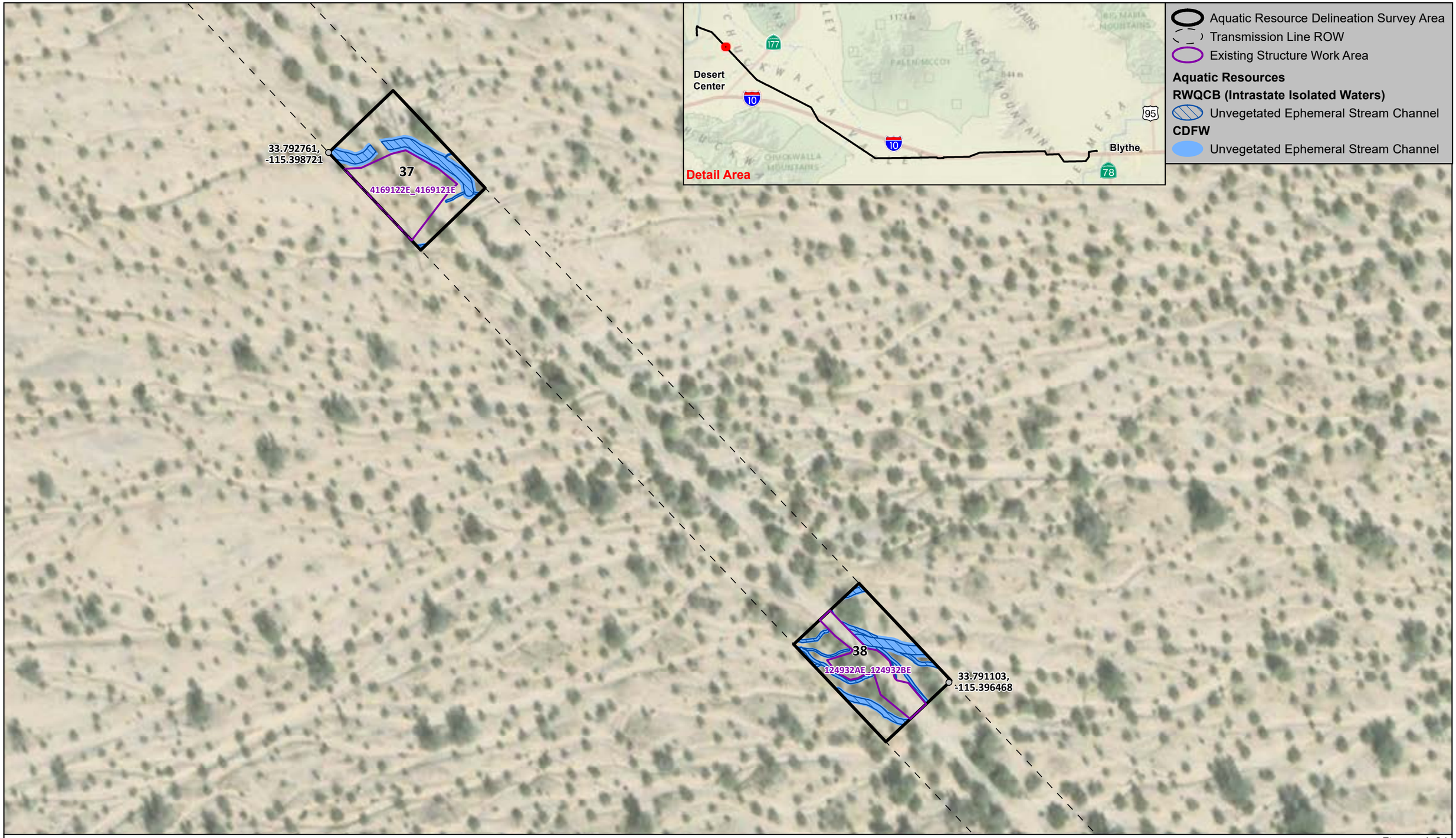


Figure 6-21

Aquatic Resource Survey Results - Sheet #21

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

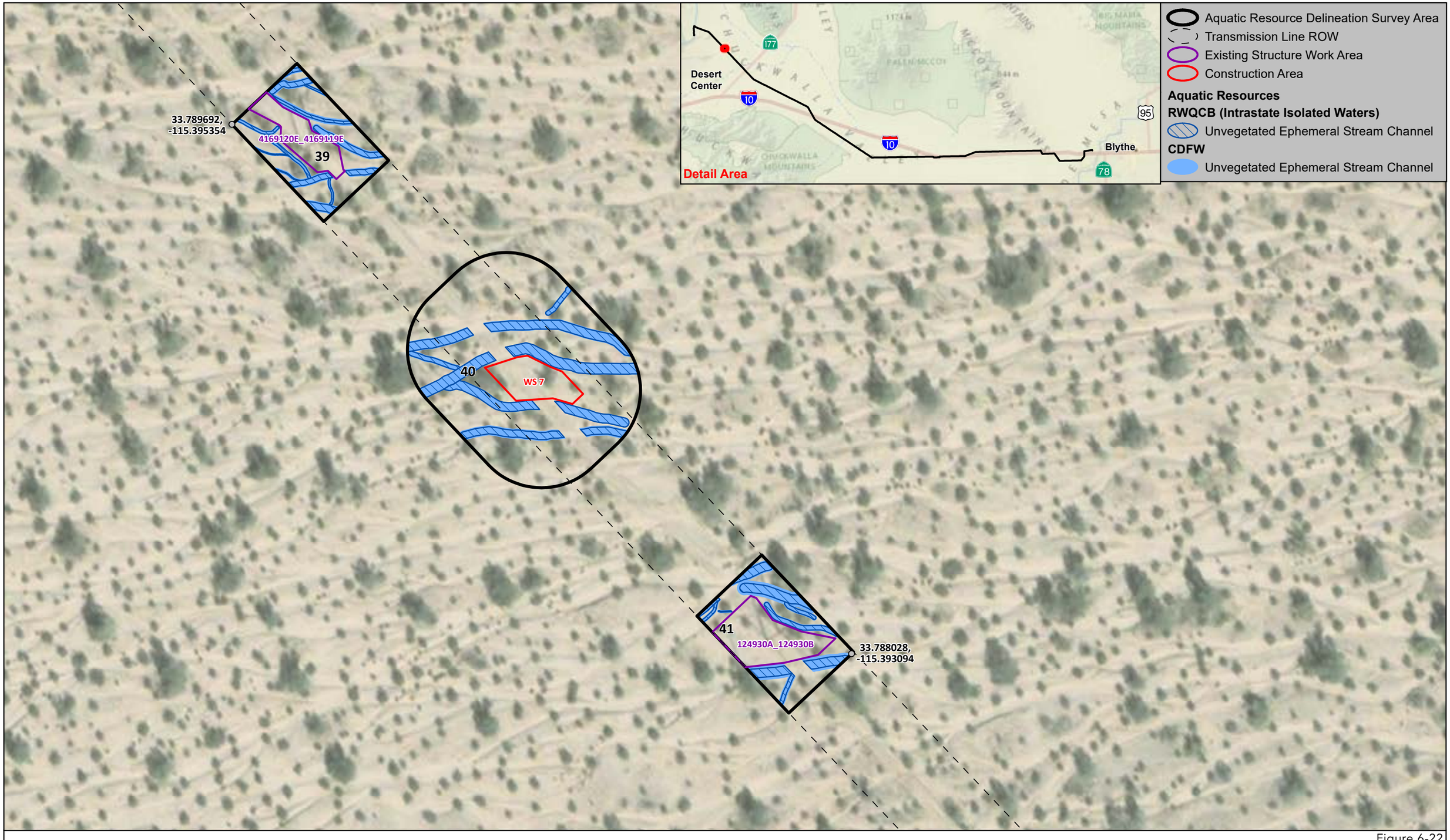


Figure 6-22

Aquatic Resource Survey Results - Sheet #22

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-23

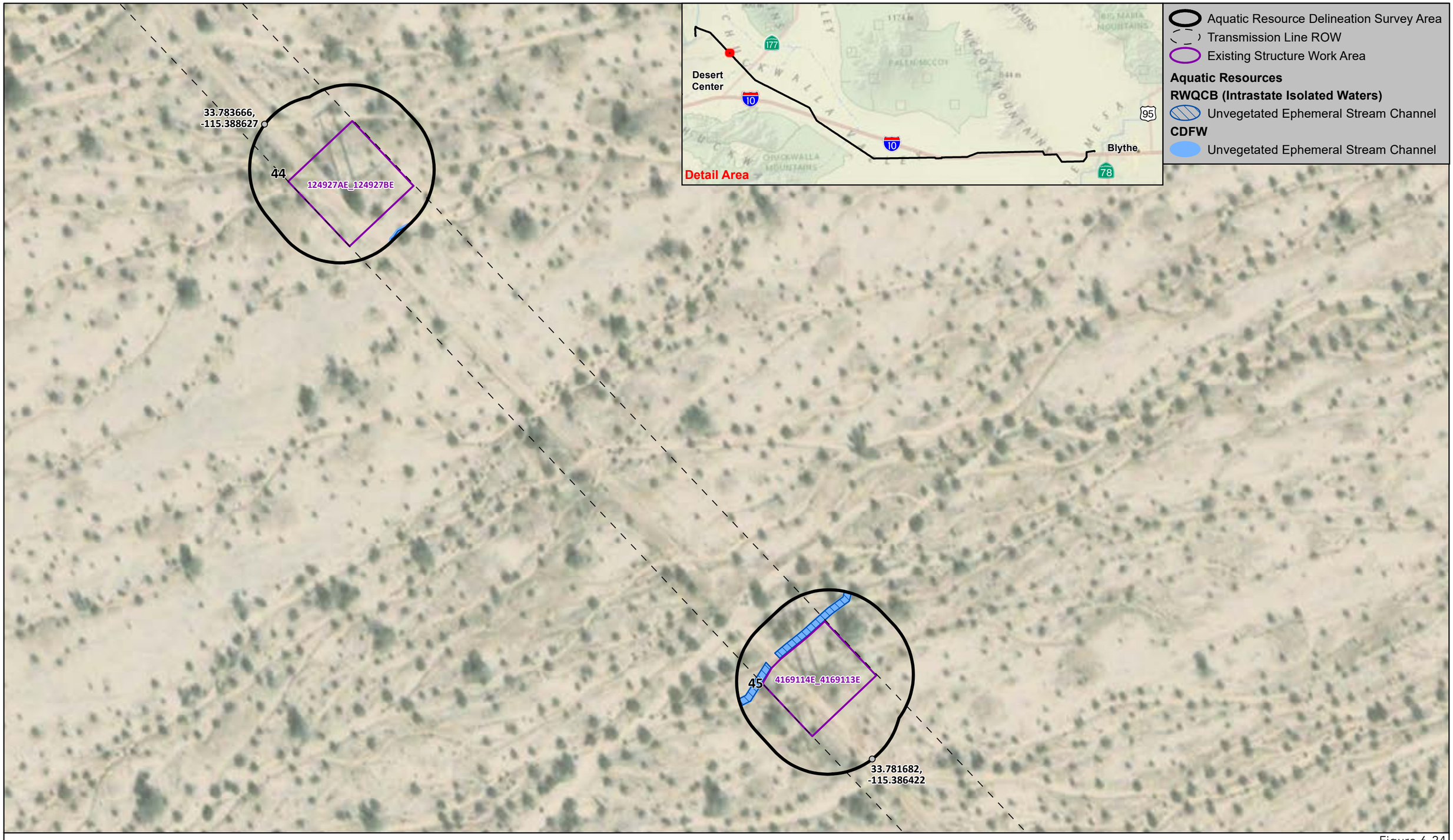
Aquatic Resource Survey Results - Sheet #23

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet



Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-24

Aquatic Resource Survey Results - Sheet #24

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

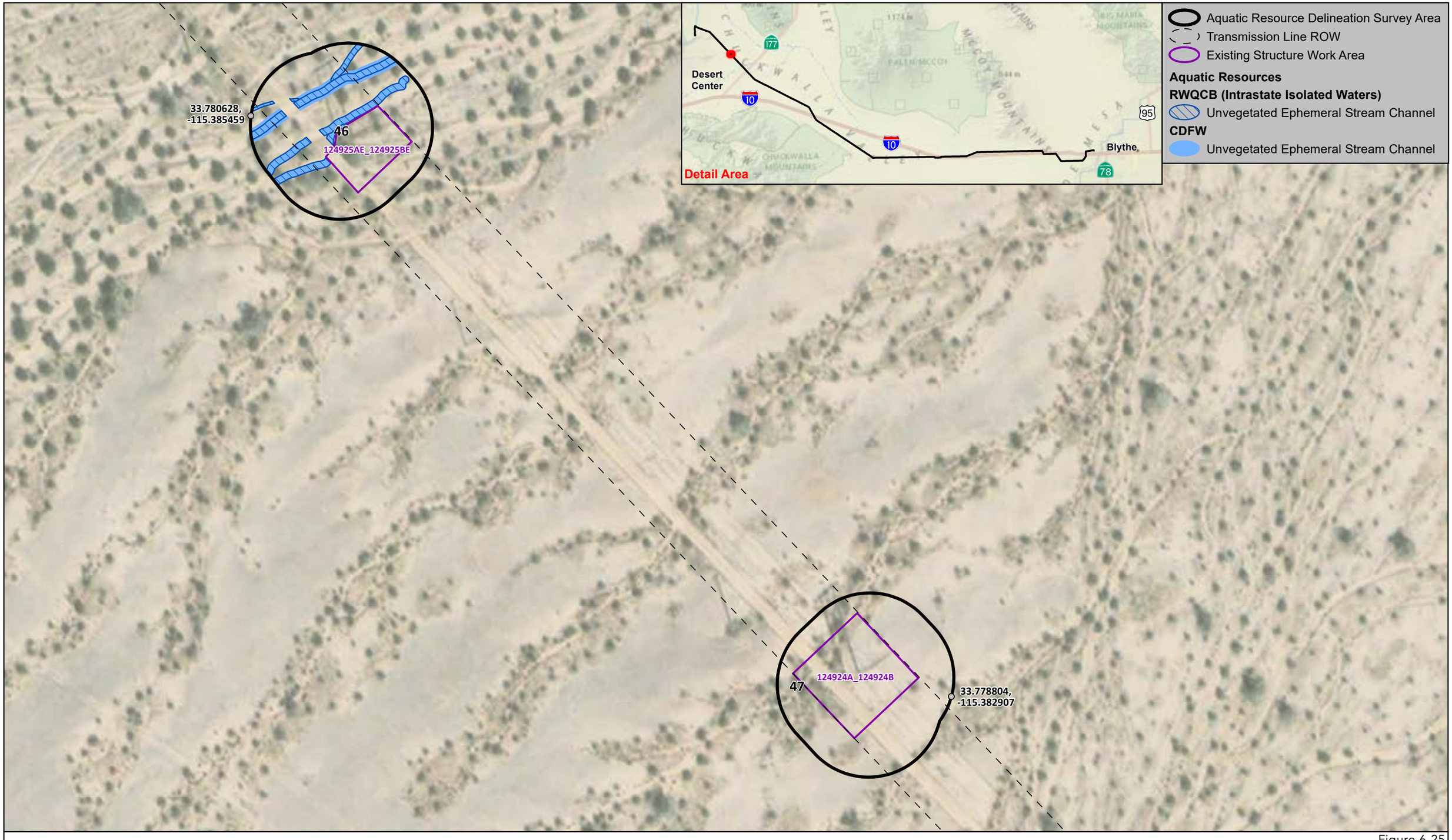


Figure 6-25

Aquatic Resource Survey Results - Sheet #25

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

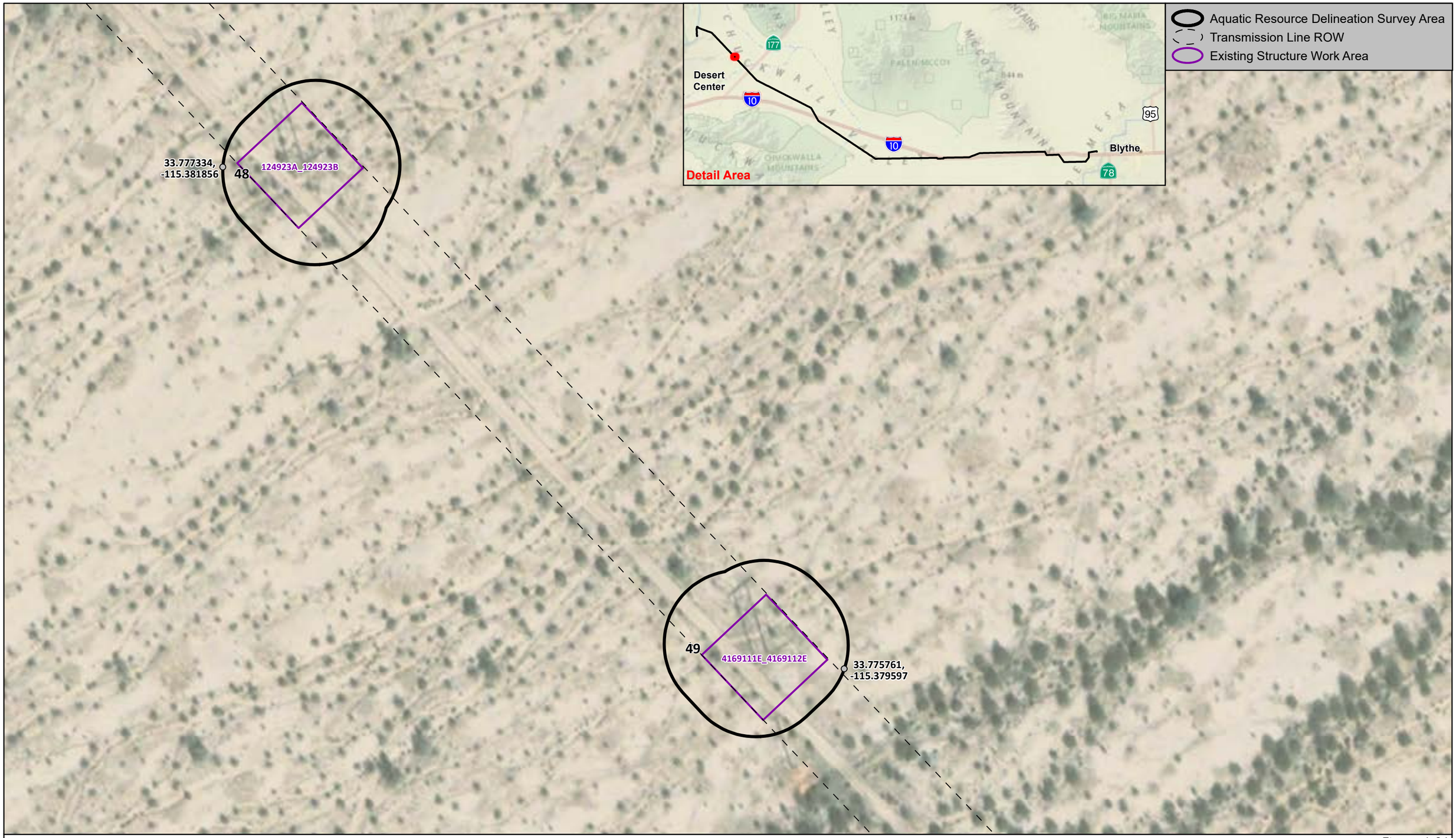


Figure 6-26

Aquatic Resource Survey Results - Sheet #26

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

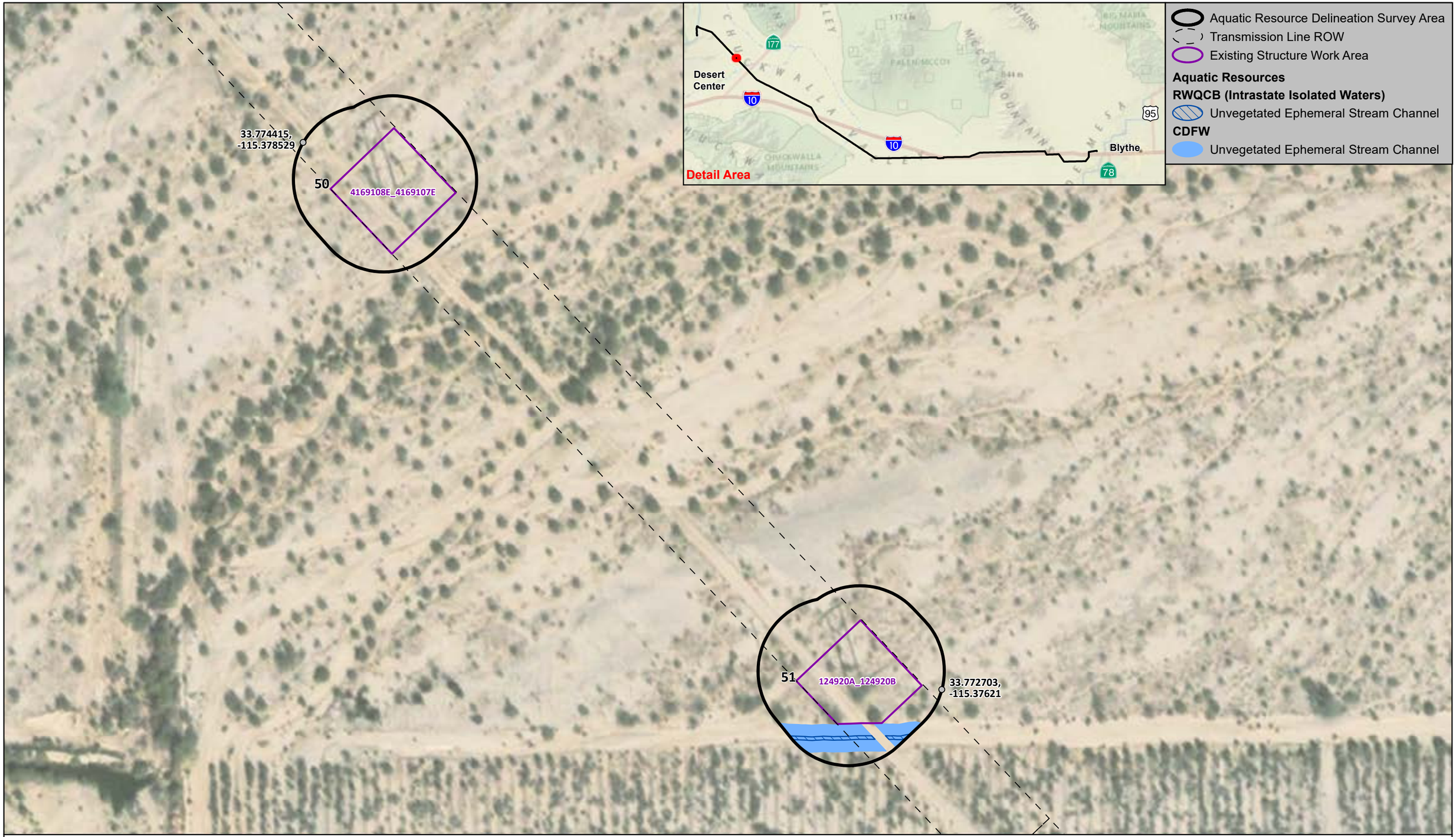


Figure 6-27

Aquatic Resource Survey Results - Sheet #27

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

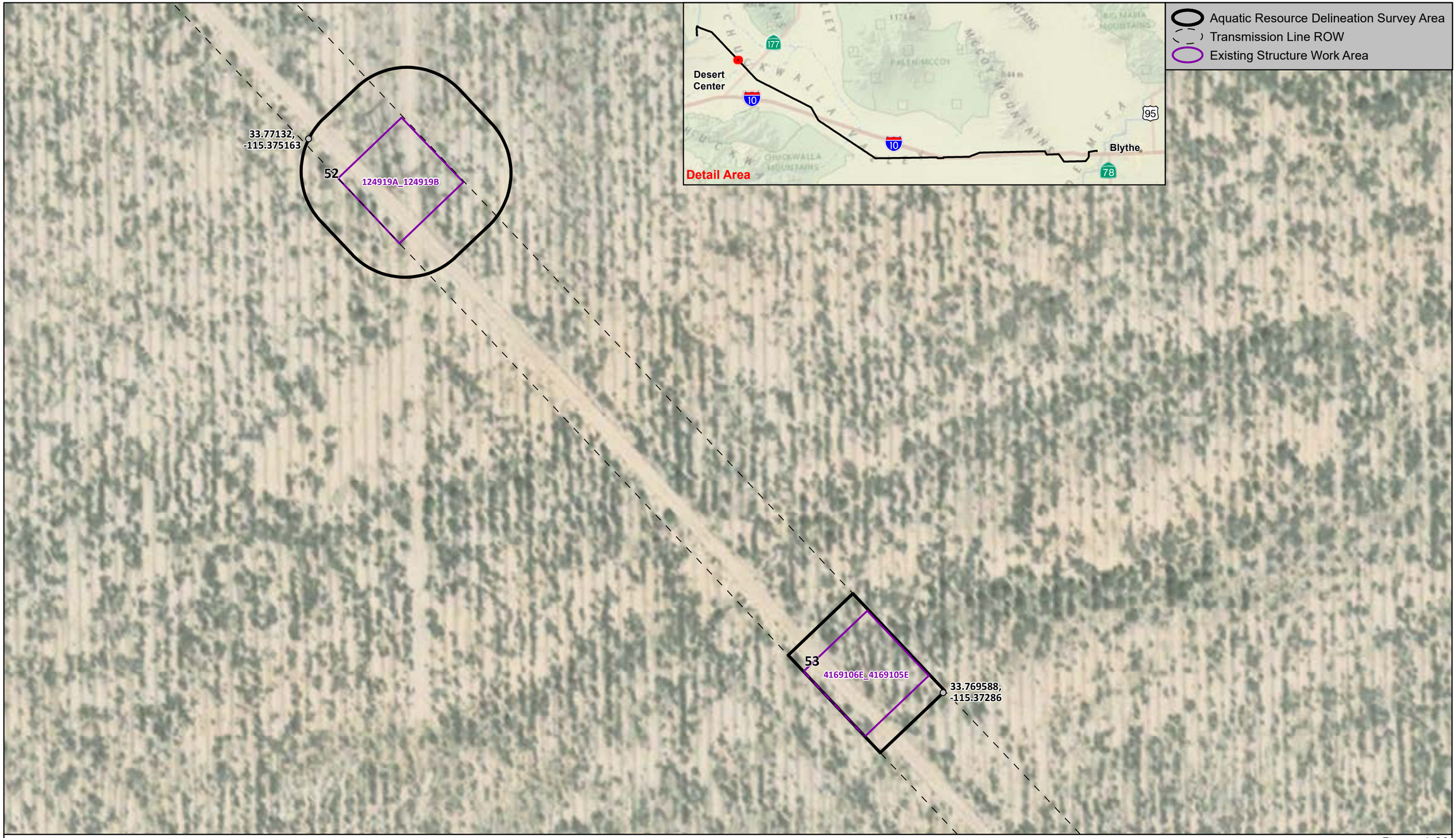


Figure 6-28

Aquatic Resource Survey Results - Sheet #28

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-29

Aquatic Resource Survey Results - Sheet #29

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

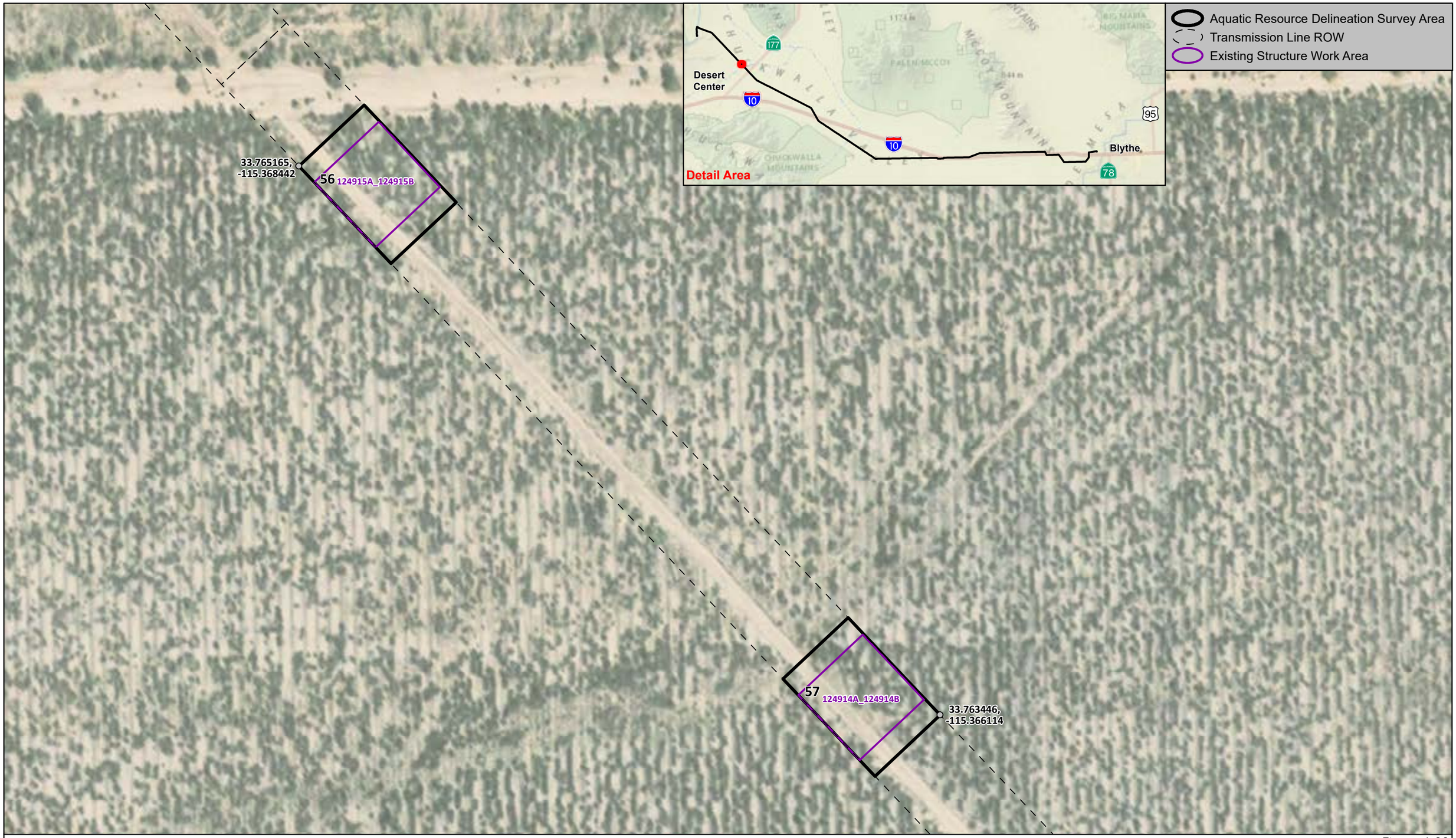


Figure 6-30

Aquatic Resource Survey Results - Sheet #30

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

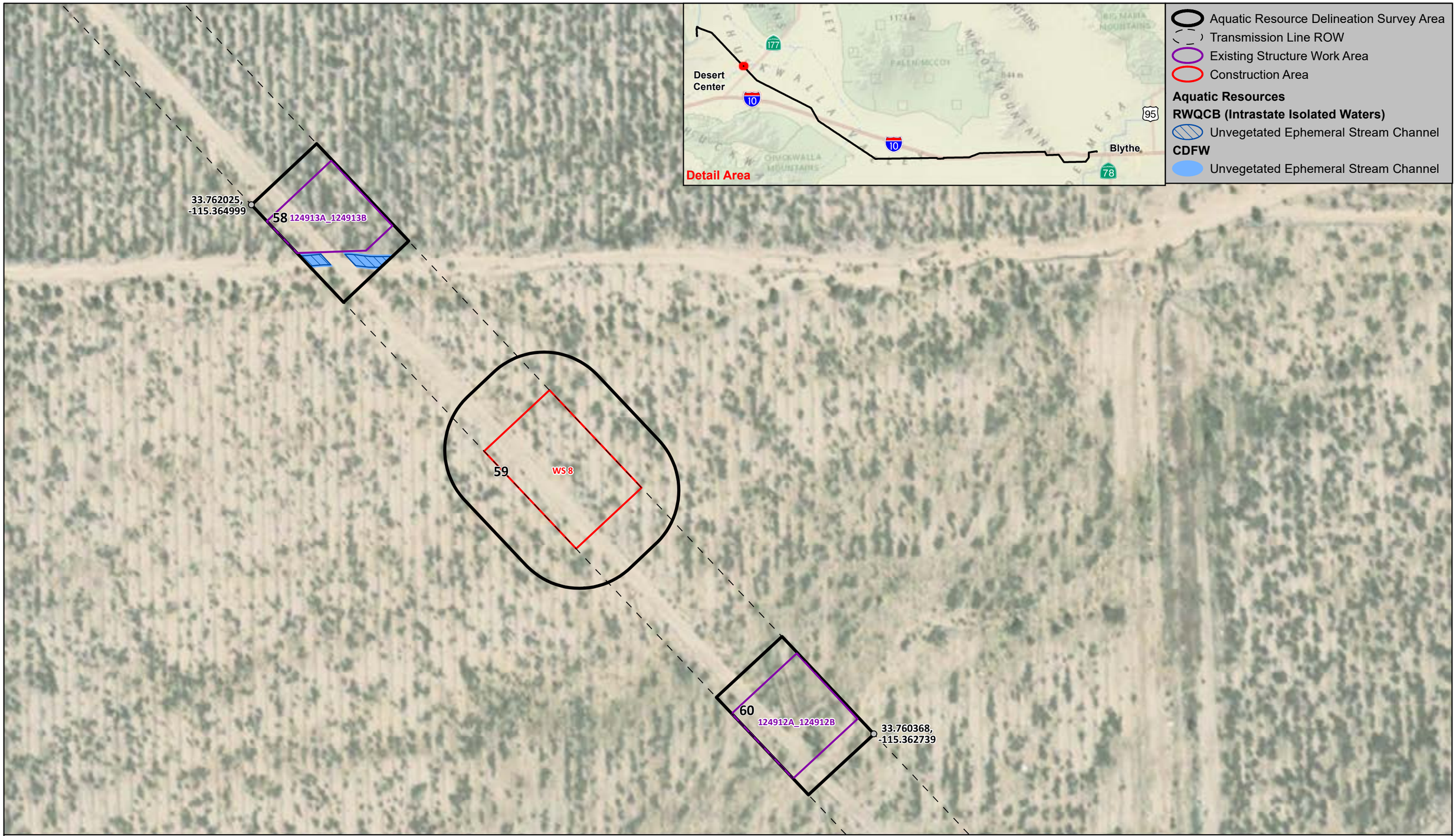


Figure 6-31

Aquatic Resource Survey Results - Sheet #31

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-32

Aquatic Resource Survey Results - Sheet #32

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

Figure 6-33

Aquatic Resource Survey Results - Sheet #33

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

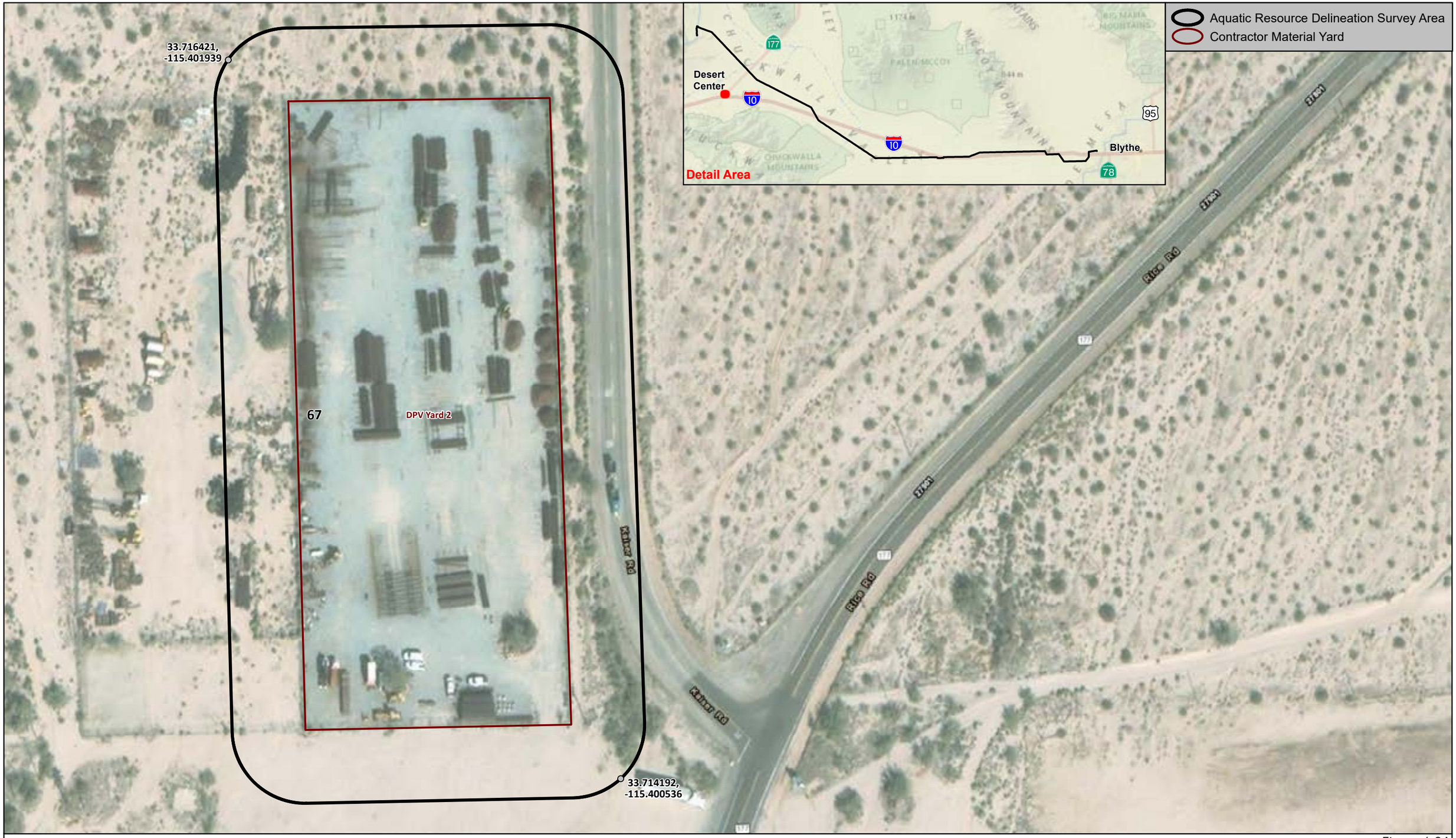


Figure 6-34

Aquatic Resource Survey Results - Sheet #34

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

33.752875,
-115.354923

CONST 71

65

GS 6

GS 7

Rice Rd

23rd Ave

177

66

Desert Center Yard

E4169104E_W4169103E

33.751181,
-115.352531

Desert Center

Blythe

Detail Area

Aquatic Resource Delineation Survey Area
Transmission Line ROW
Existing Structure Work Area
Construction Area
Contractor Material Yard

Aquatic Resources

RWQCB (Intrastate Isolated Waters)

Ditch/Canal

CDFW

Ditch/Canal

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-35

Aquatic Resource Survey Results - Sheet #35

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Figure 6-36

Aquatic Resource Survey Results - Sheet #36

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

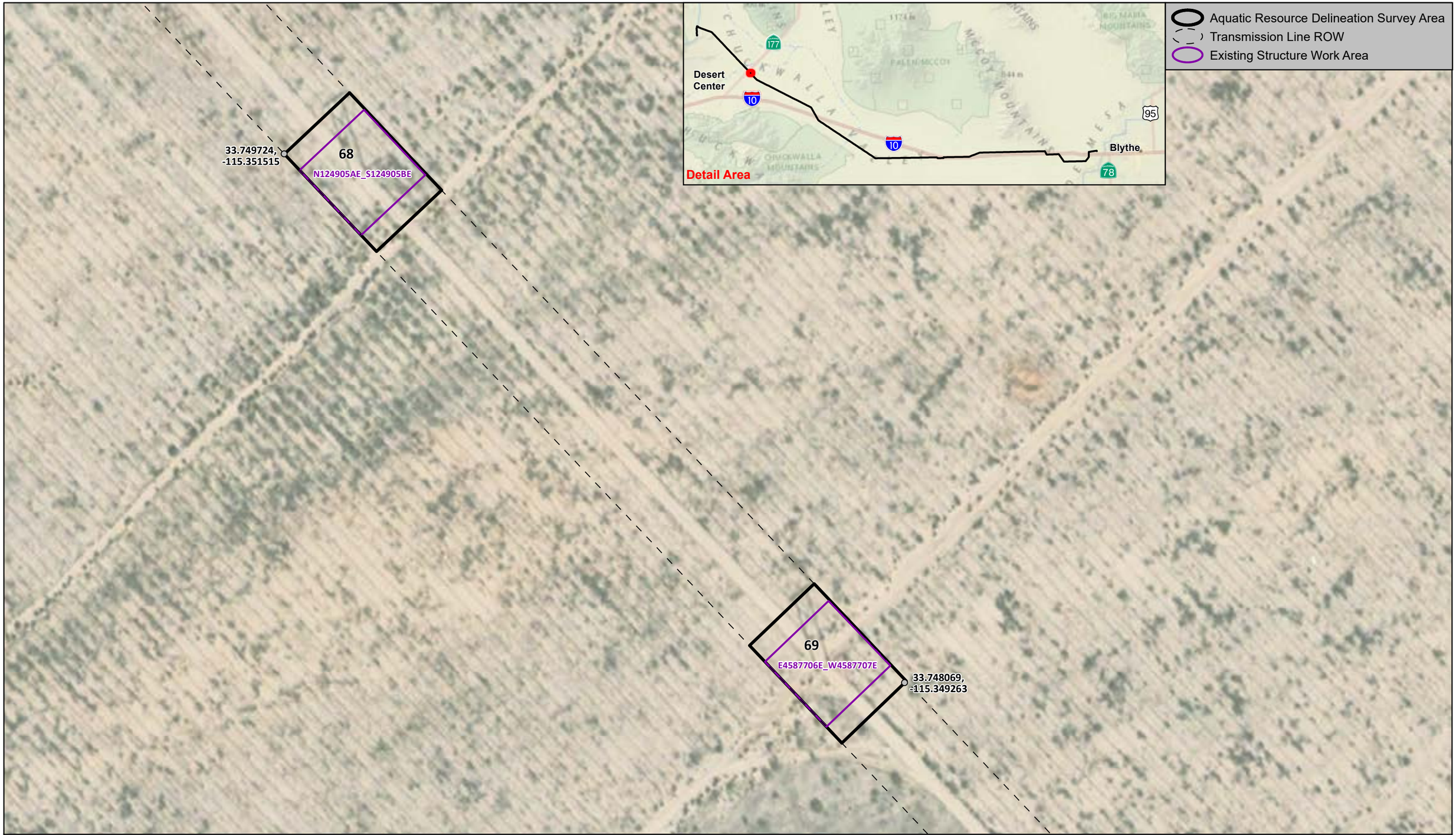
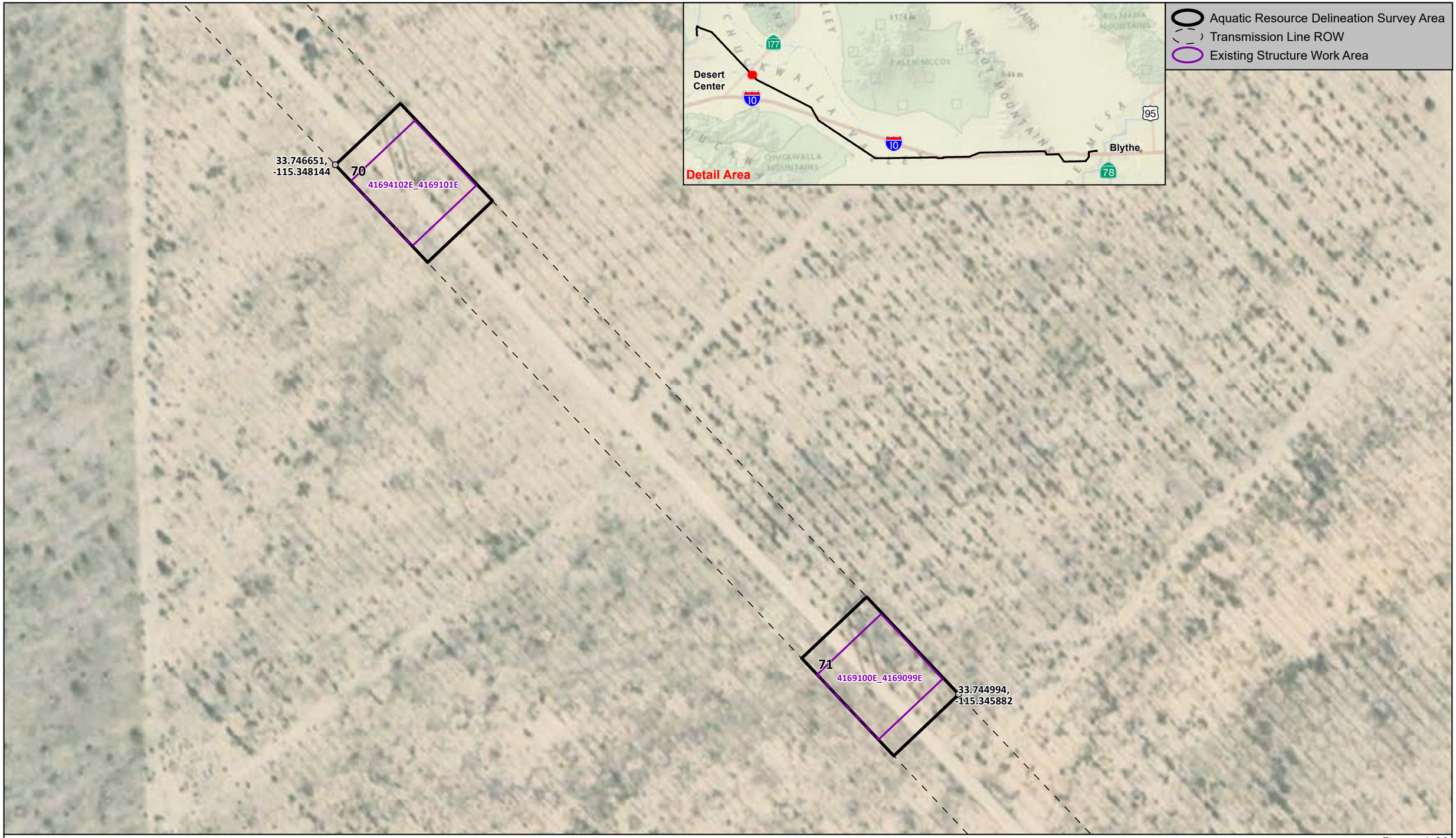


Figure 6-37

Aquatic Resource Survey Results - Sheet #37

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.



Artemis Environmental Services, Inc.

Figure 6-38

Aquatic Resource Survey Results - Sheet #38

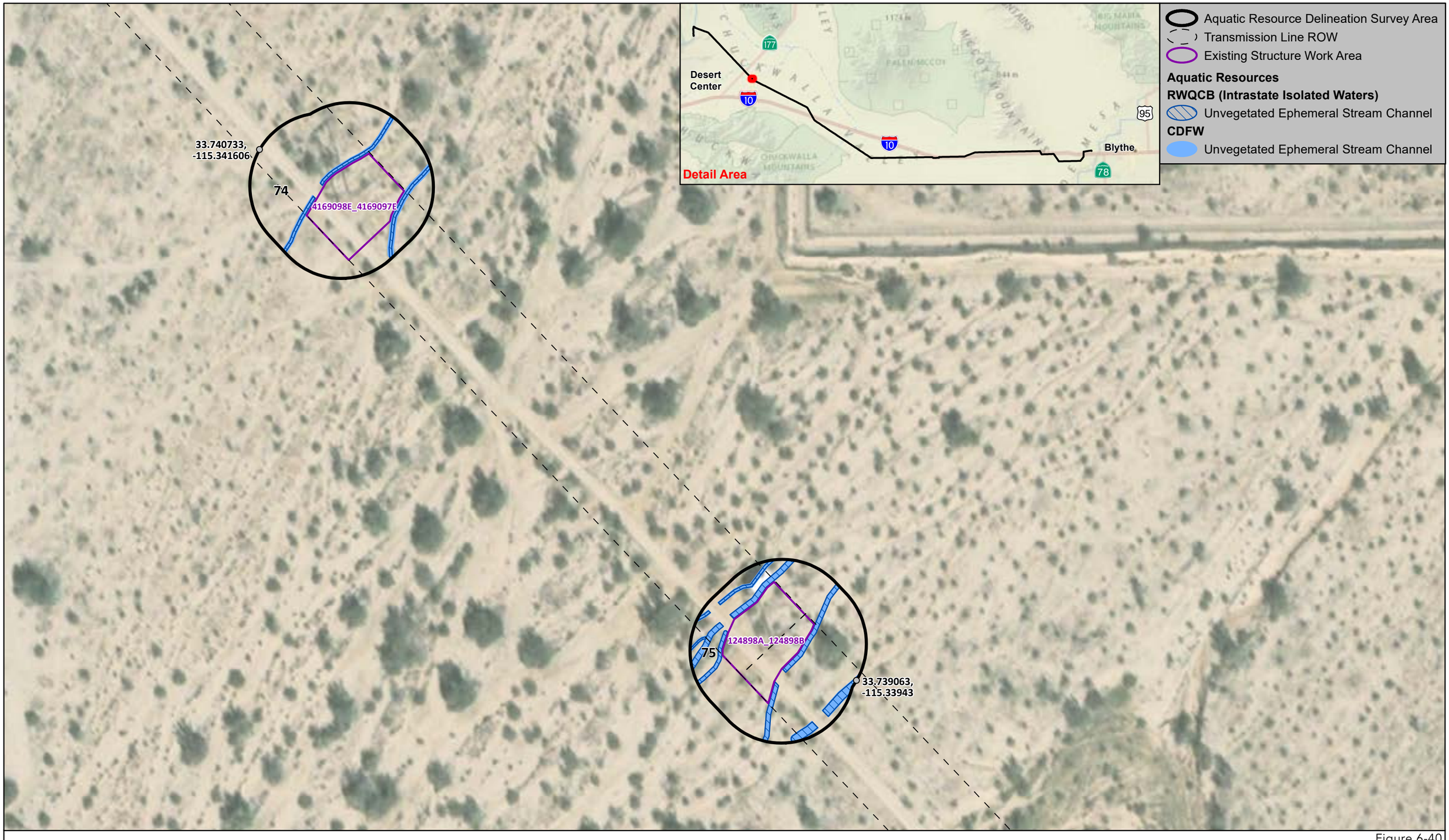
EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Figure 6-39

Aquatic Resource Survey Results - Sheet #39

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.



Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-40

Aquatic Resource Survey Results - Sheet #40

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

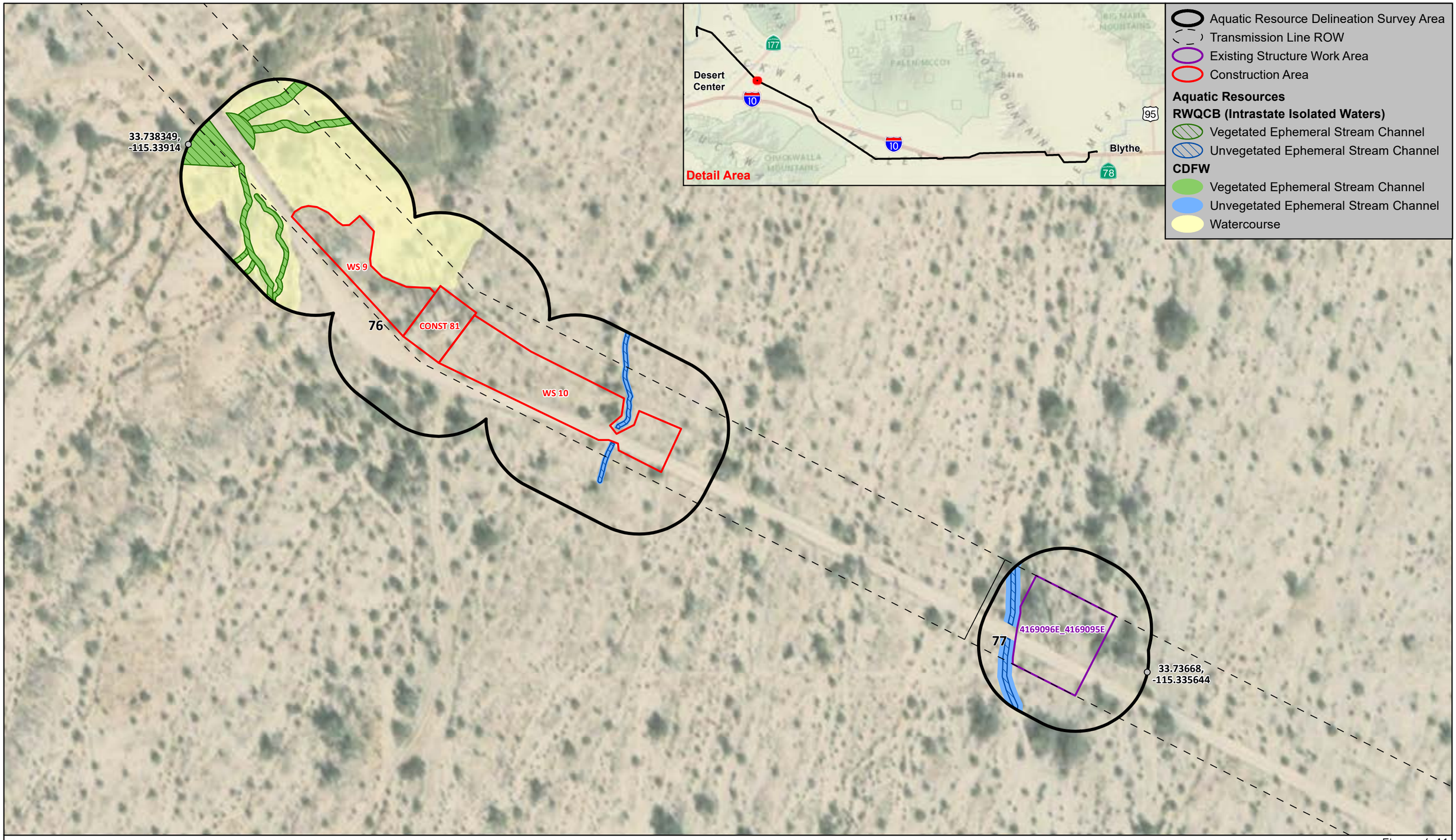


Figure 6-41

Aquatic Resource Survey Results - Sheet #41

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N 0 100 Feet

Figure 6-42

Aquatic Resource Survey Results - Sheet #42

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

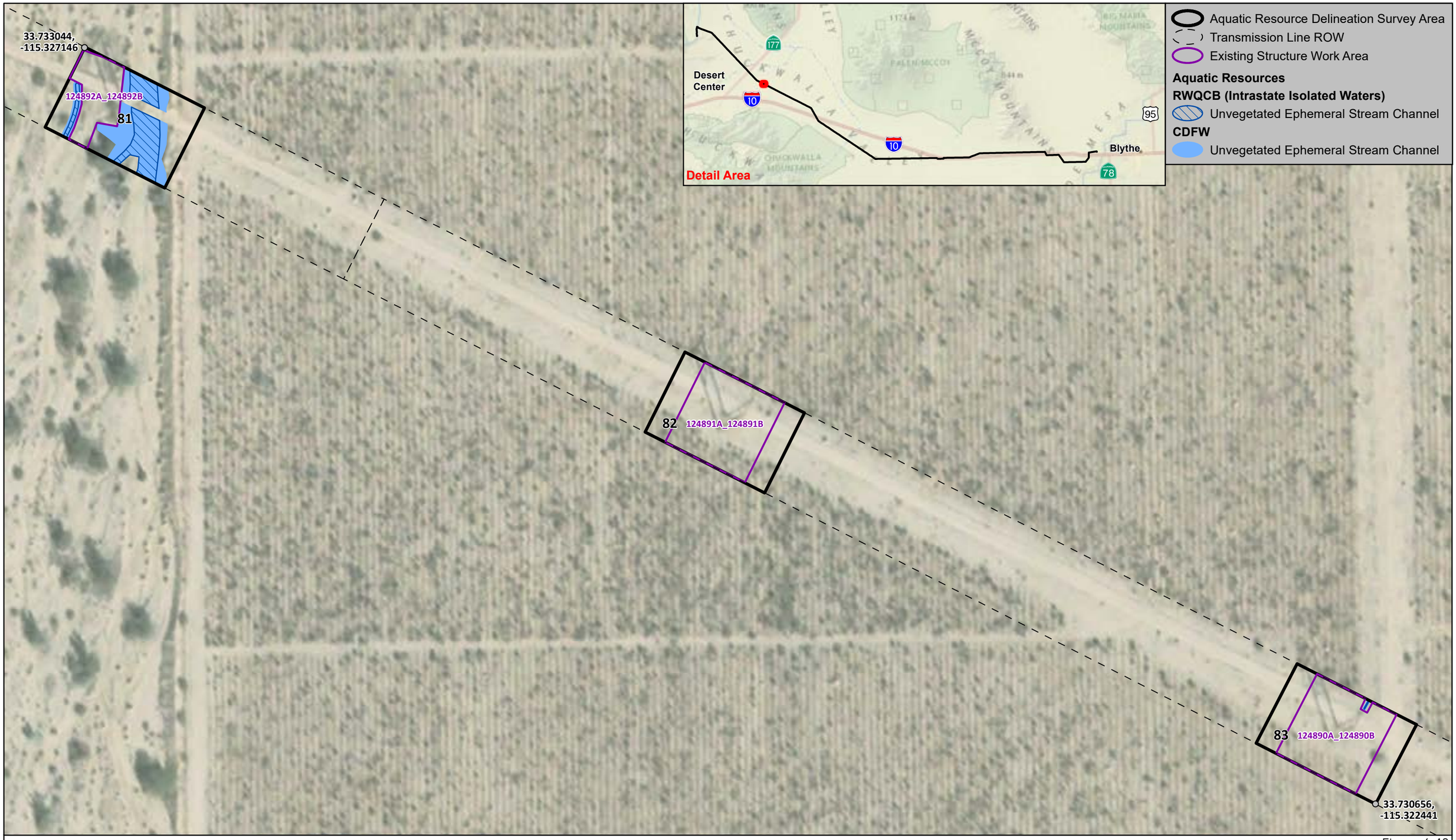


Figure 6-43

Aquatic Resource Survey Results - Sheet #43

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

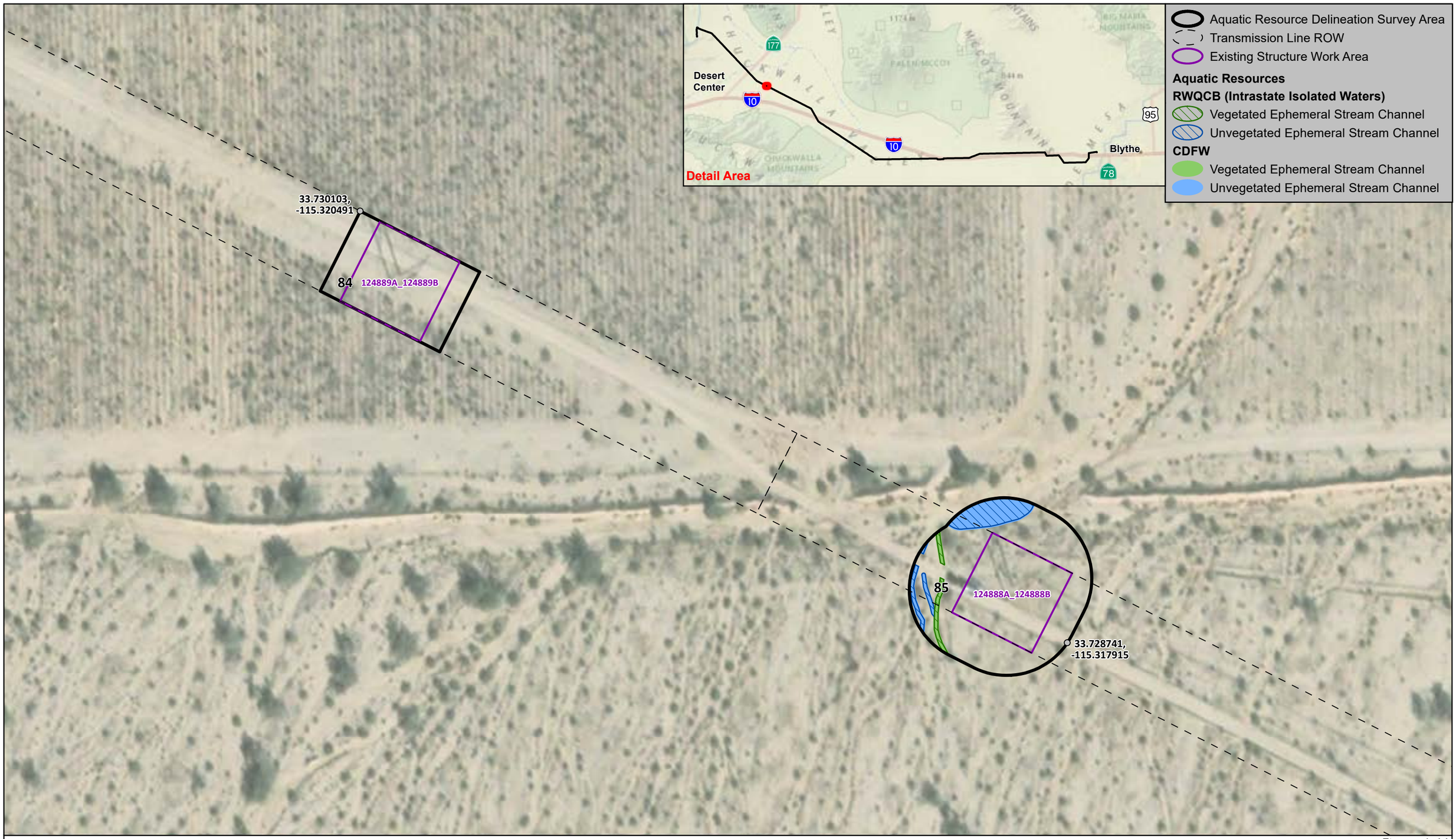


Figure 6-44

Aquatic Resource Survey Results - Sheet #44

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

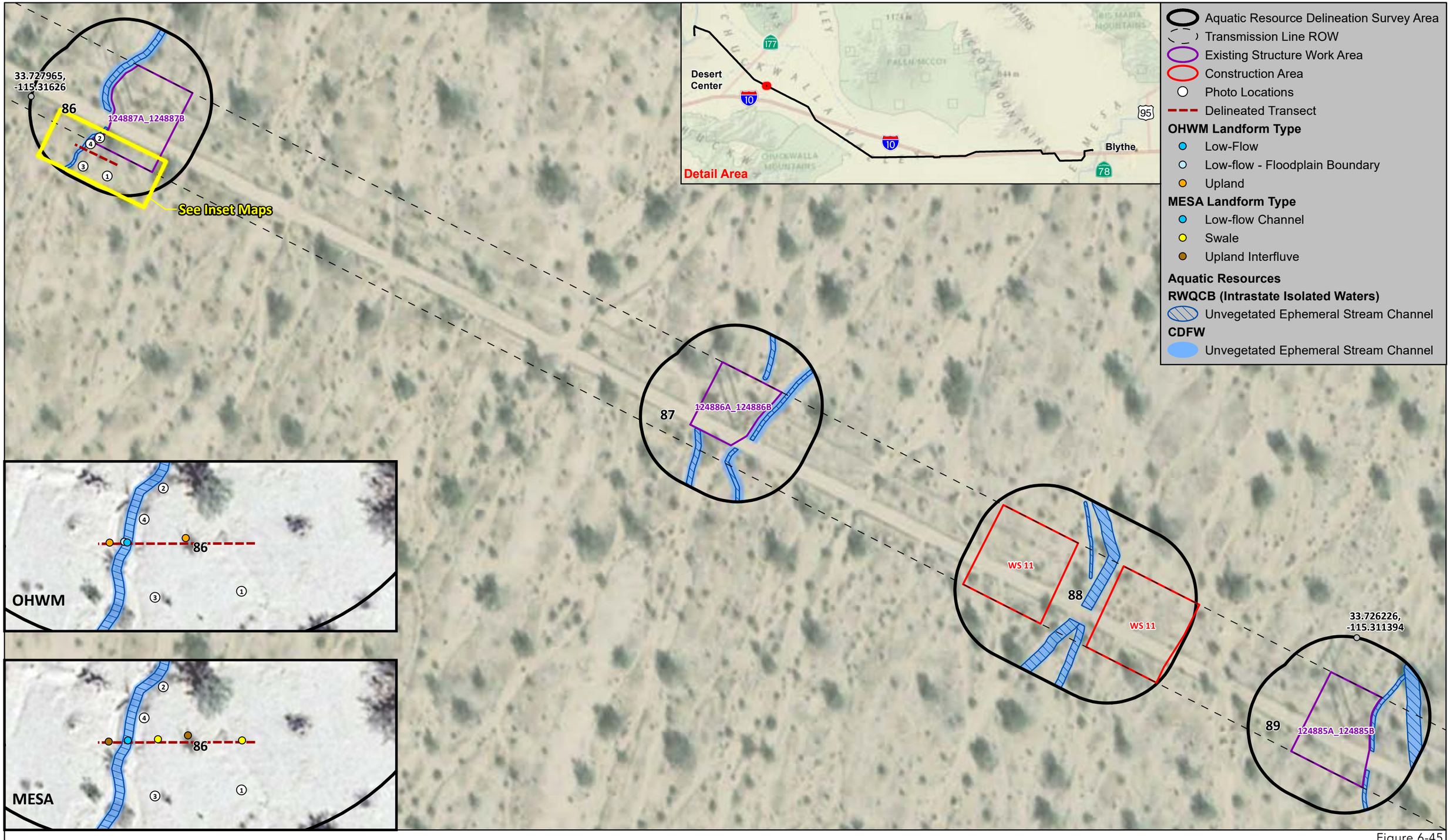


Figure 6-45

Aquatic Resource Survey Results - Sheet #45

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

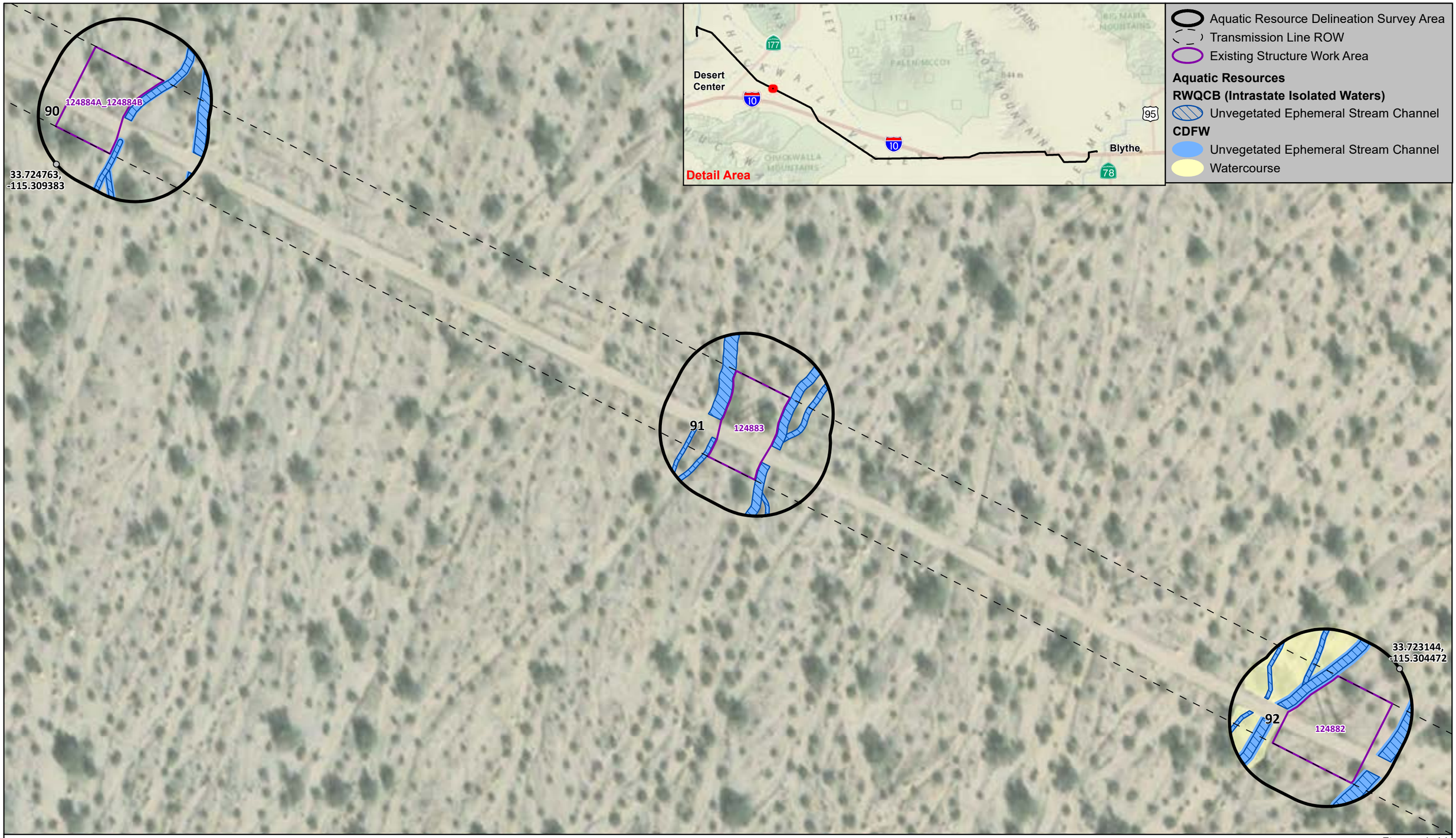


Figure 6-46

Aquatic Resource Survey Results - Sheet #46

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

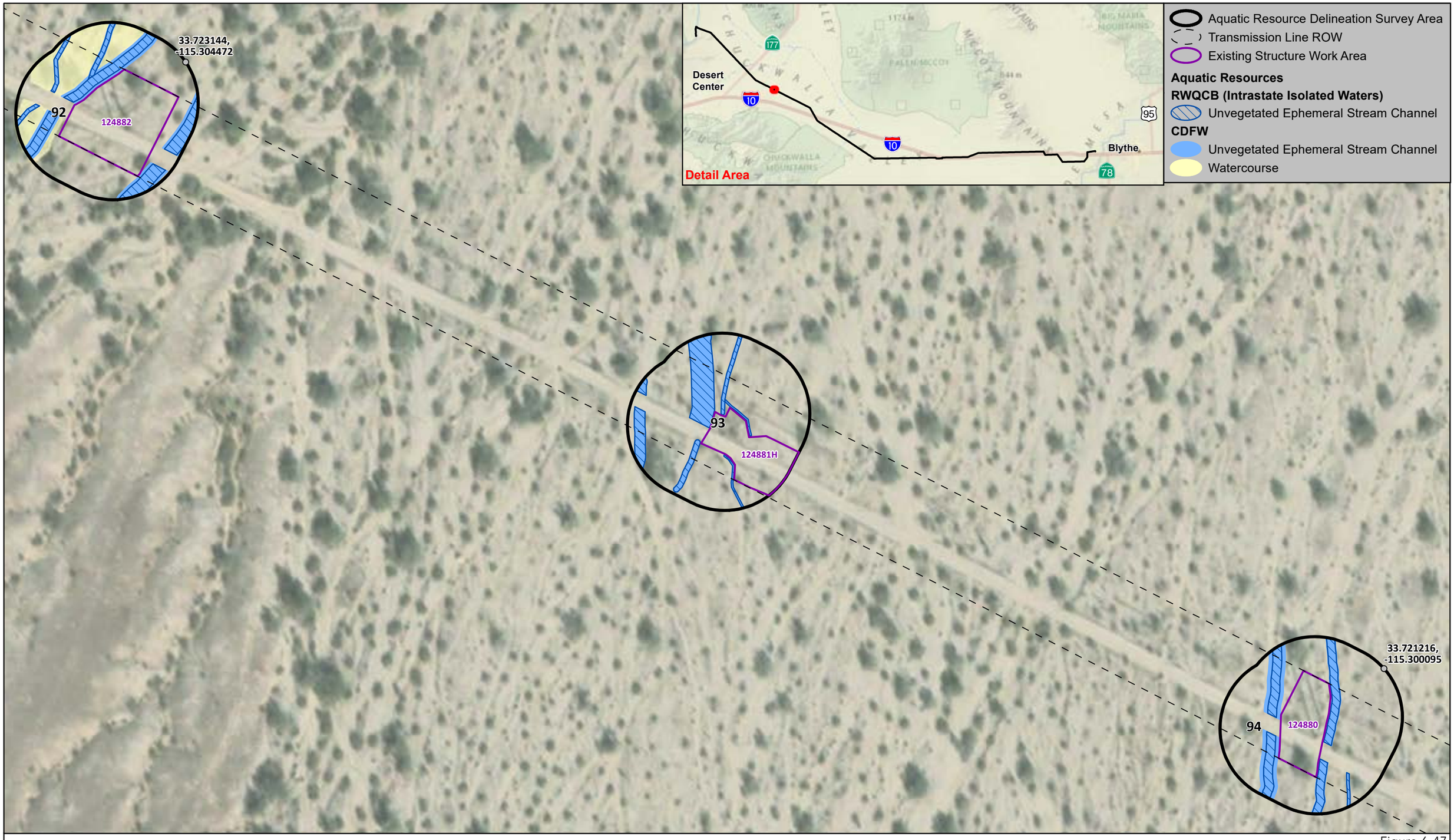


Figure 6-47

Aquatic Resource Survey Results - Sheet #47

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-48

Aquatic Resource Survey Results - Sheet #48

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

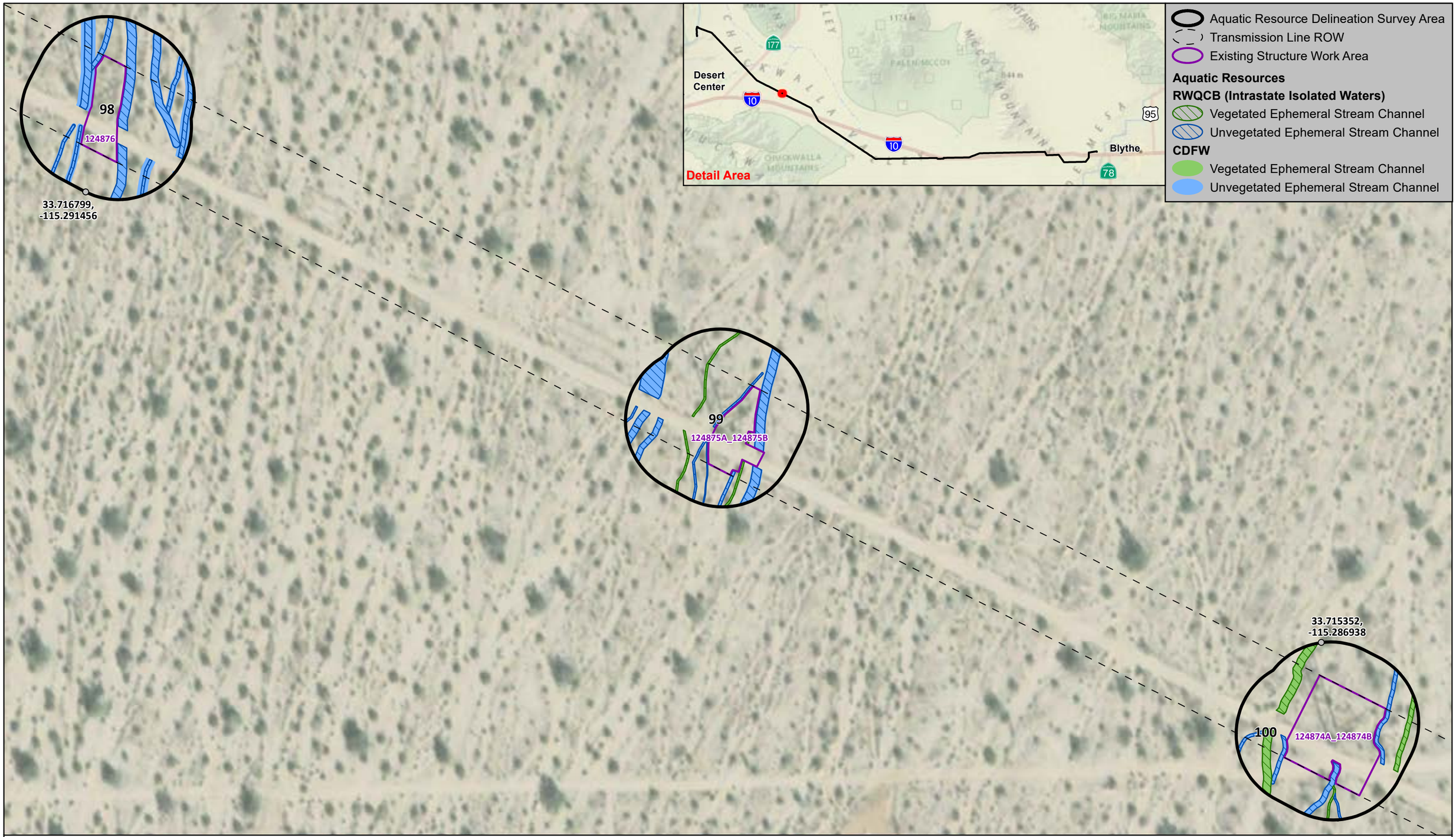


Figure 6-49

Aquatic Resource Survey Results - Sheet #49

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

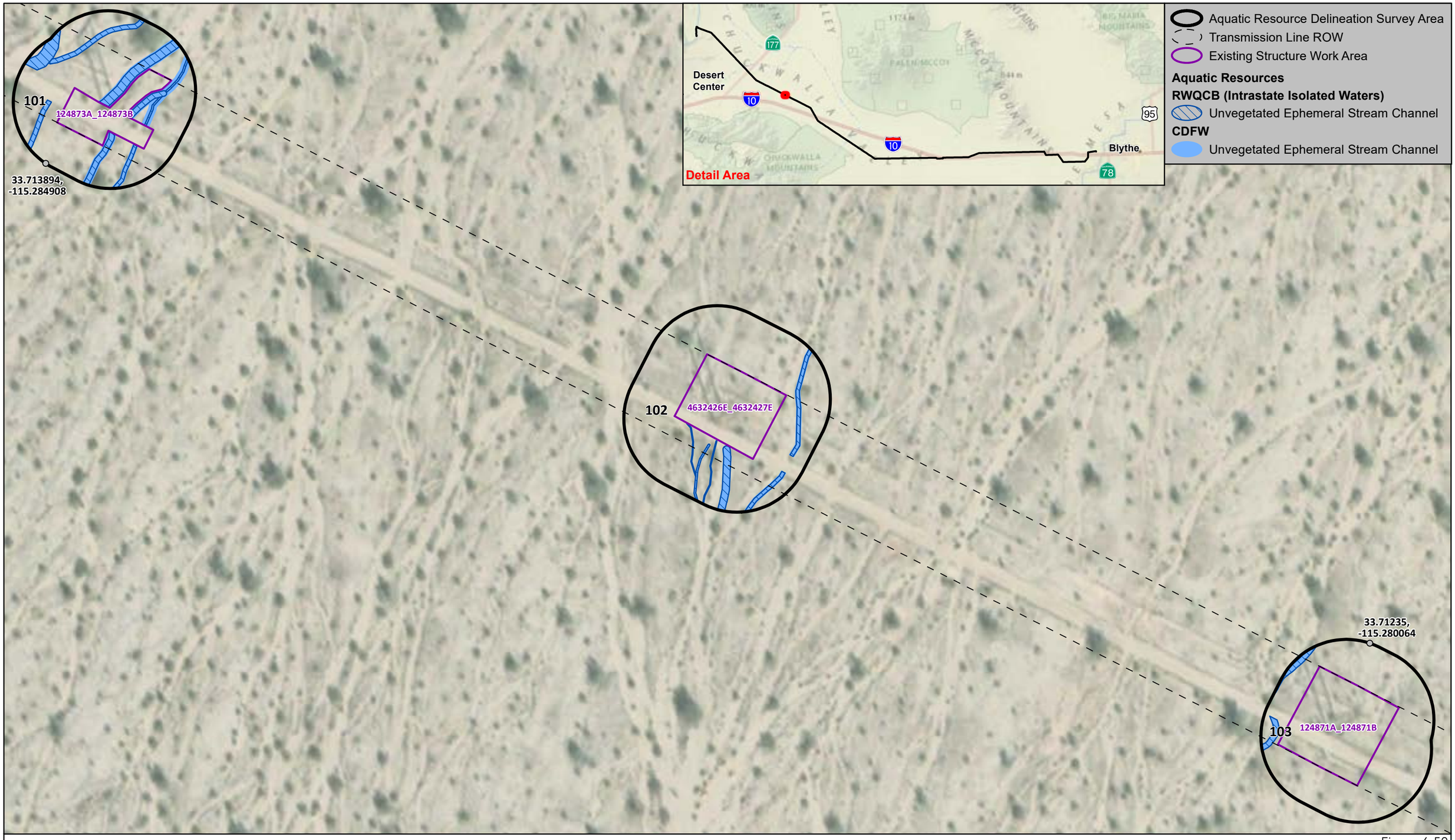


Figure 6-50

Aquatic Resource Survey Results - Sheet #50

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

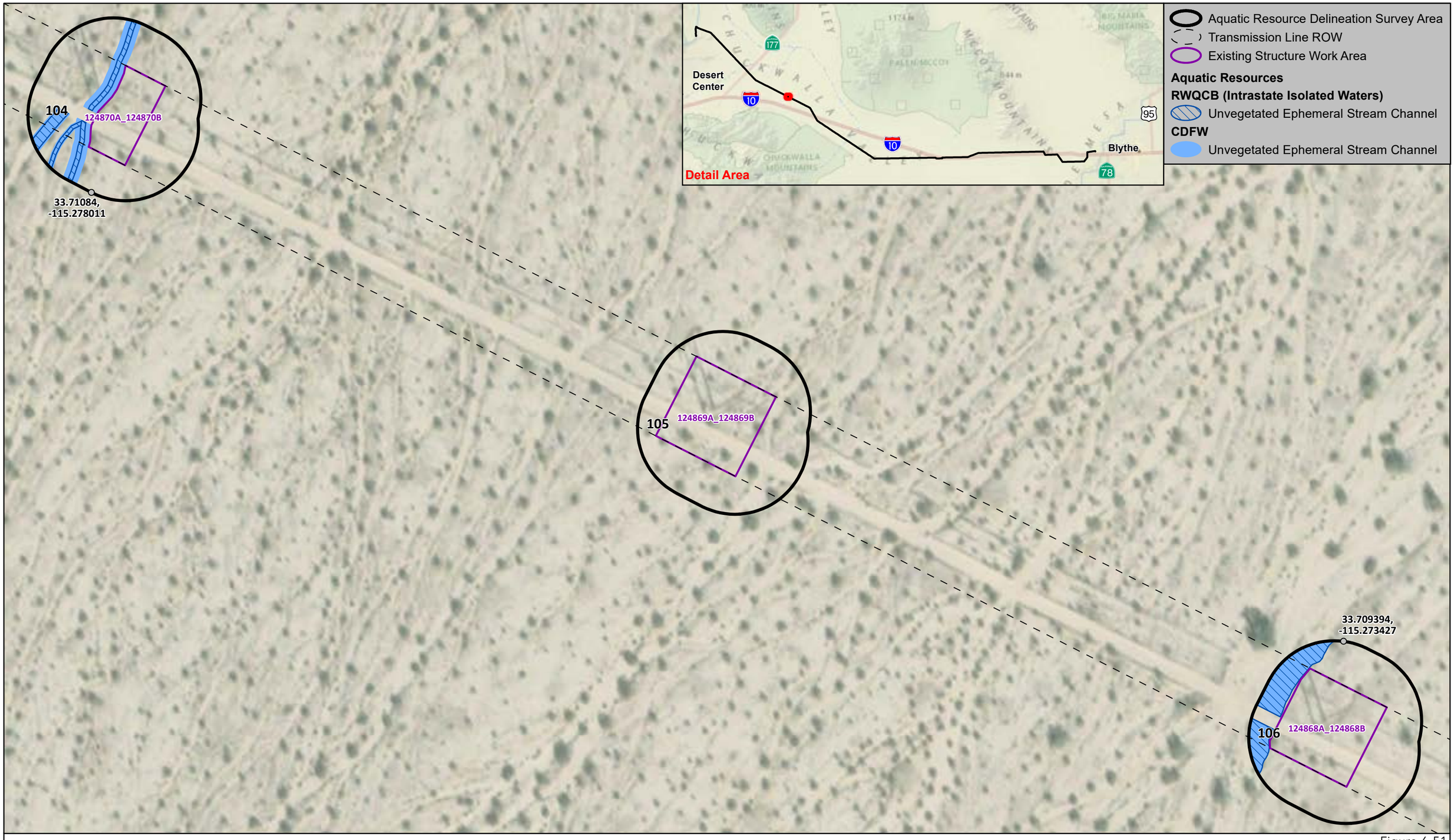


Figure 6-51

Aquatic Resource Survey Results - Sheet #51

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

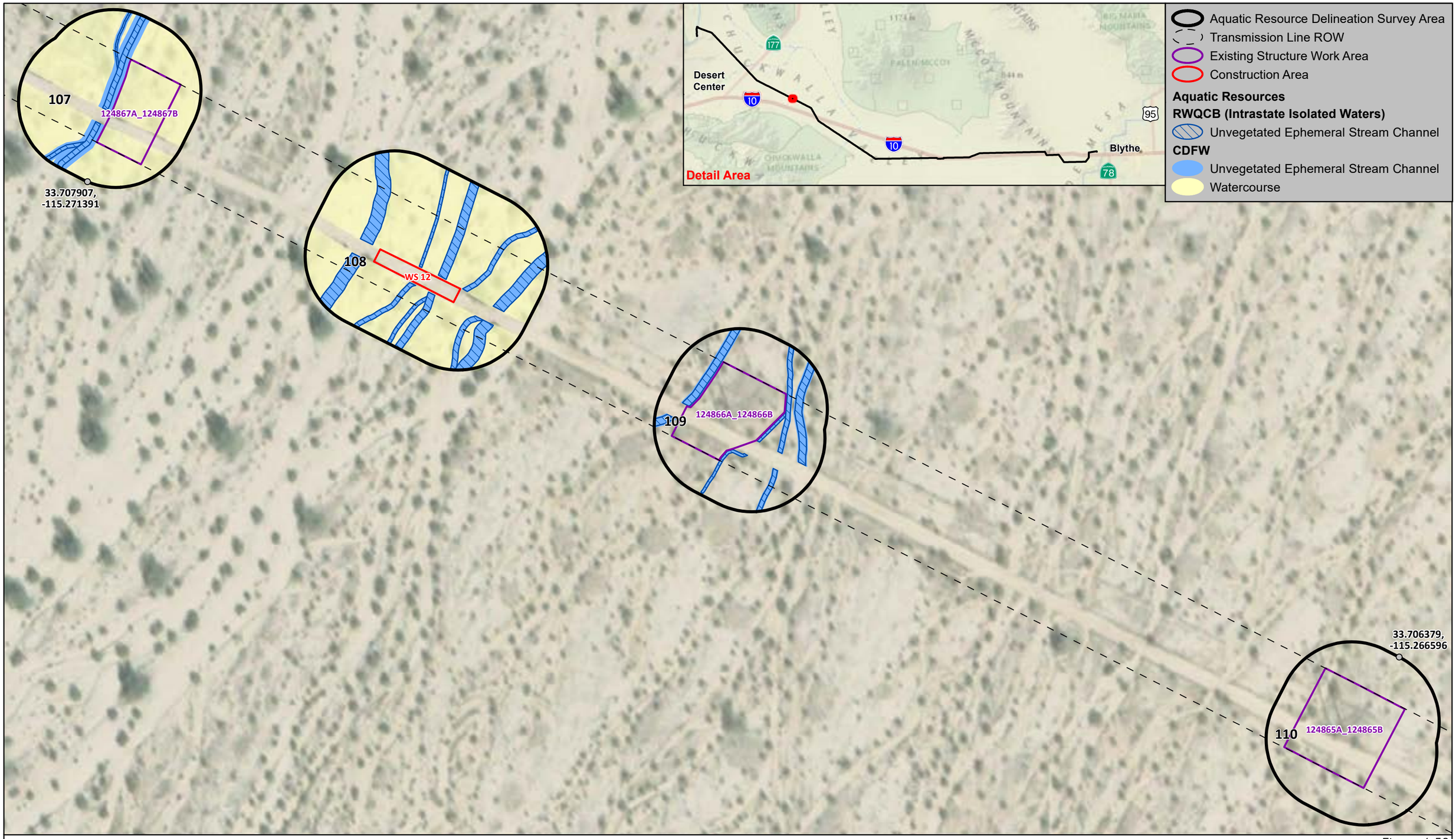


Figure 6-52

Aquatic Resource Survey Results - Sheet #52

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

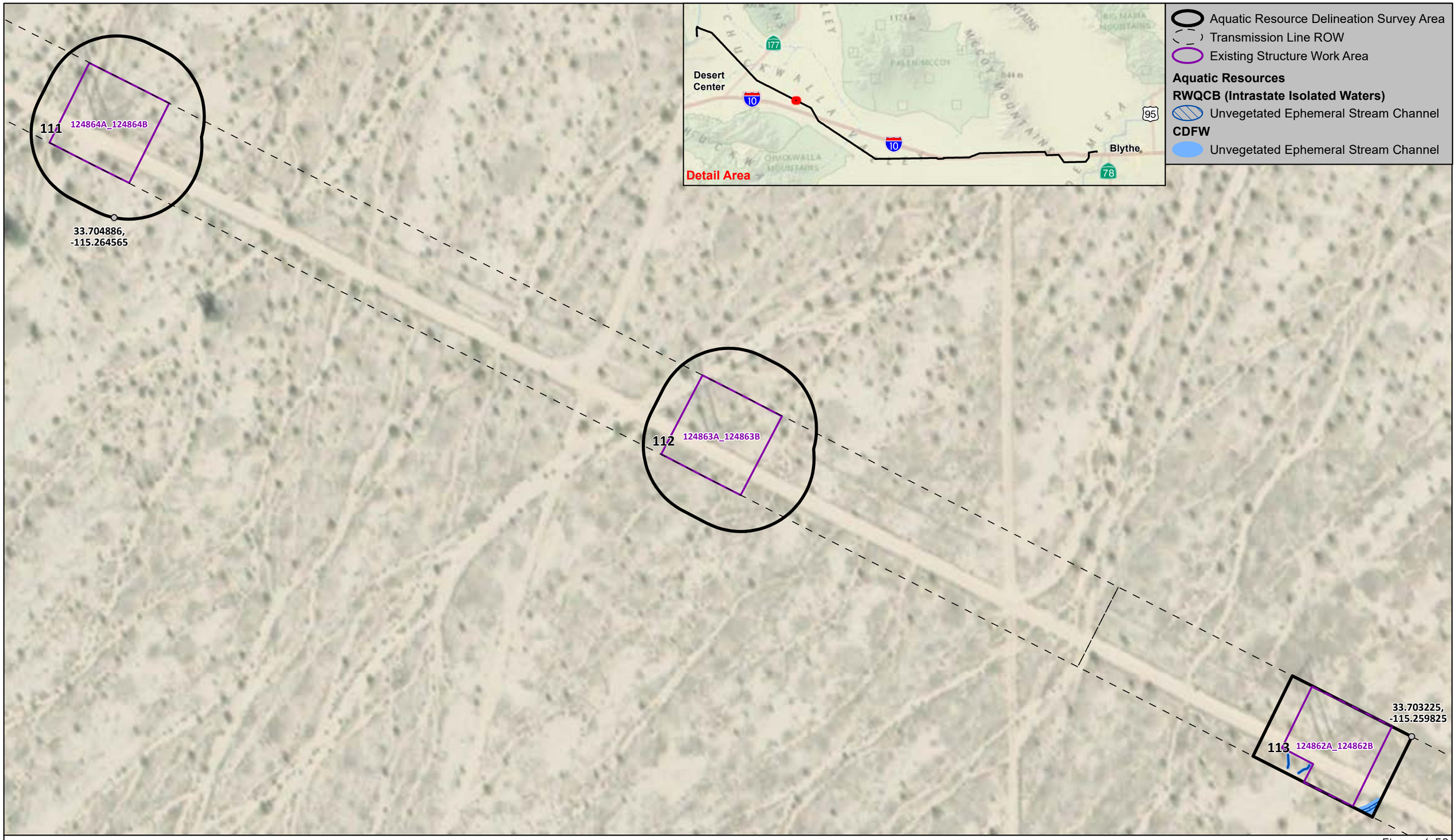


Figure 6-53

Aquatic Resource Survey Results - Sheet #53

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-54

Aquatic Resource Survey Results - Sheet #54

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Aquatic Resource Delineation Survey Area
Transmission Line ROW
Existing Structure Work Area

Desert Center
Blythe
Detail Area

117
N124858AE_S124858BE
33.698948,
-115.251187

118
N124857AE_S124857BE

119
N124856AE_S124856BE
33.697505,
-115.246588

Figure 6-55

Aquatic Resource Survey Results - Sheet #55

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

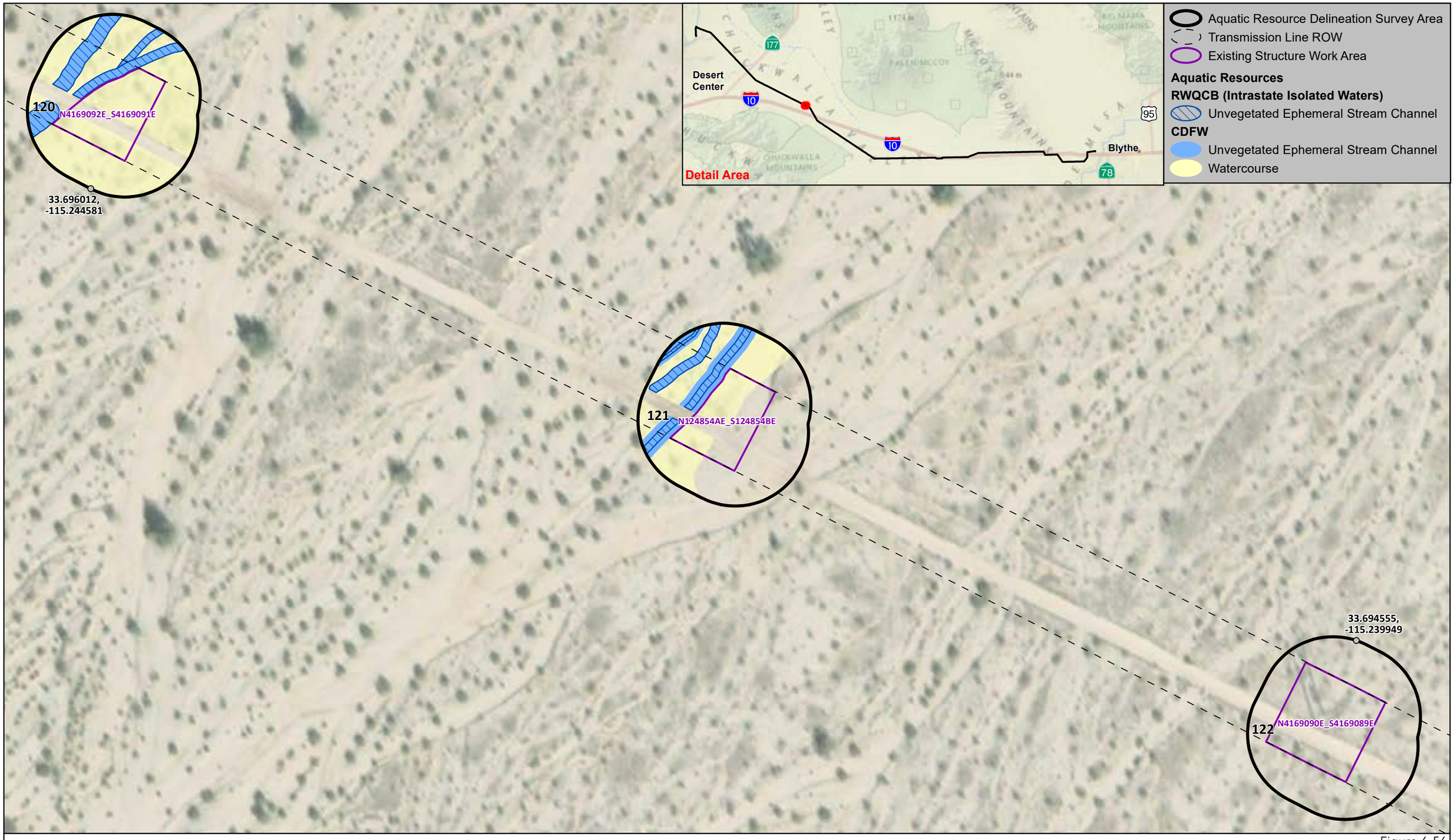


Figure 6-56

Aquatic Resource Survey Results - Sheet #56

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

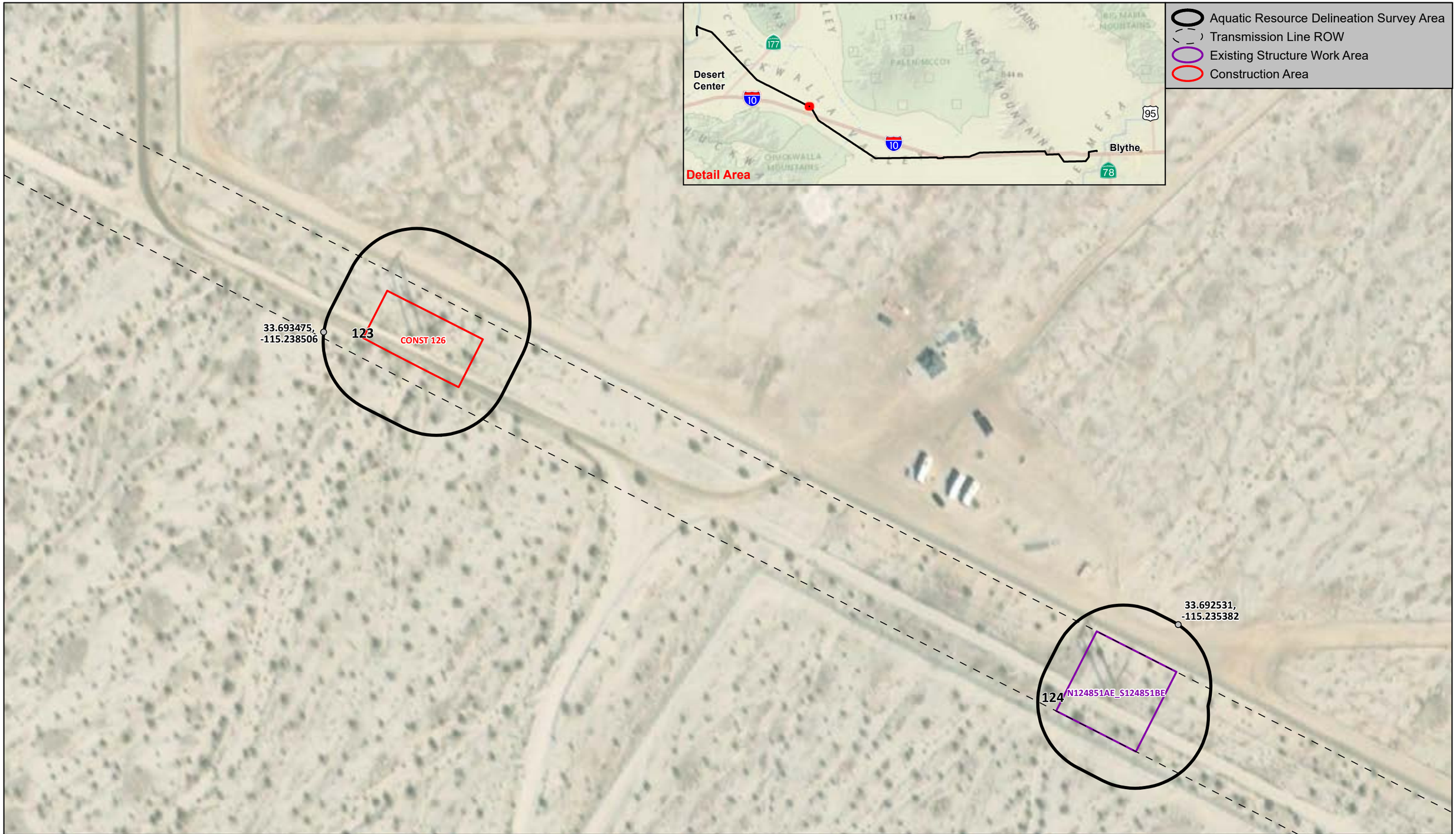


Figure 6-57

Aquatic Resource Survey Results - Sheet #57

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

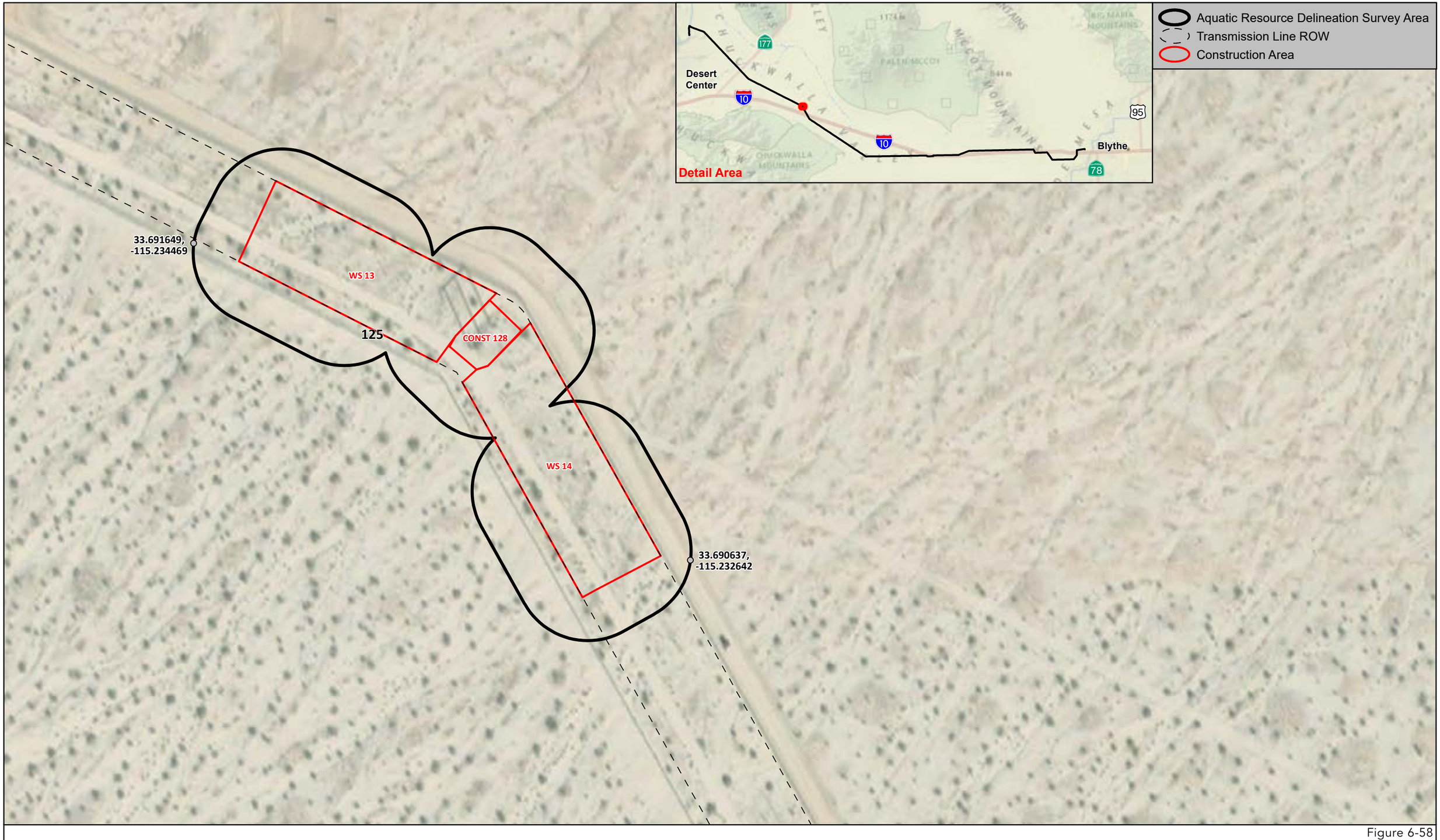


Figure 6-58

Aquatic Resource Survey Results - Sheet #58

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

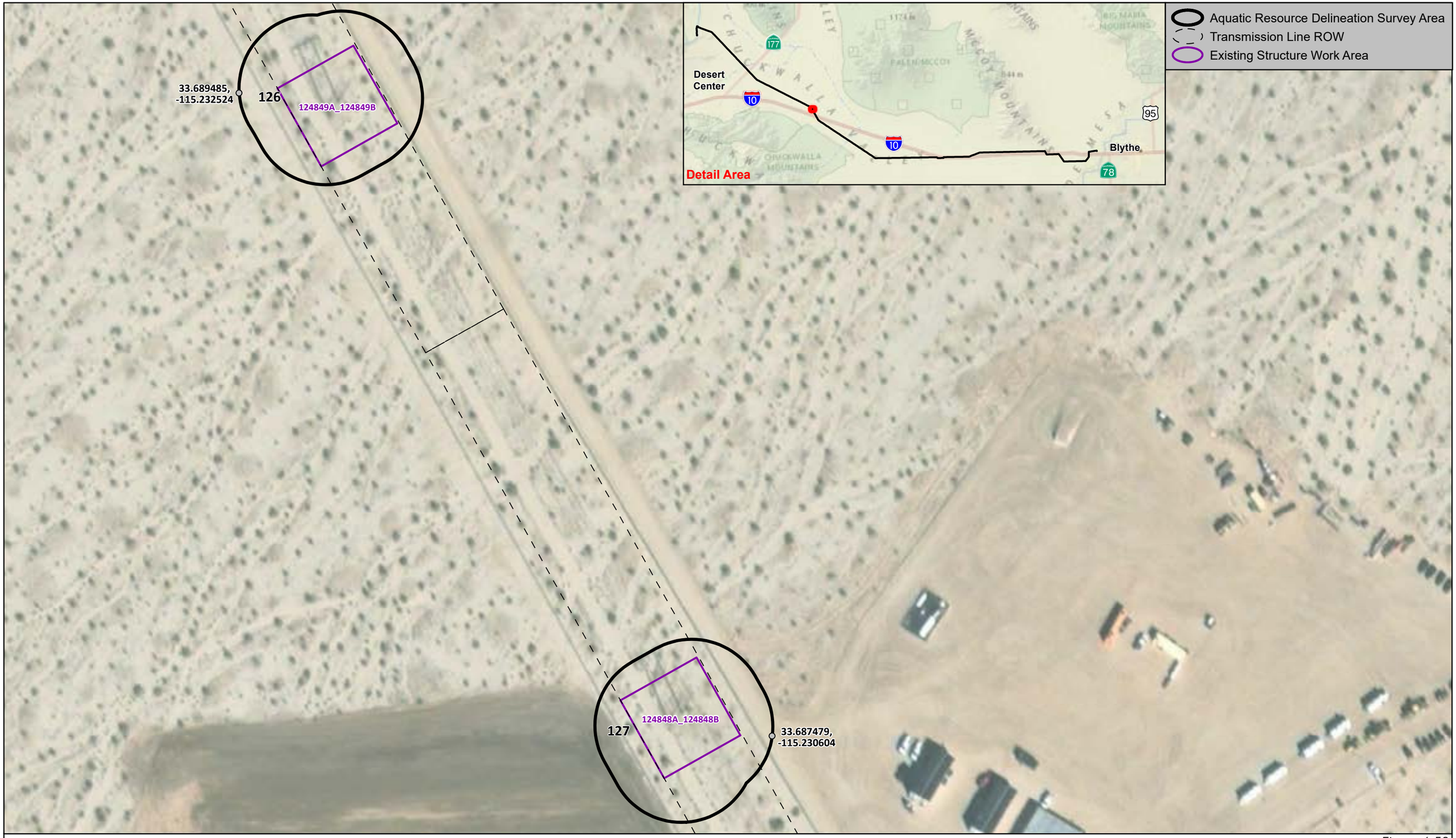


Figure 6-59

Aquatic Resource Survey Results - Sheet #59

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

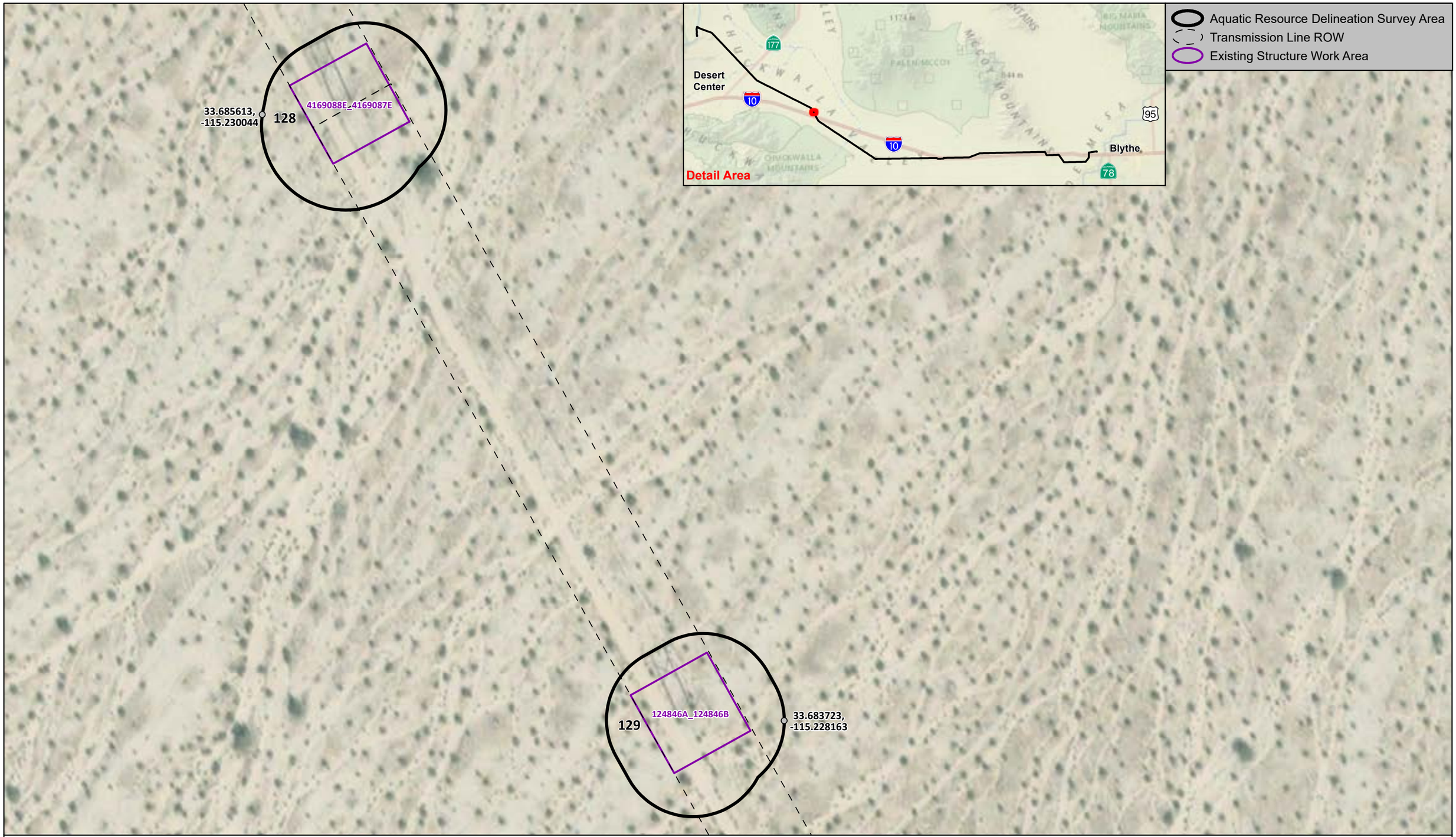


Figure 6-60

Aquatic Resource Survey Results - Sheet #60

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

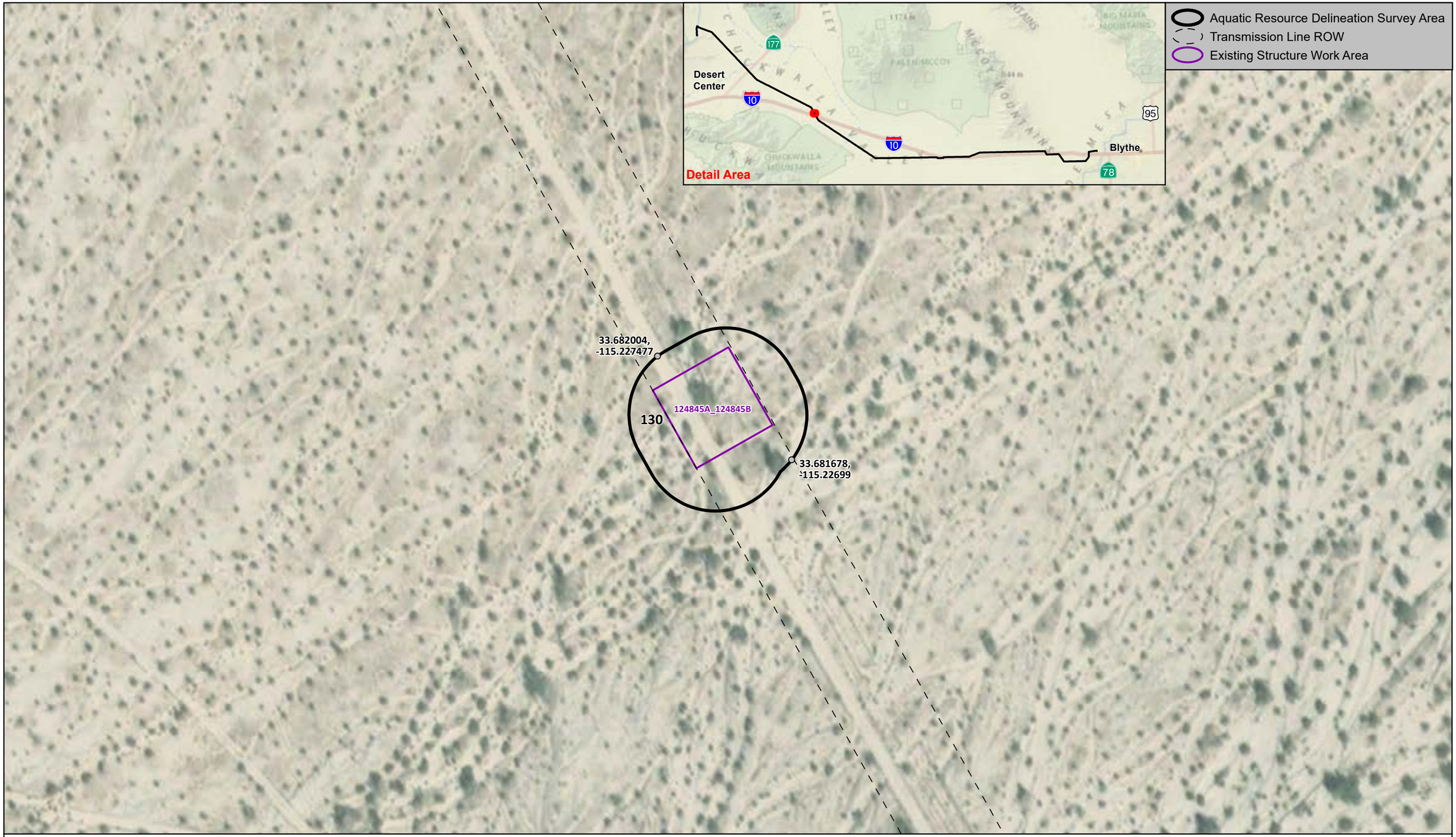


Figure 6-61

Aquatic Resource Survey Results - Sheet #61

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

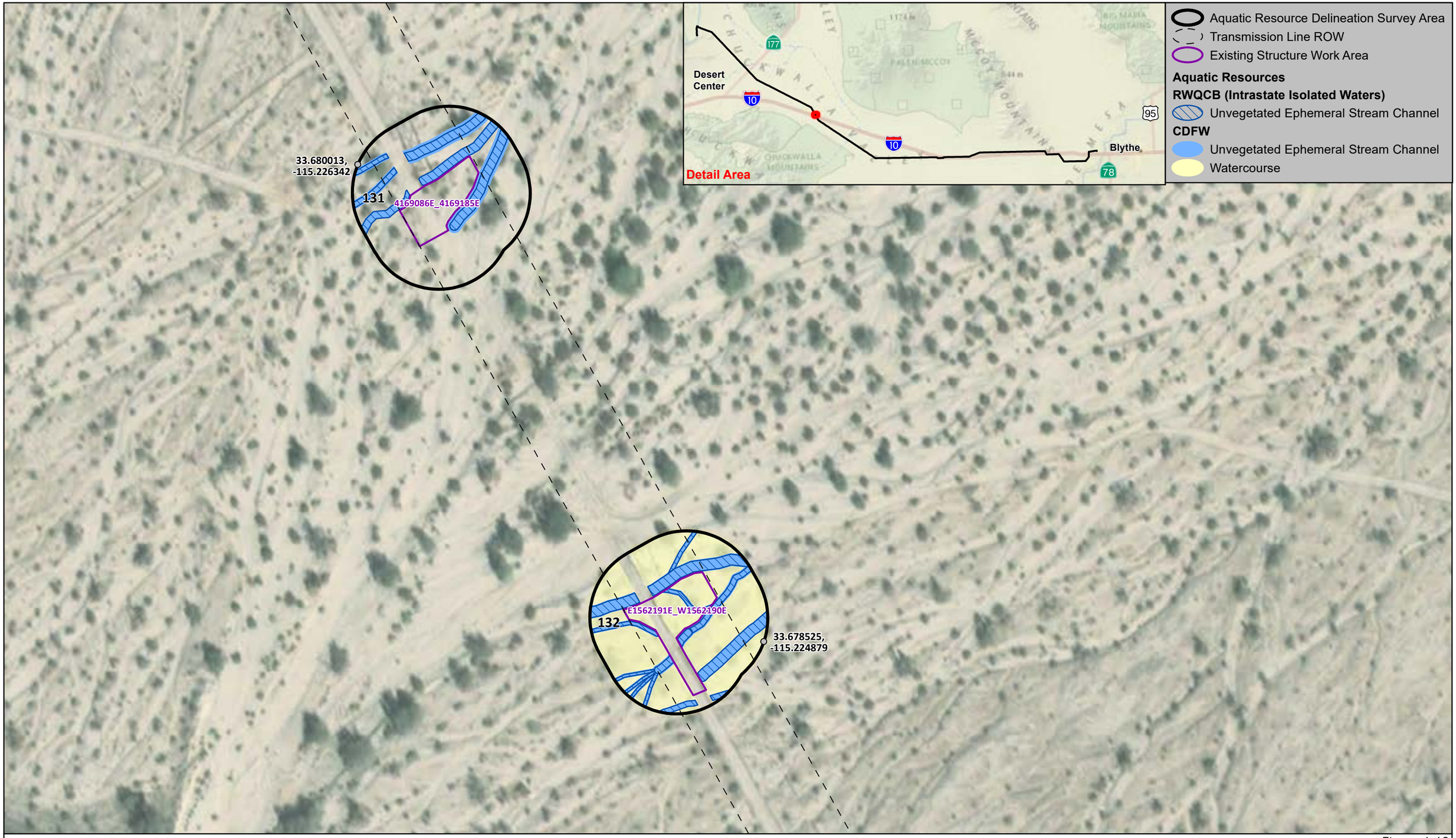


Figure 6-62

Aquatic Resource Survey Results - Sheet #62

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

33.677323,
-115.224644

4449051E_4449052E

GS 8

GS 9

133

GS 10

GS 11

134

1

2

4449053E_4449054E

33.675379,
-115.222878

Desert Center

Blythe

Detail Area

- Aquatic Resource Delineation Survey Area
- Transmission Line ROW
- Existing Structure Work Area
- Construction Area
- Photo Locations

Aquatic Resources

RWQCB (Intrastate Isolated Waters)

- Unvegetated Ephemeral Stream Channel

CDFW

- Unvegetated Ephemeral Stream Channel
- Watercourse

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-63

Aquatic Resource Survey Results - Sheet #63

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

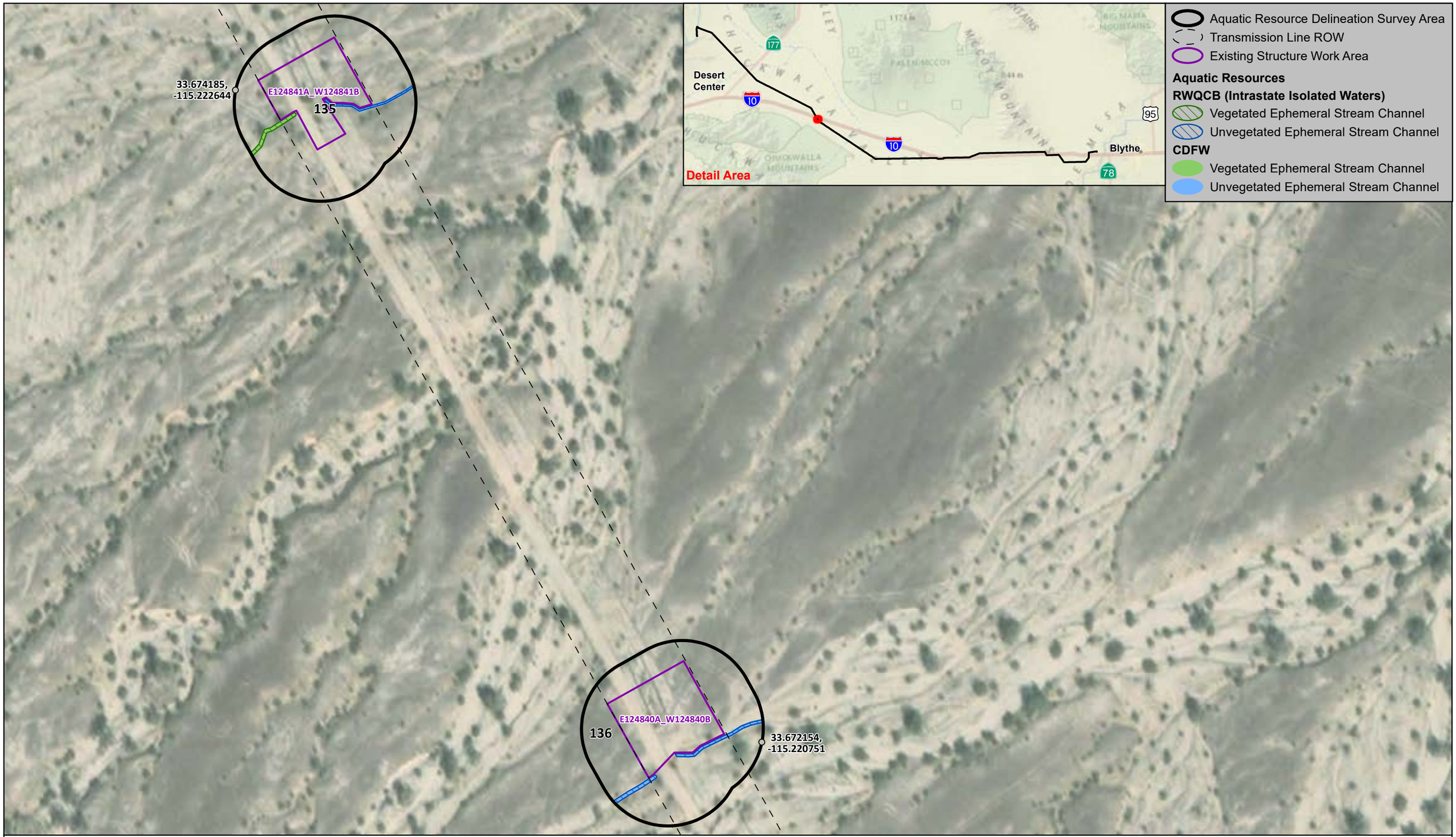


Figure 6-64

Aquatic Resource Survey Results - Sheet #64

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

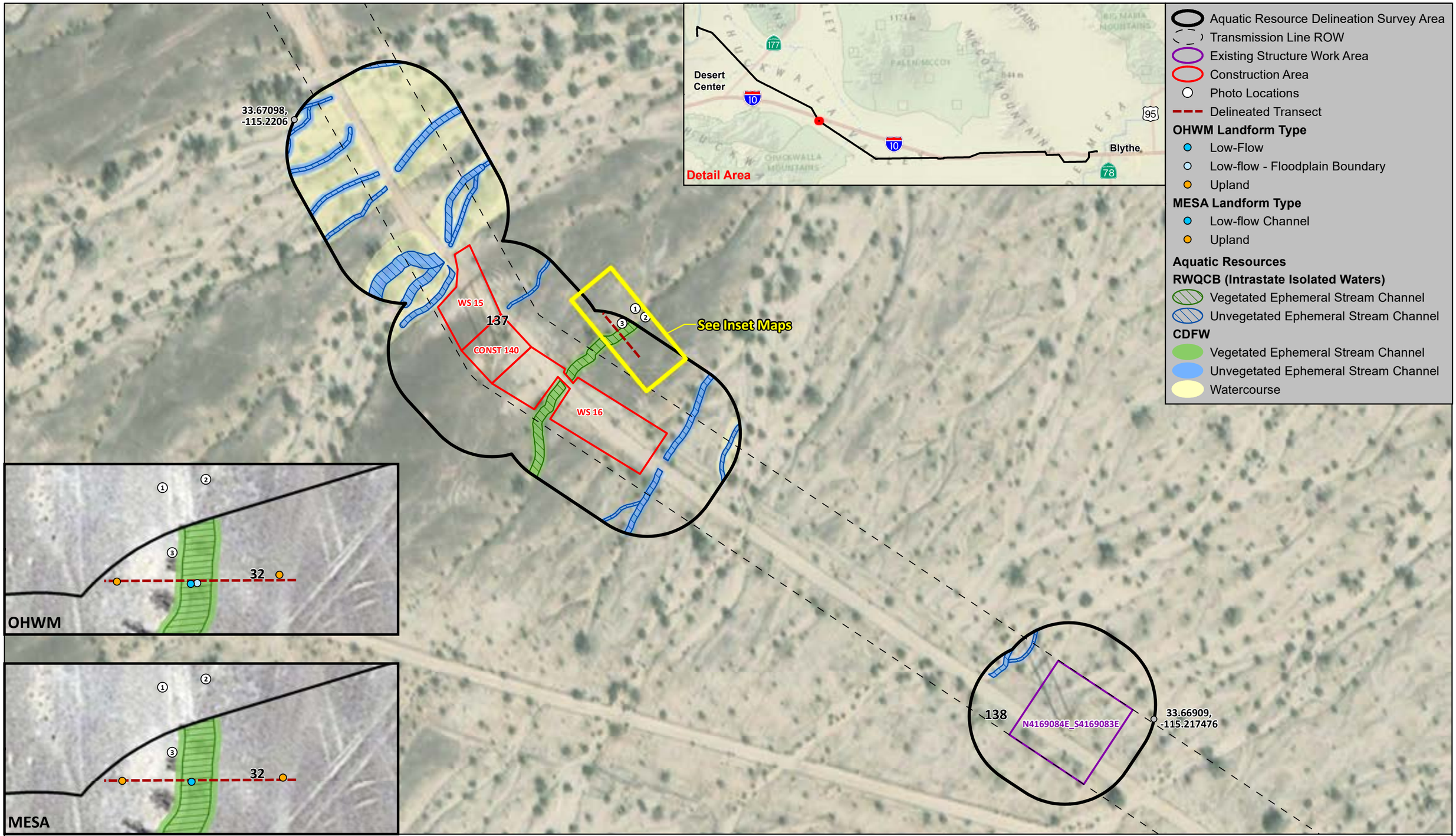


Figure 6-65

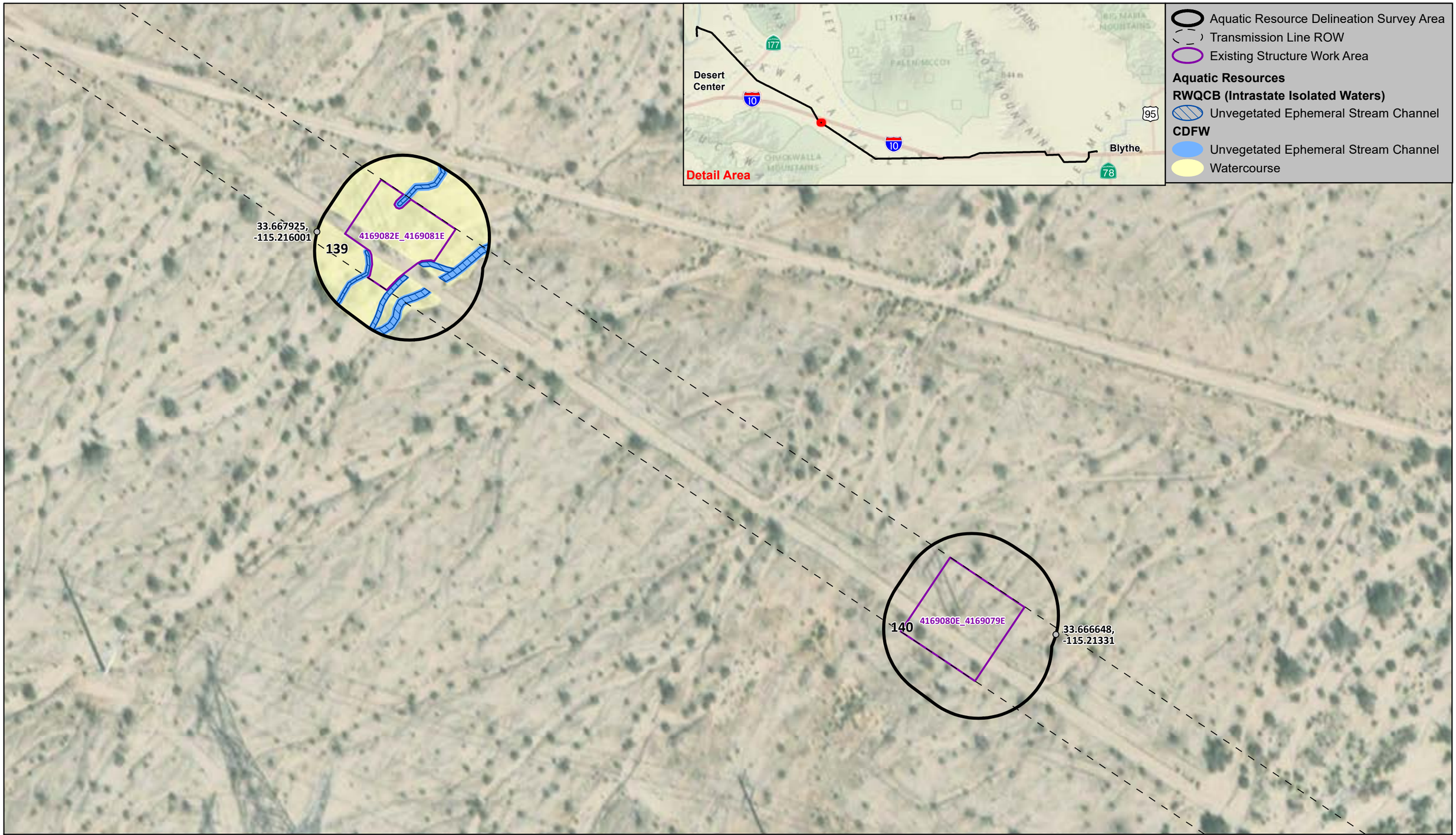
Aquatic Resource Survey Results - Sheet #65

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet



Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-66

Aquatic Resource Survey Results - Sheet #66

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

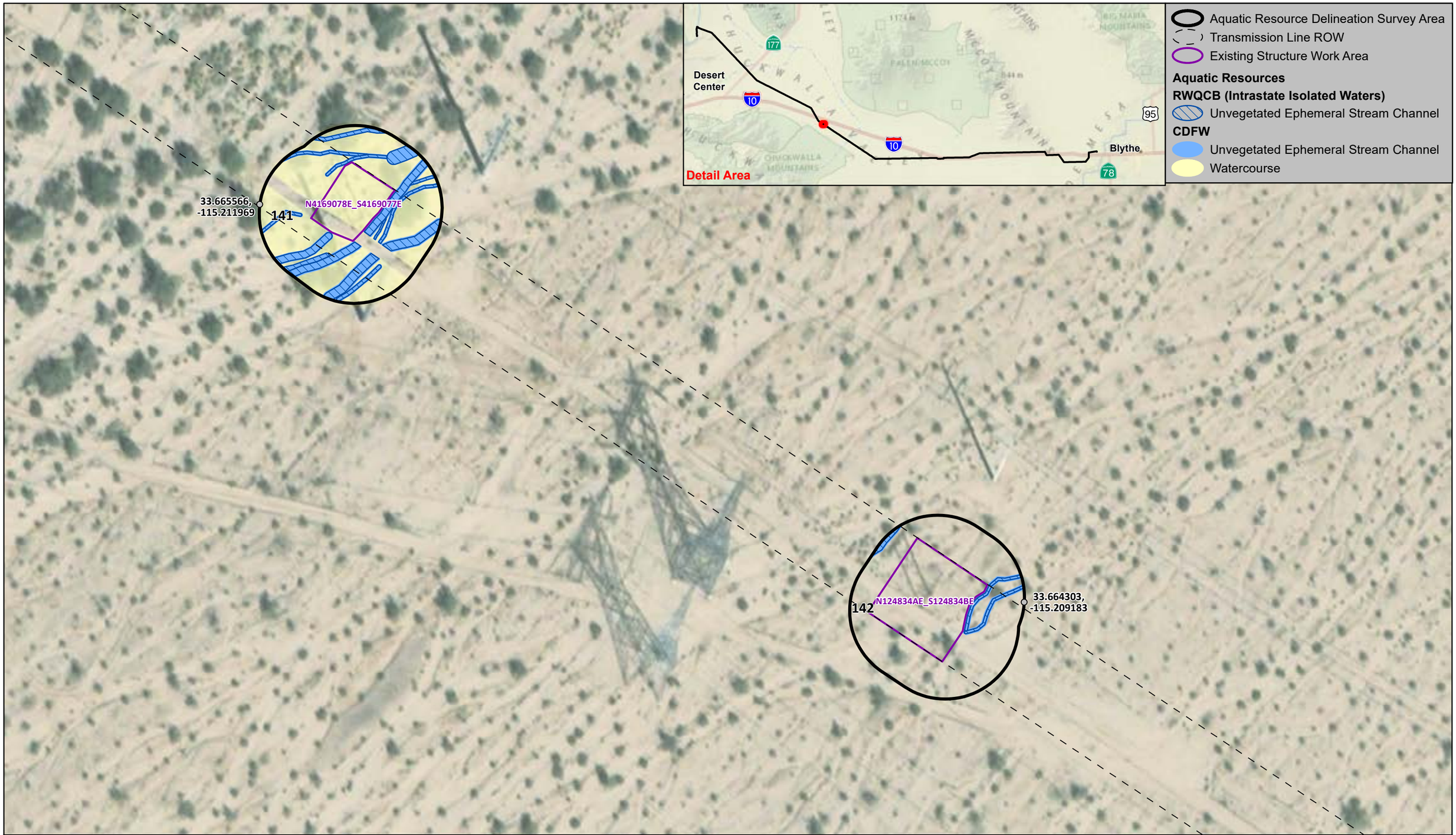


Figure 6-67

Aquatic Resource Survey Results - Sheet #67

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

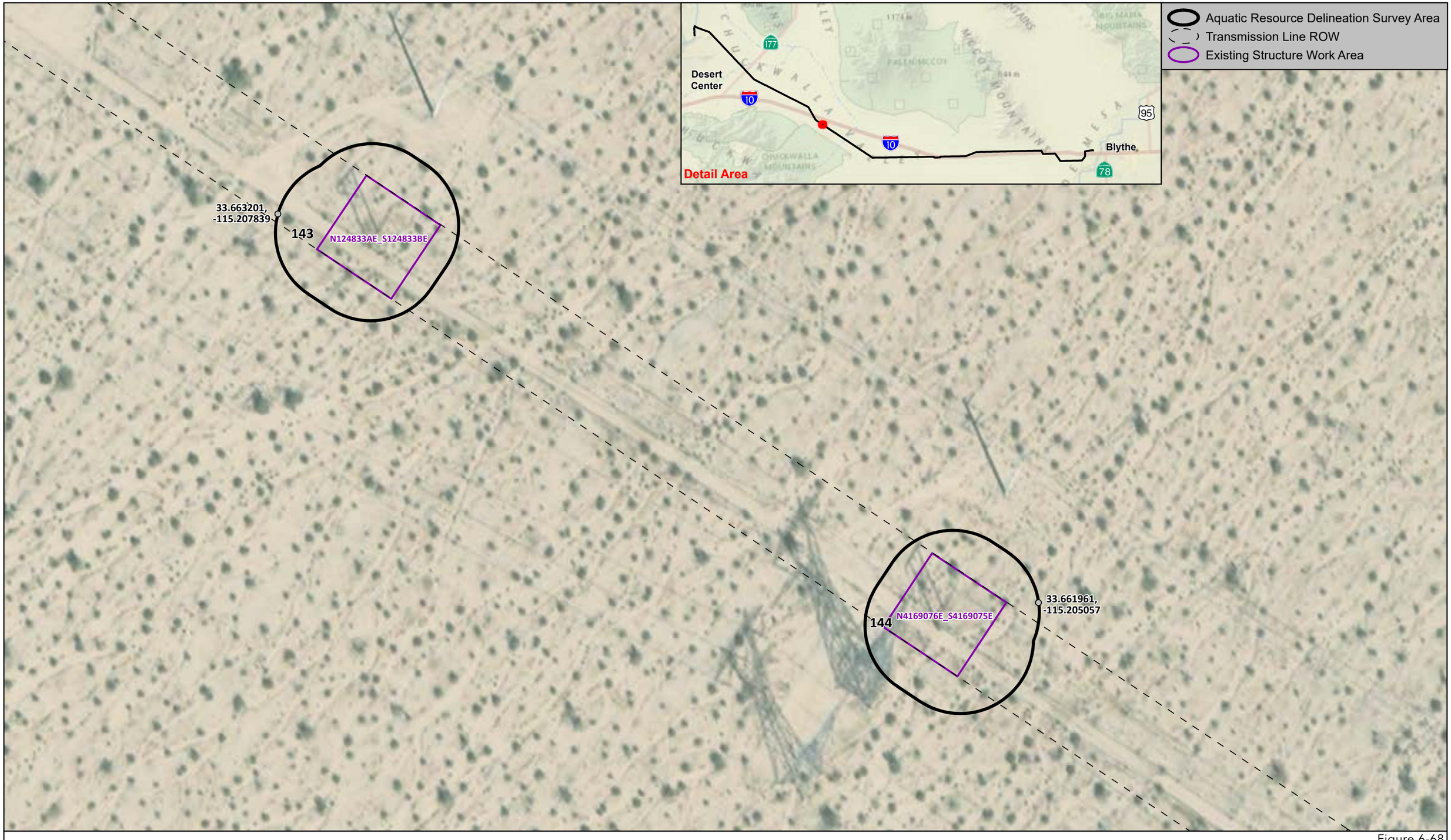


Figure 6-68

Aquatic Resource Survey Results - Sheet #68

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-69

Aquatic Resource Survey Results - Sheet #69

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

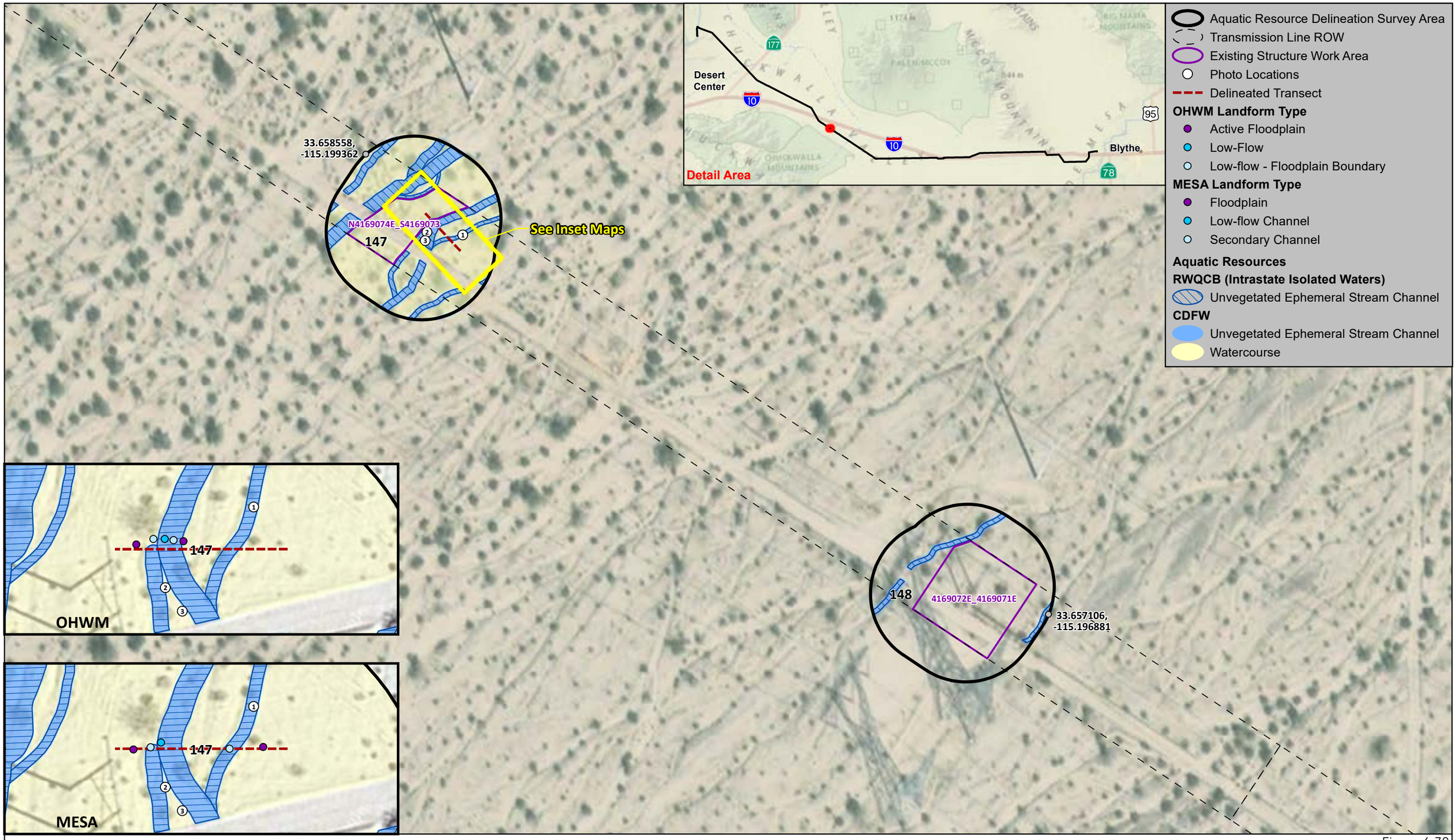


Figure 6-70

Aquatic Resource Survey Results - Sheet #70

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

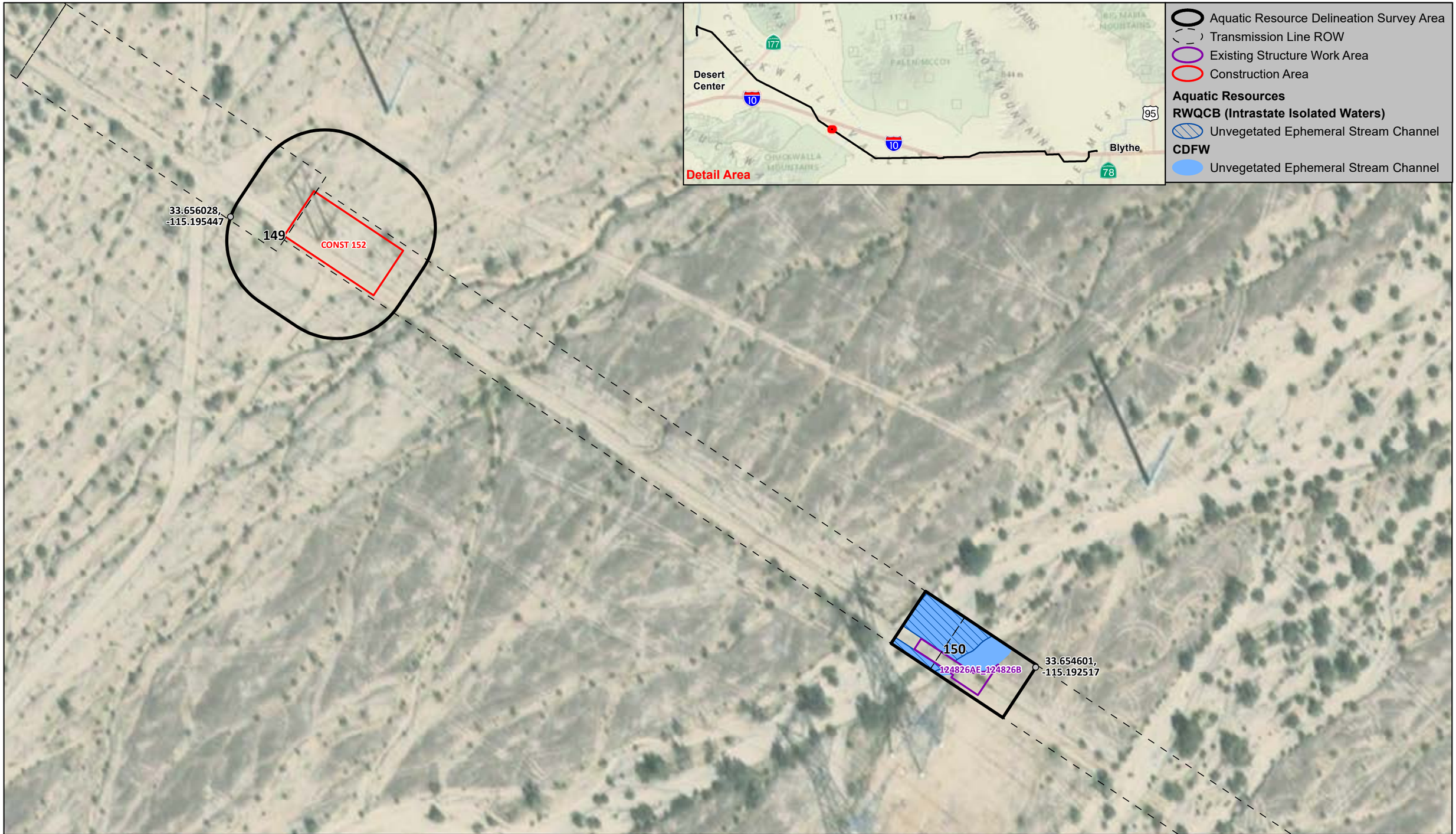


Figure 6-71

Aquatic Resource Survey Results - Sheet #71

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

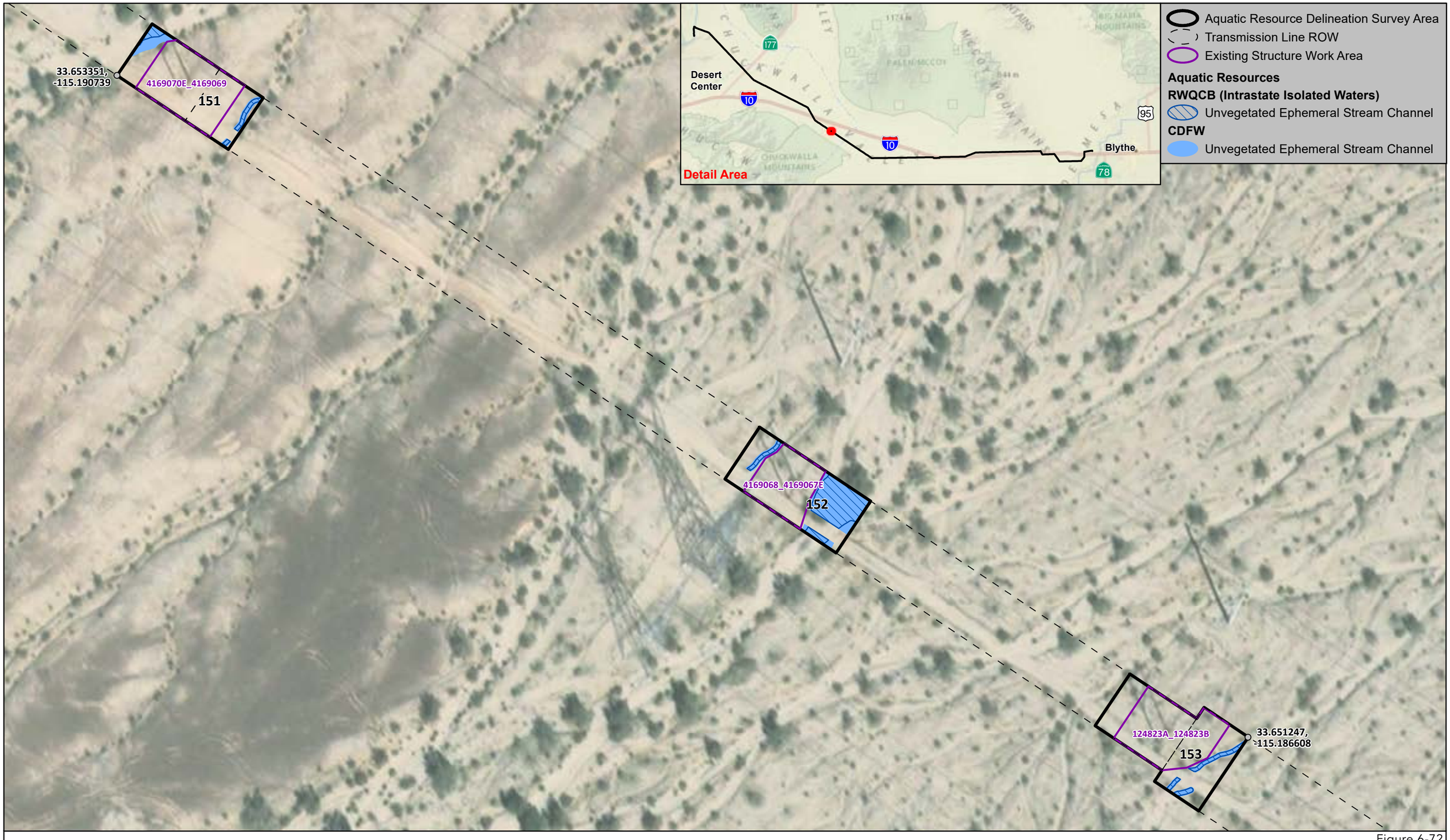


Figure 6-72

Aquatic Resource Survey Results - Sheet #72

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

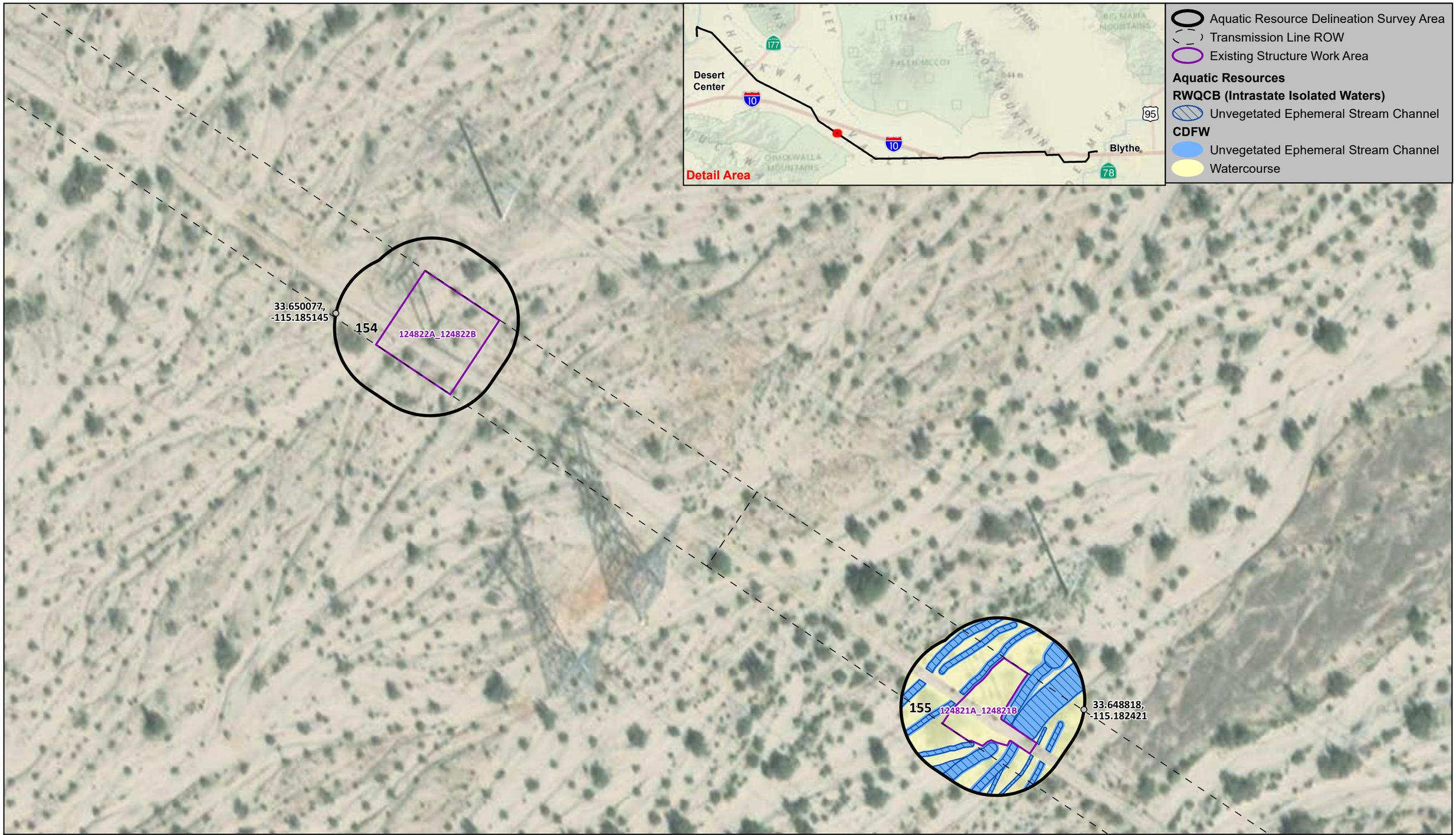


Figure 6-73

Aquatic Resource Survey Results - Sheet #73

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

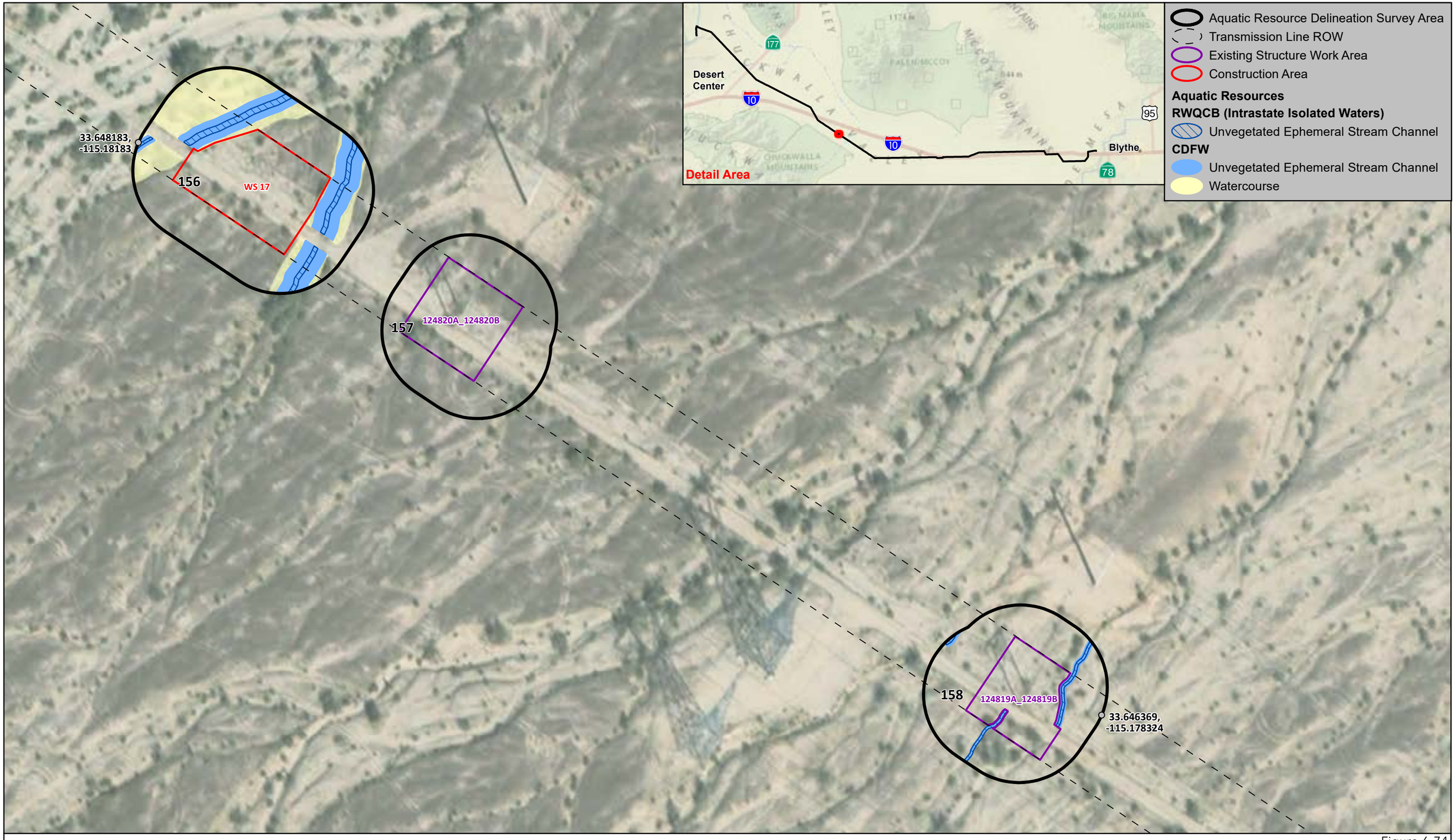


Figure 6-74

Aquatic Resource Survey Results - Sheet #74

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

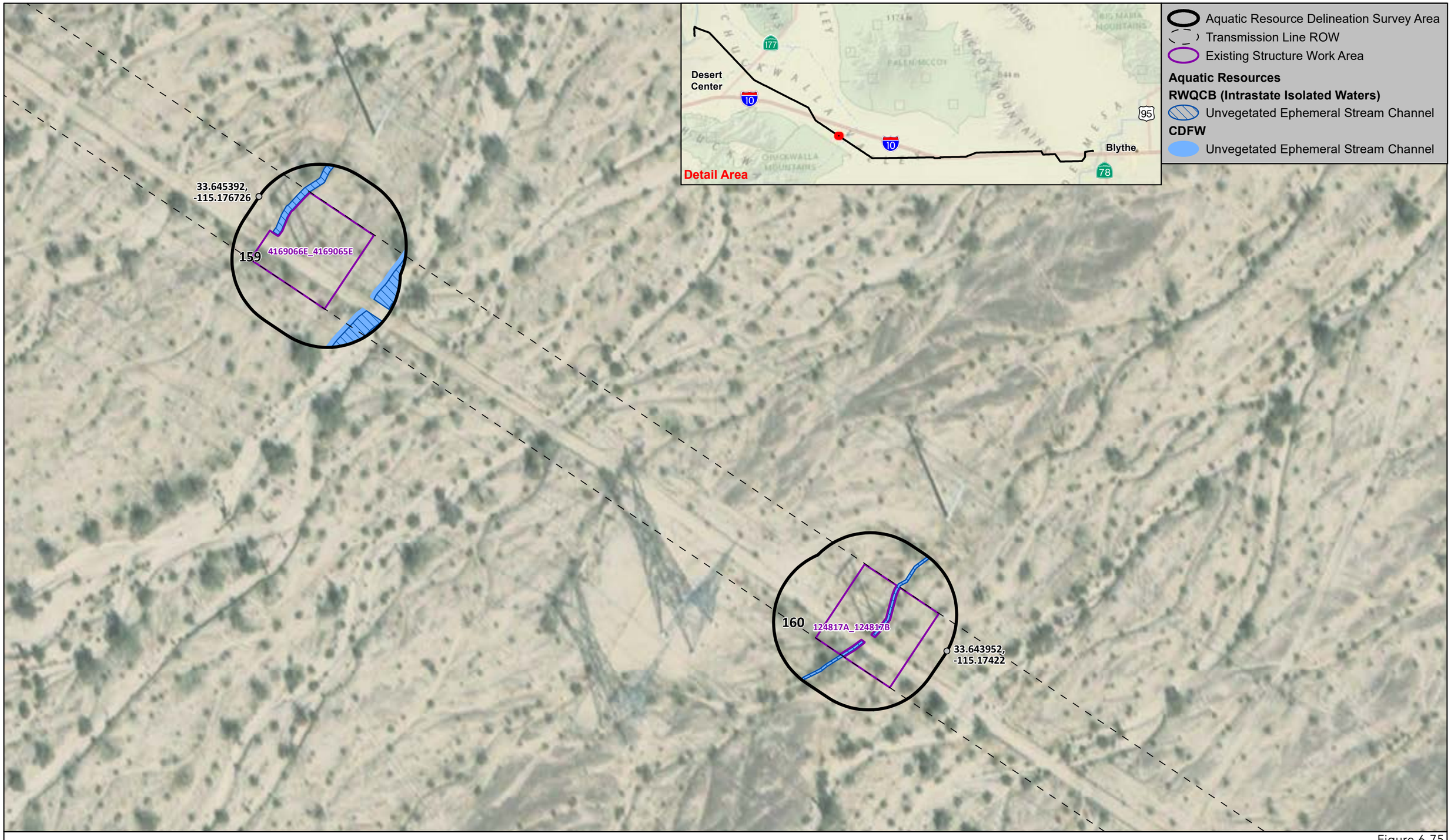


Figure 6-75

Aquatic Resource Survey Results - Sheet #75

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

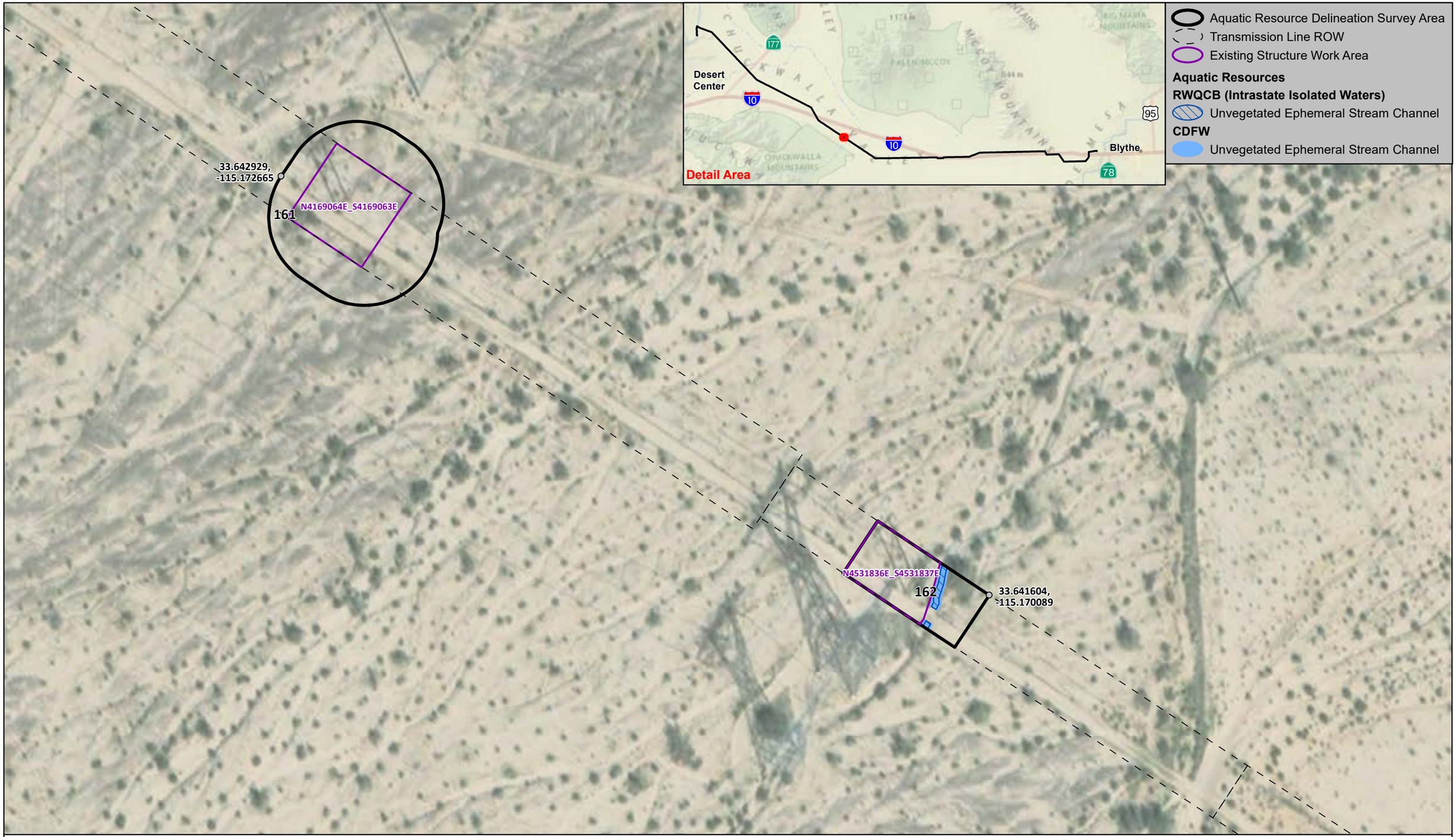


Figure 6-76

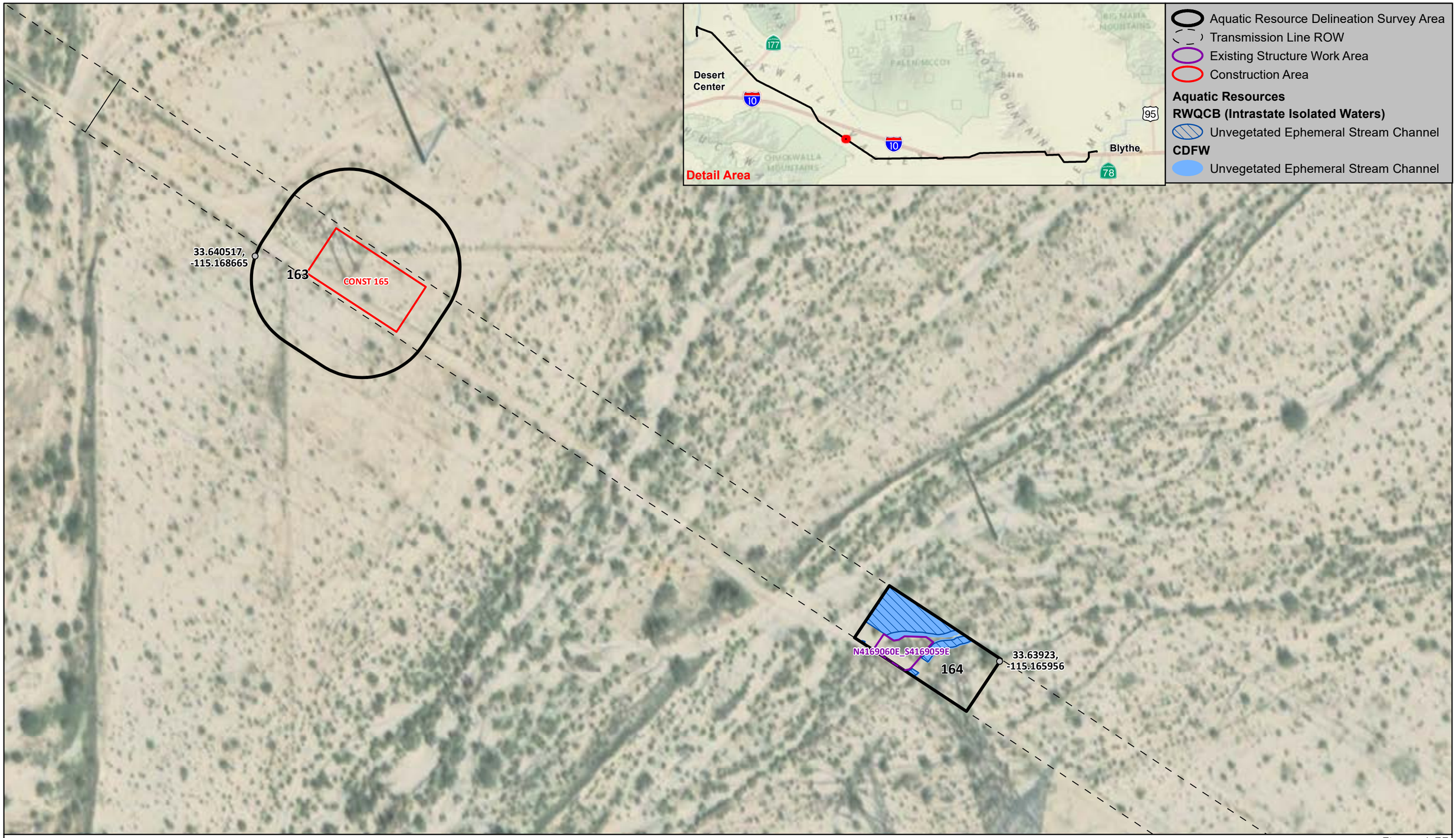
Aquatic Resource Survey Results - Sheet #76

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet



Artemis Environmental Services, Inc.

Figure 6-77

Aquatic Resource Survey Results - Sheet #77

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Figure 6-78

Aquatic Resource Survey Results - Sheet #78

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

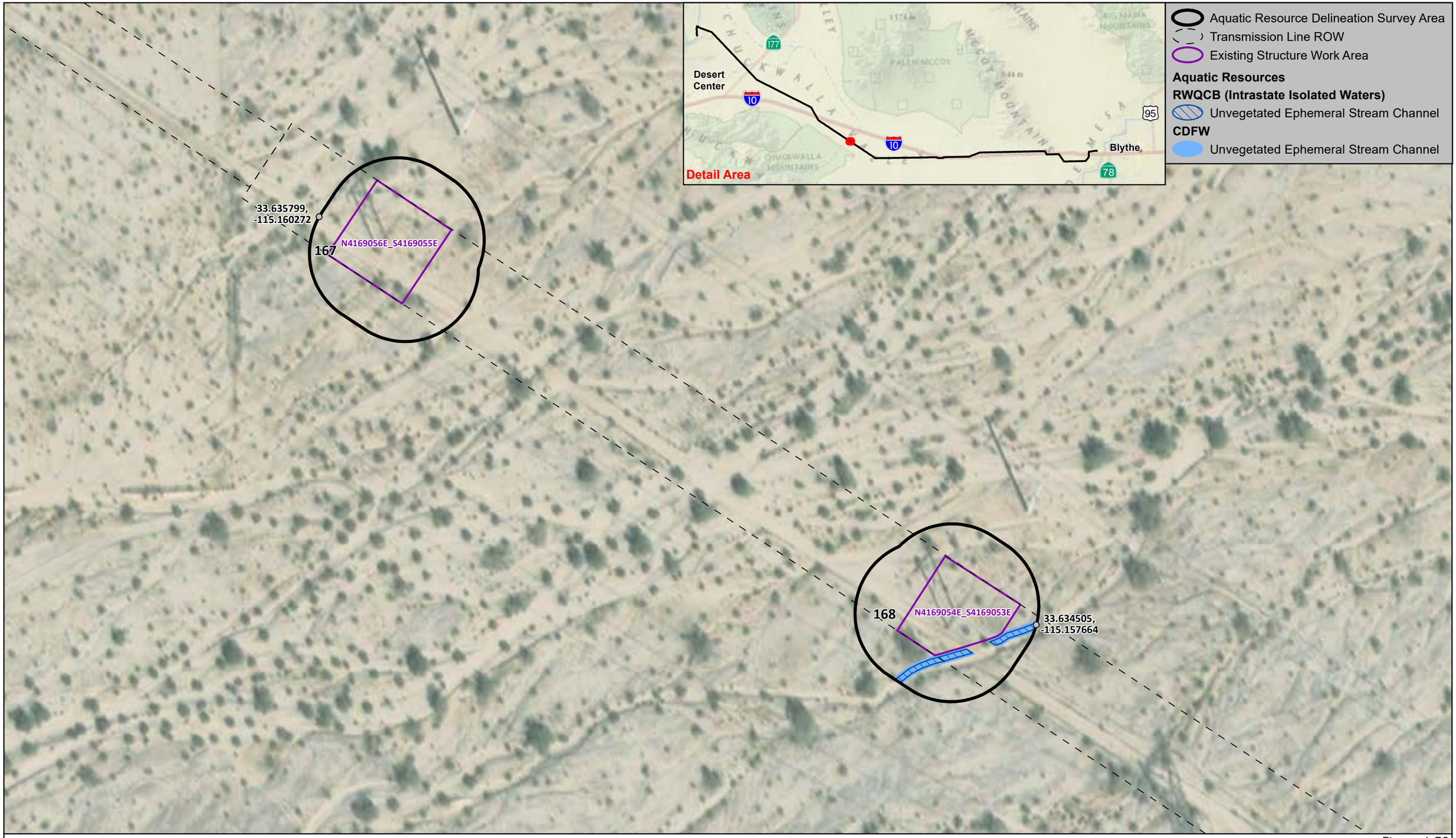


Figure 6-79

Aquatic Resource Survey Results - Sheet #79

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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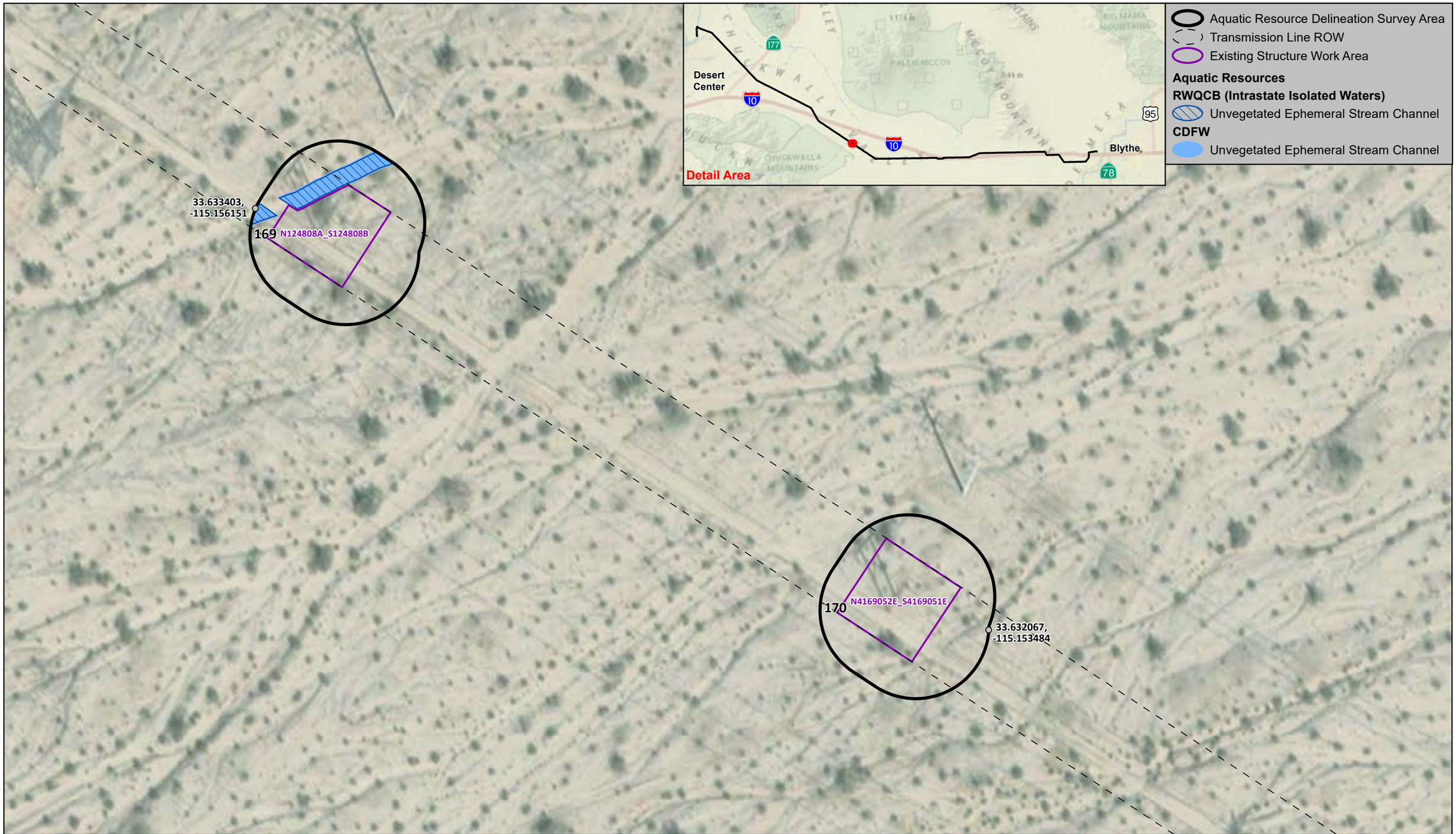
0 100 Feet



Artemis Environmental Services, Inc.

Figure 6-80

Aquatic Resource Survey Results - Sheet #80

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

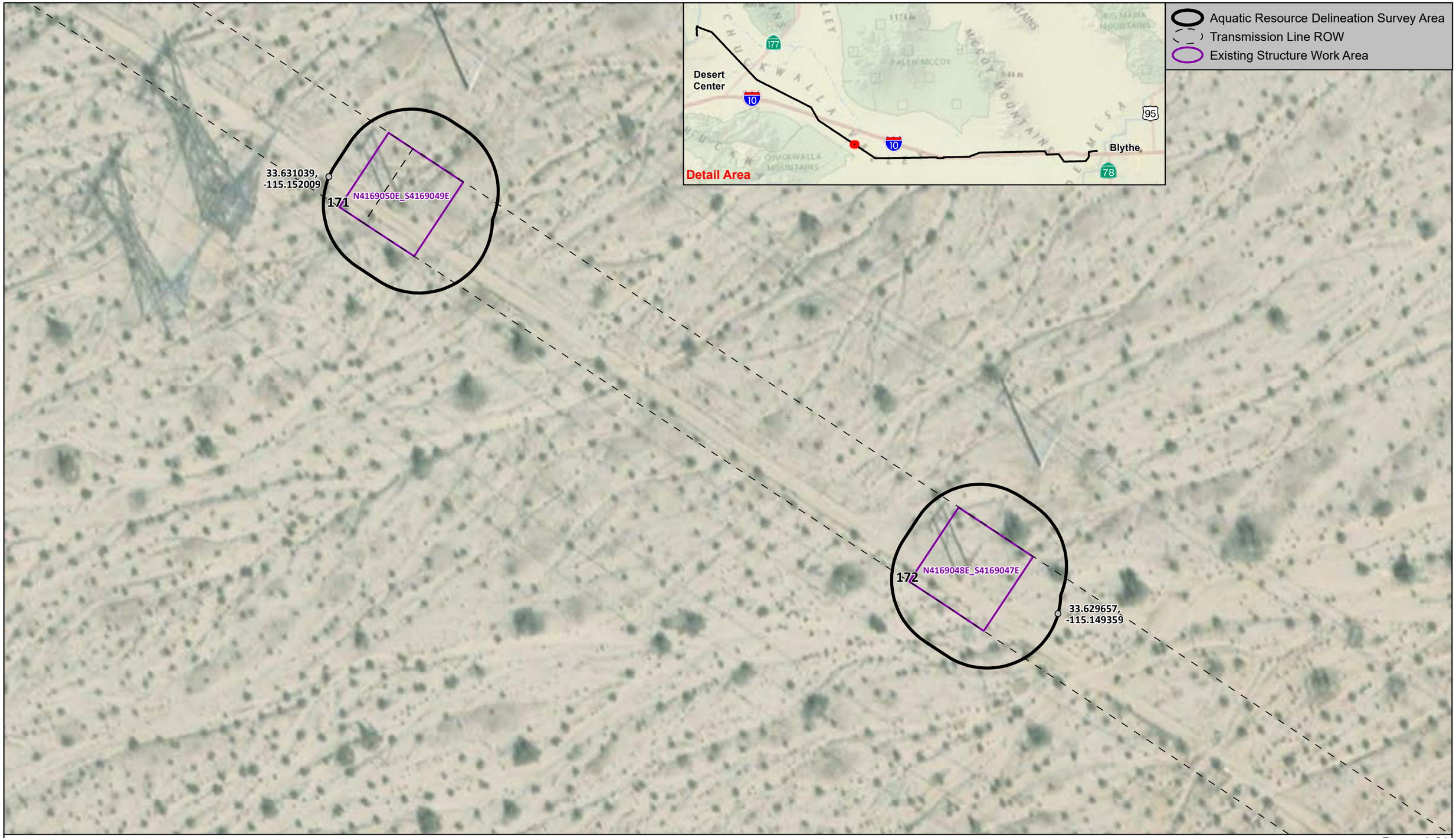


Figure 6-81

Aquatic Resource Survey Results - Sheet #81

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

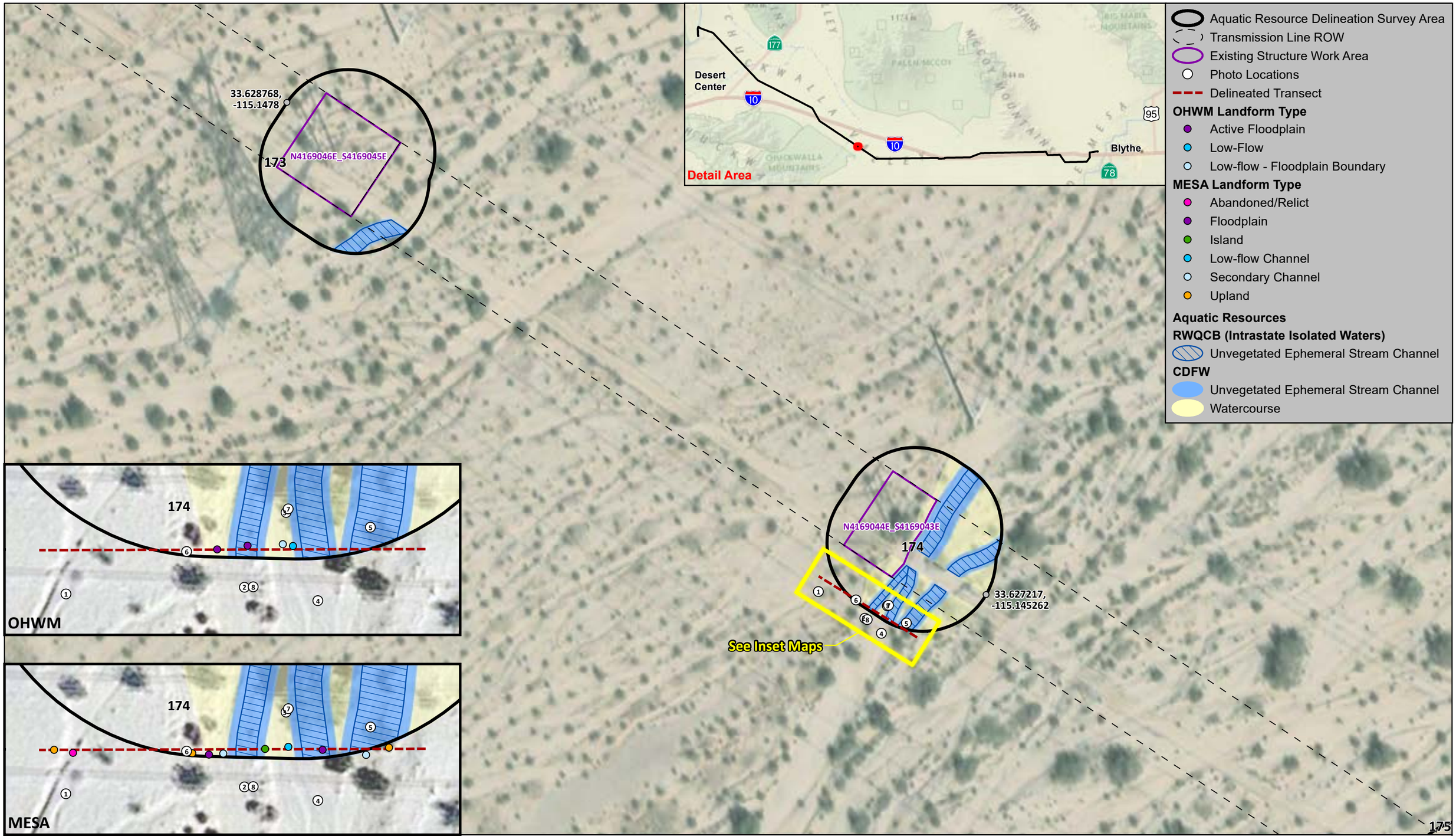


Figure 6-82

Aquatic Resource Survey Results - Sheet #82

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

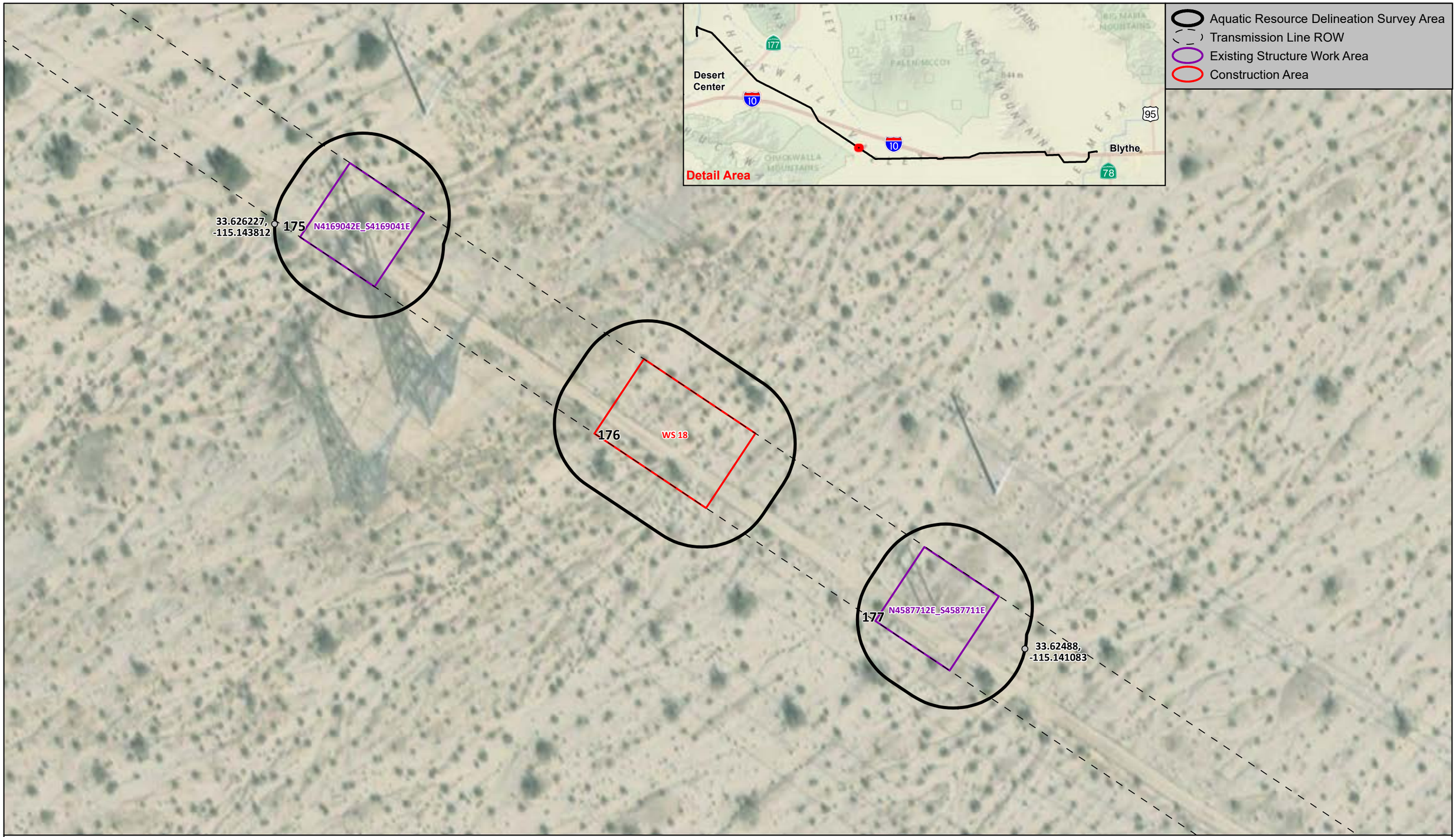


Figure 6-83

Aquatic Resource Survey Results - Sheet #83

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-84

Aquatic Resource Survey Results - Sheet #84

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-85

Aquatic Resource Survey Results - Sheet #85

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

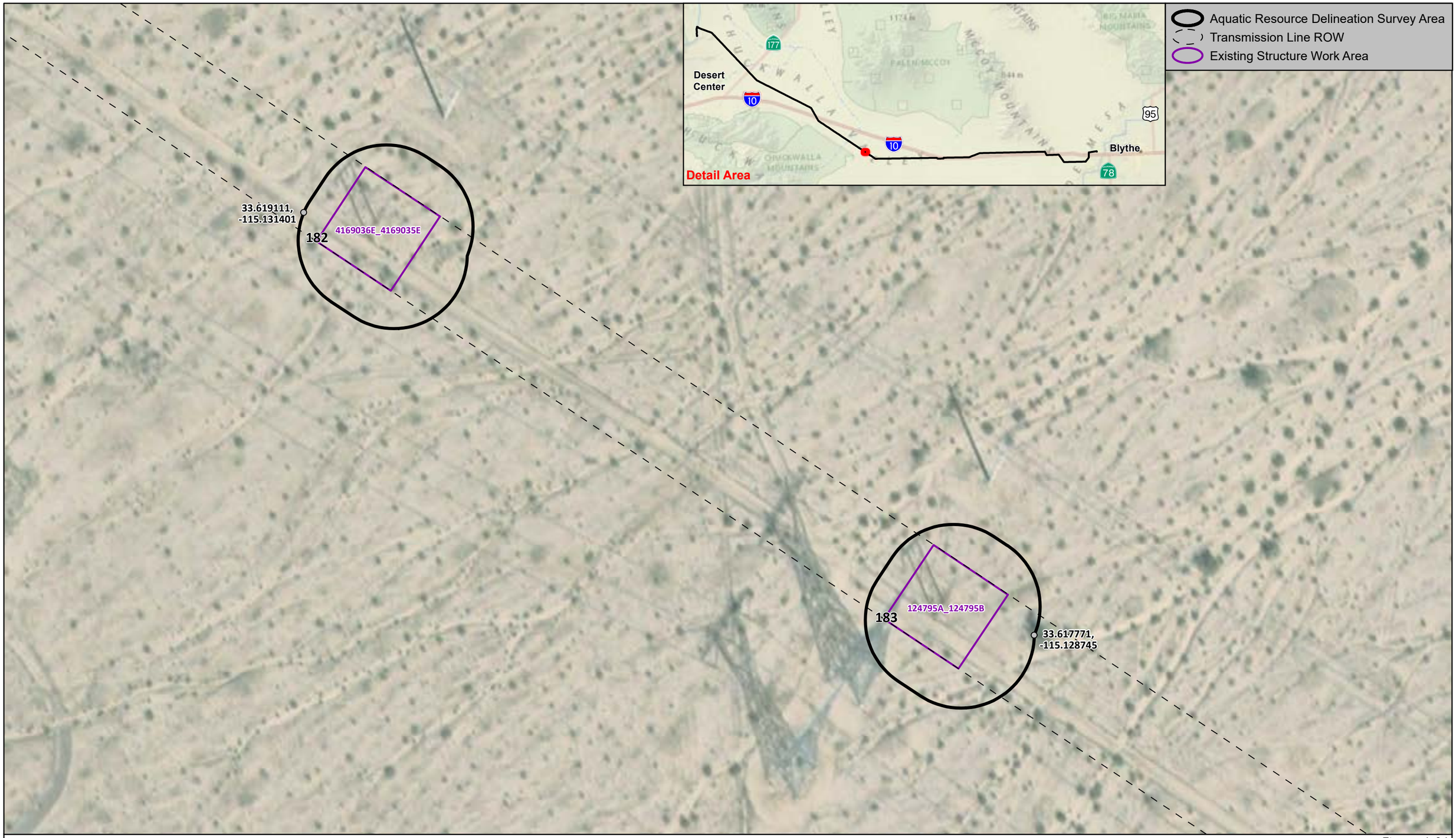


Figure 6-86

Aquatic Resource Survey Results - Sheet #86

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

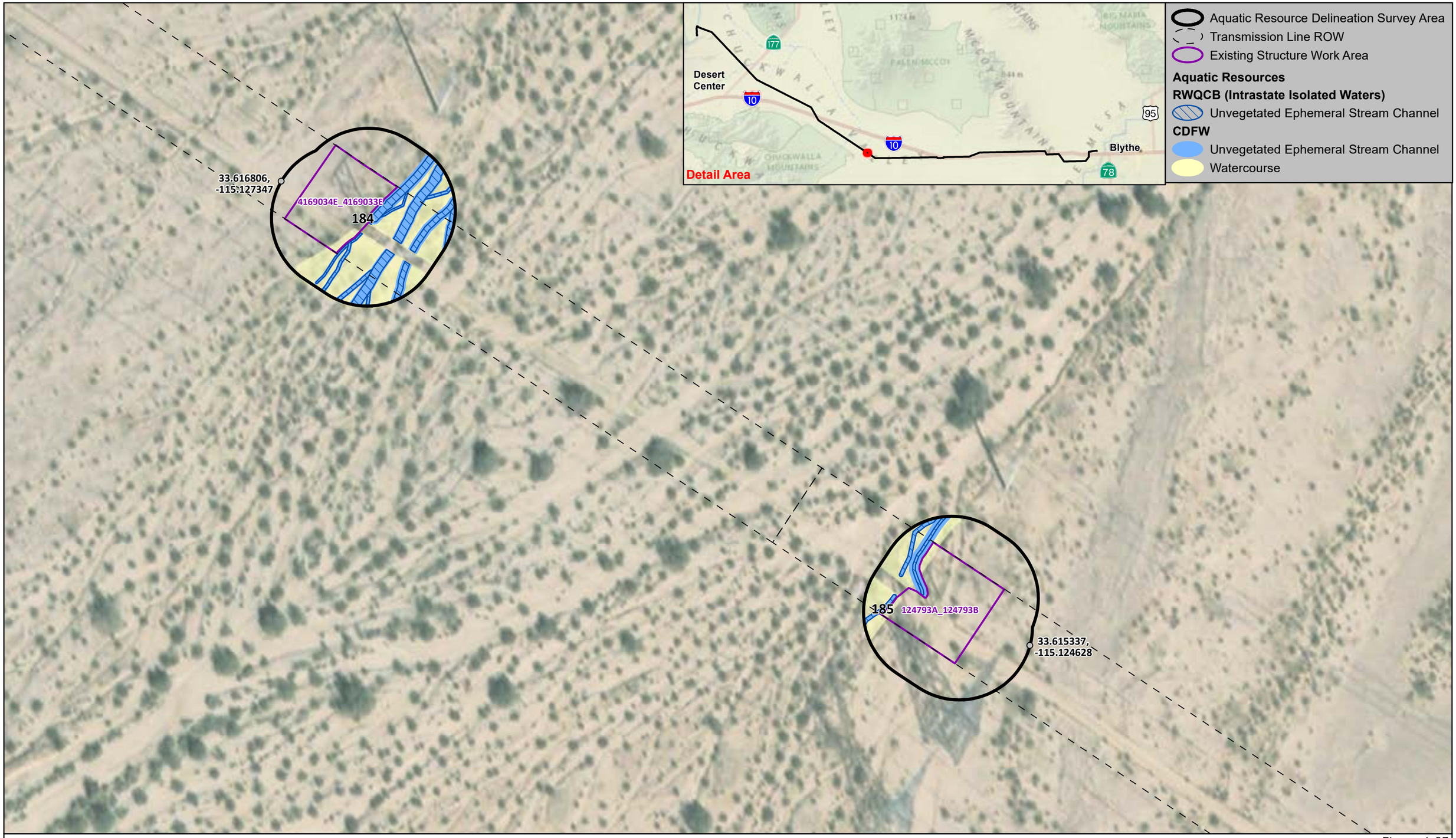


Figure 6-87

Aquatic Resource Survey Results - Sheet #87

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

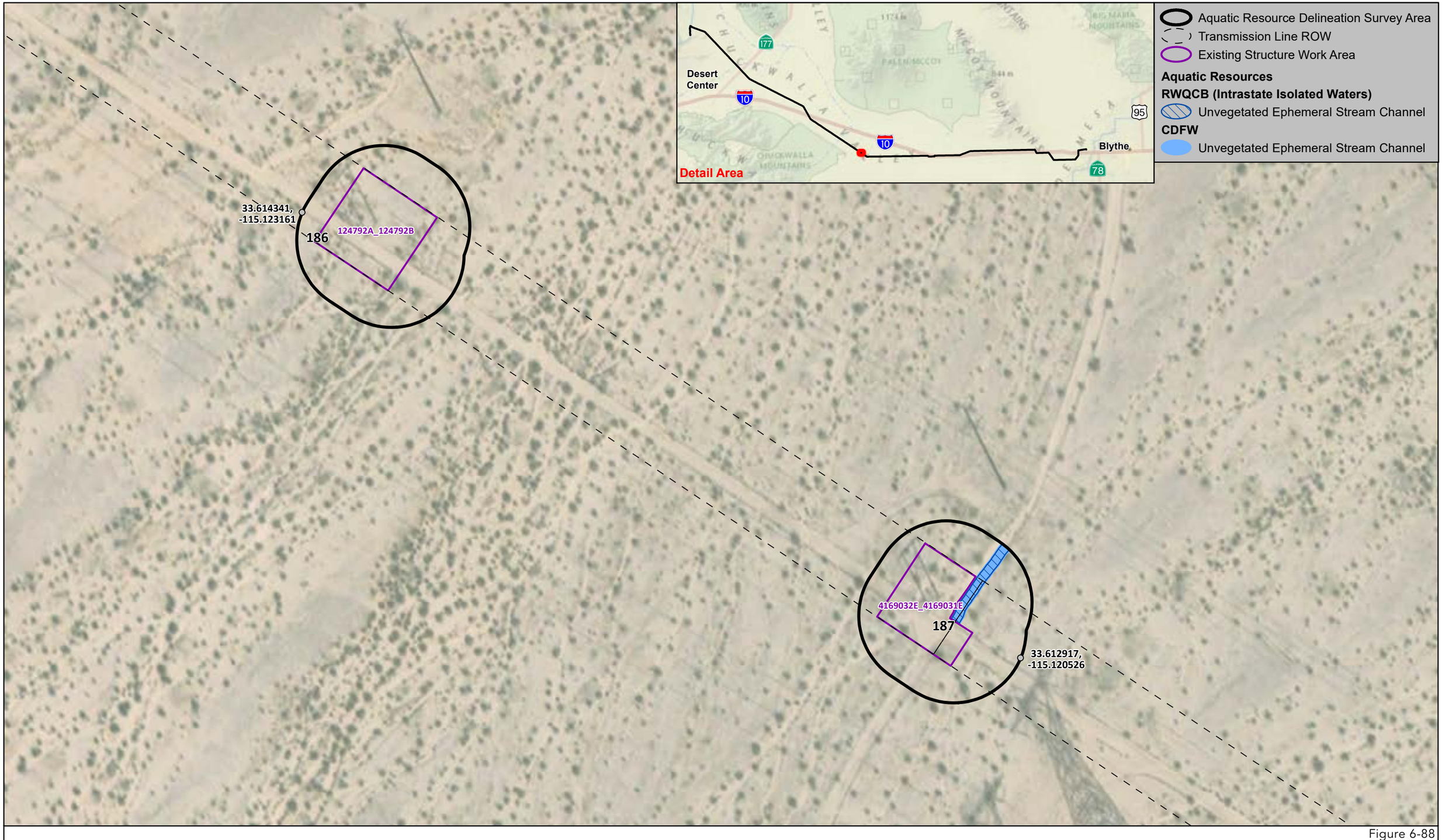


Figure 6-88

Aquatic Resource Survey Results - Sheet #88

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

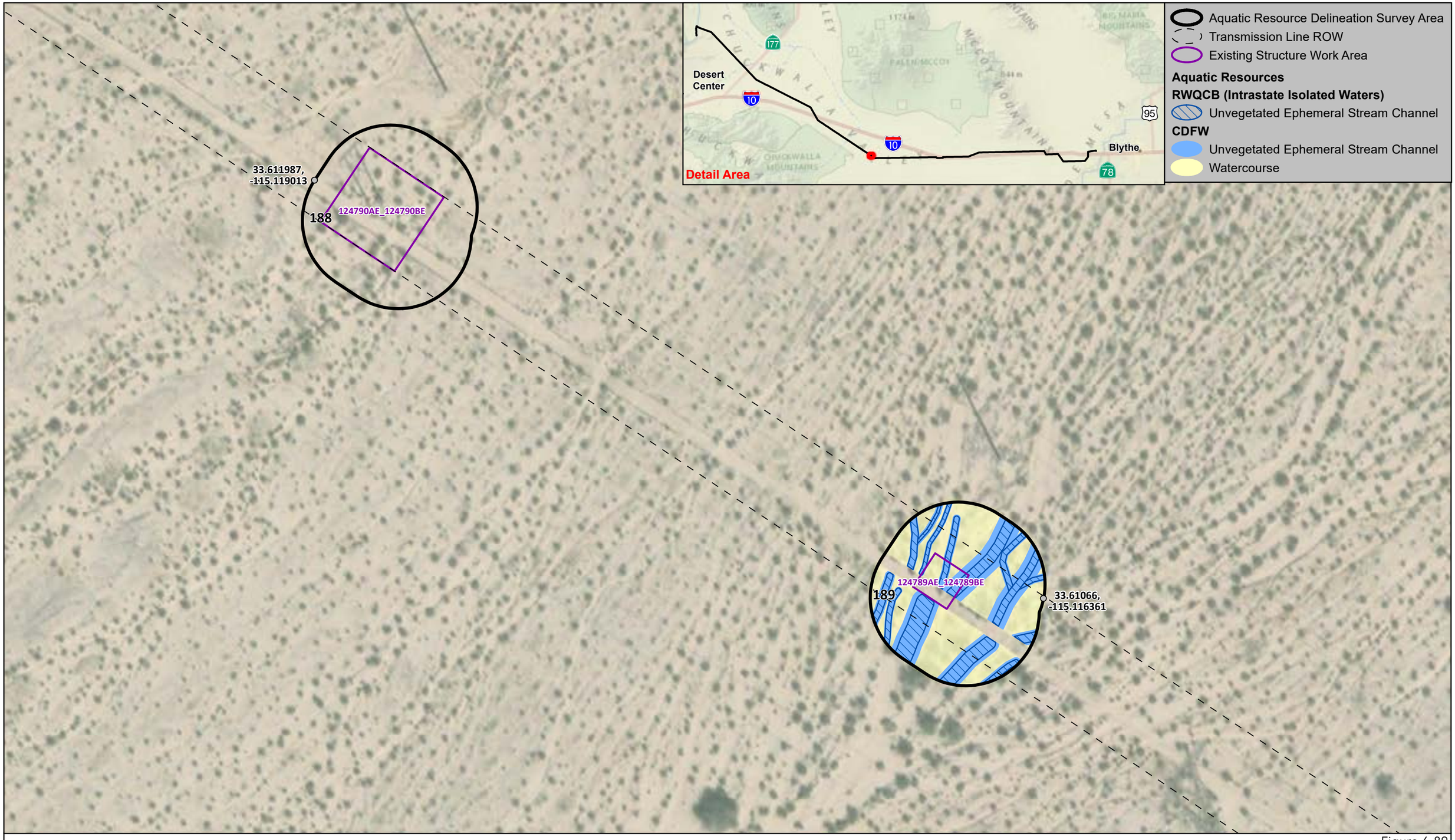


Figure 6-89

Aquatic Resource Survey Results - Sheet #89

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

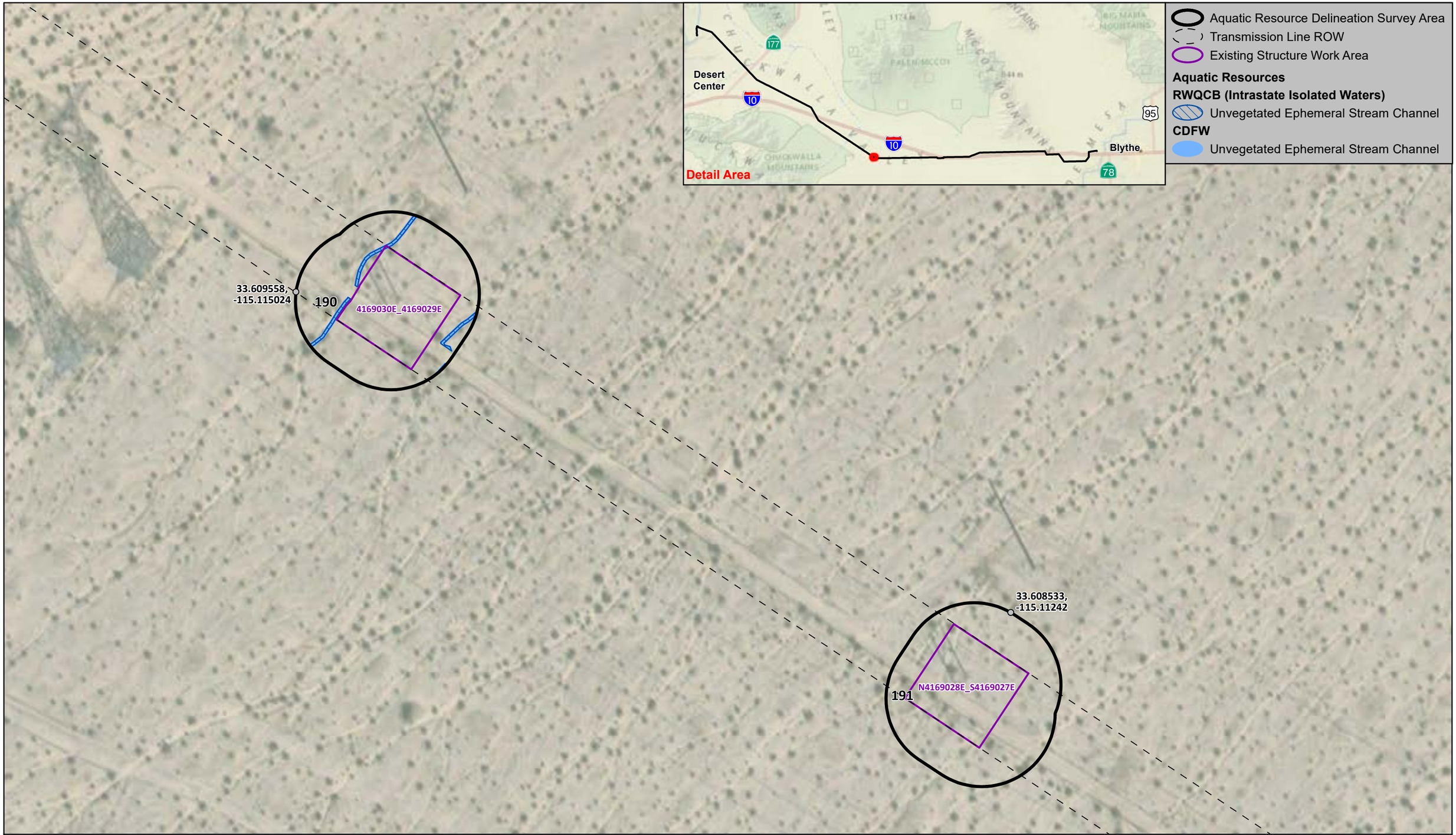


Figure 6-90

Aquatic Resource Survey Results - Sheet #90

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

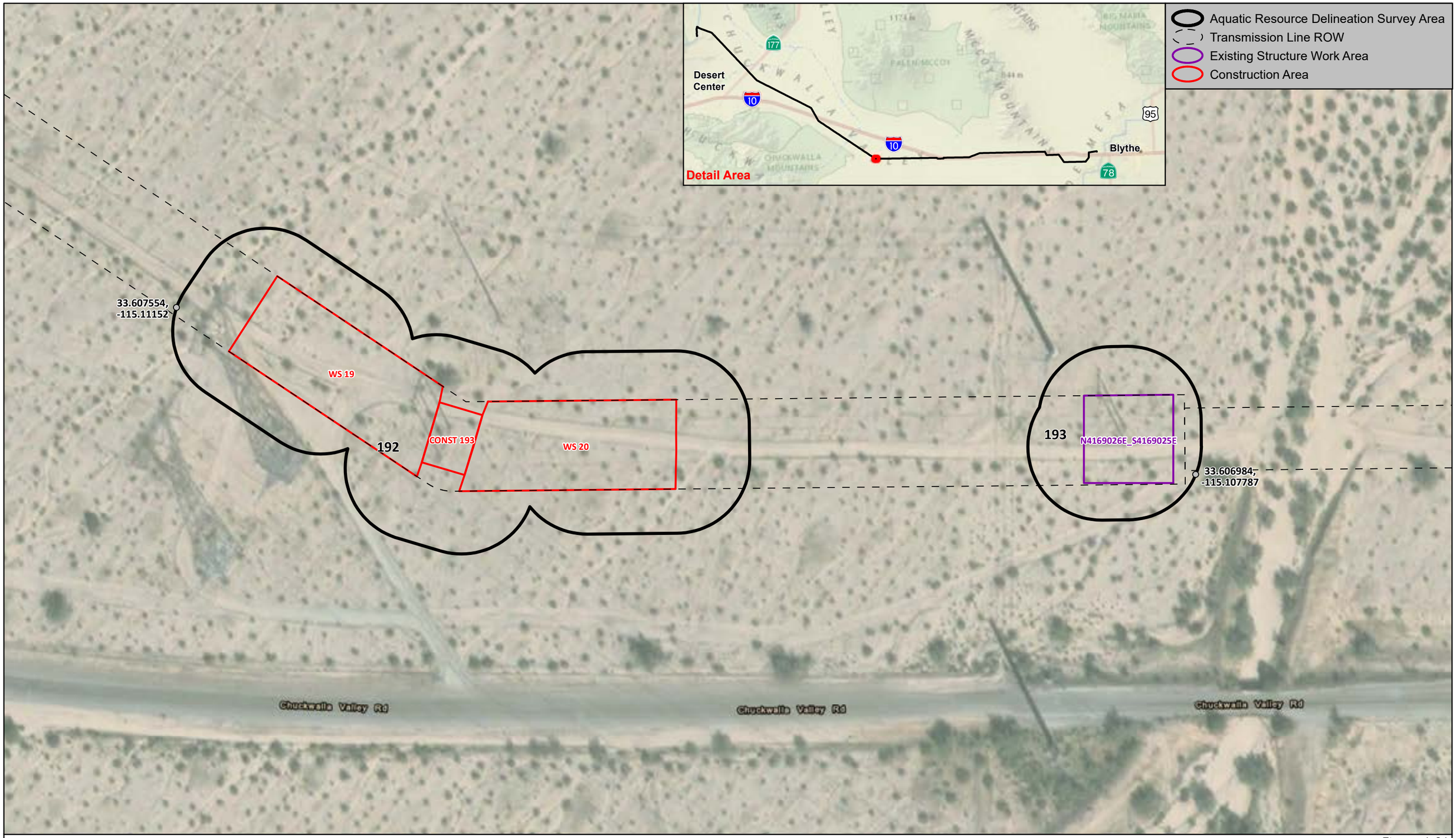

Figure 6-91

Aquatic Resource Survey Results - Sheet #91

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

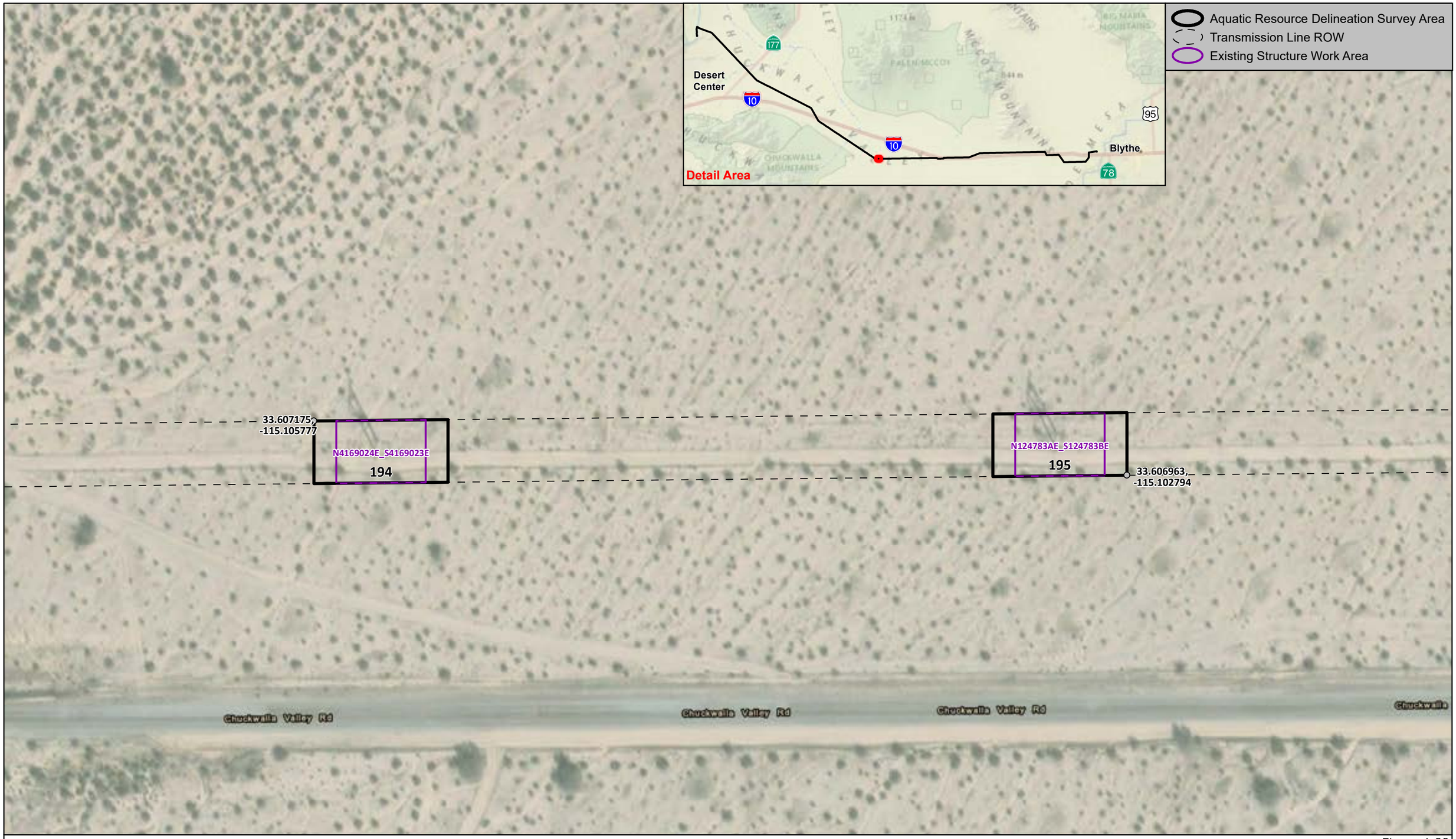

Figure 6-92

Aquatic Resource Survey Results - Sheet #92

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

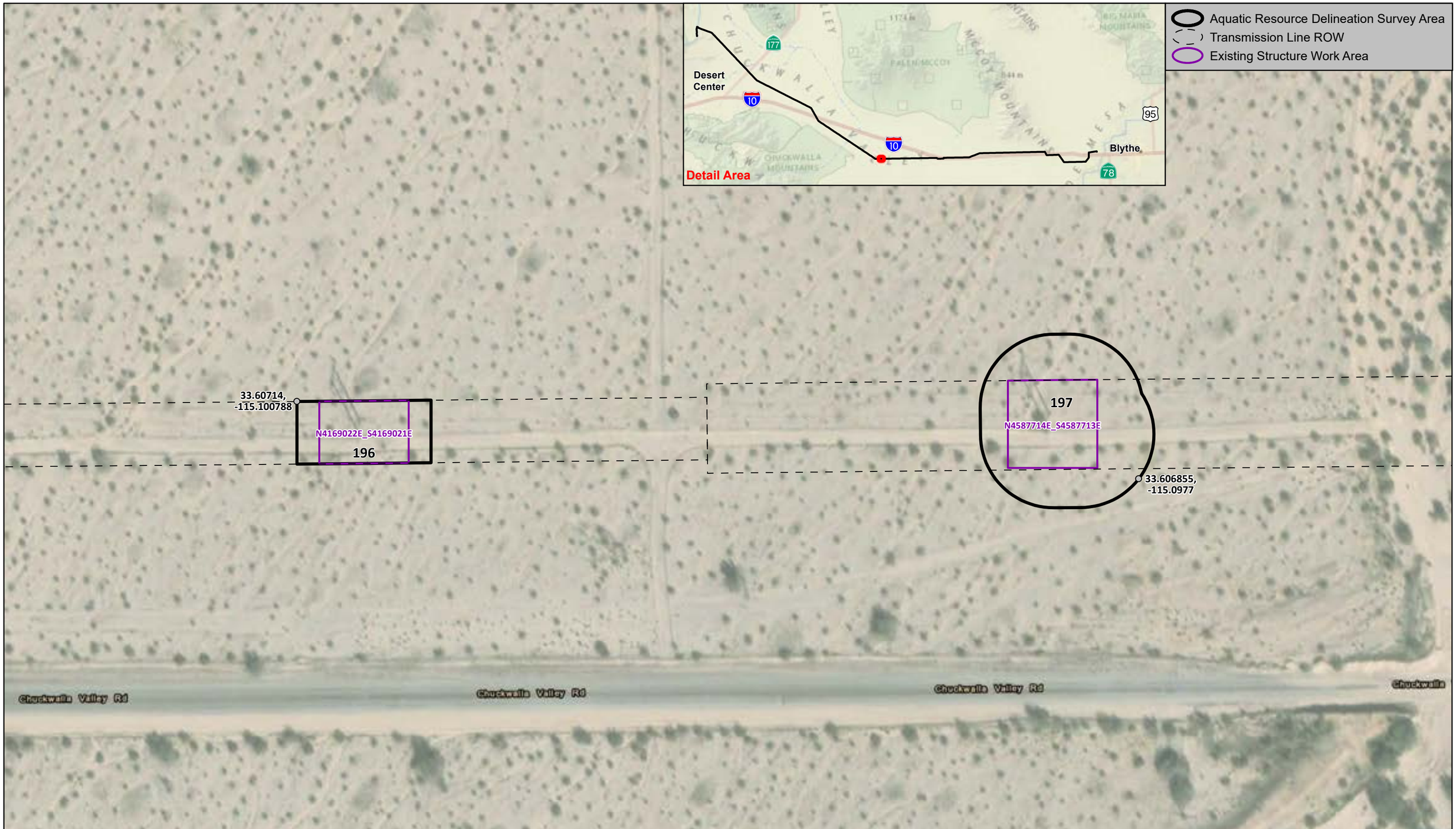

Figure 6-93

Aquatic Resource Survey Results - Sheet #93

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

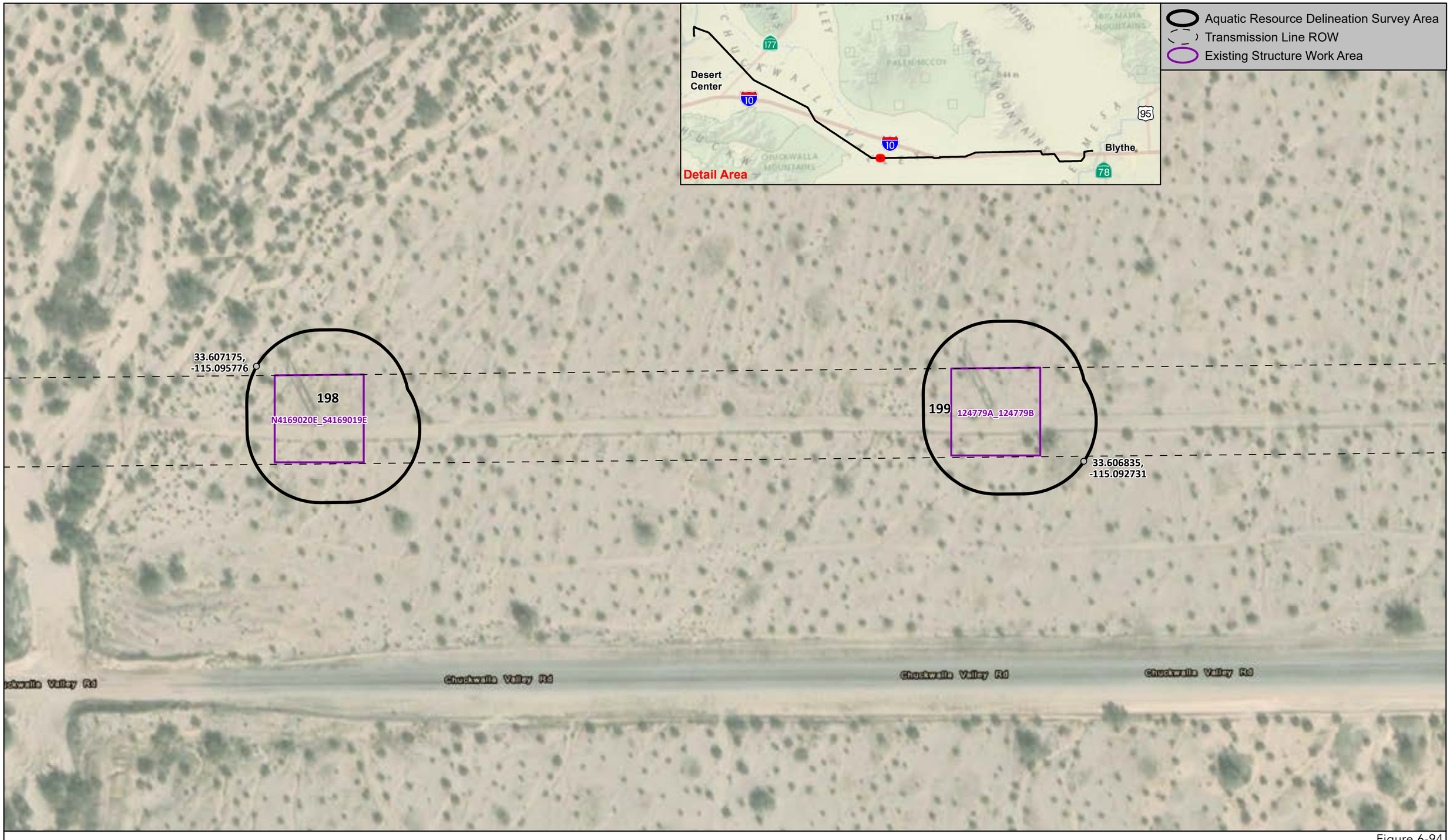

Figure 6-94

Aquatic Resource Survey Results - Sheet #94

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

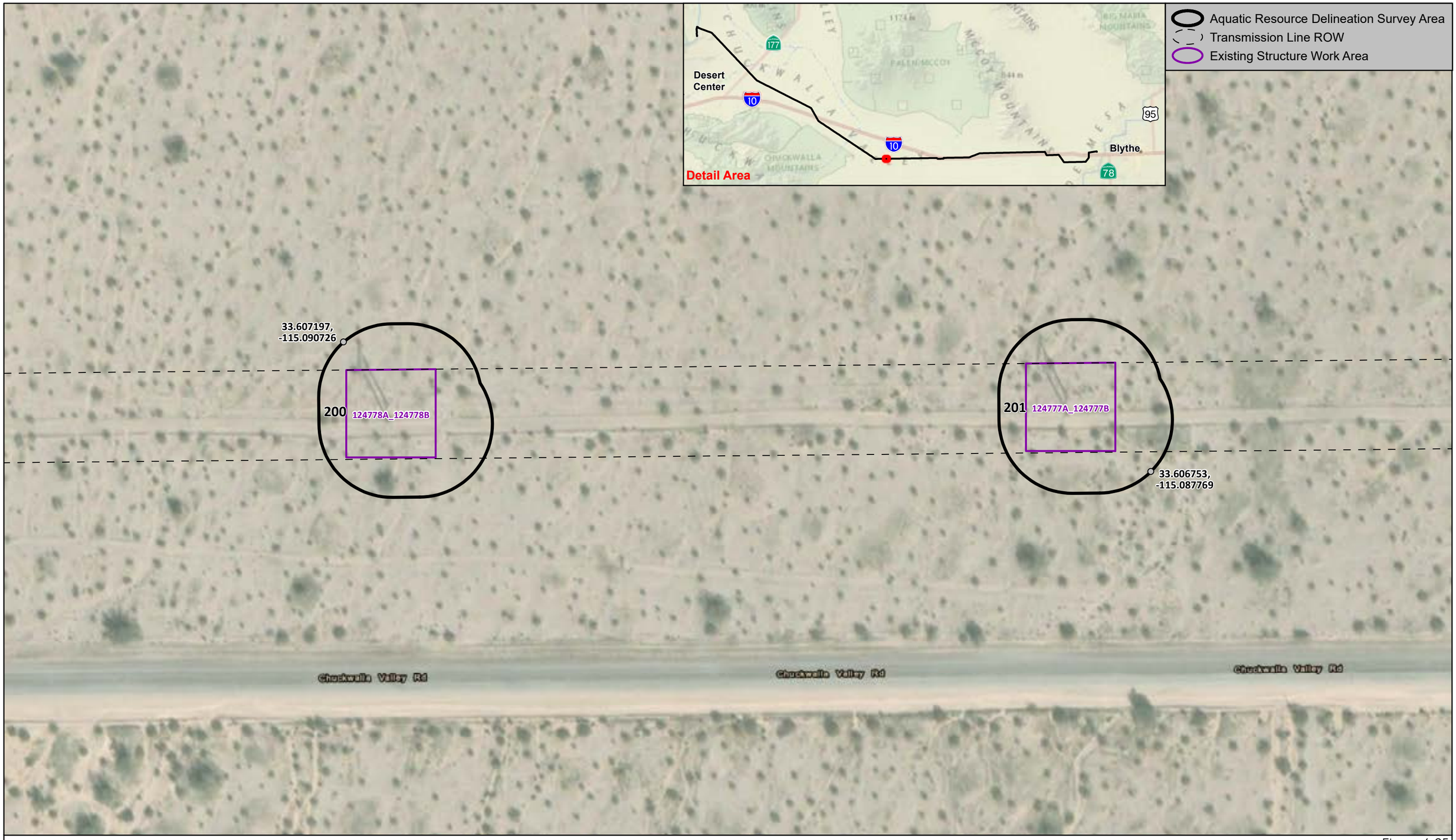

Figure 6-95

Aquatic Resource Survey Results - Sheet #95

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-96

Aquatic Resource Survey Results - Sheet #96

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

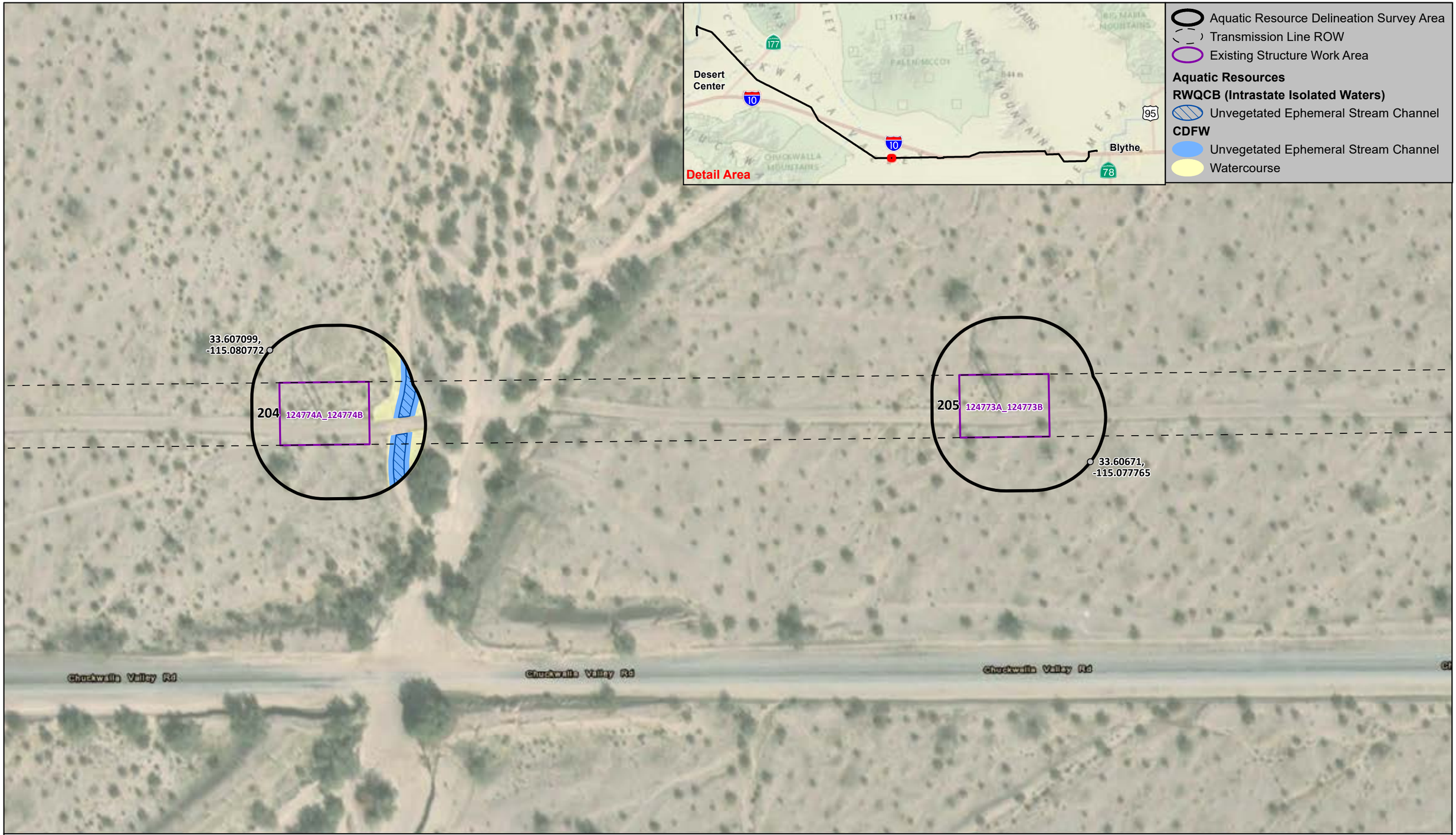

Figure 6-97

Aquatic Resource Survey Results - Sheet #97

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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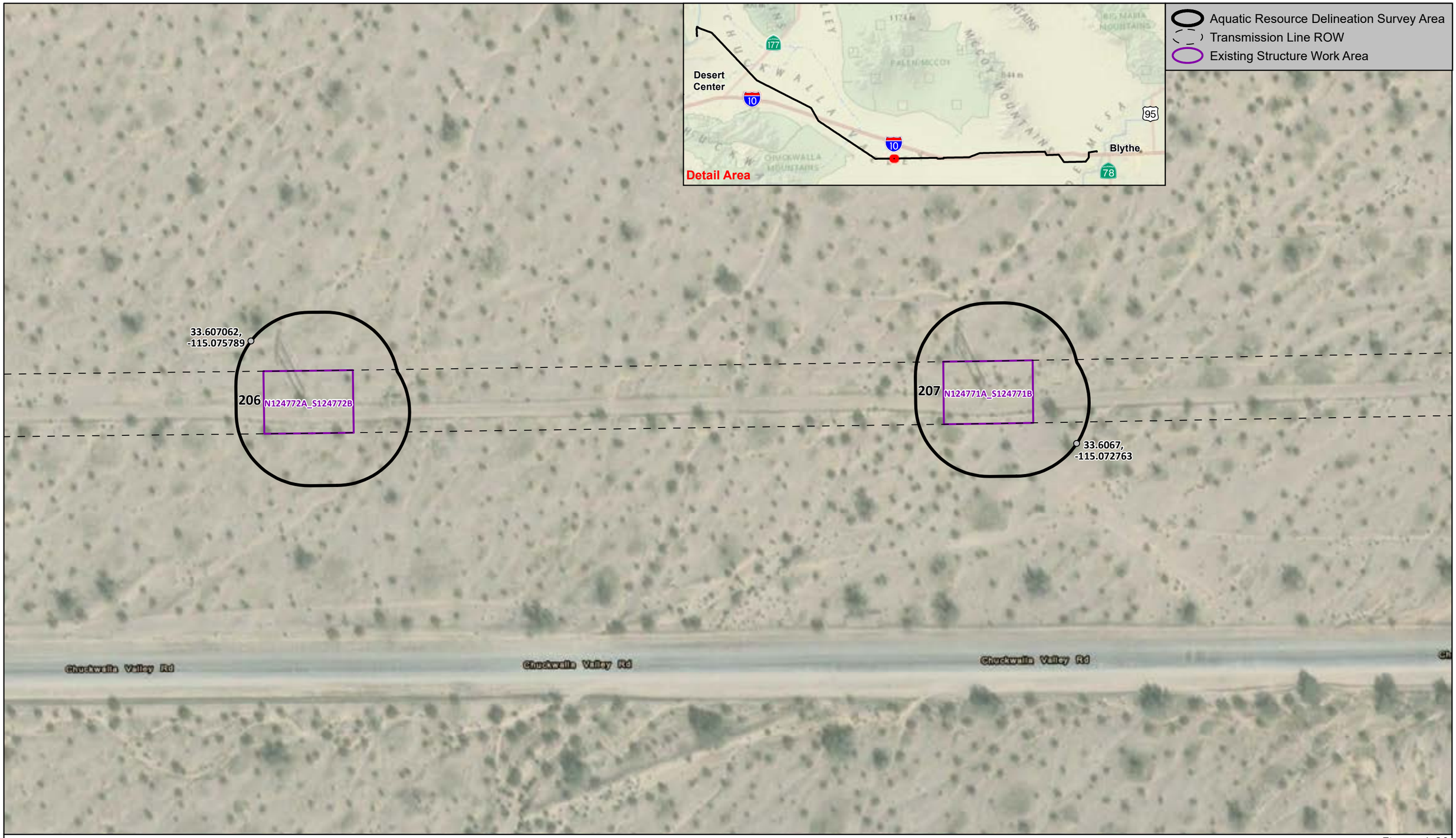

Figure 6-98

Aquatic Resource Survey Results - Sheet #98

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

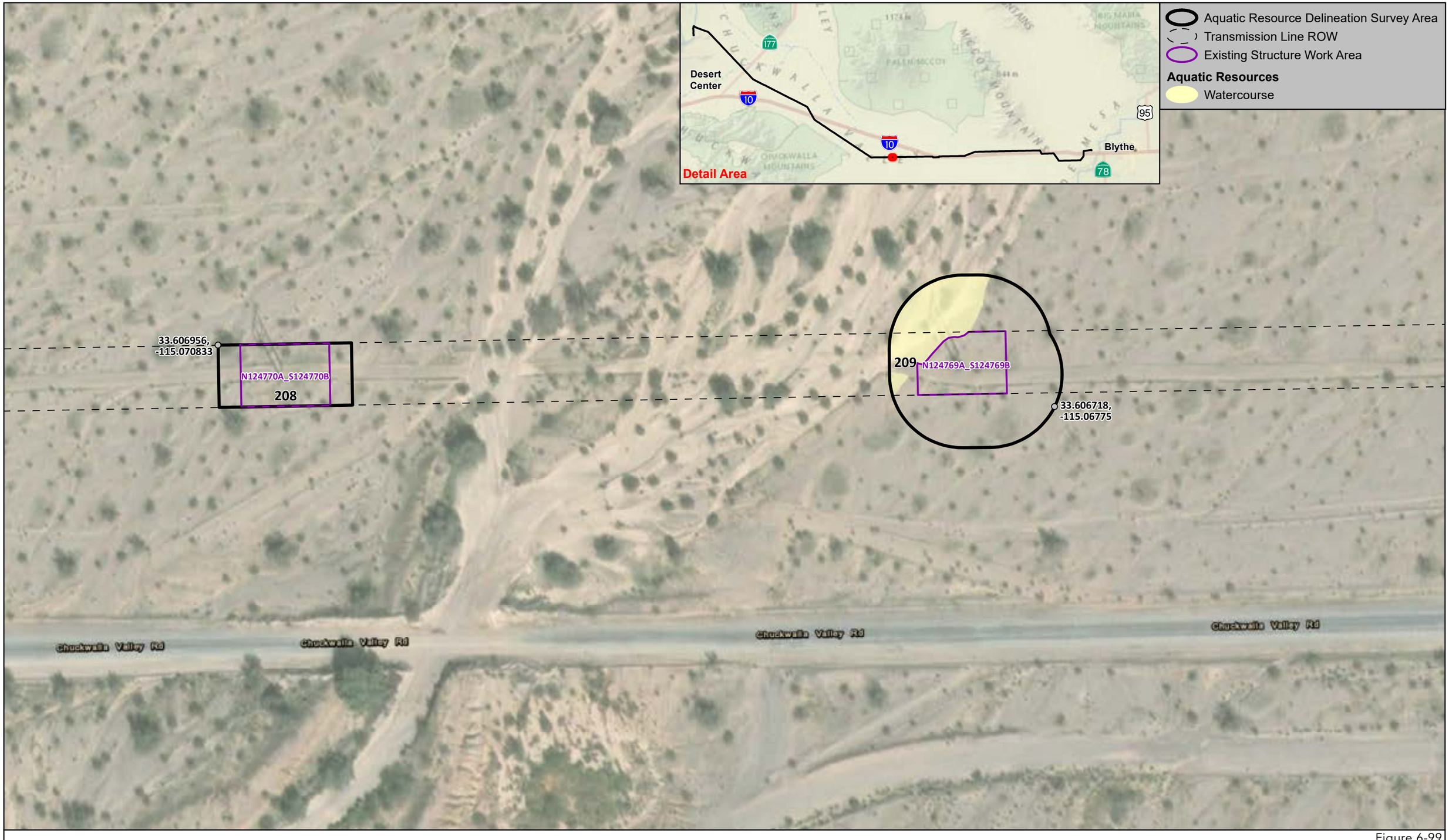

Figure 6-99

Aquatic Resource Survey Results - Sheet #99

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

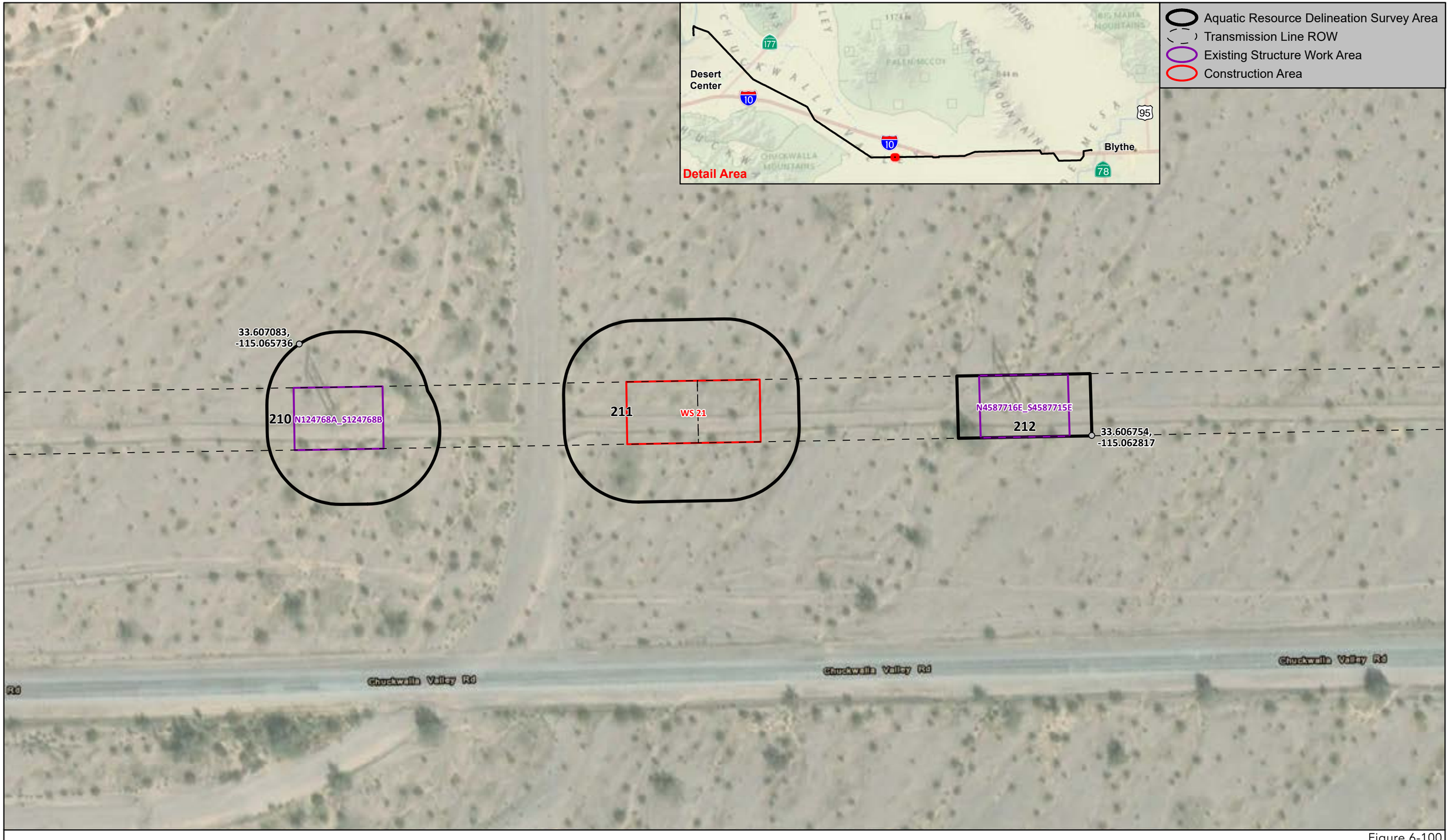

Figure 6-100

Aquatic Resource Survey Results - Sheet #100

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

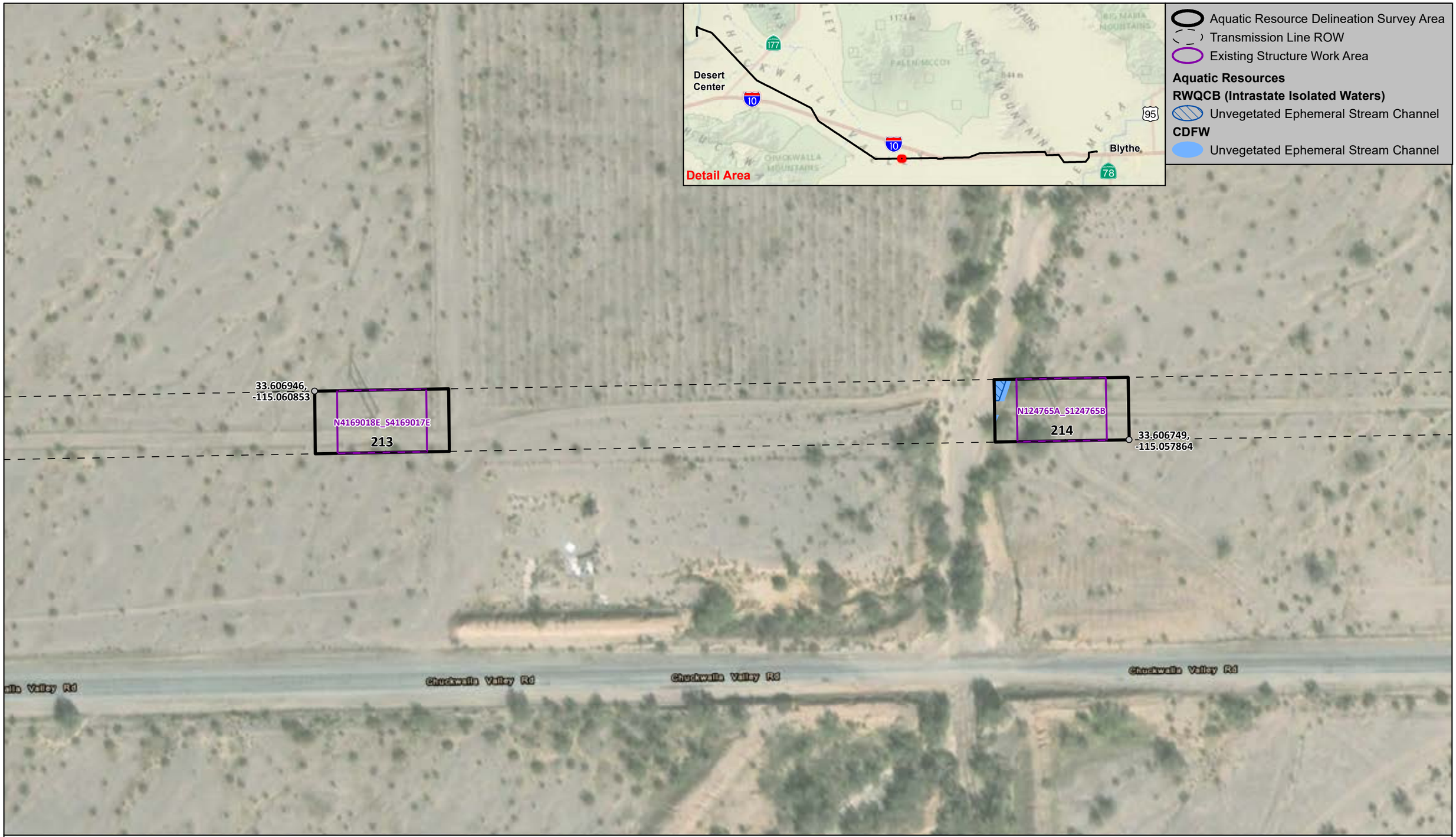

Figure 6-101

Aquatic Resource Survey Results - Sheet #101

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

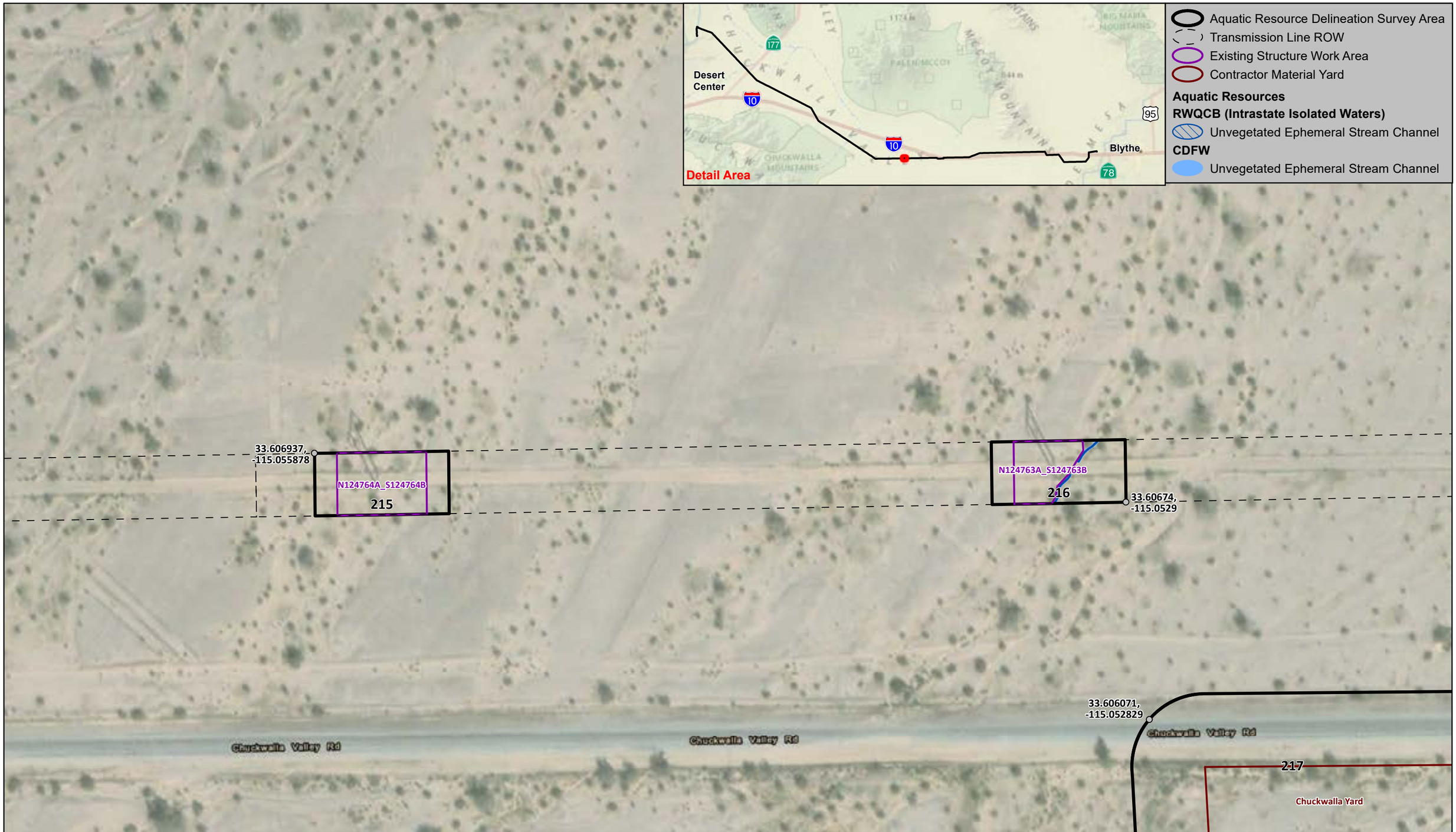

Figure 6-102

Aquatic Resource Survey Results - Sheet #102

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

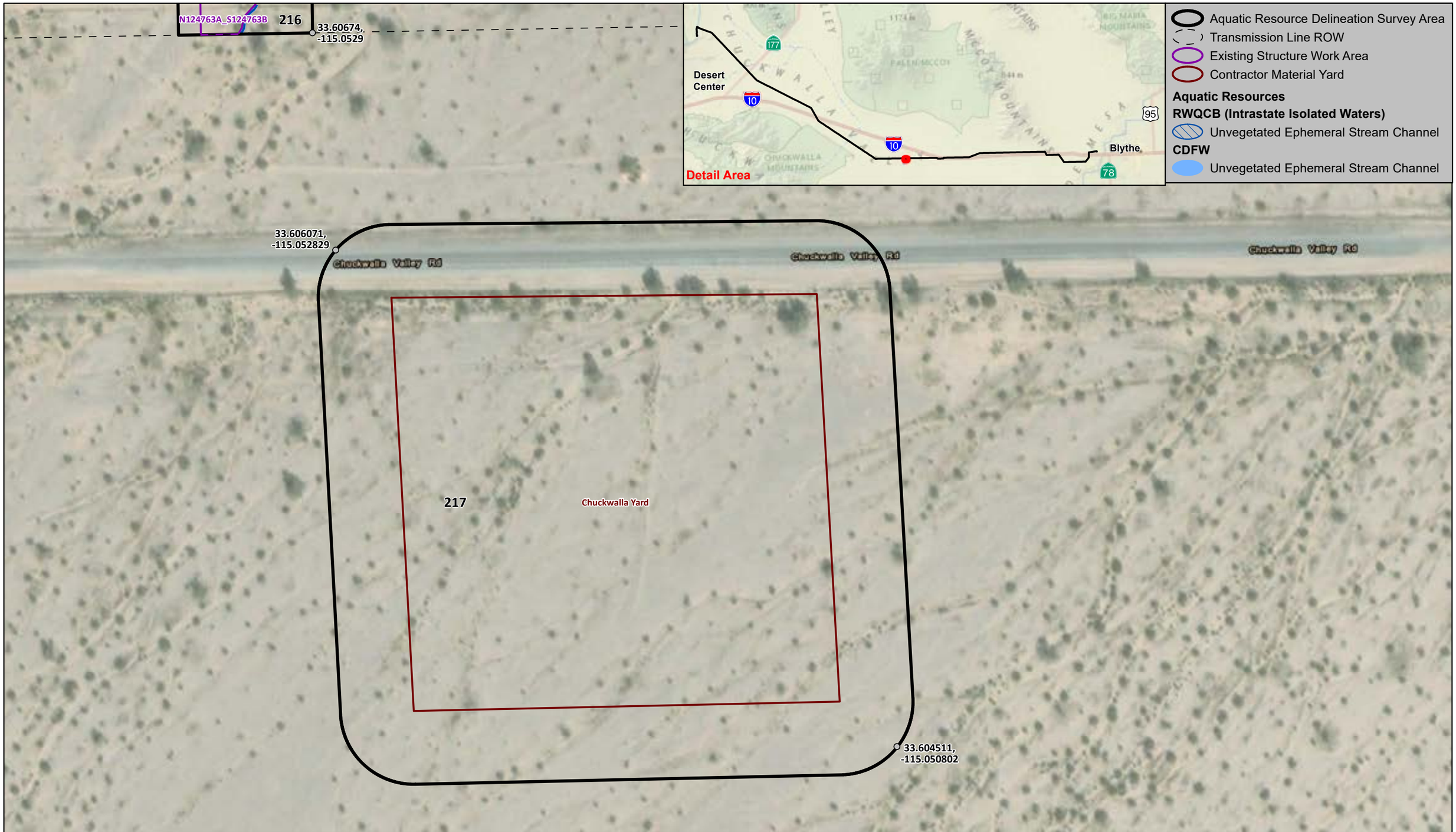

Figure 6-103

Aquatic Resource Survey Results - Sheet #103

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

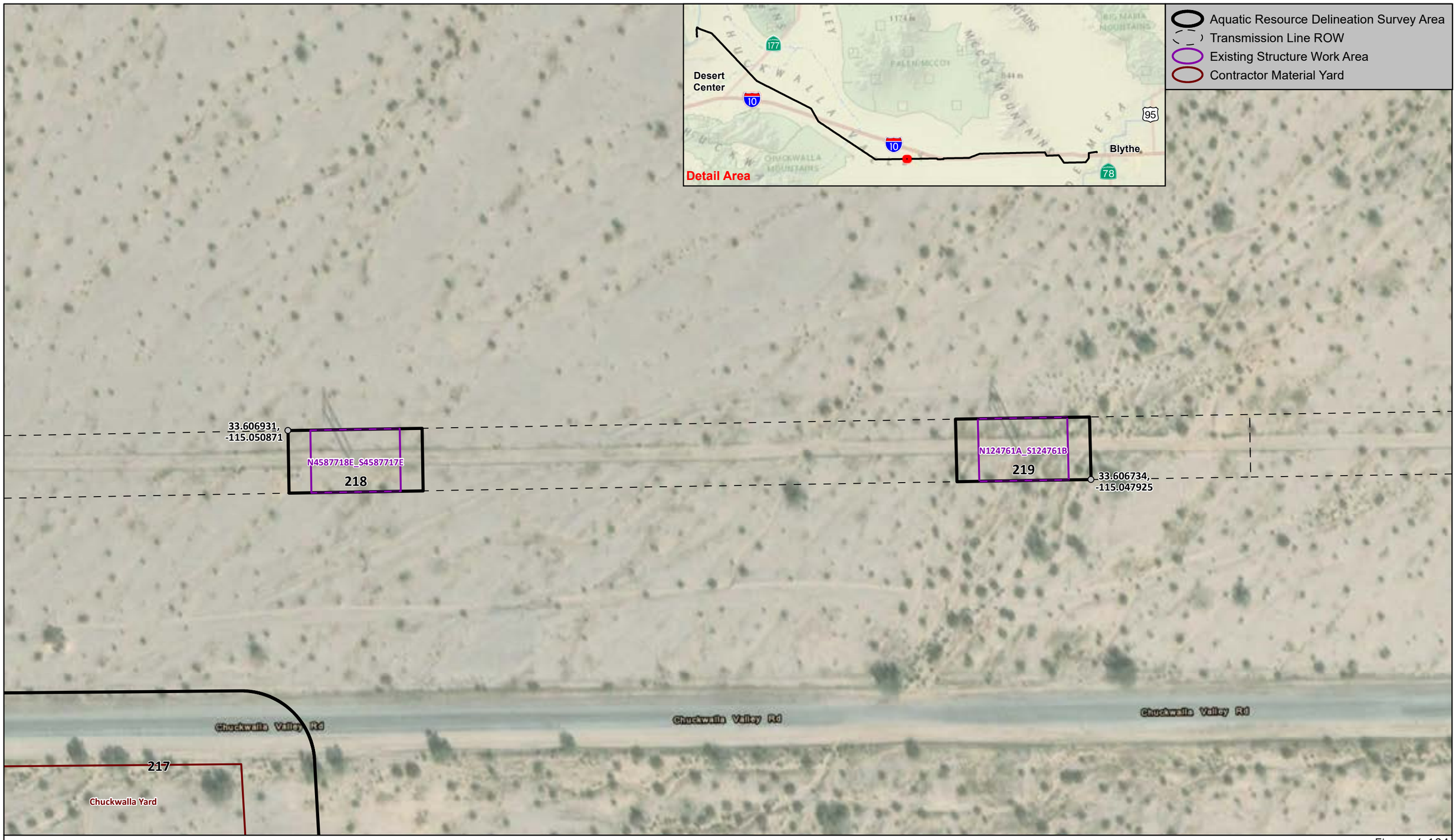

Figure 6-104

Aquatic Resource Survey Results - Sheet #104

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

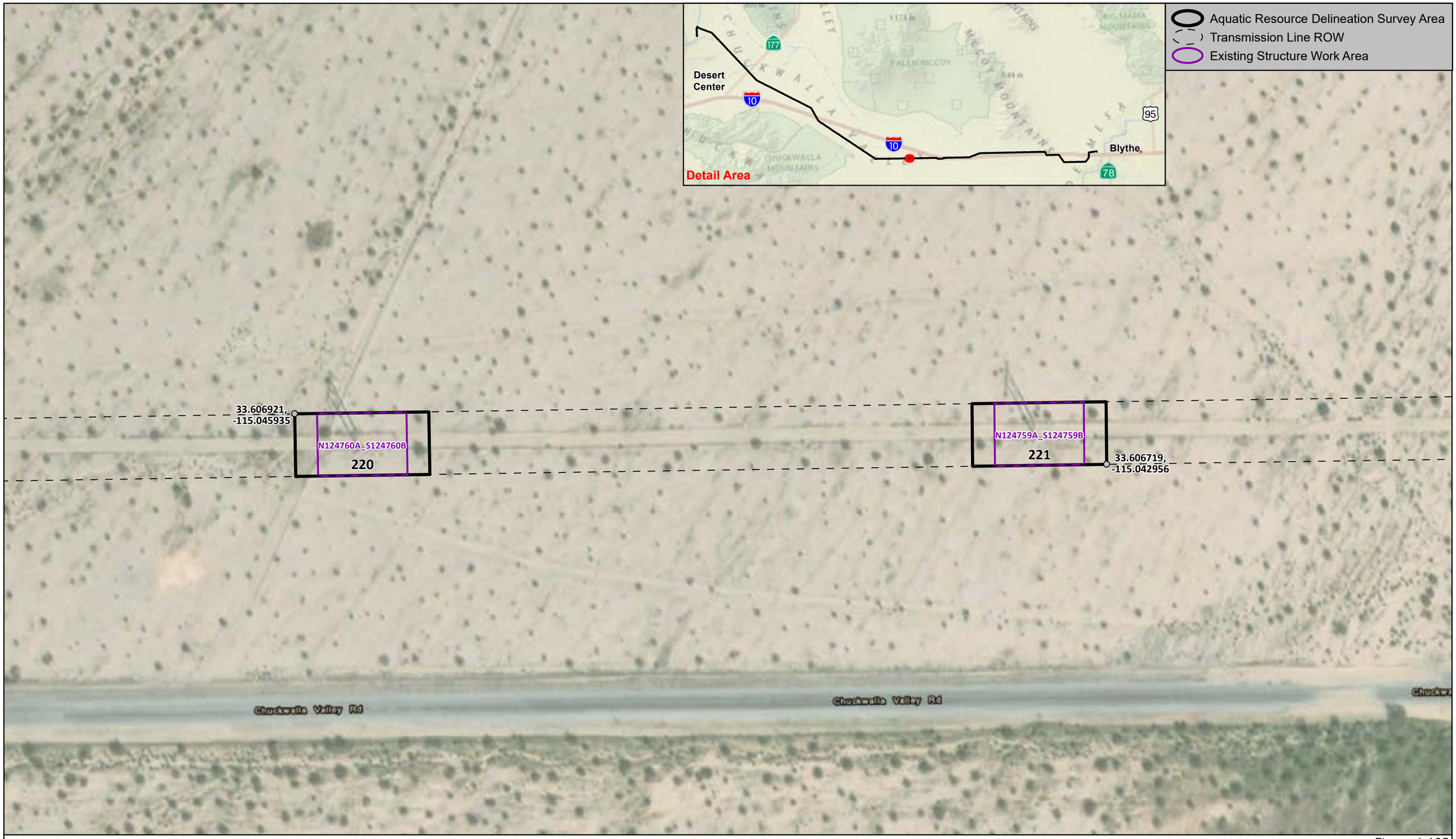

Figure 6-105

Aquatic Resource Survey Results - Sheet #105

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

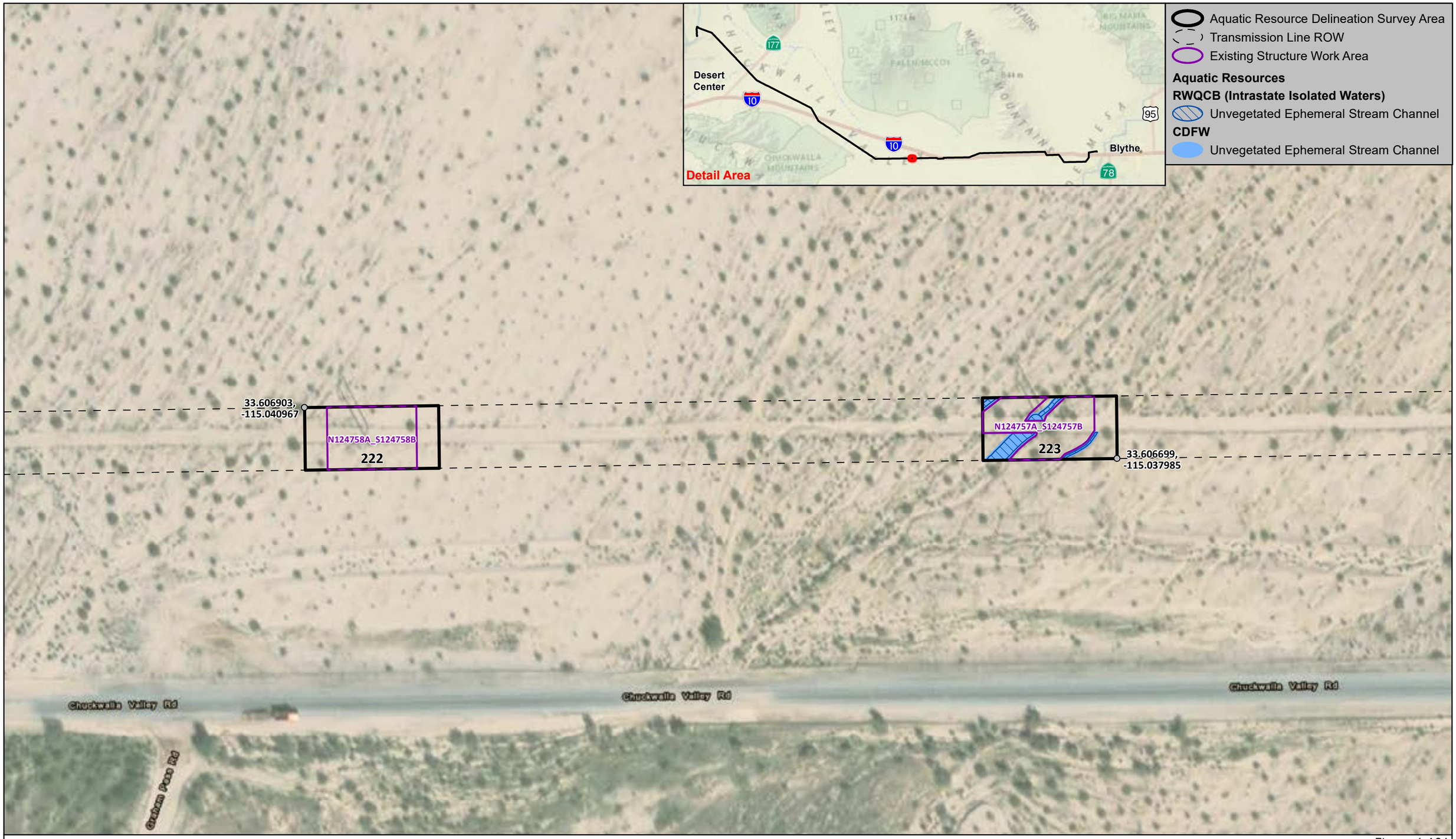

Figure 6-106

Aquatic Resource Survey Results - Sheet #106

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

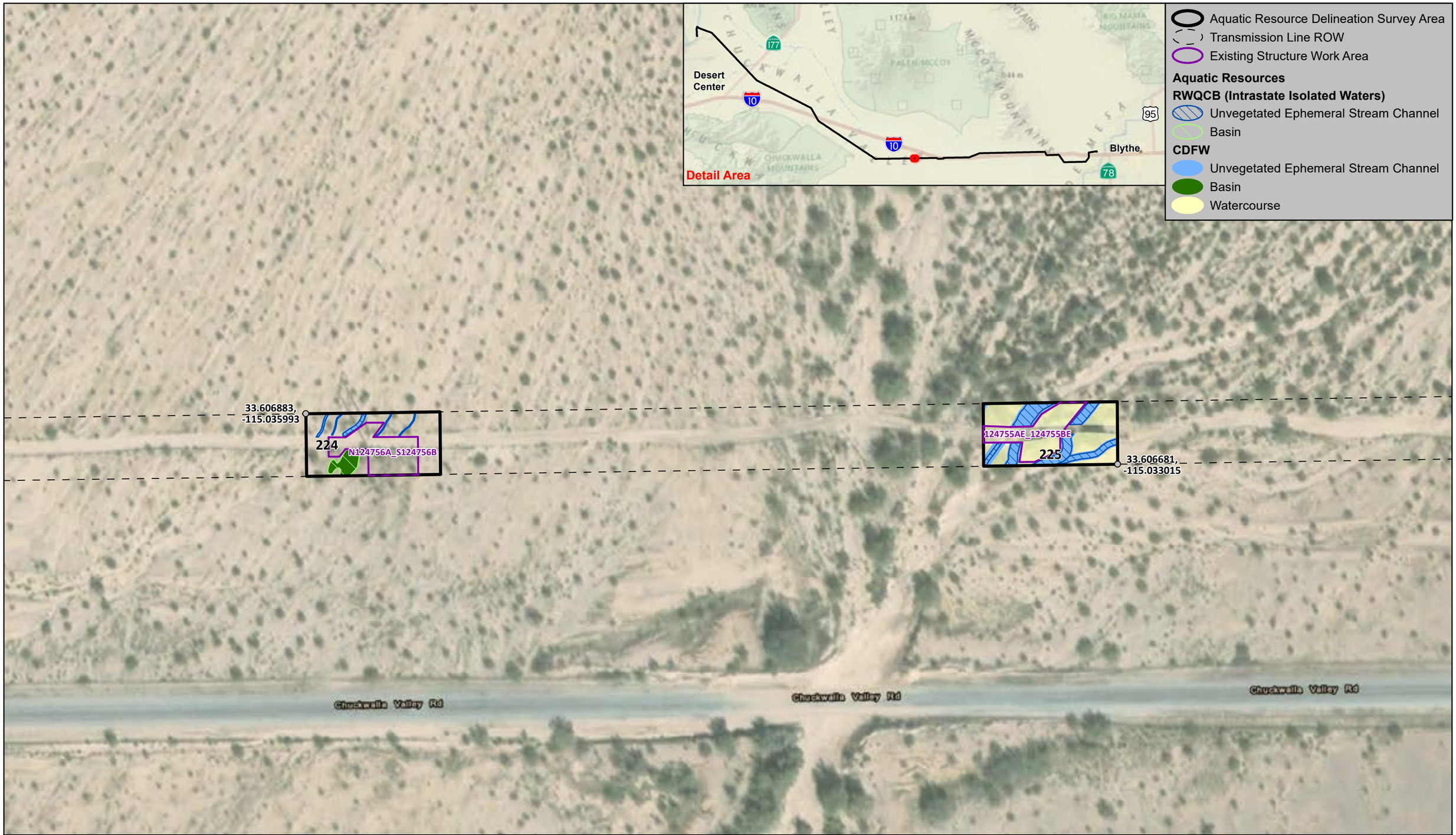

Figure 6-107

Aquatic Resource Survey Results - Sheet #107

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

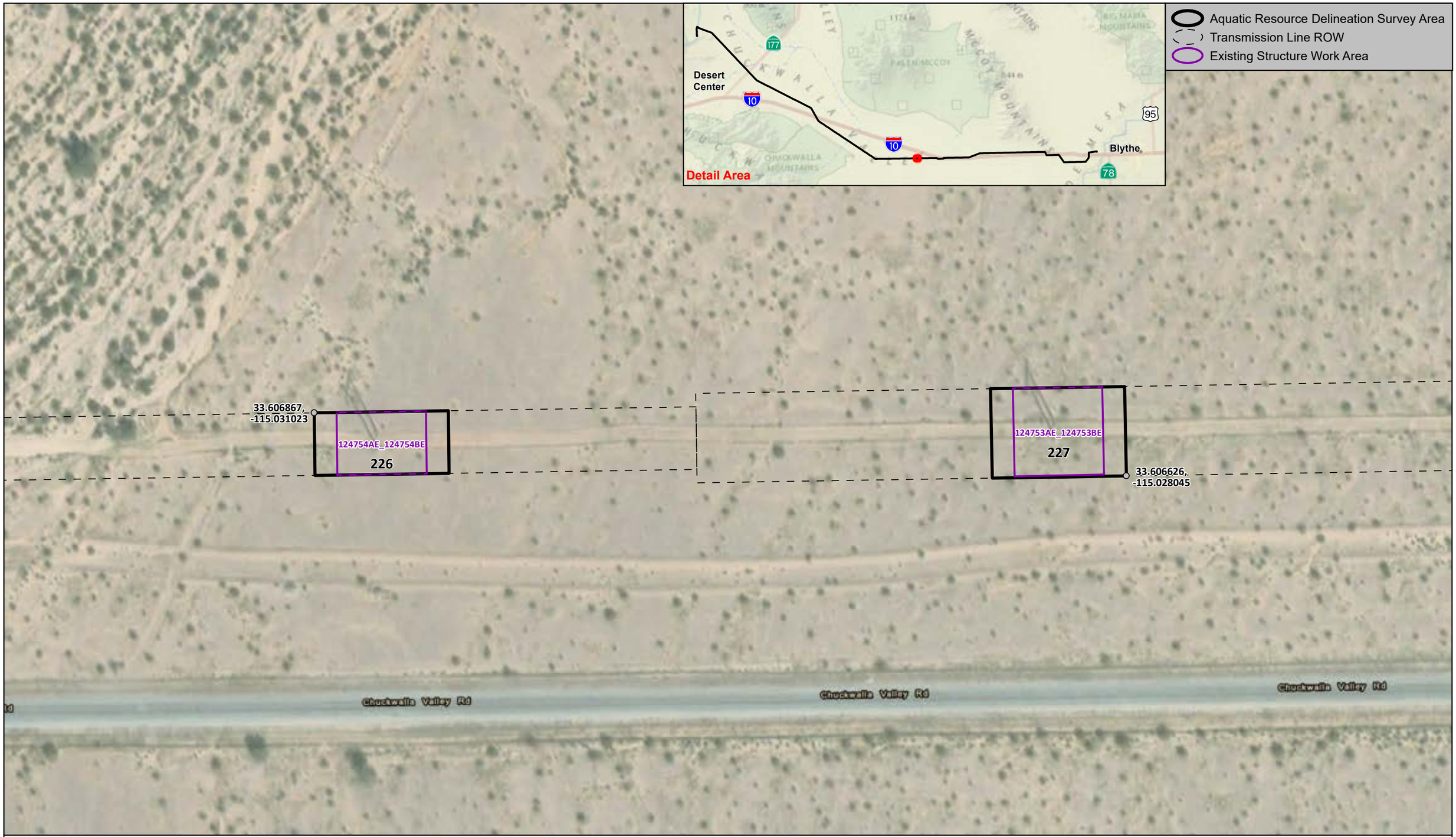

Figure 6-108

Aquatic Resource Survey Results - Sheet #108

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-109

Aquatic Resource Survey Results - Sheet #109

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-110

Aquatic Resource Survey Results - Sheet #110

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N 0 100 Feet

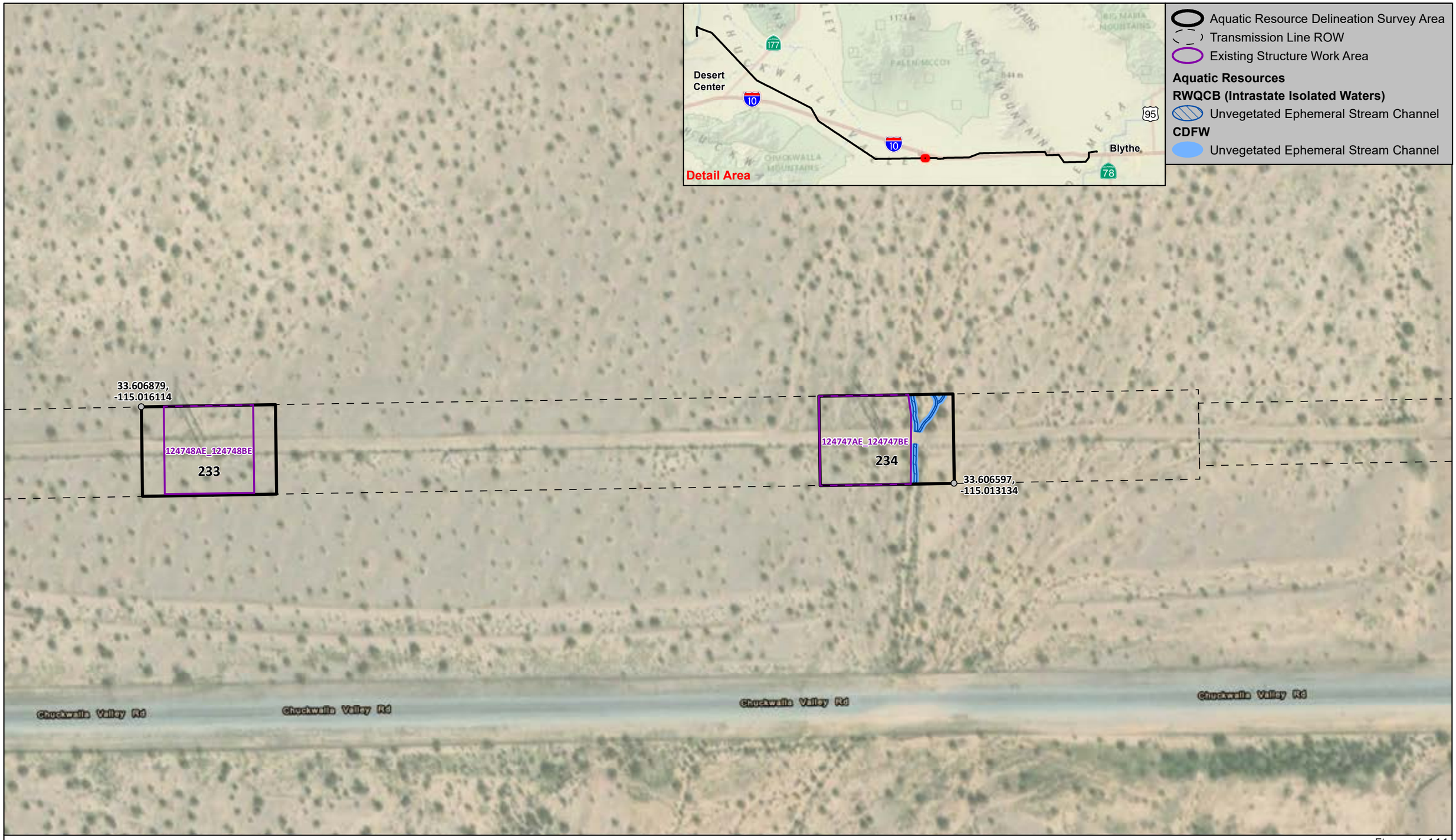

Figure 6-111

Aquatic Resource Survey Results - Sheet #111

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

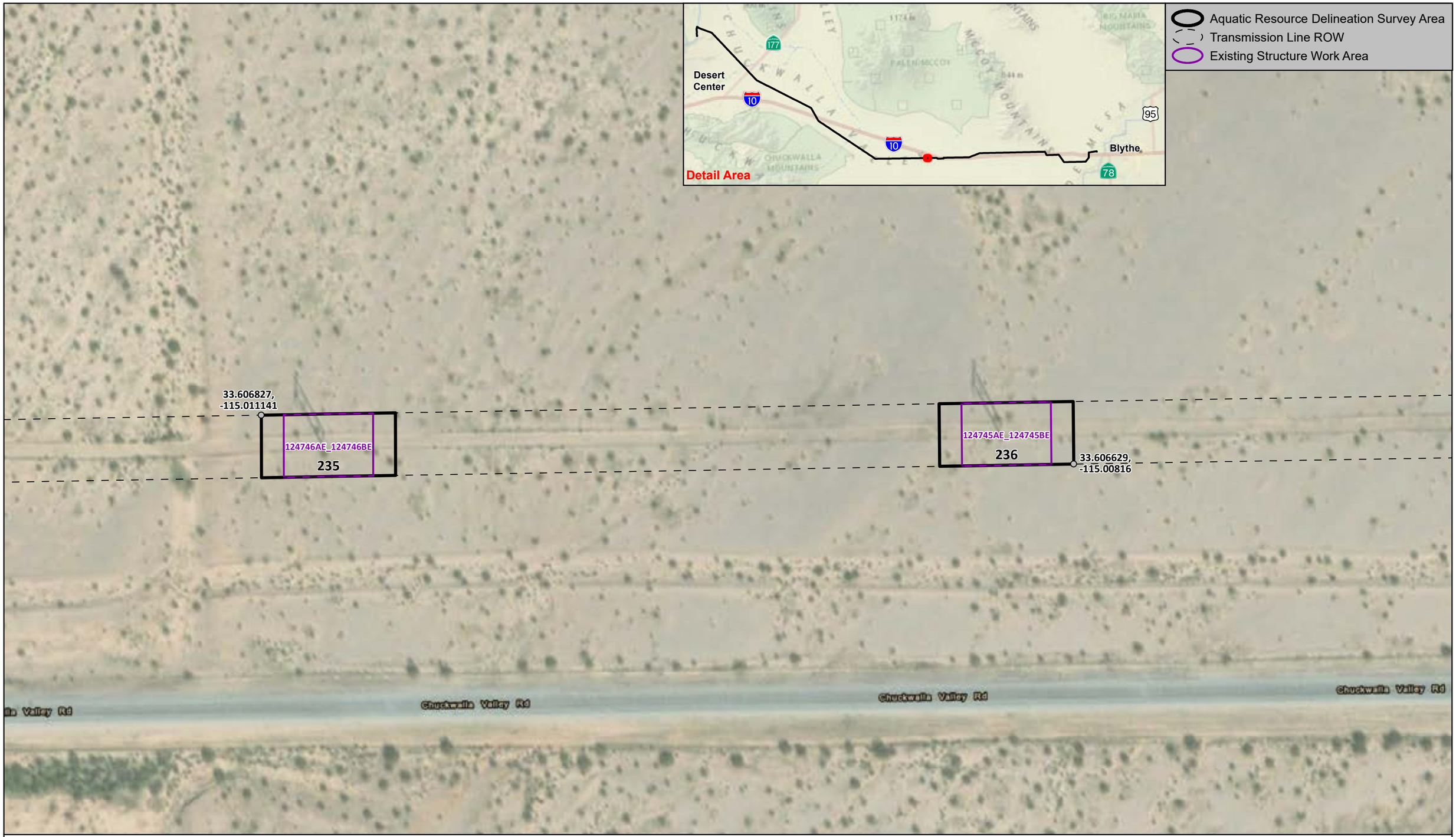

Figure 6-112

Aquatic Resource Survey Results - Sheet #112

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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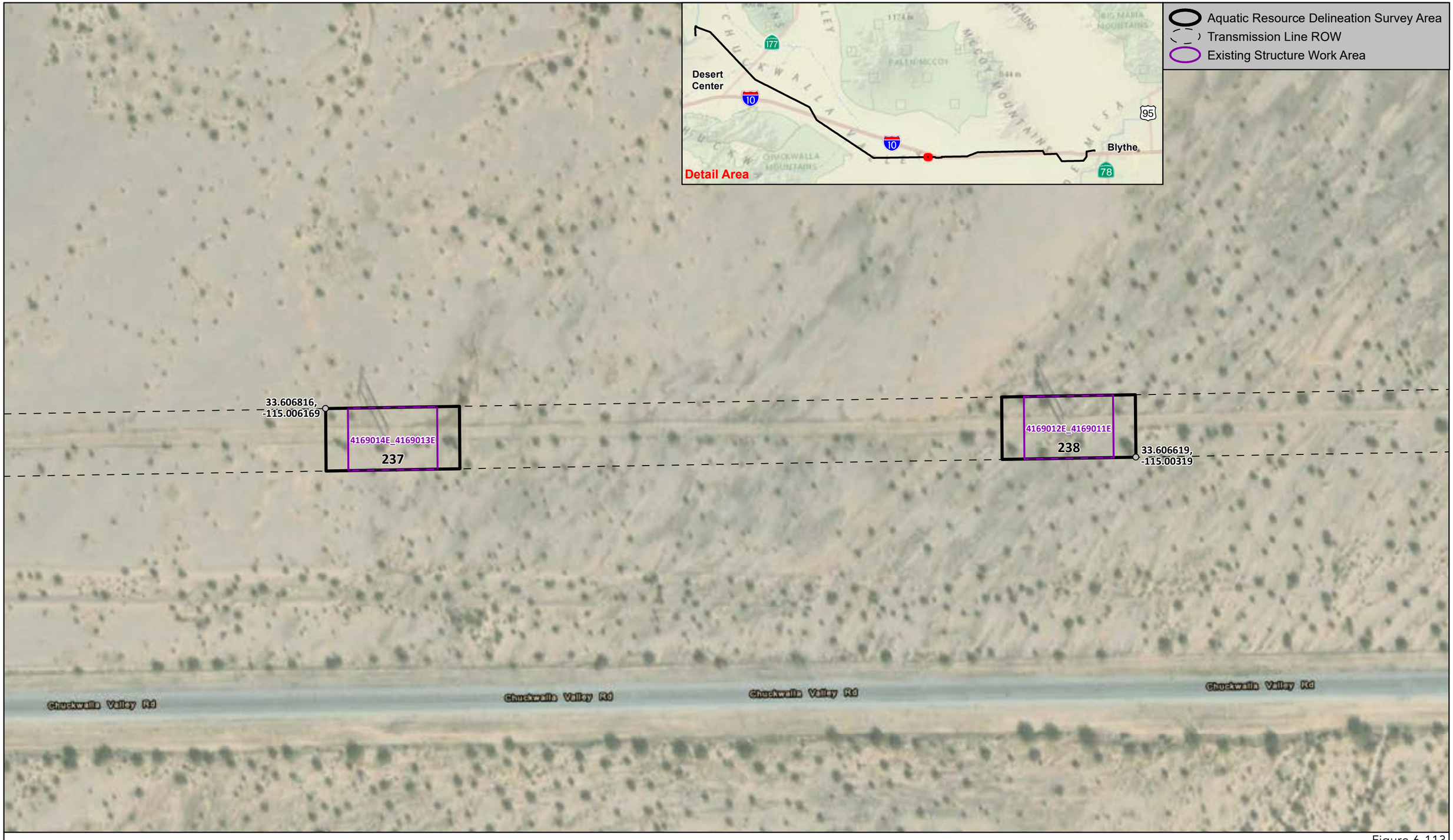

Figure 6-113

Aquatic Resource Survey Results - Sheet #113

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

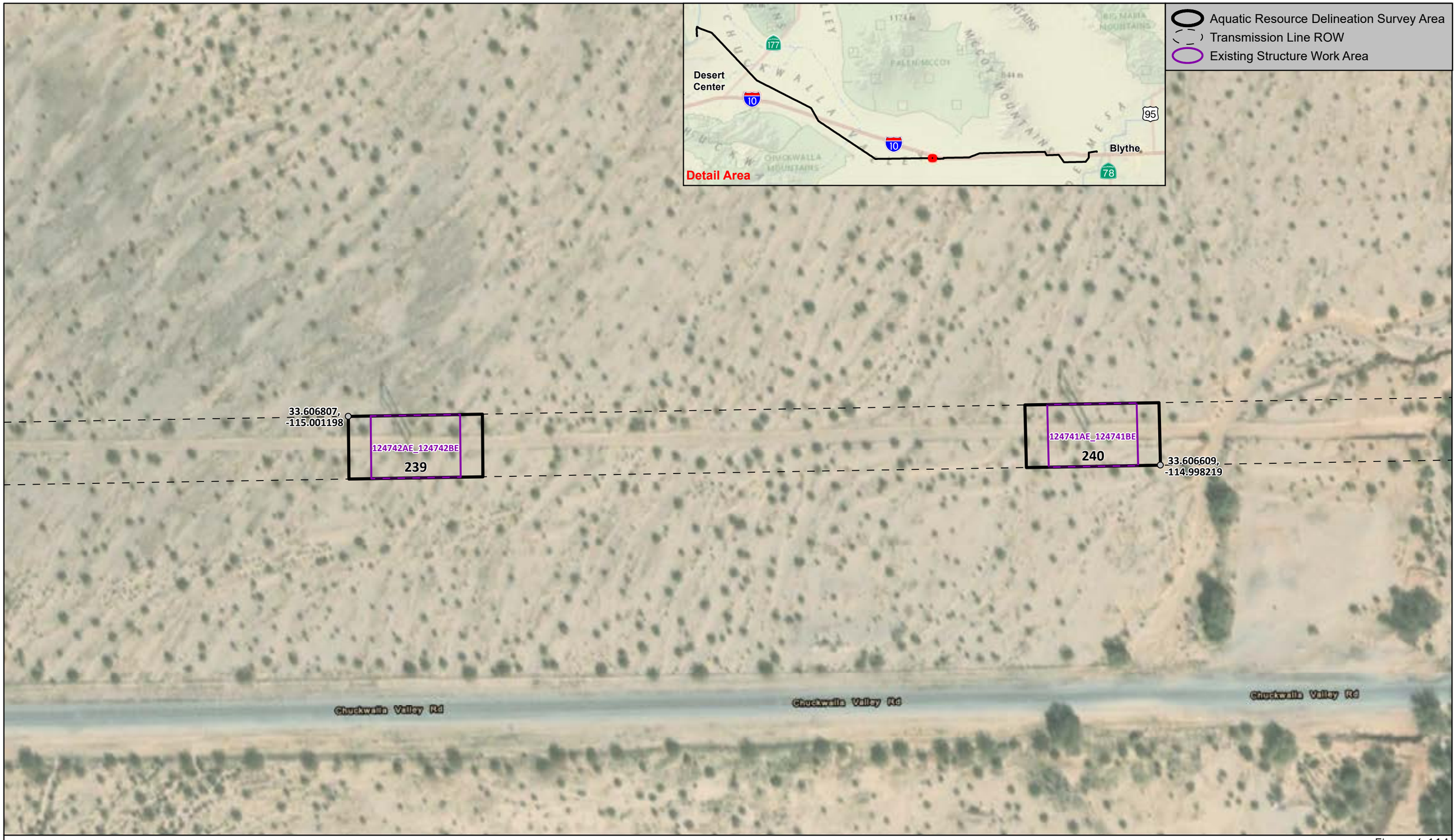

Figure 6-114

Aquatic Resource Survey Results - Sheet #114

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

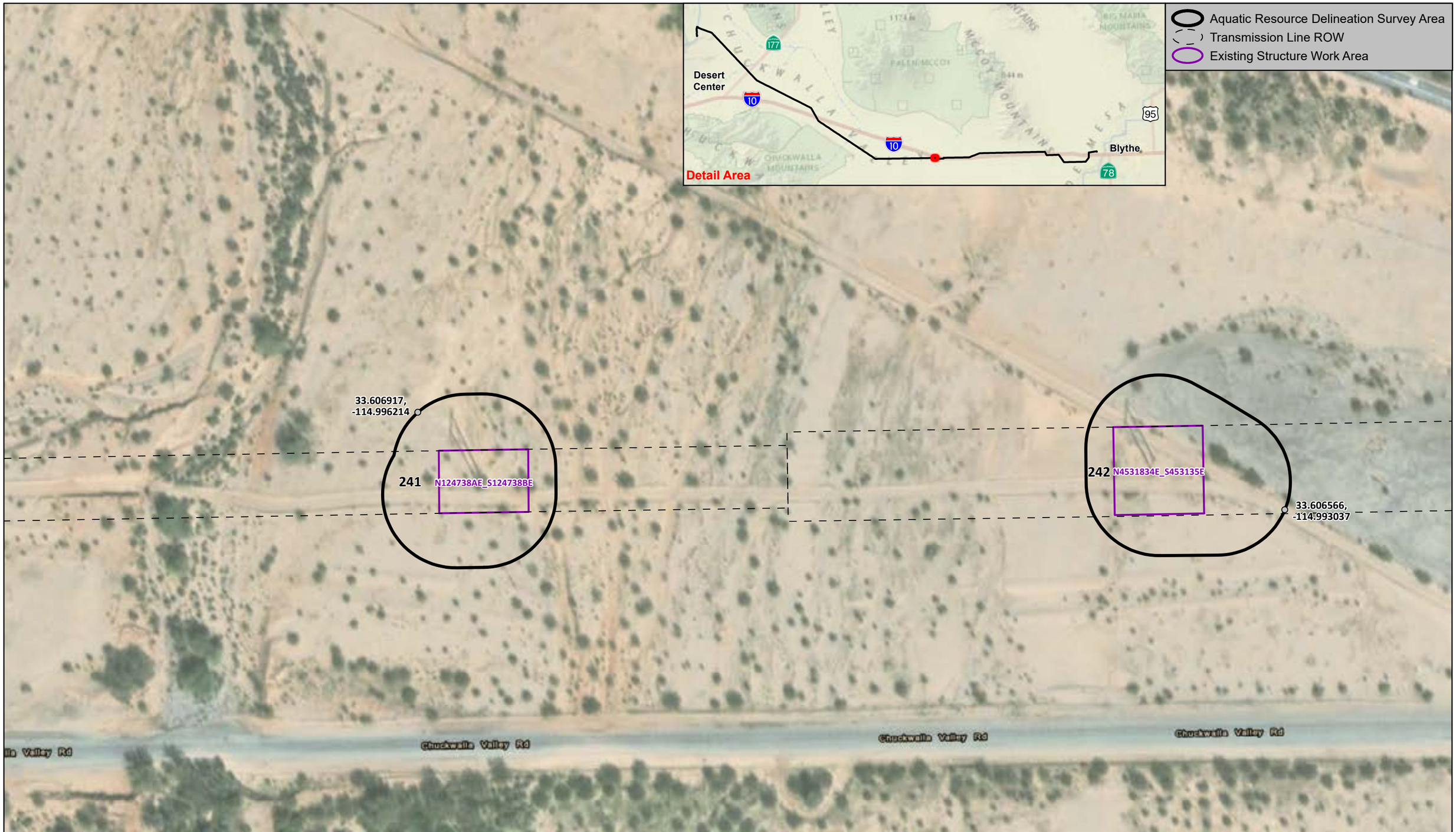

Figure 6-115

Aquatic Resource Survey Results - Sheet #115

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

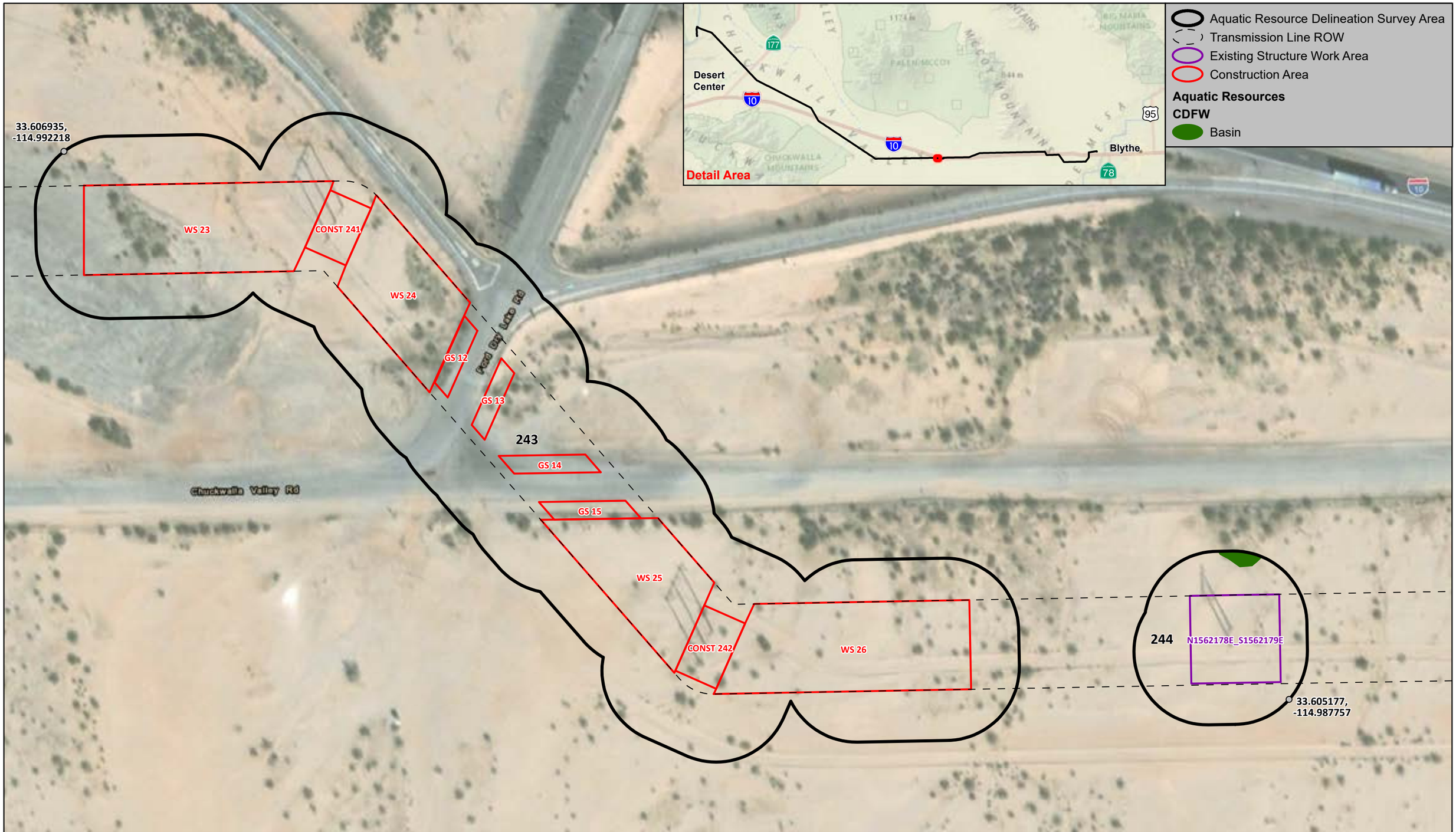

Figure 6-116

Aquatic Resource Survey Results - Sheet #116

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

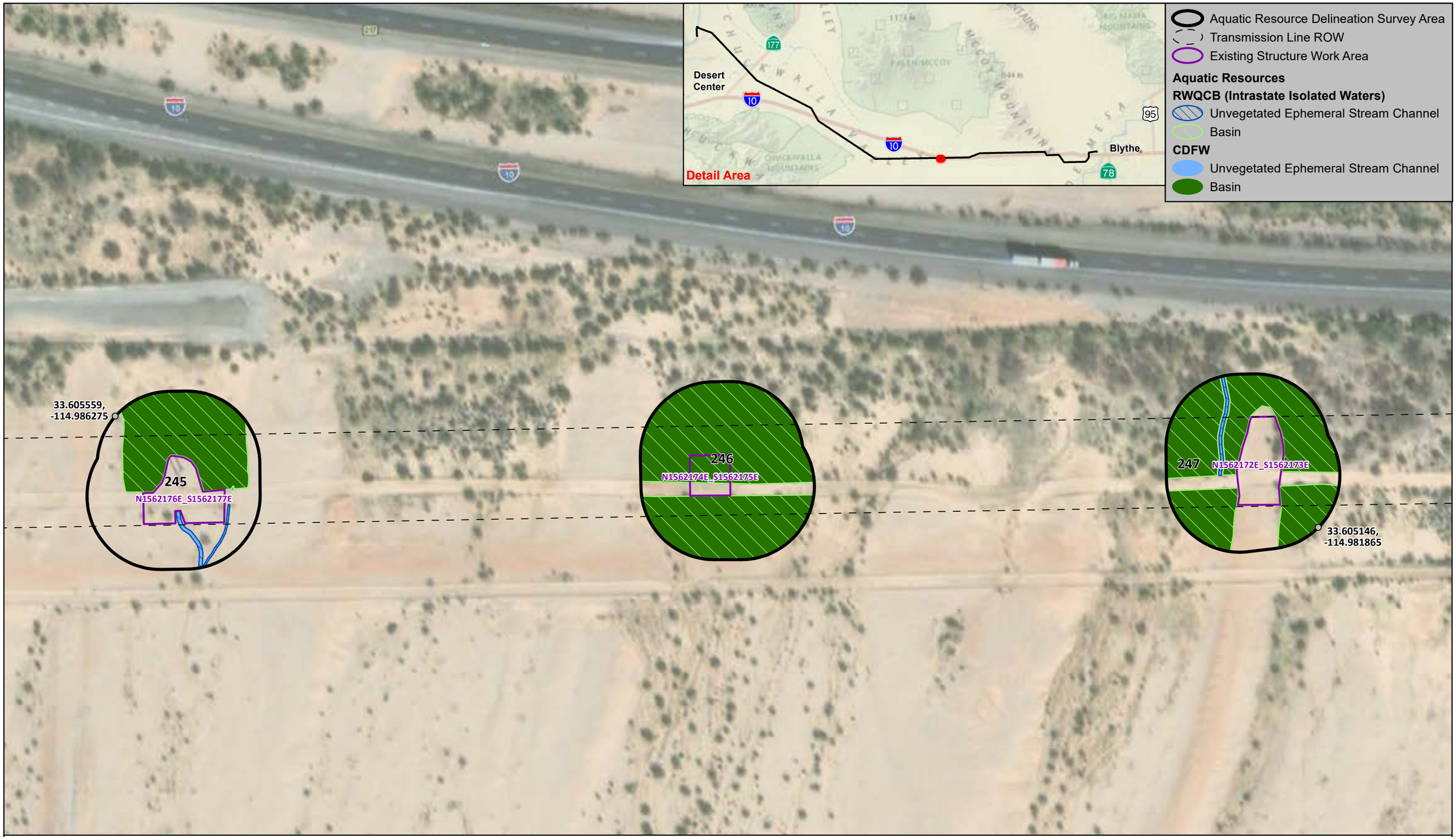

Figure 6-117

Aquatic Resource Survey Results - Sheet #117

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

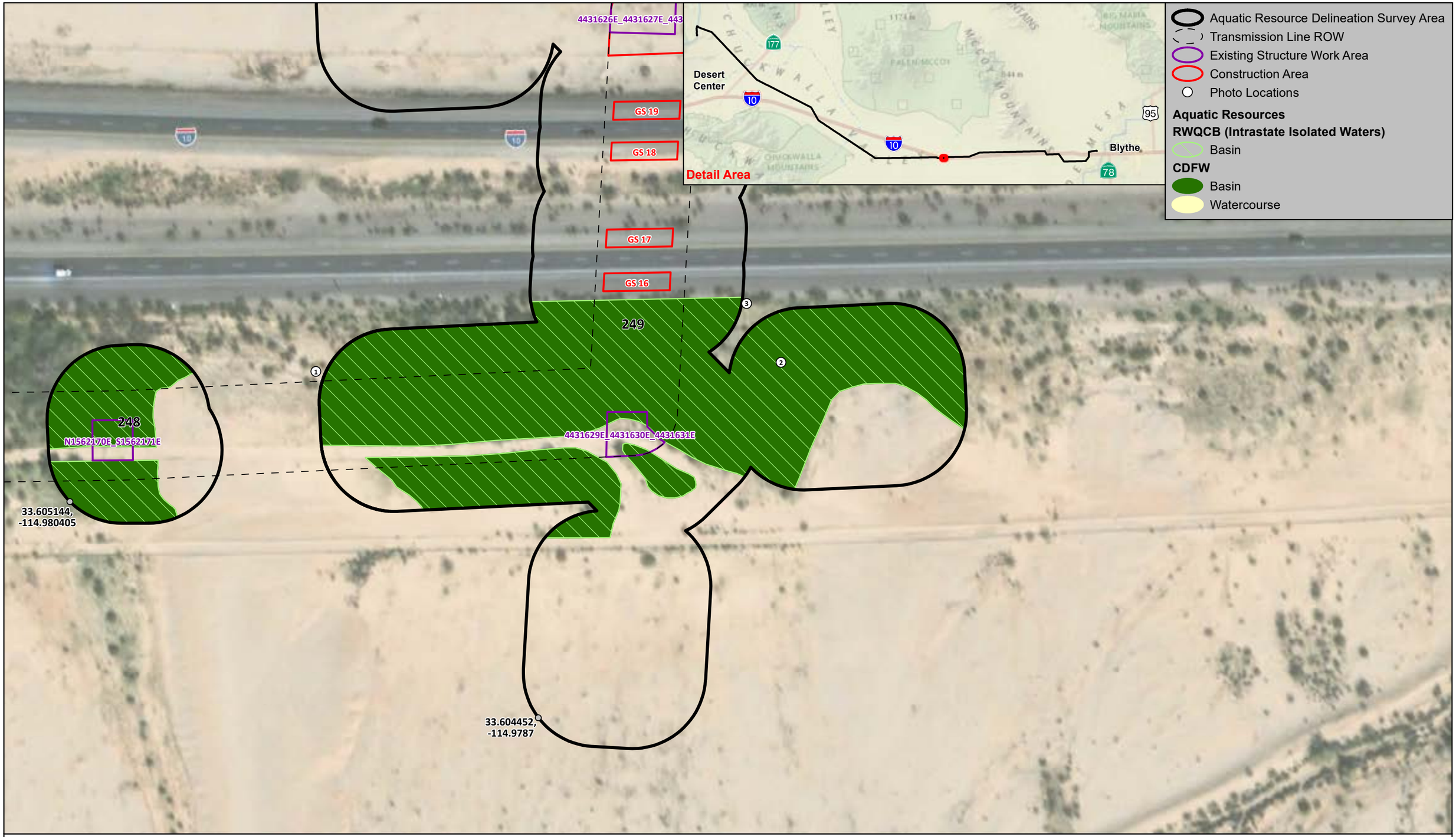

Figure 6-118

Aquatic Resource Survey Results - Sheet #118

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

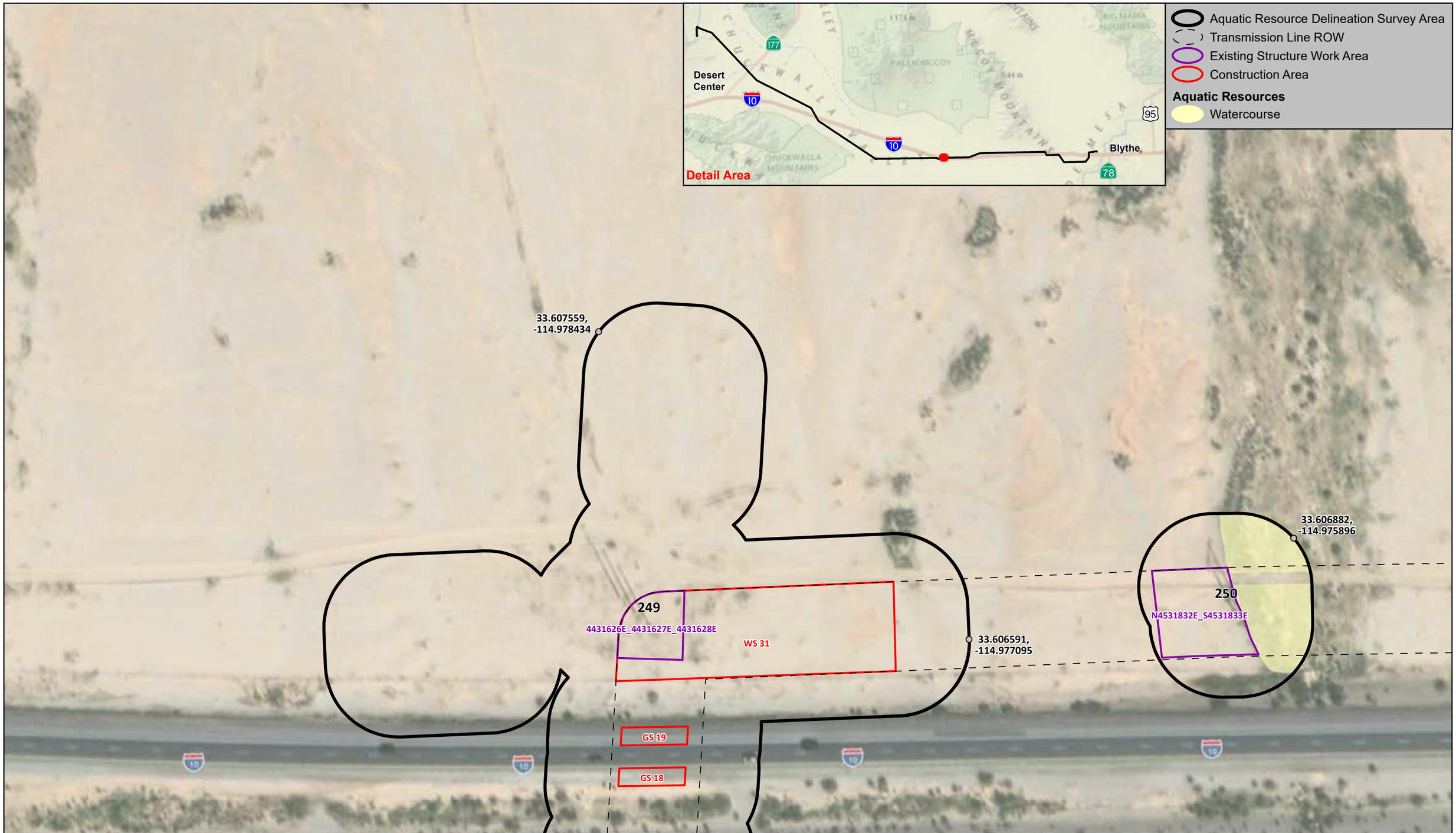

Figure 6-119

Aquatic Resource Survey Results - Sheet #119

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

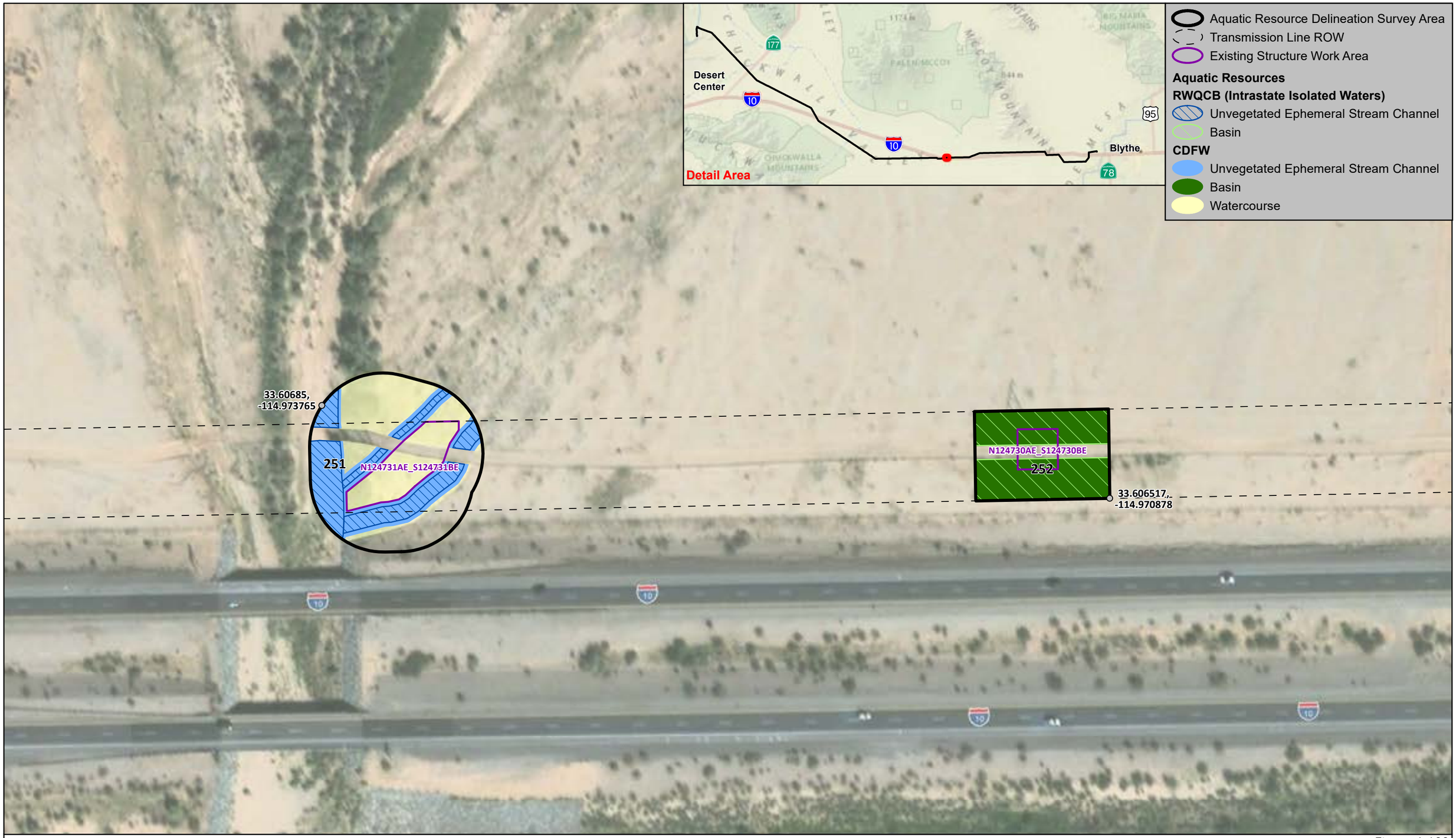

Figure 6-120

Aquatic Resource Survey Results - Sheet #120

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

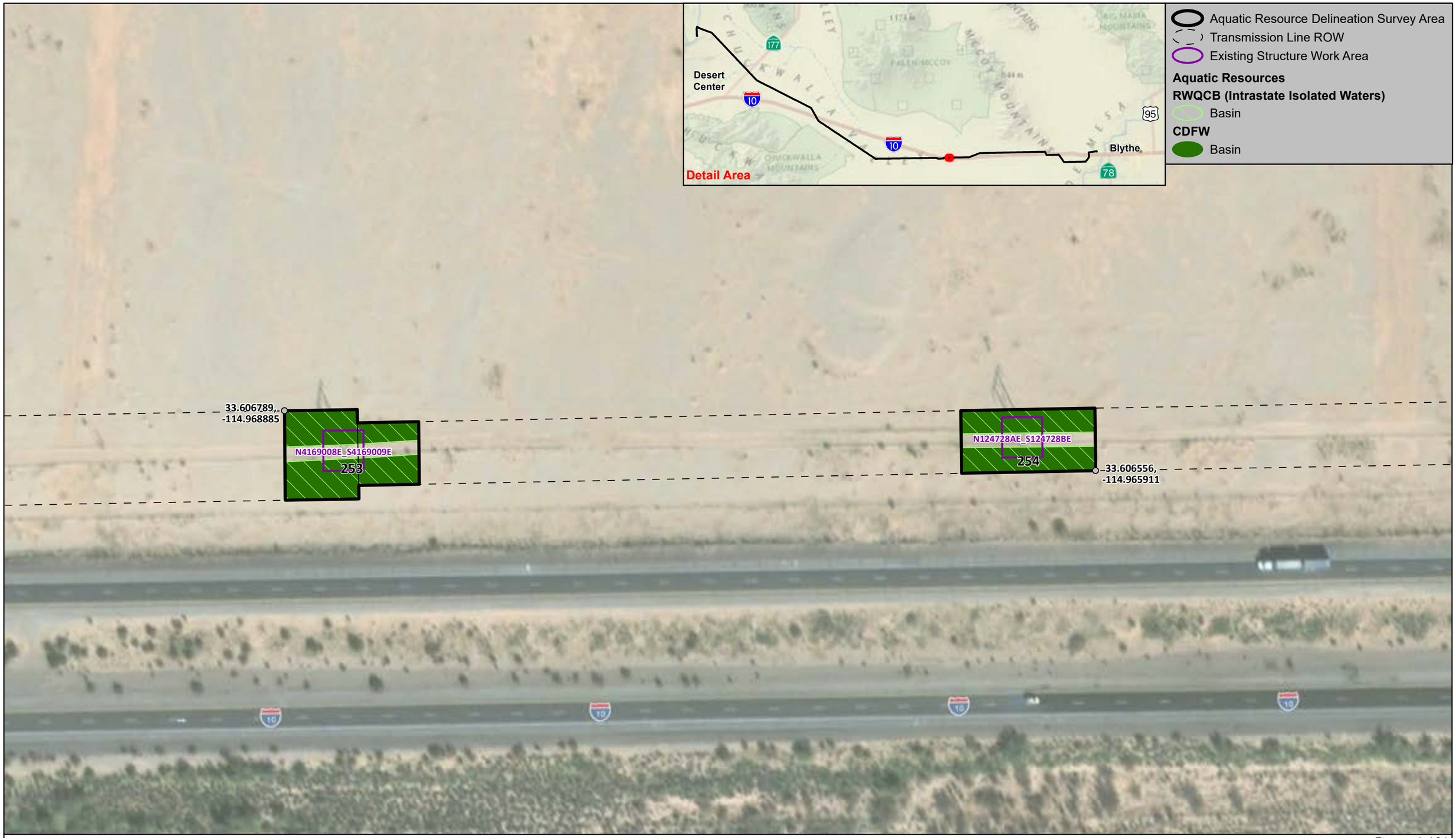

Figure 6-121

Aquatic Resource Survey Results - Sheet #121

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-122

Aquatic Resource Survey Results - Sheet #122

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

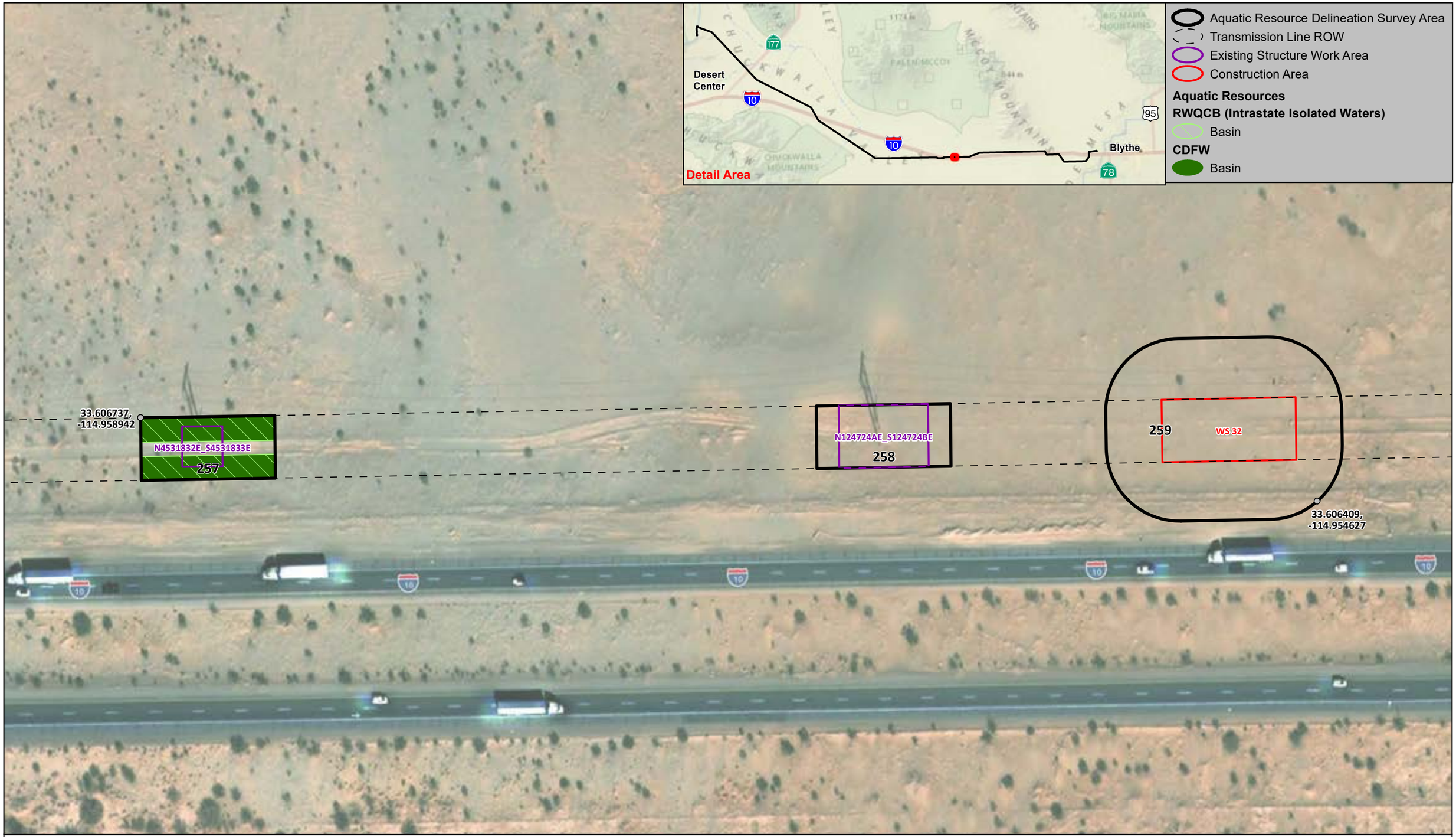

Figure 6-123

Aquatic Resource Survey Results - Sheet #123

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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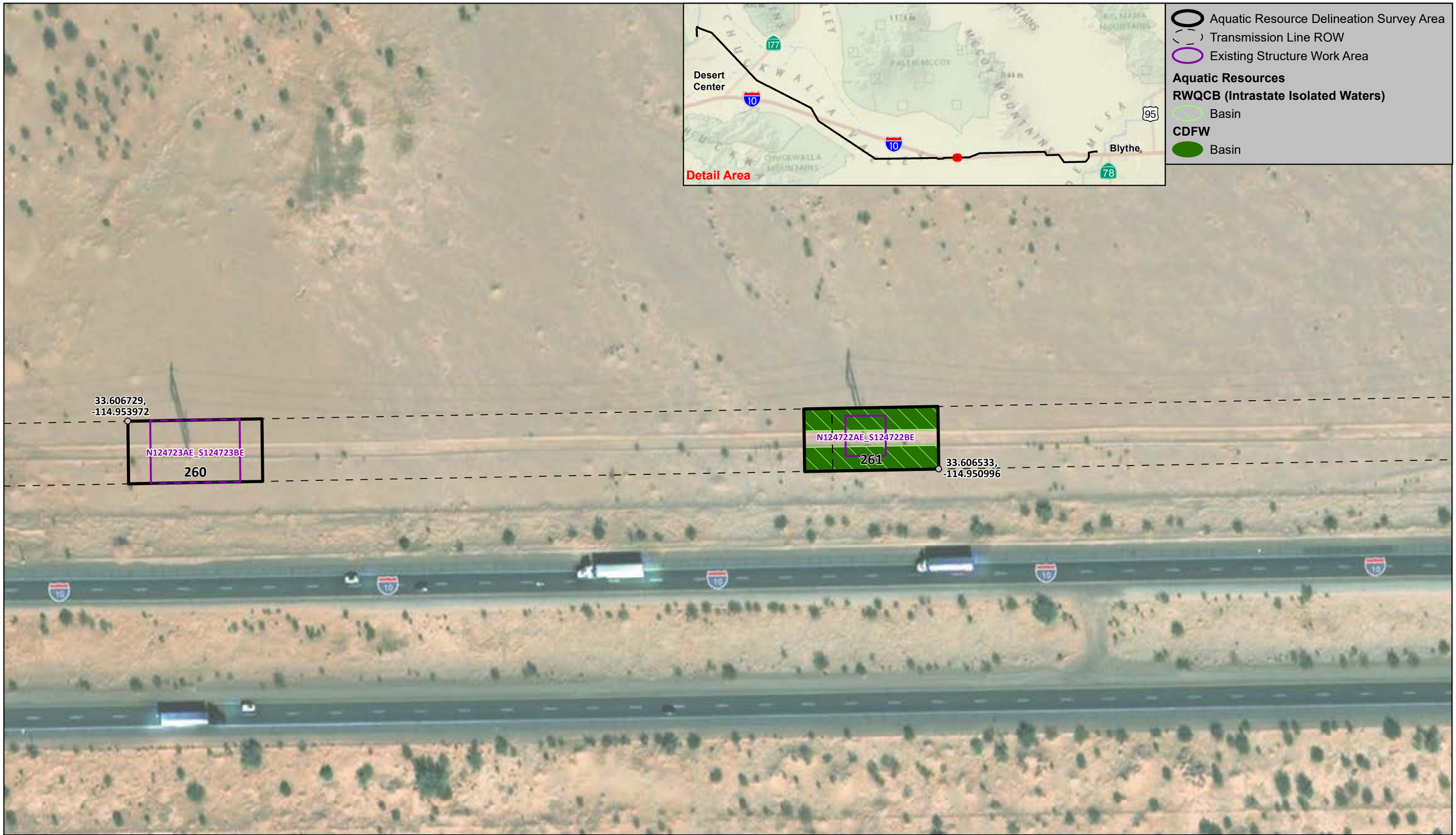

Figure 6-124

Aquatic Resource Survey Results - Sheet #124

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

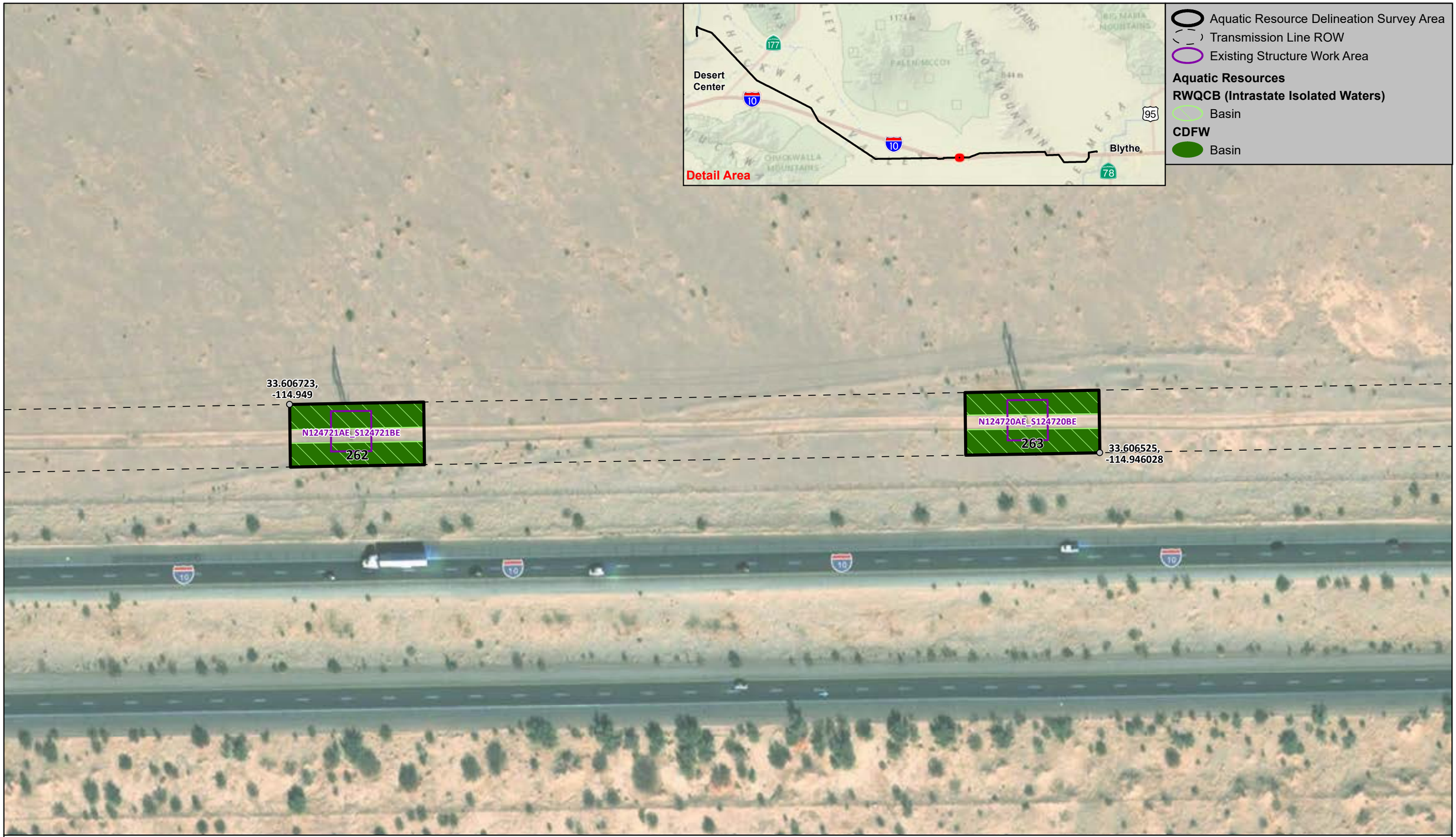

Figure 6-125

Aquatic Resource Survey Results - Sheet #125

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

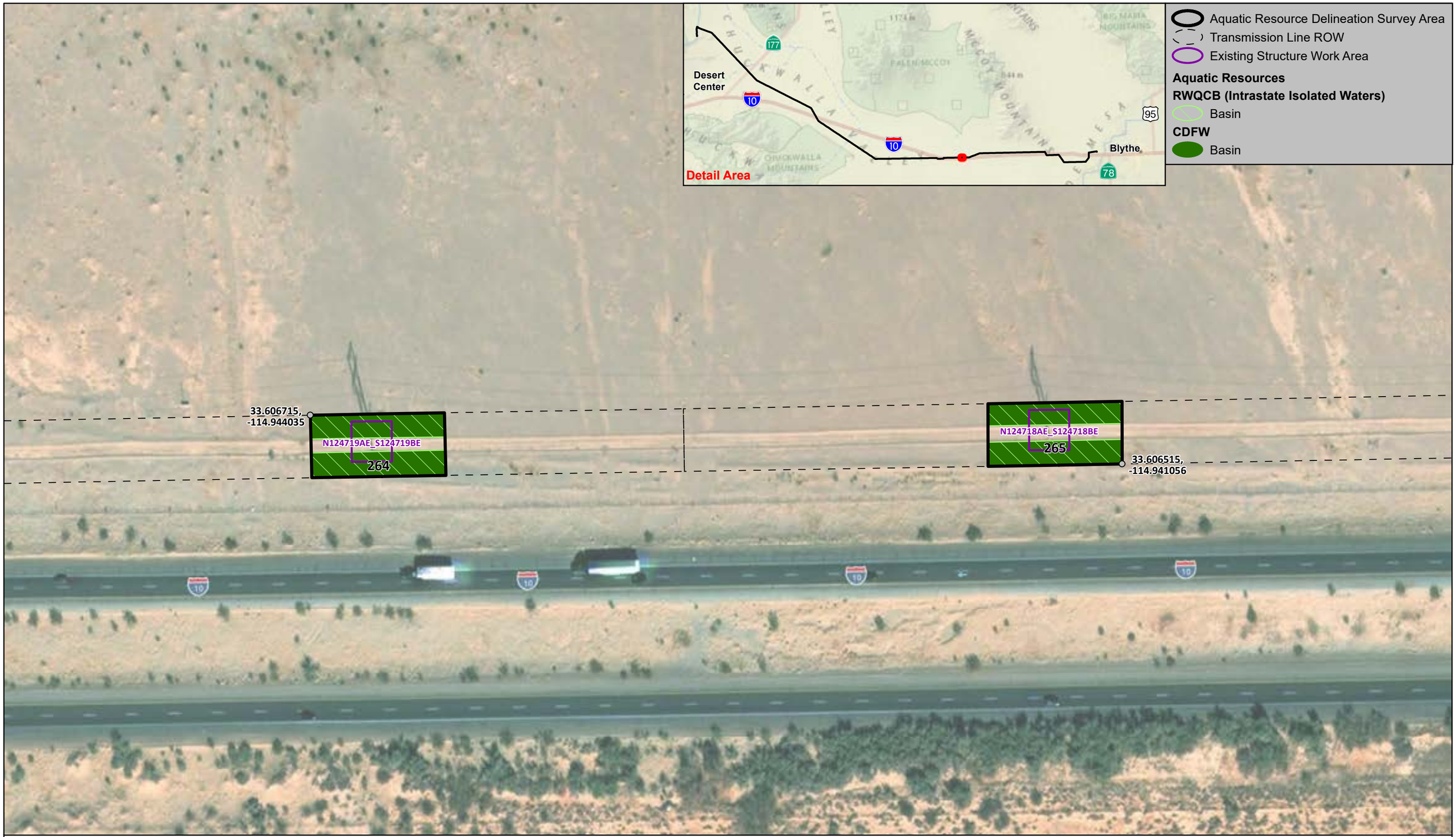

Figure 6-126

Aquatic Resource Survey Results - Sheet #126

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

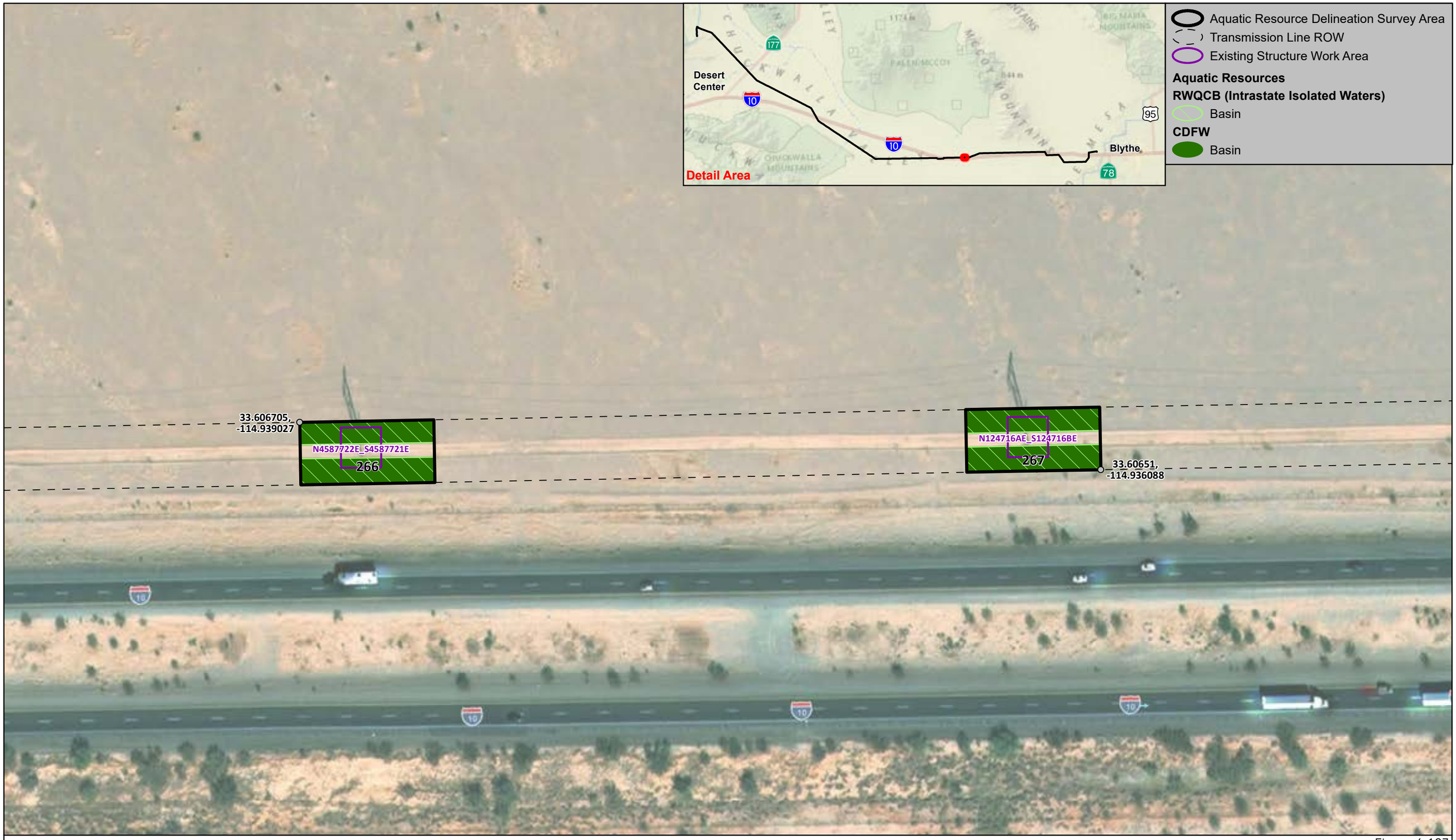

Figure 6-127

Aquatic Resource Survey Results - Sheet #127

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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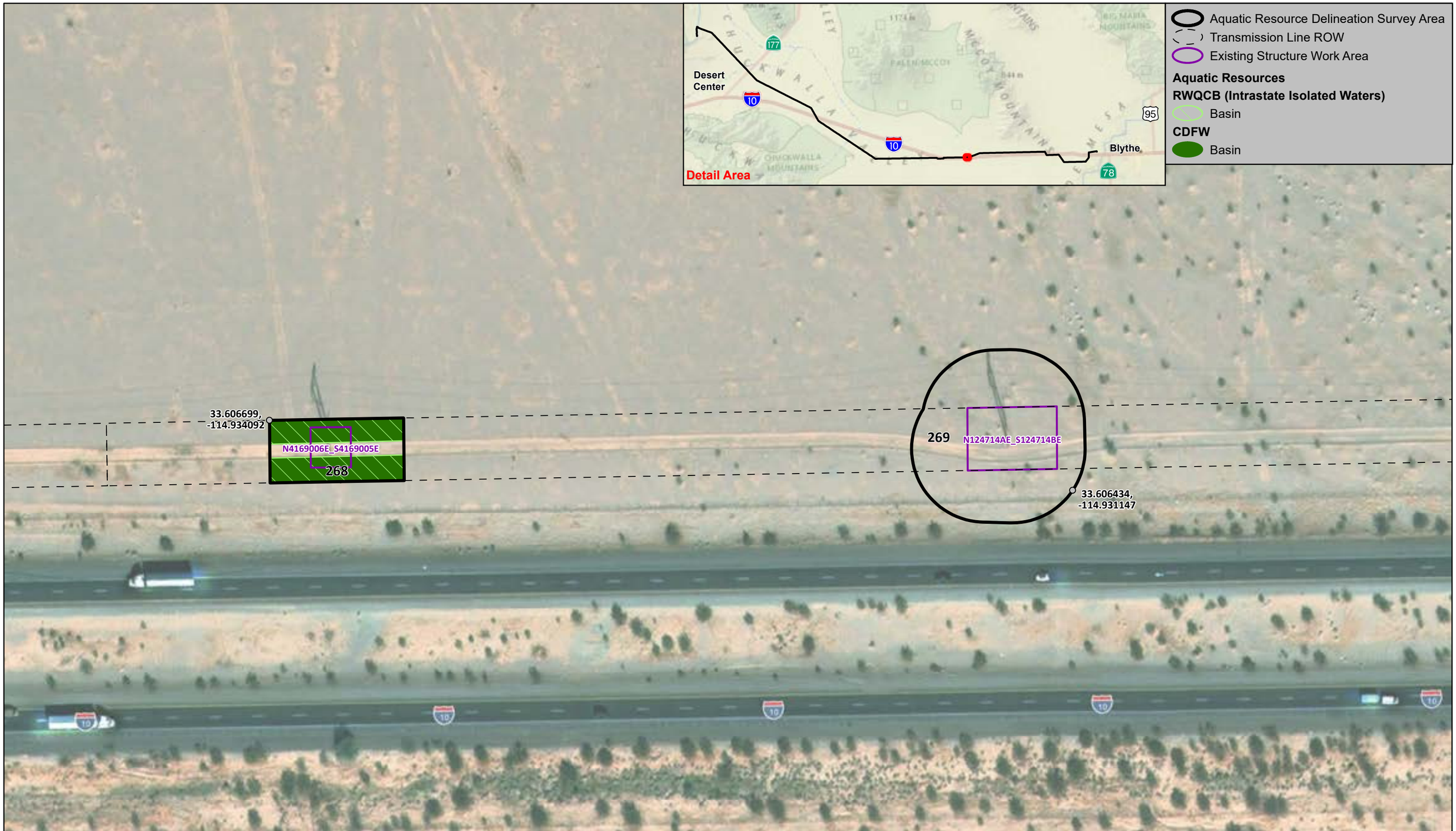

Figure 6-128

Aquatic Resource Survey Results - Sheet #128

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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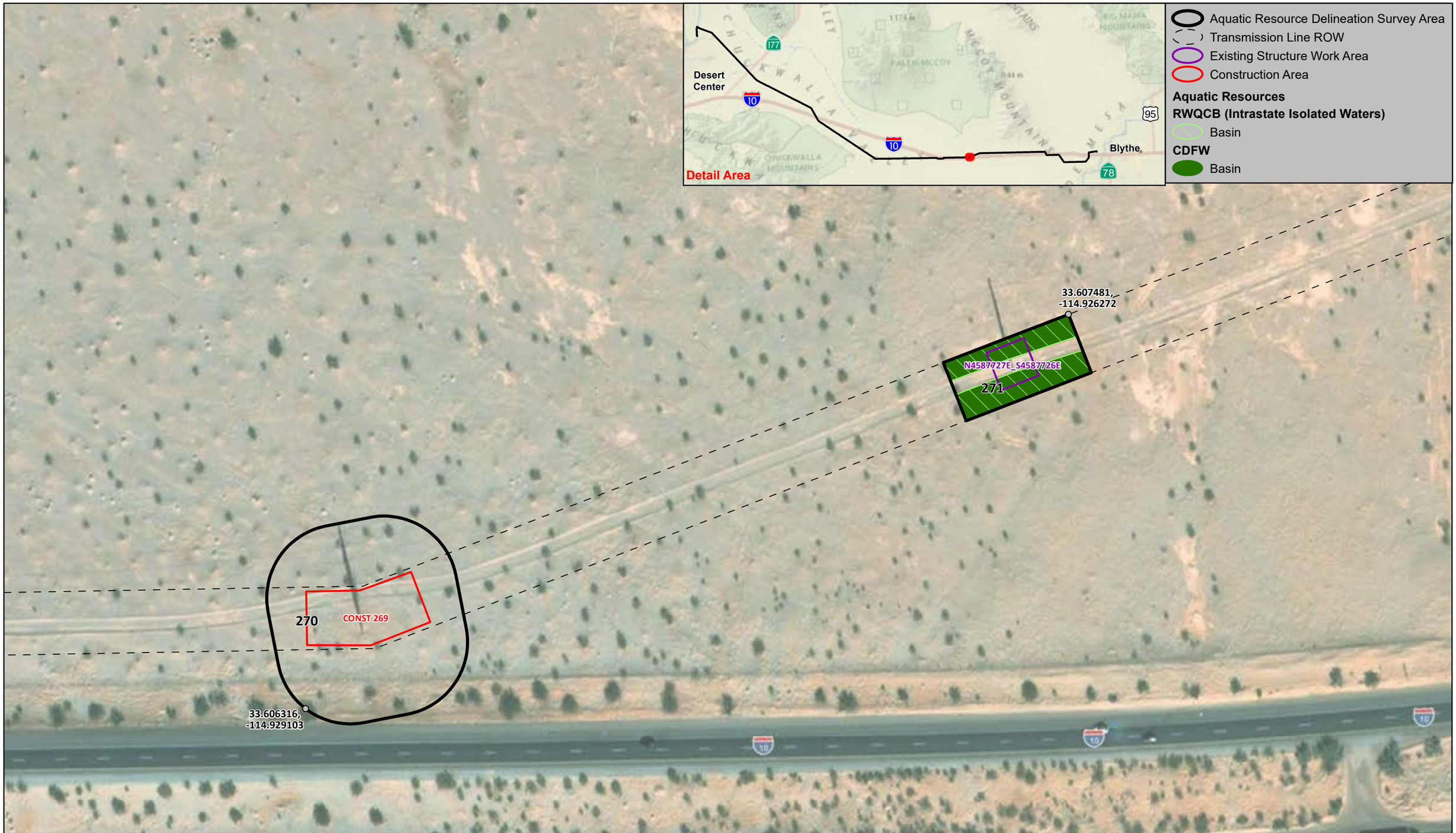

Figure 6-129

Aquatic Resource Survey Results - Sheet #129

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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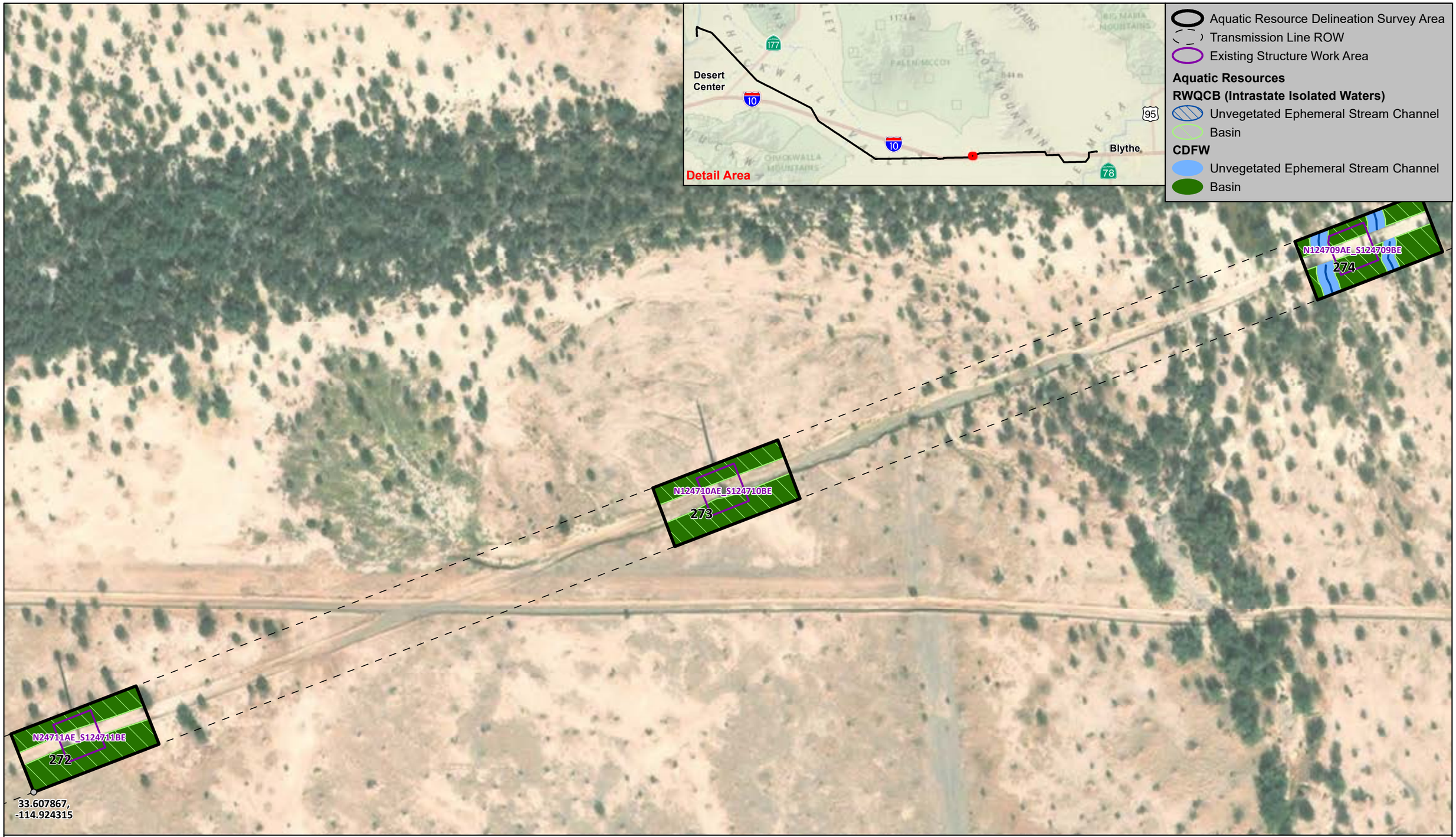

Figure 6-130

Aquatic Resource Survey Results - Sheet #130

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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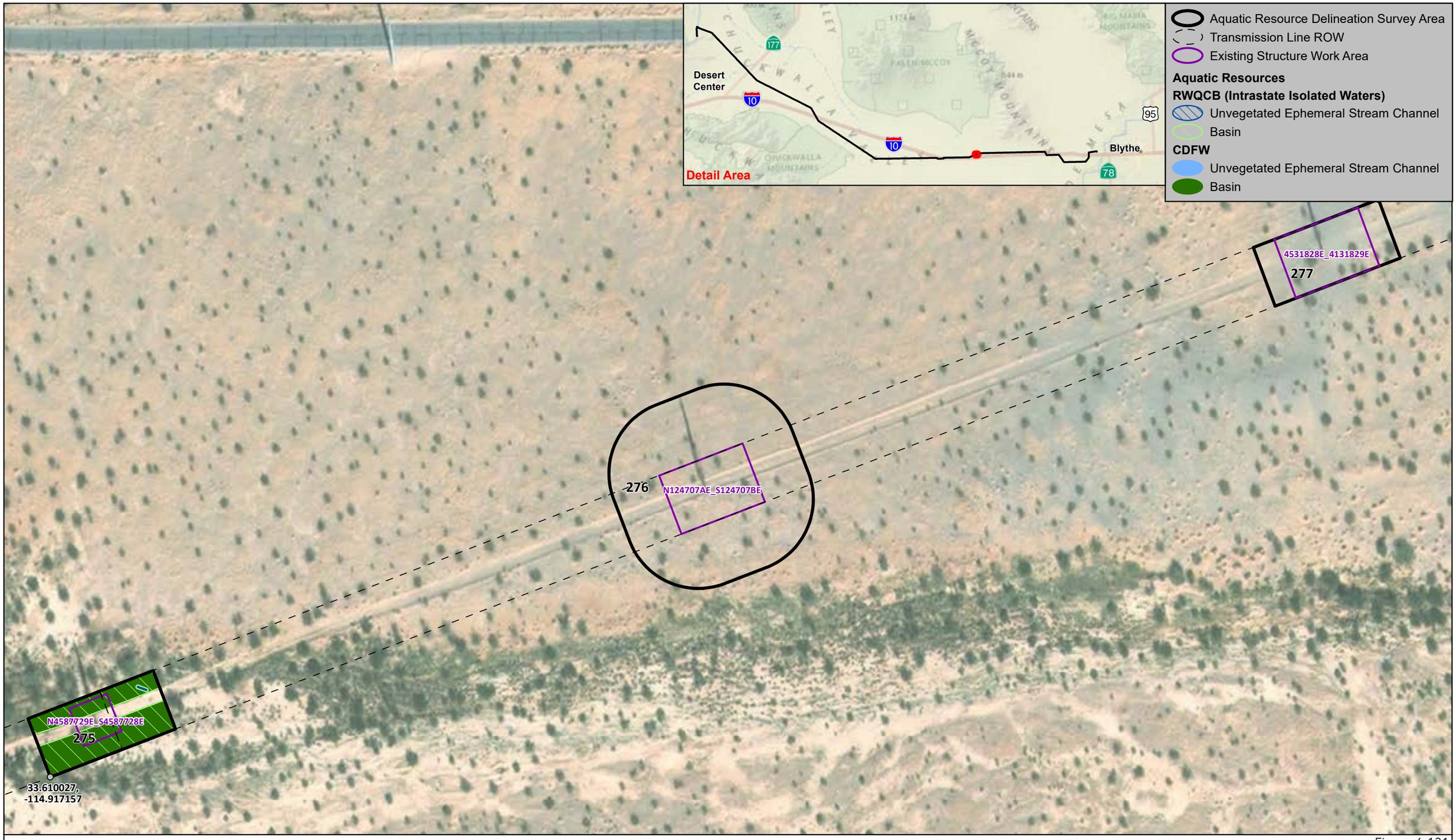

Figure 6-131

Aquatic Resource Survey Results - Sheet #131

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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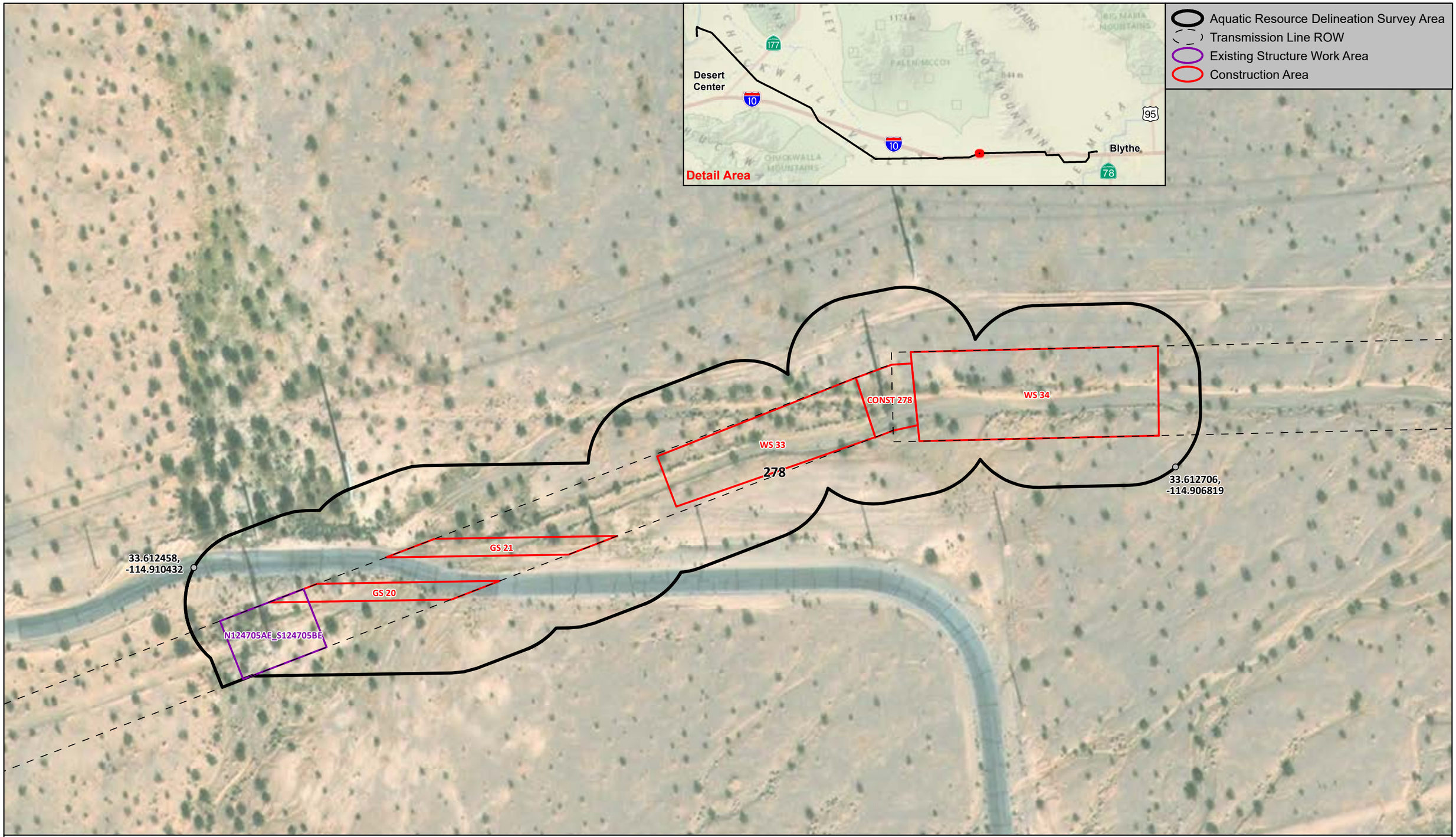

Figure 6-132

Aquatic Resource Survey Results - Sheet #132

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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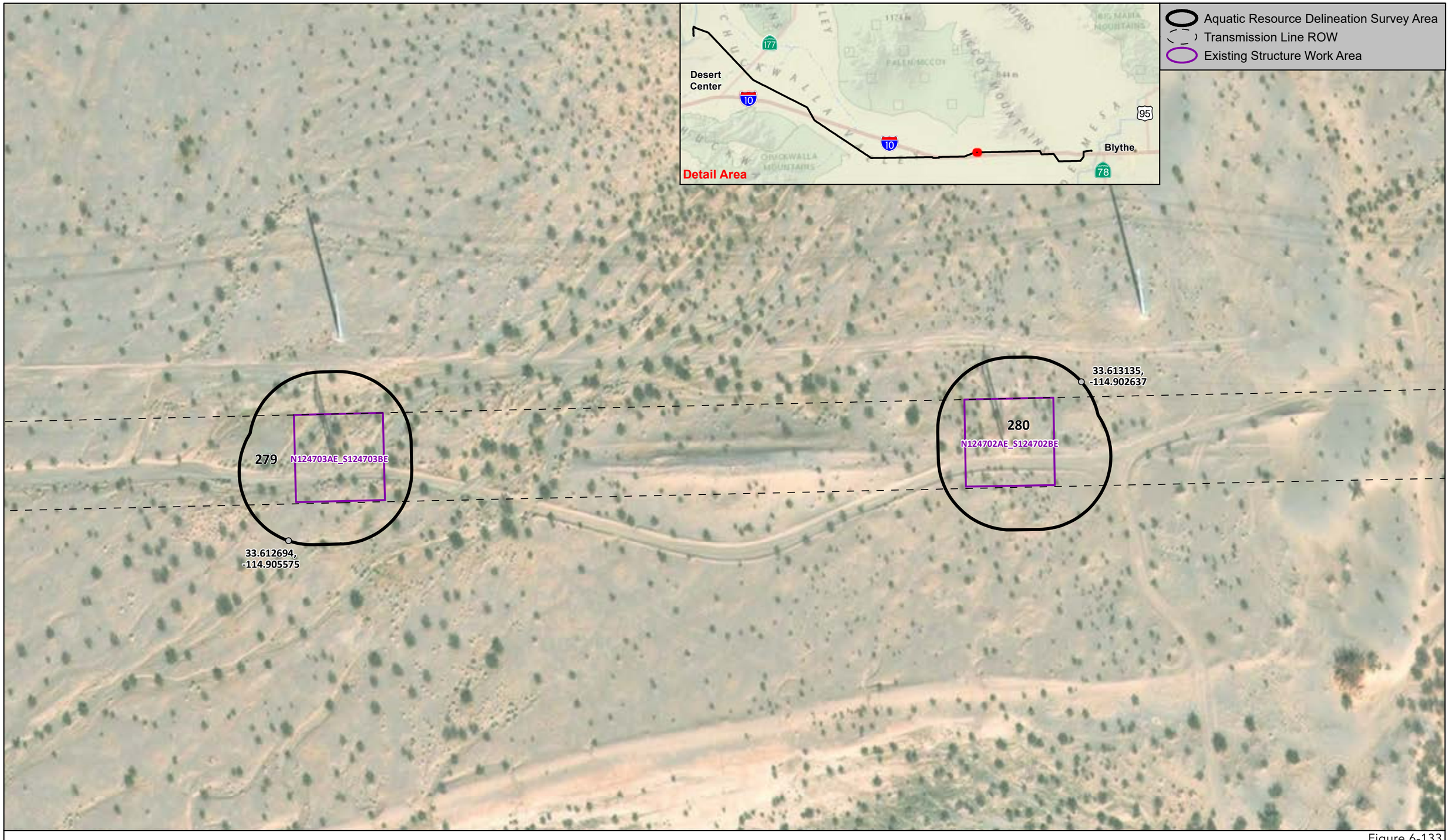

Figure 6-133

Aquatic Resource Survey Results - Sheet #133

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

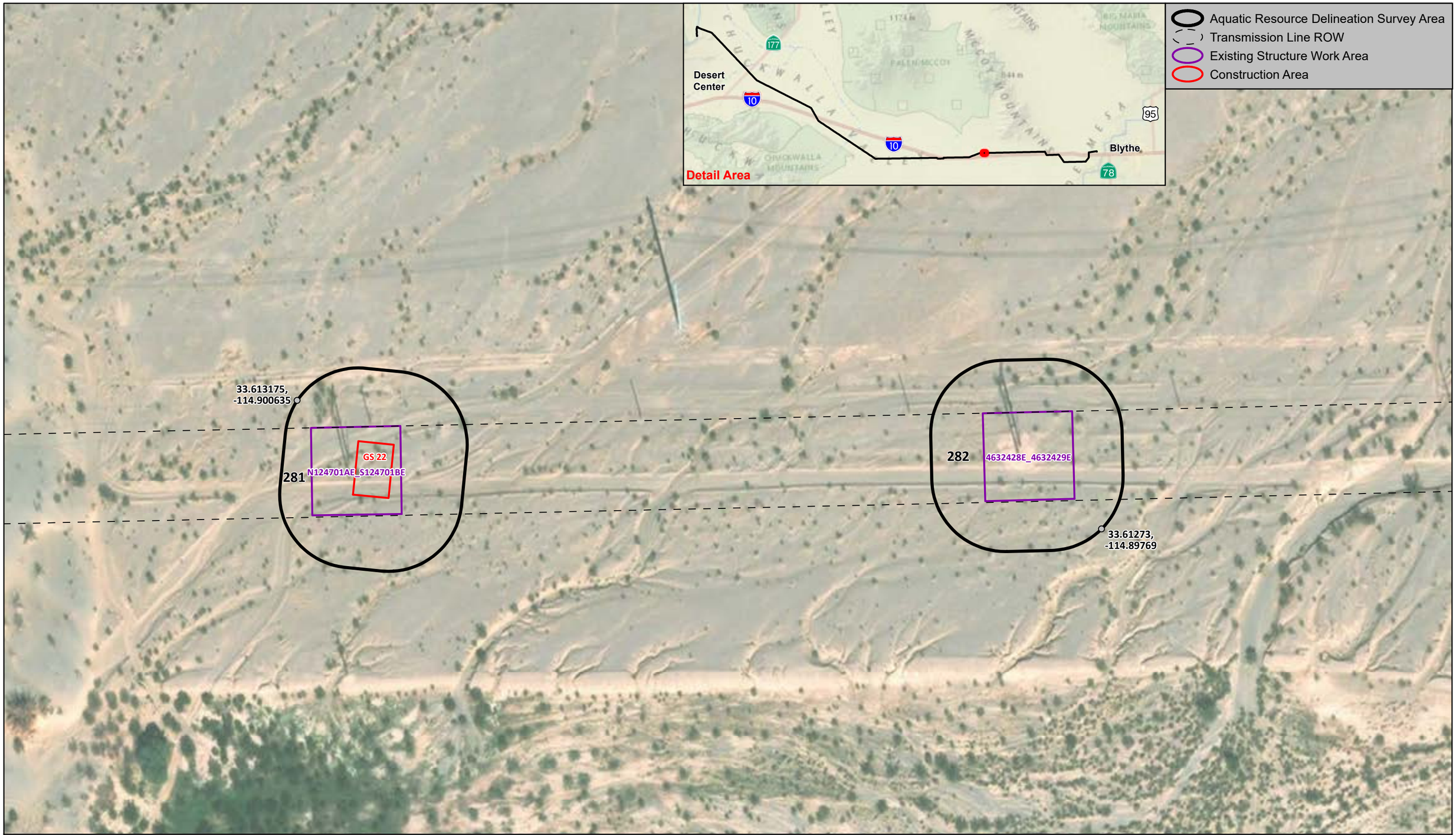

Figure 6-134

Aquatic Resource Survey Results - Sheet #134

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

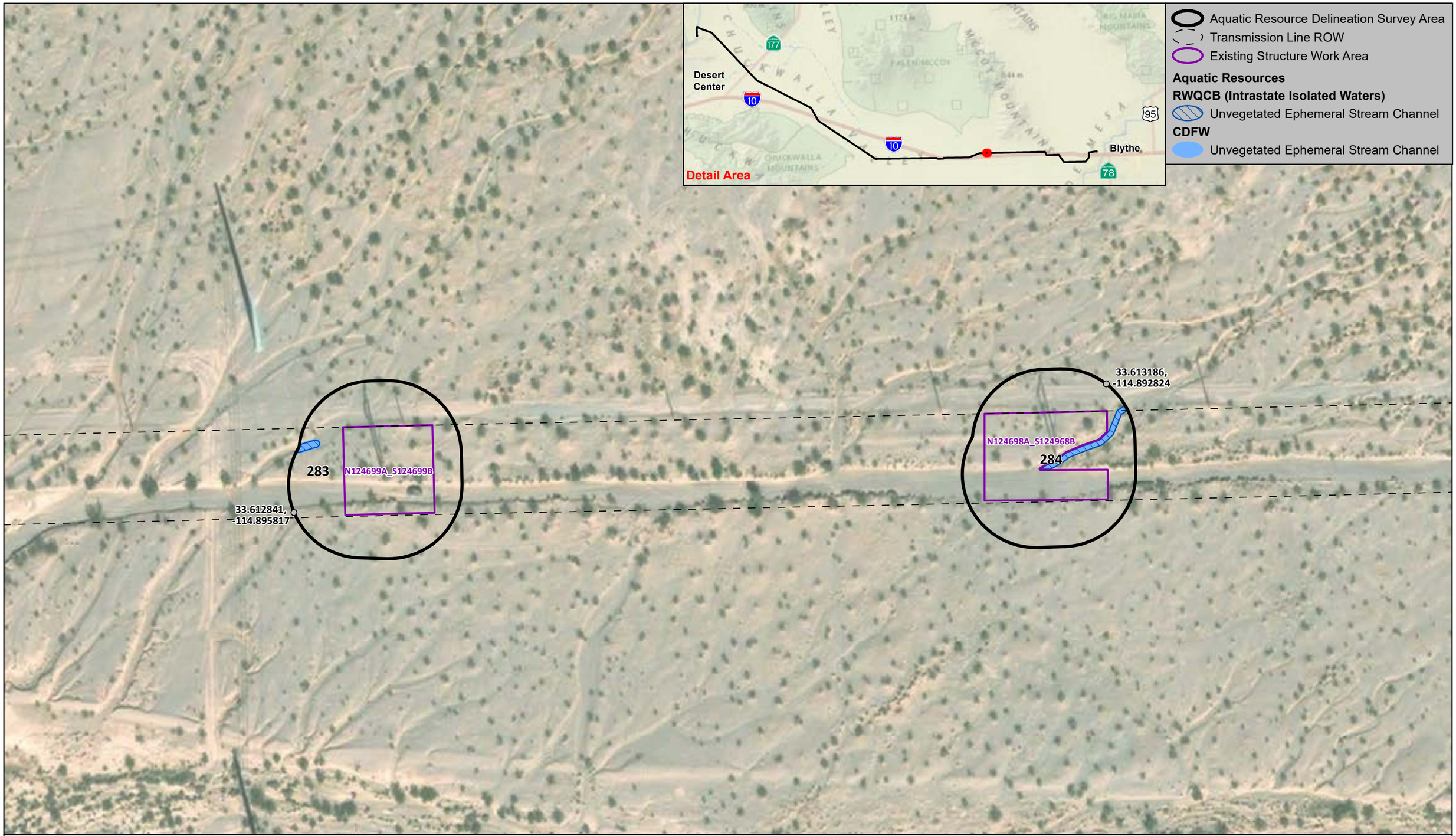

Figure 6-135

Aquatic Resource Survey Results - Sheet #135

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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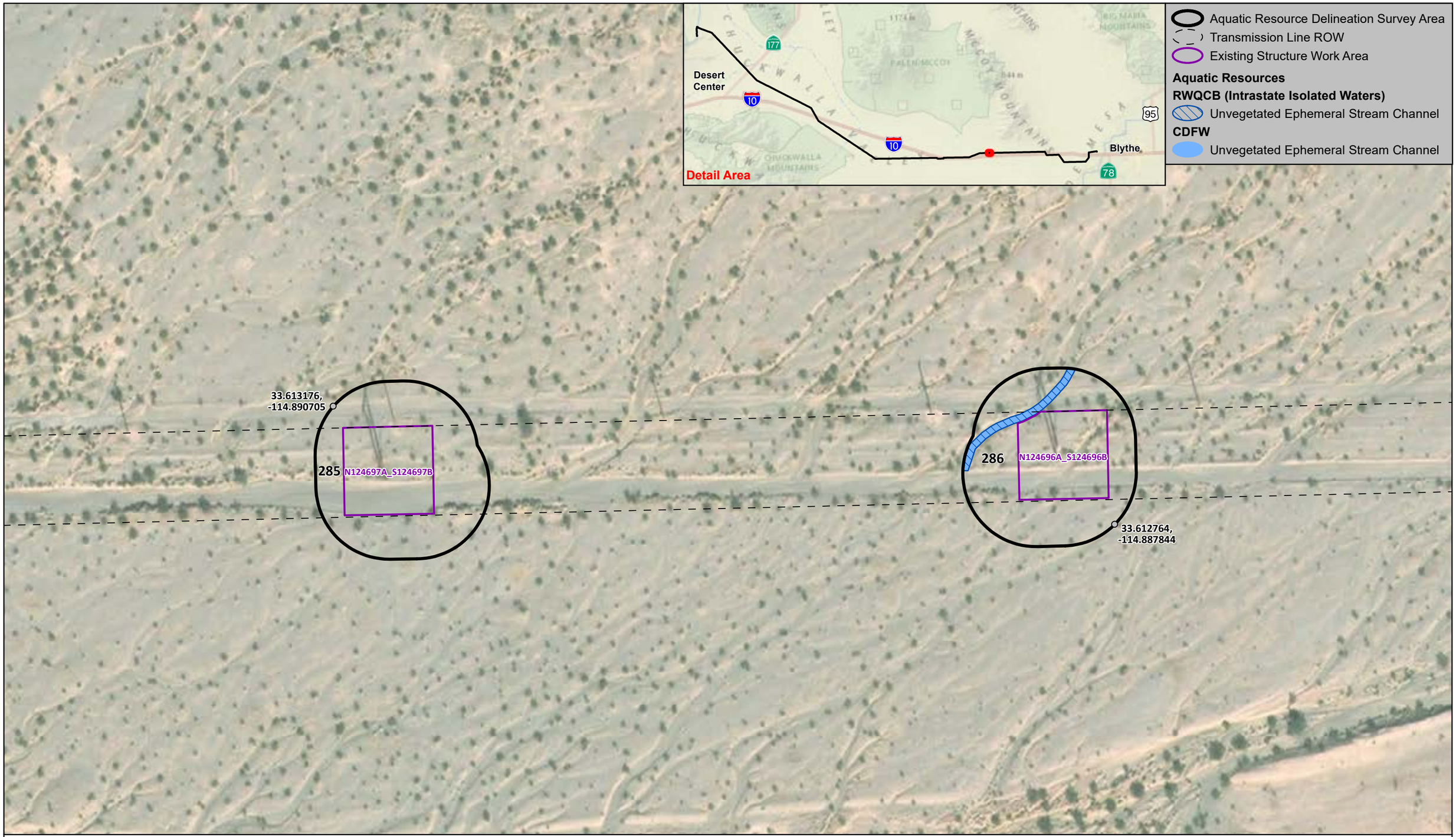

Figure 6-136

Aquatic Resource Survey Results - Sheet #136

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

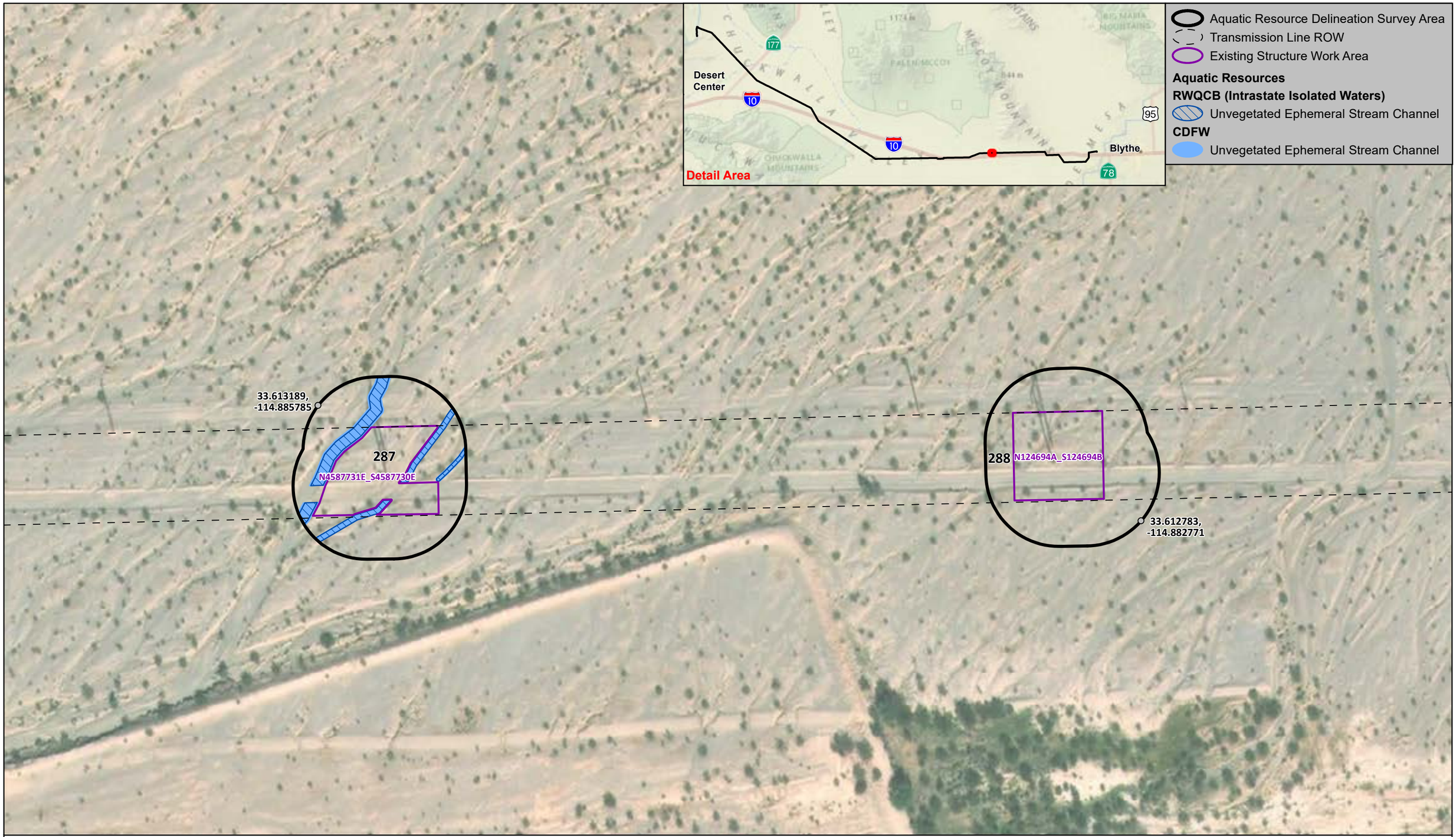

Figure 6-137

Aquatic Resource Survey Results - Sheet #137

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

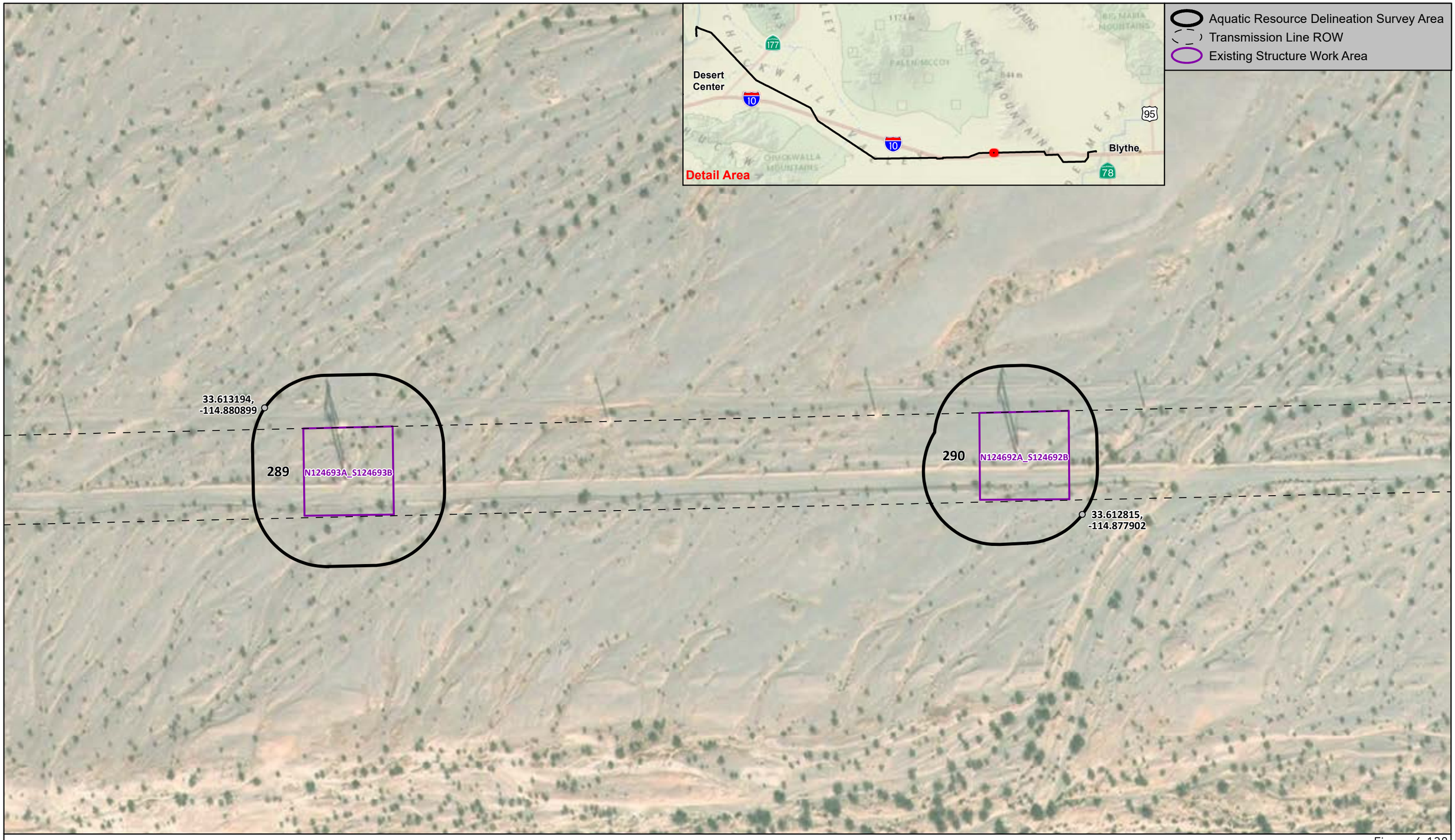

Figure 6-138

Aquatic Resource Survey Results - Sheet #138

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

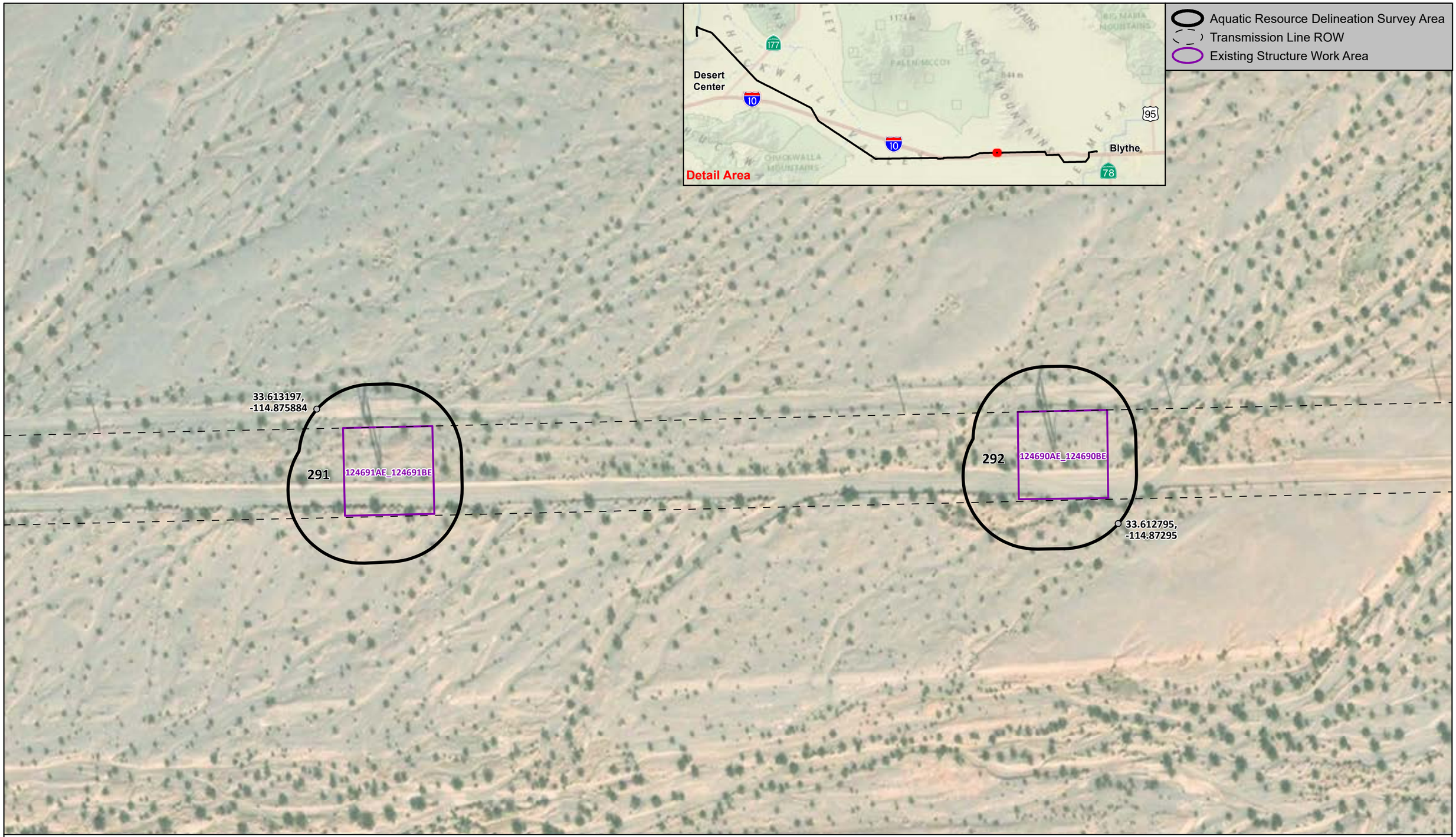

Figure 6-139

Aquatic Resource Survey Results - Sheet #139

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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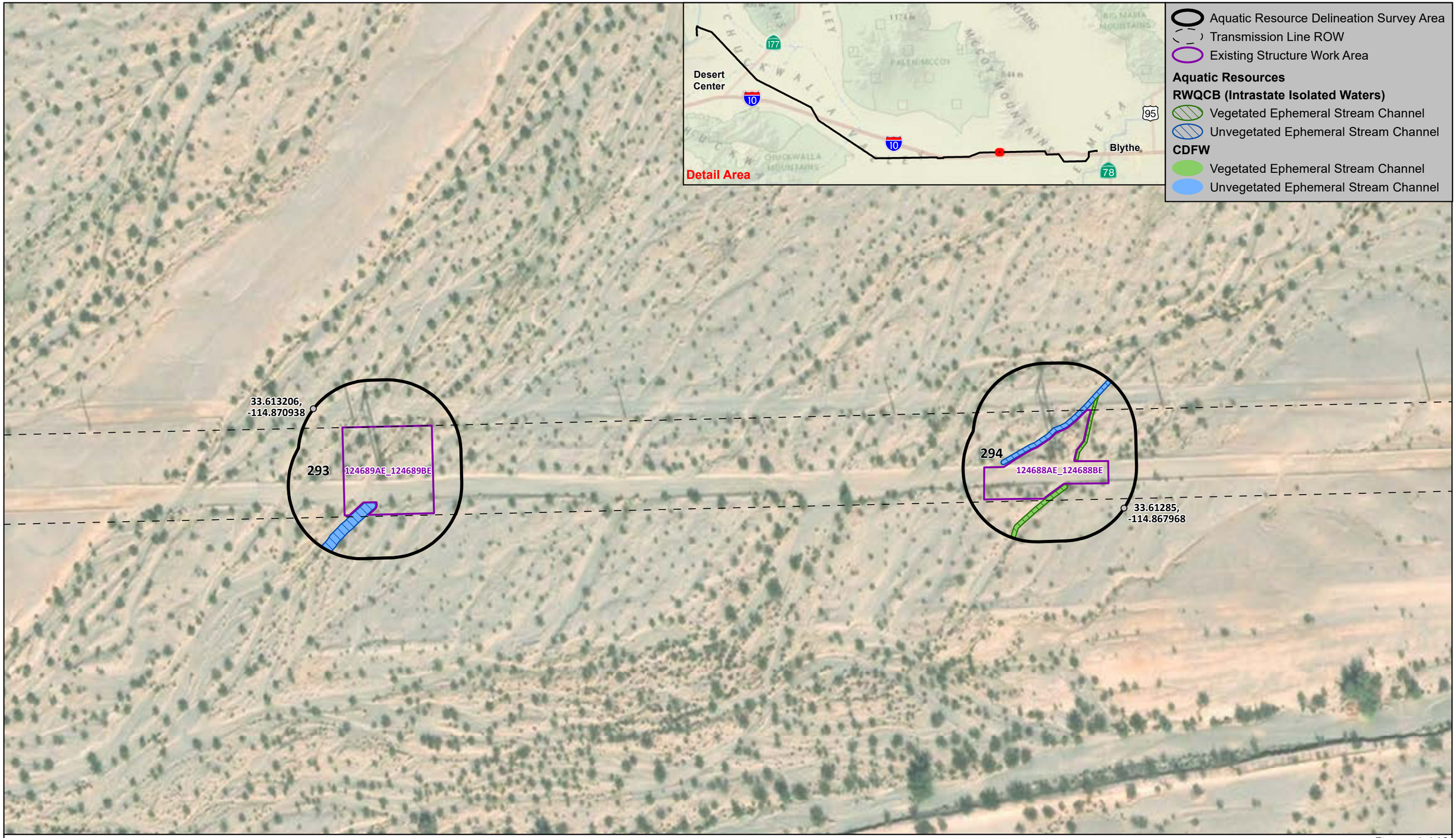

Figure 6-140

Aquatic Resource Survey Results - Sheet #140

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

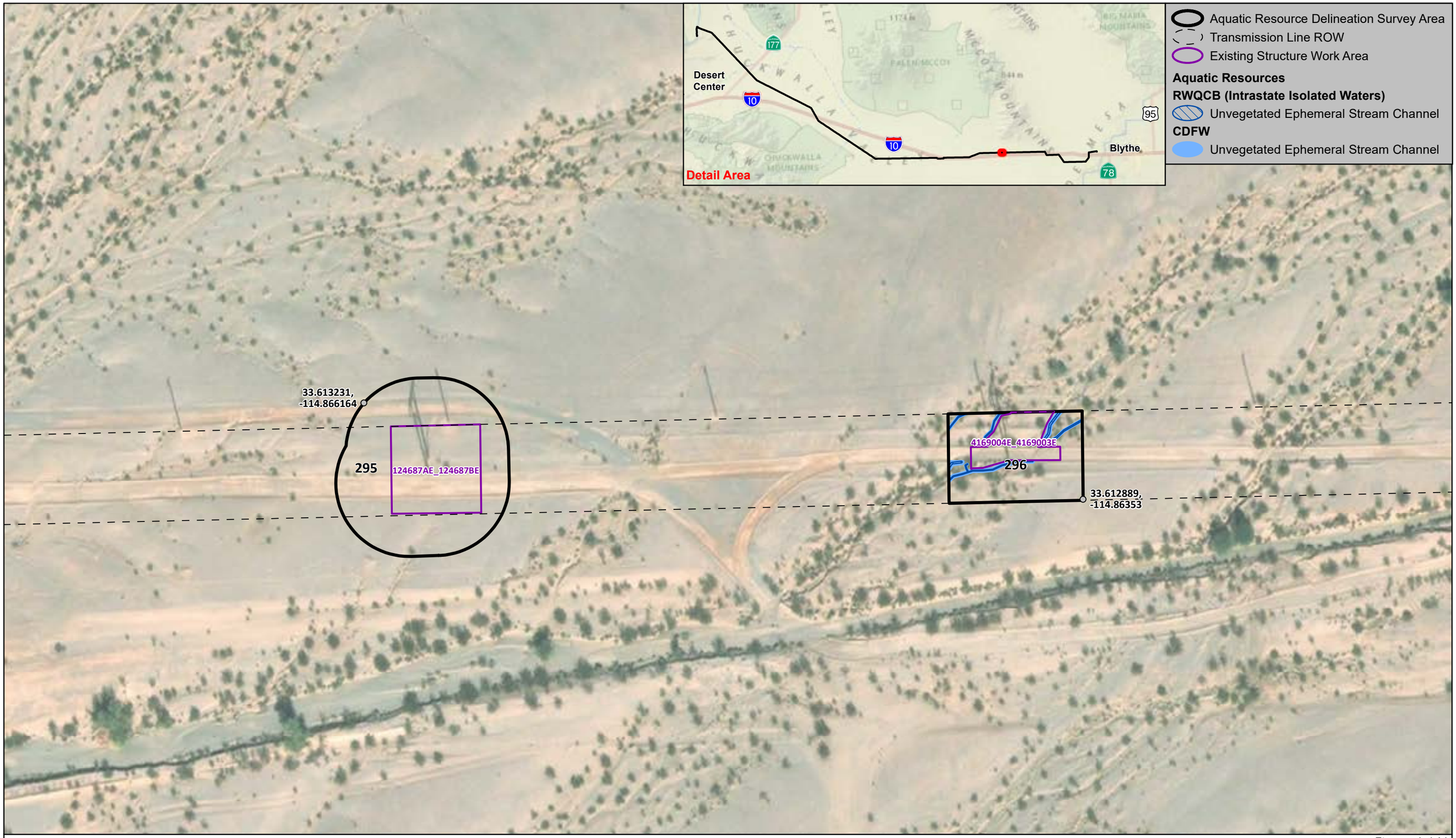

Figure 6-141

Aquatic Resource Survey Results - Sheet #141

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

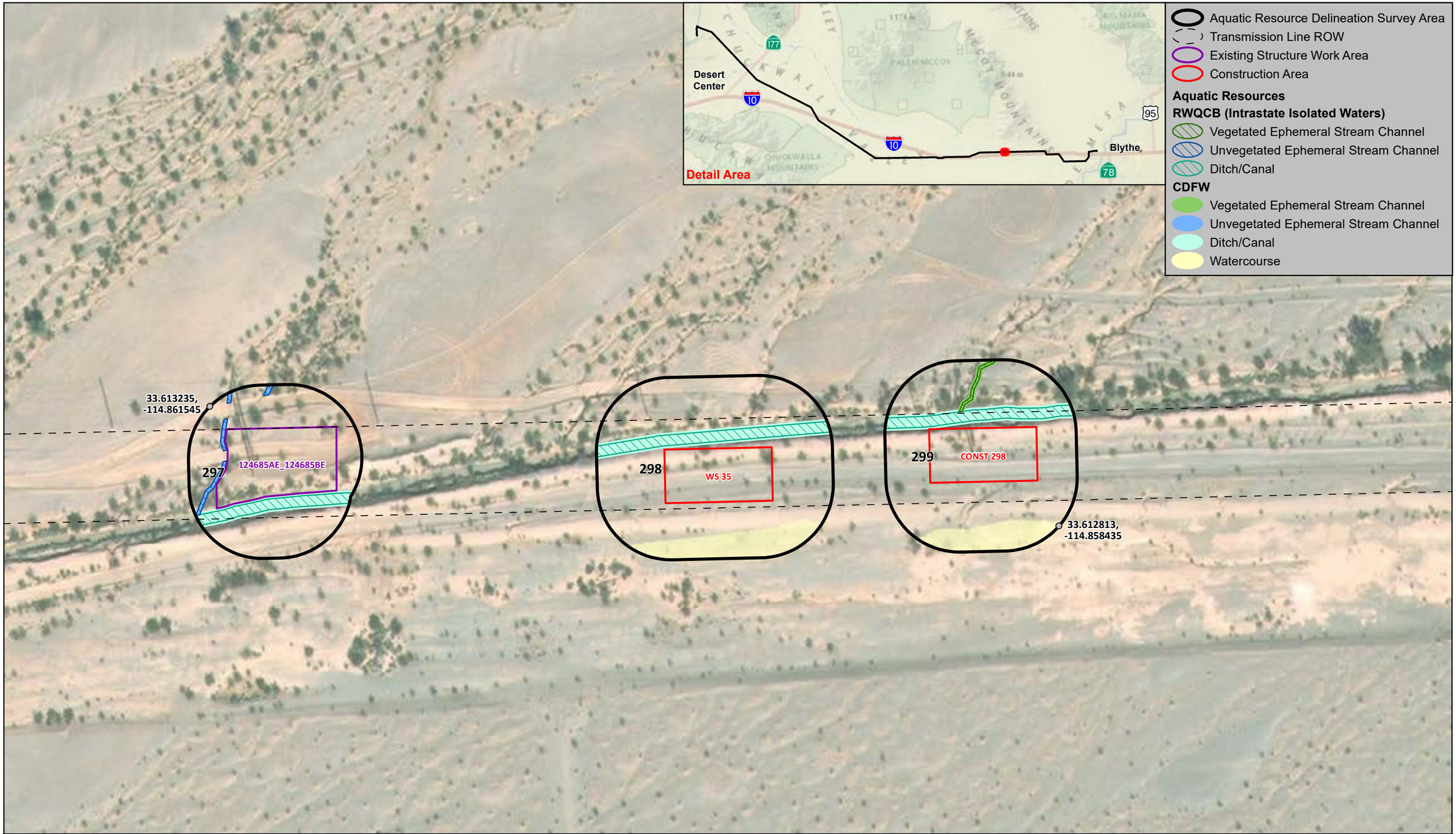

Figure 6-142

Aquatic Resource Survey Results - Sheet #142

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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0 100 Feet

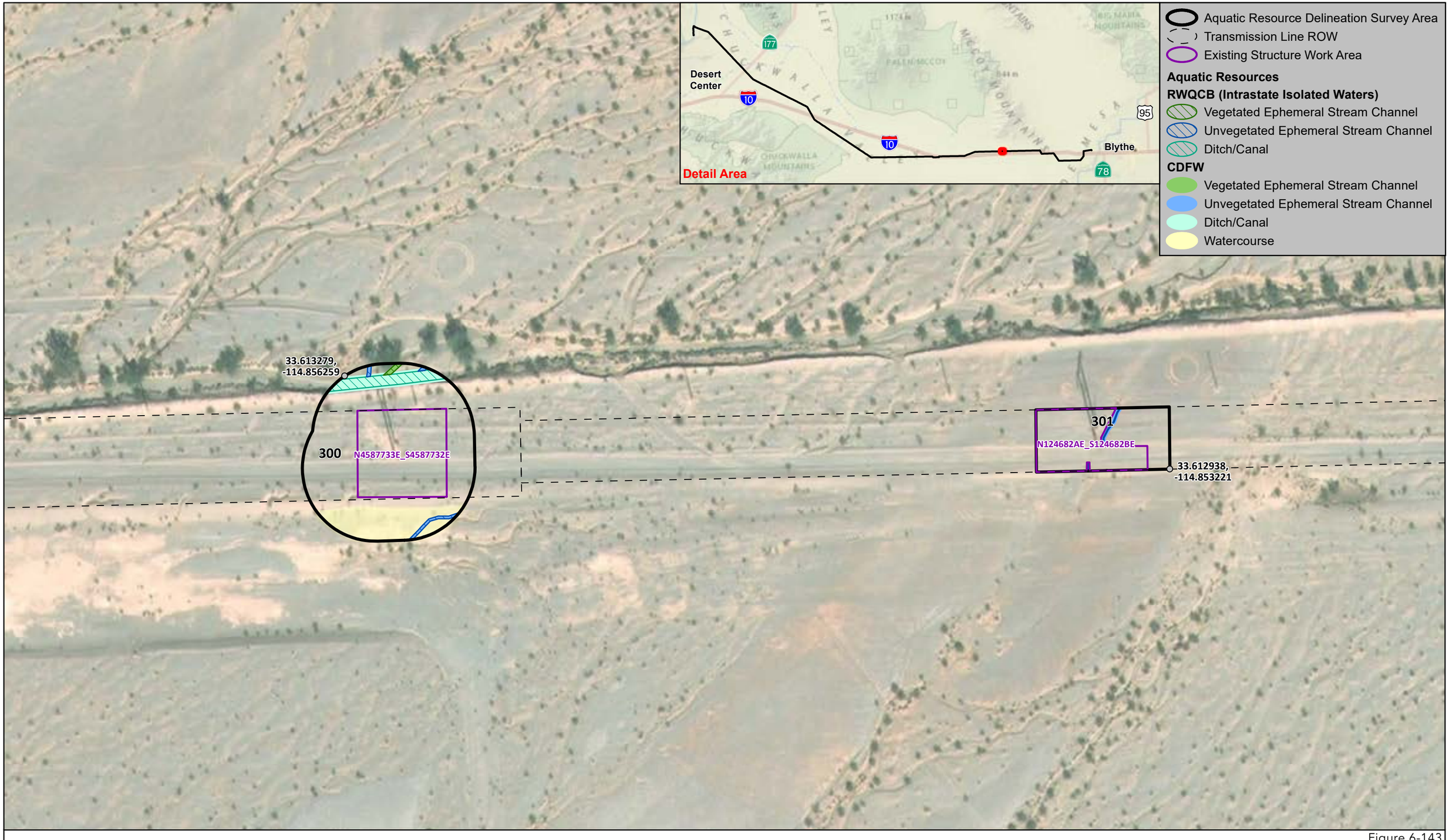

Figure 6-143

Aquatic Resource Survey Results - Sheet #143

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-144

Aquatic Resource Survey Results - Sheet #144

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

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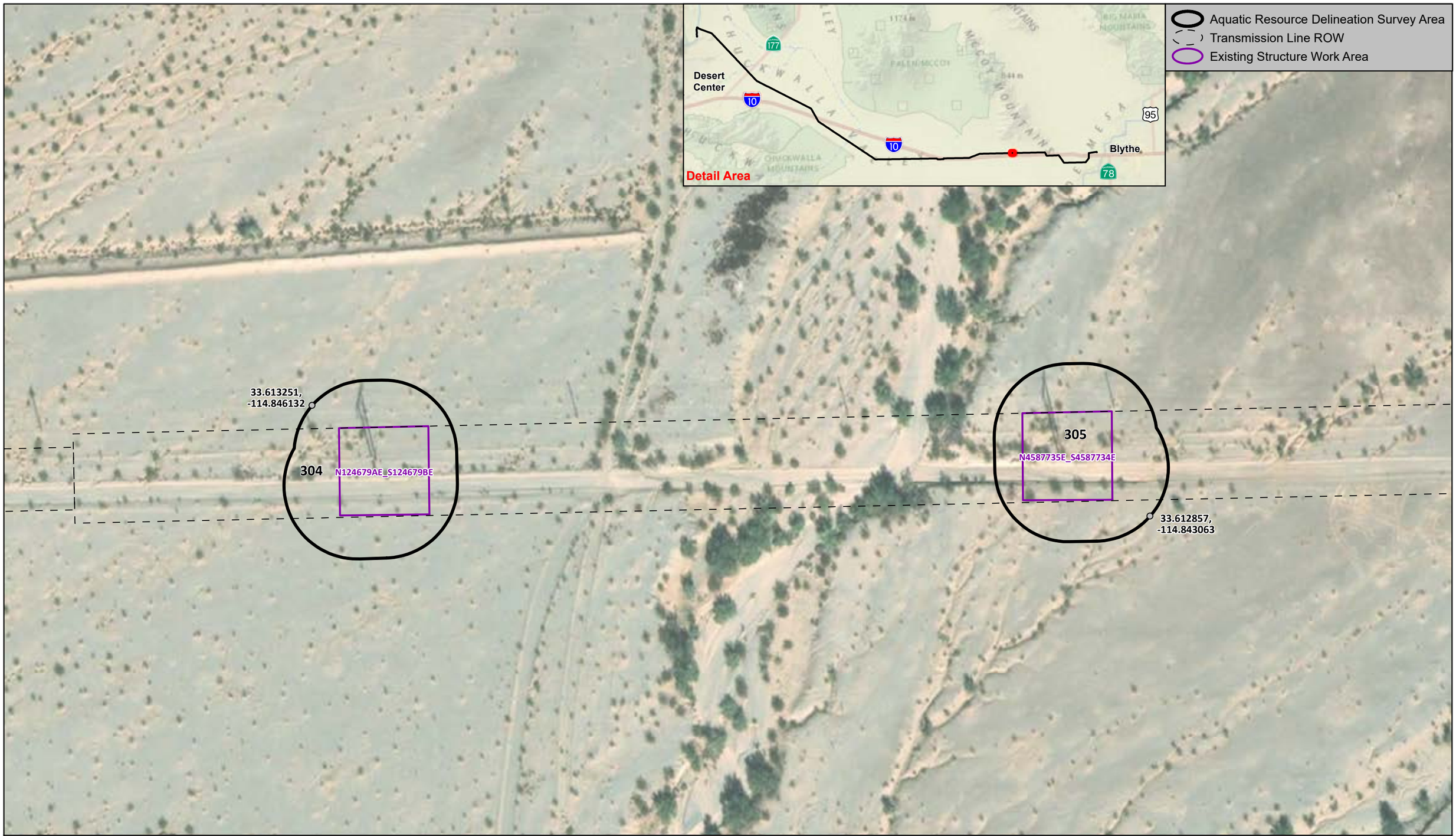


Figure 6-145

Artemis Environmental Services, Inc.

N

0 100 Feet

Aquatic Resource Survey Results - Sheet #145

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

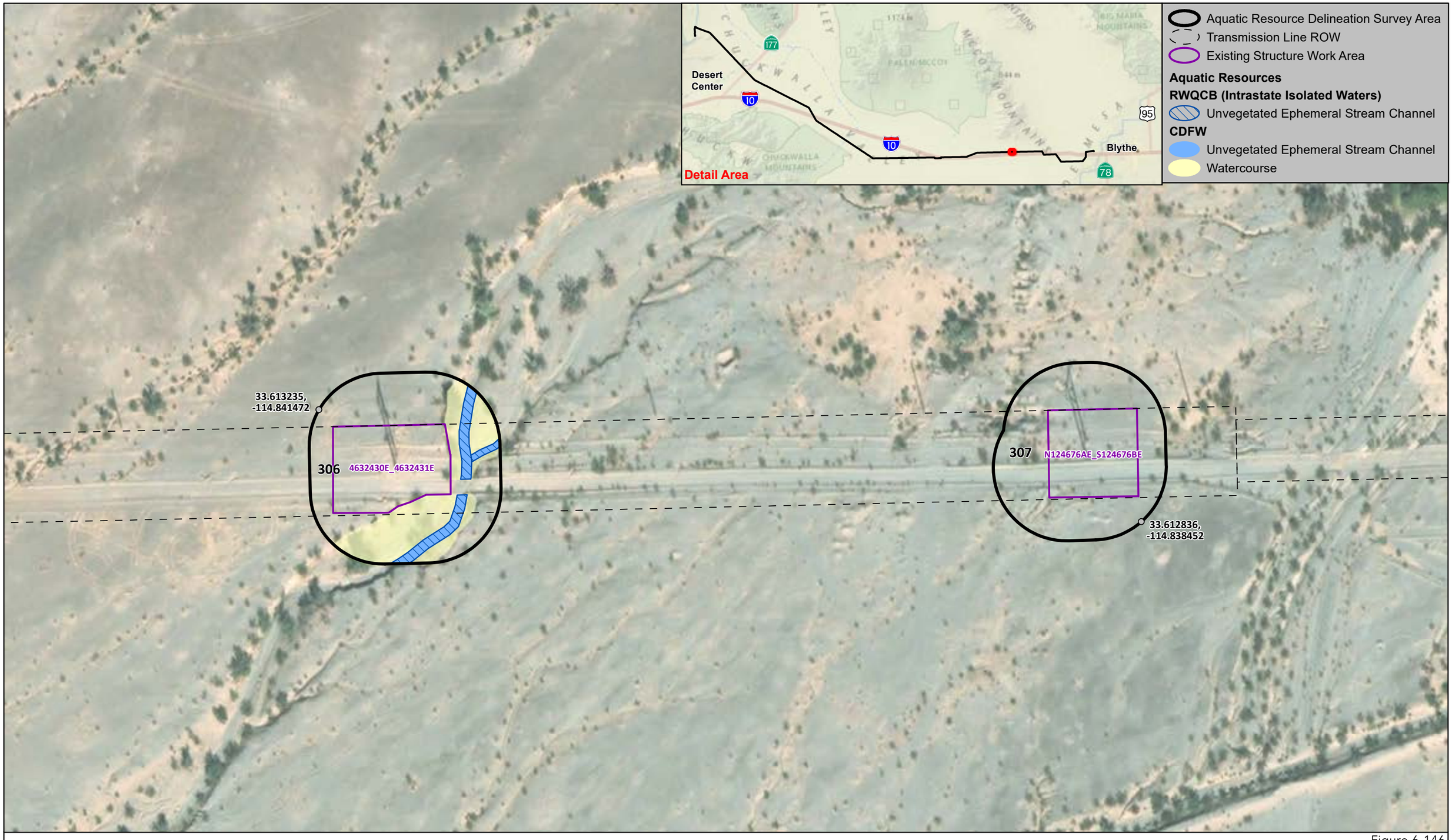


Figure 6-146

Aquatic Resource Survey Results - Sheet #146

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-147

Aquatic Resource Survey Results - Sheet #147

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

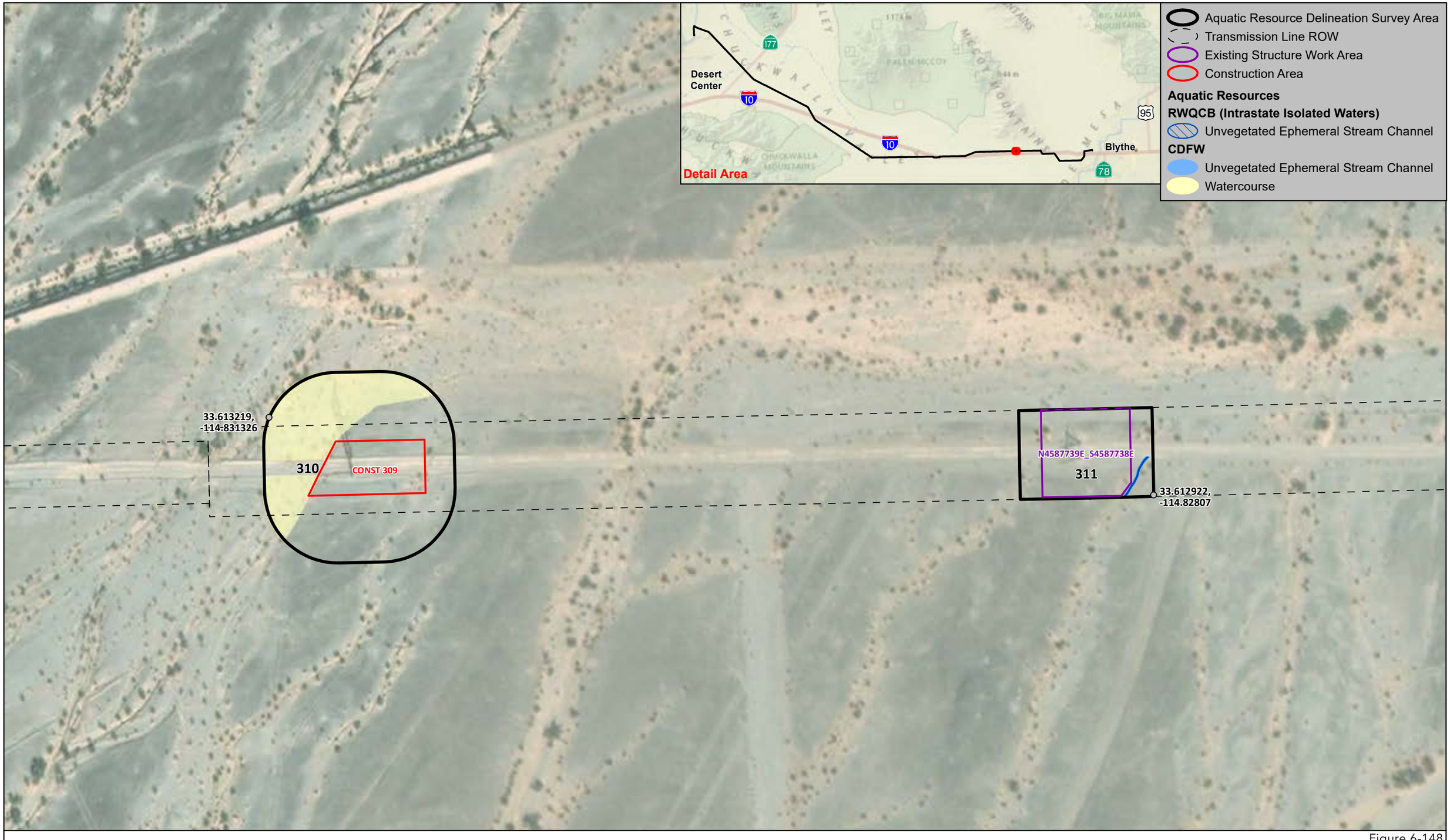


Figure 6-148

Aquatic Resource Survey Results - Sheet #148

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

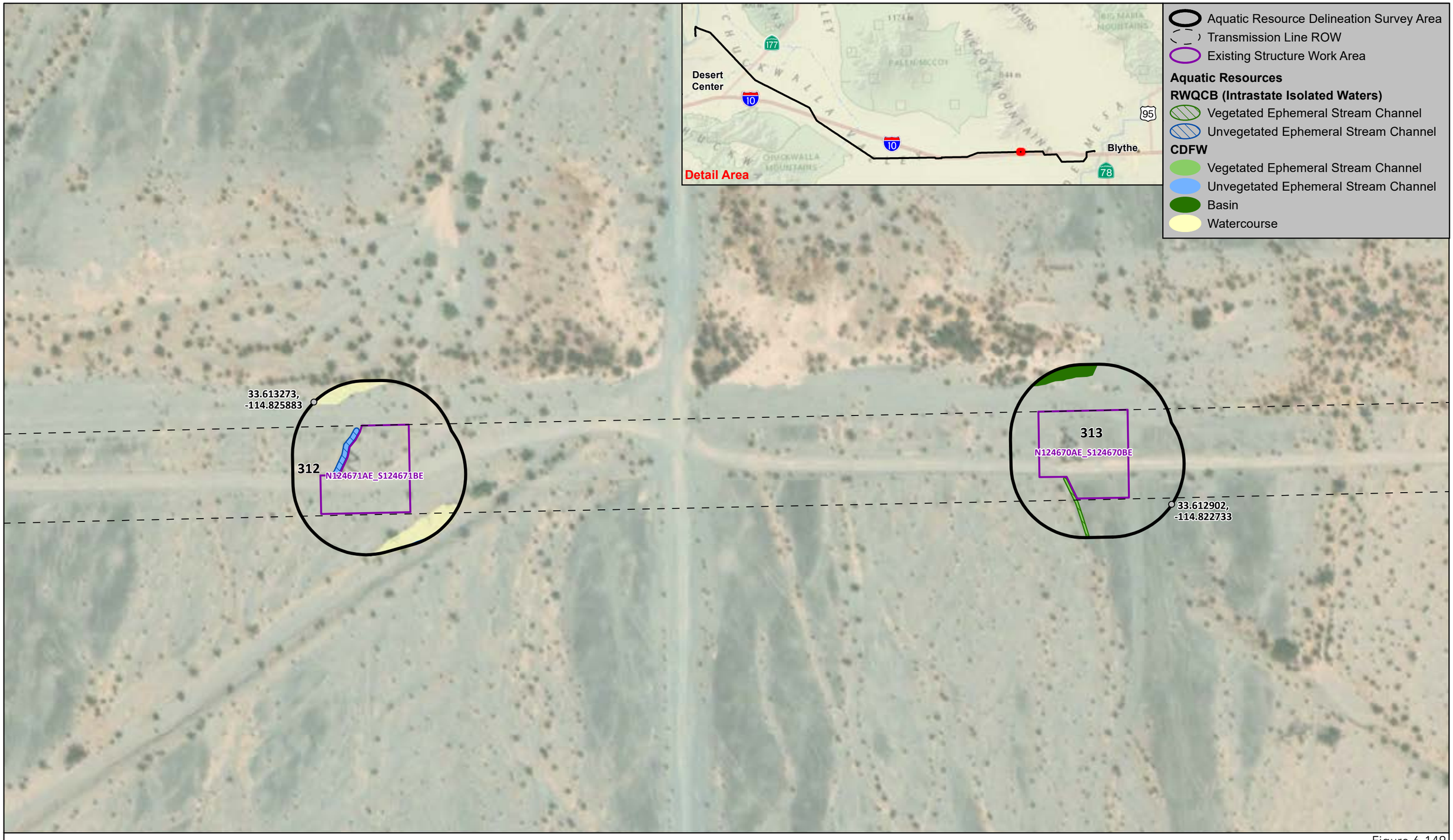


Figure 6-149

Aquatic Resource Survey Results - Sheet #149

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

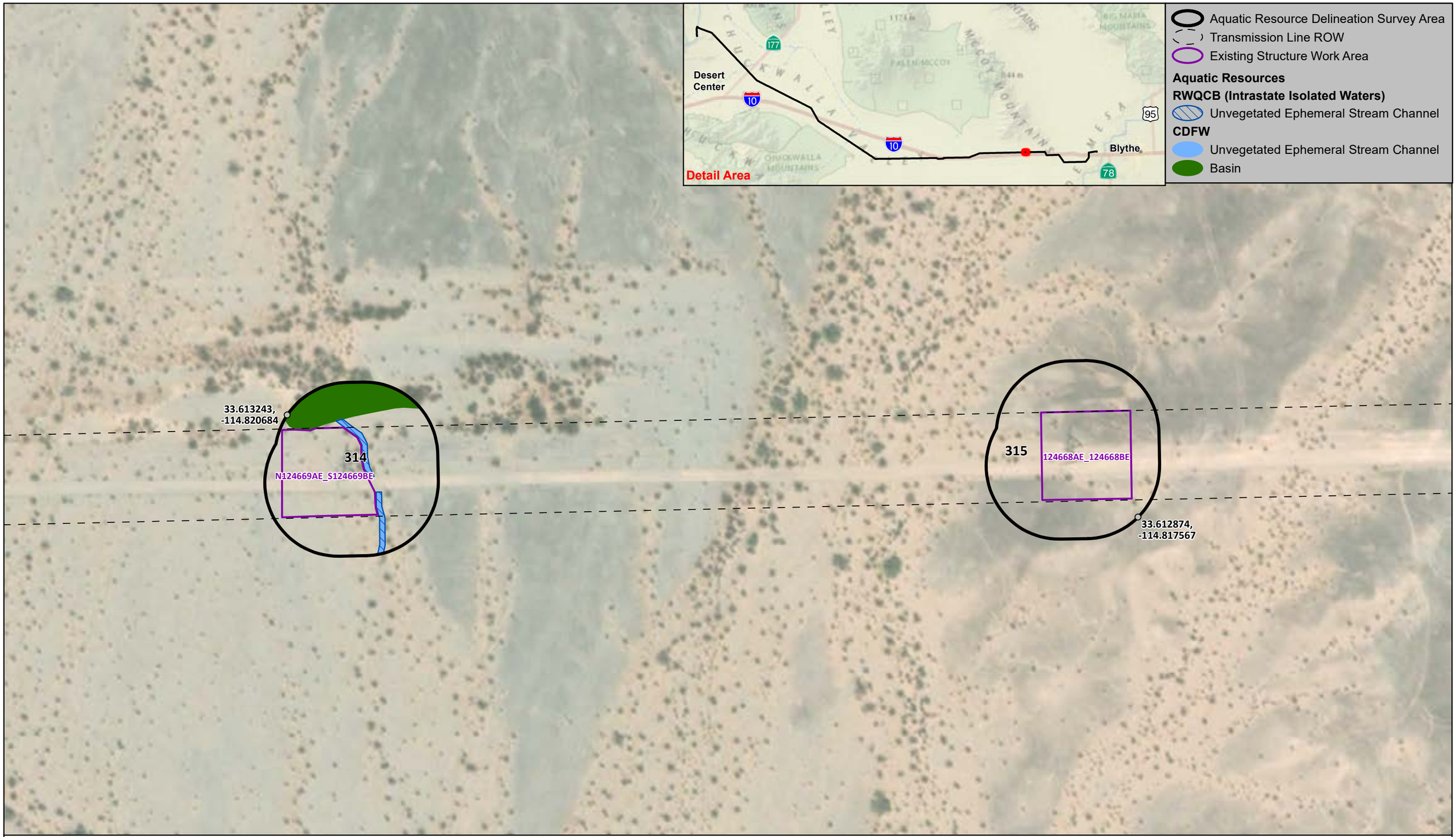


Figure 6-150

Aquatic Resource Survey Results - Sheet #150

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

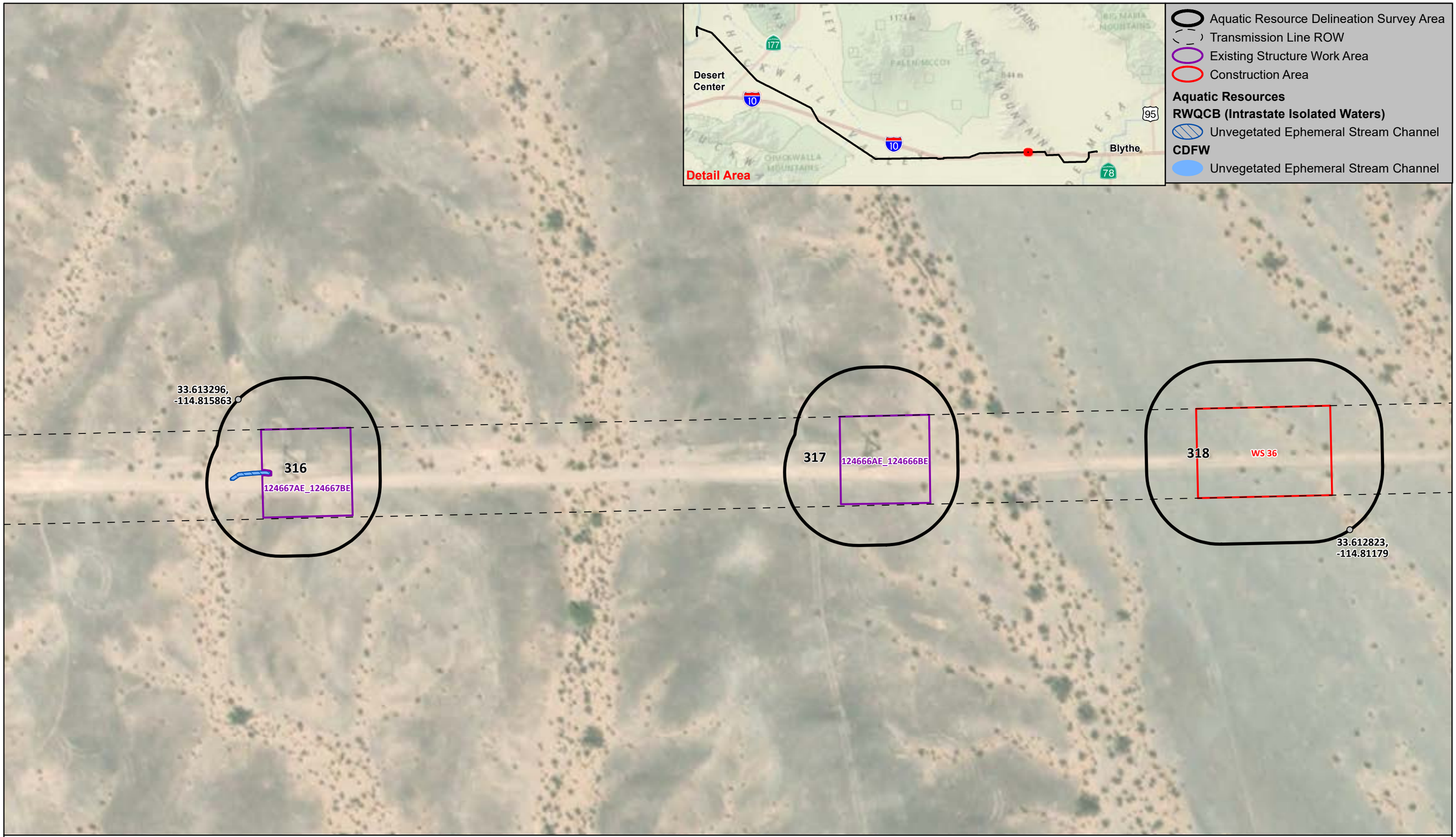


Figure 6-151

Aquatic Resource Survey Results - Sheet #151

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

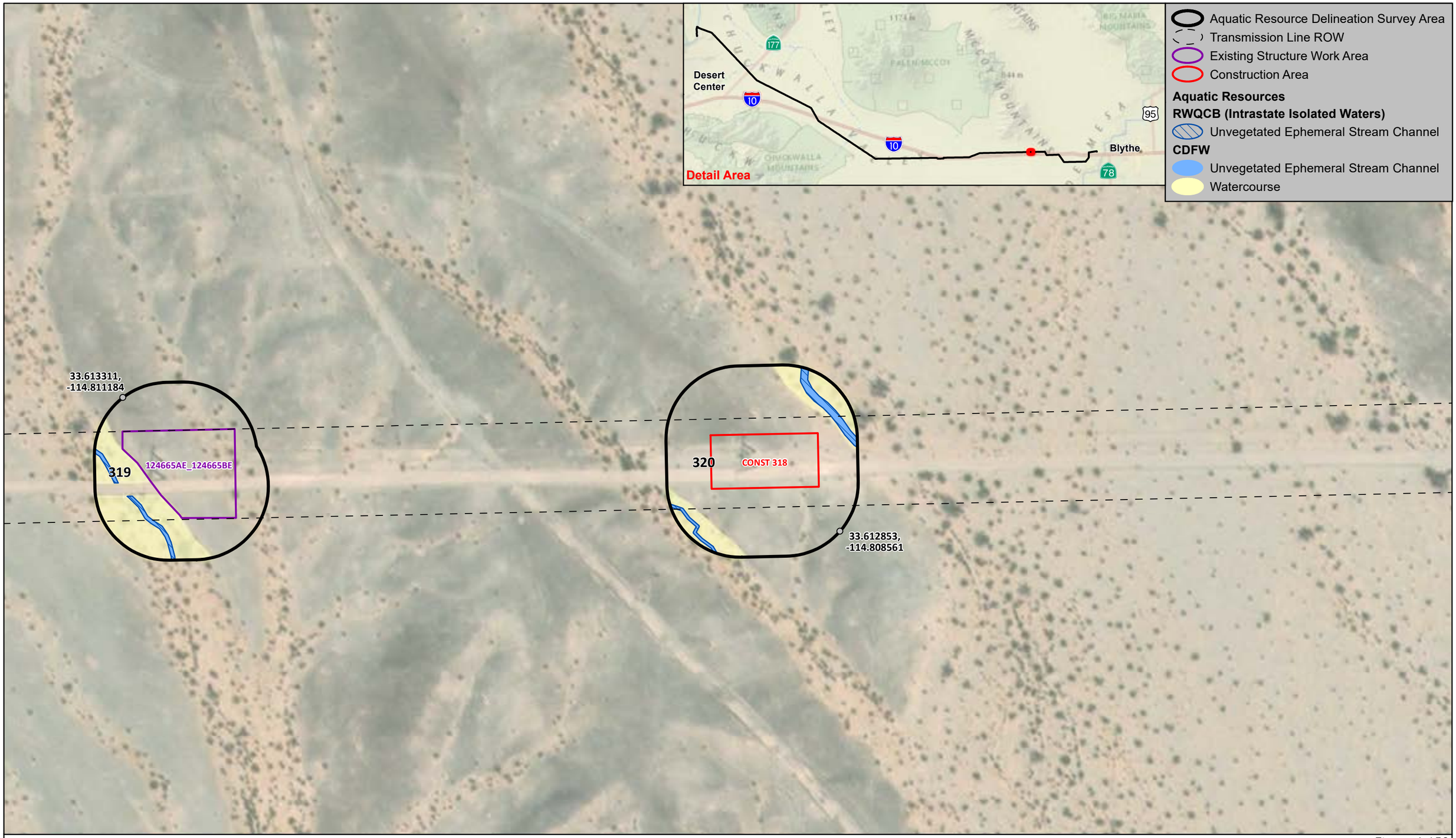


Figure 6-152

Aquatic Resource Survey Results - Sheet #152

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-153

Aquatic Resource Survey Results - Sheet #153

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

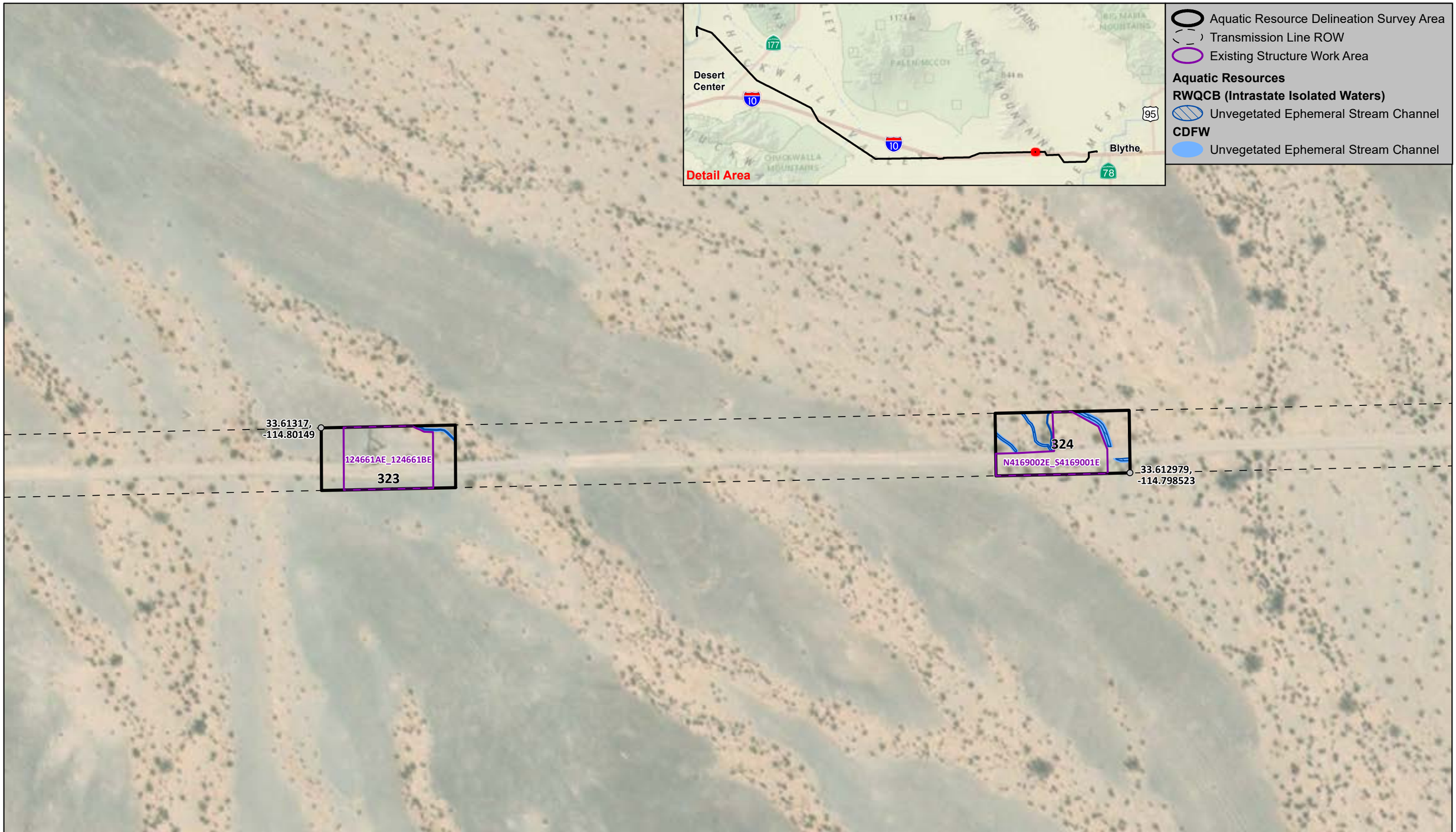


Figure 6-154

Aquatic Resource Survey Results - Sheet #154

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

Figure 6-155

Aquatic Resource Survey Results - Sheet #155

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

Figure 6-156

Aquatic Resource Survey Results - Sheet #156

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

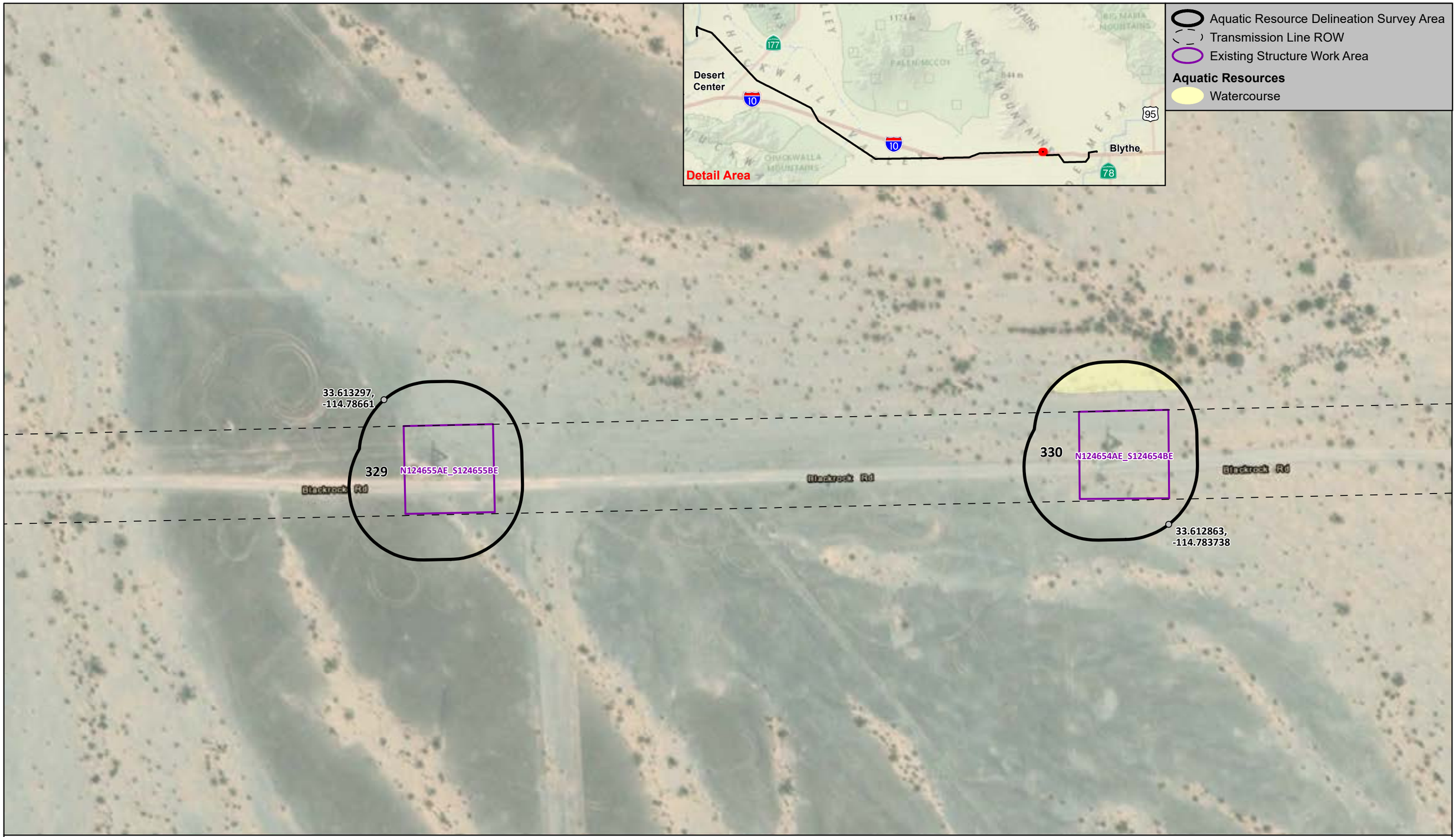


Figure 6-157

Aquatic Resource Survey Results - Sheet #157

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

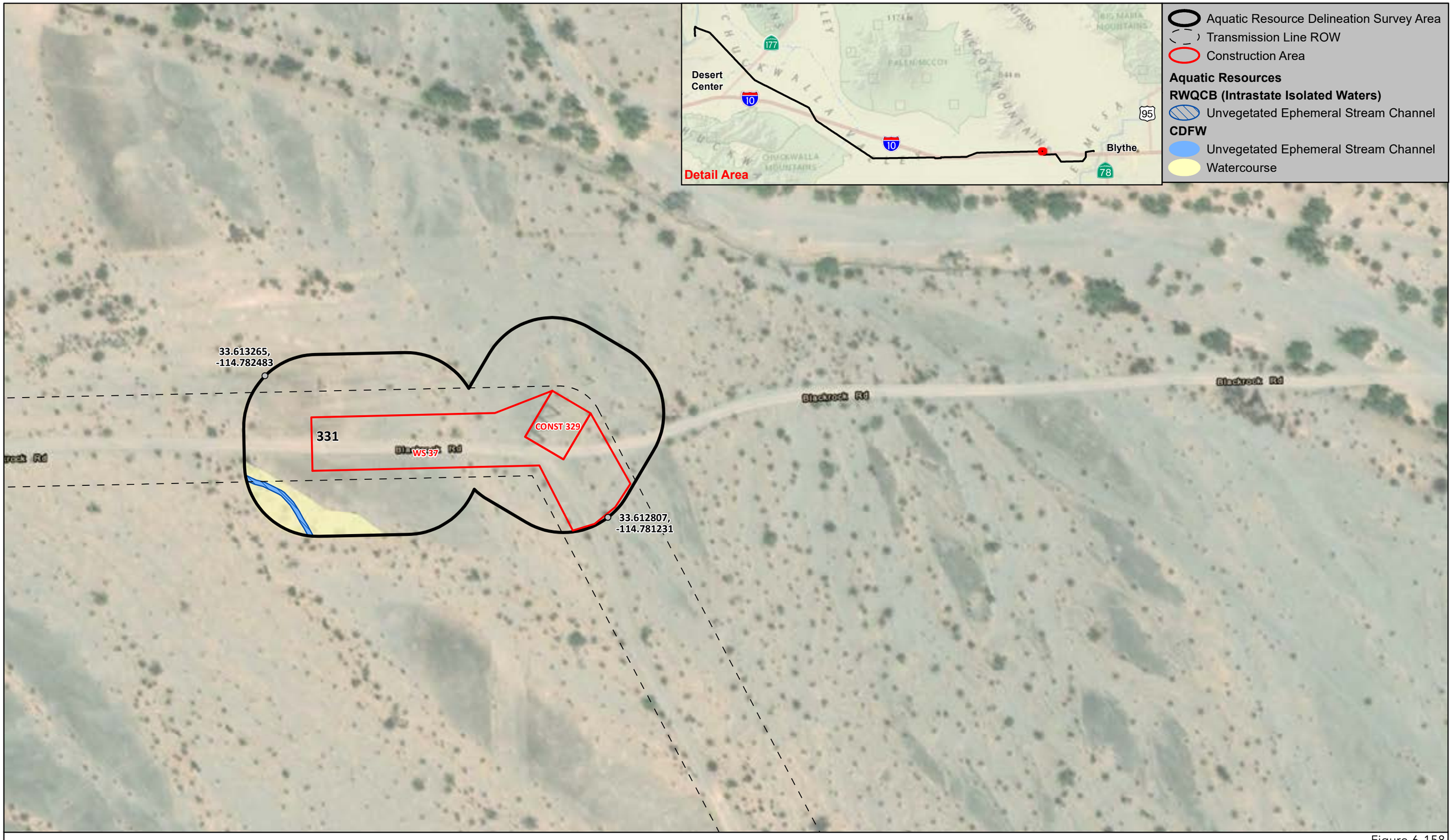


Figure 6-158

Aquatic Resource Survey Results - Sheet #158

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

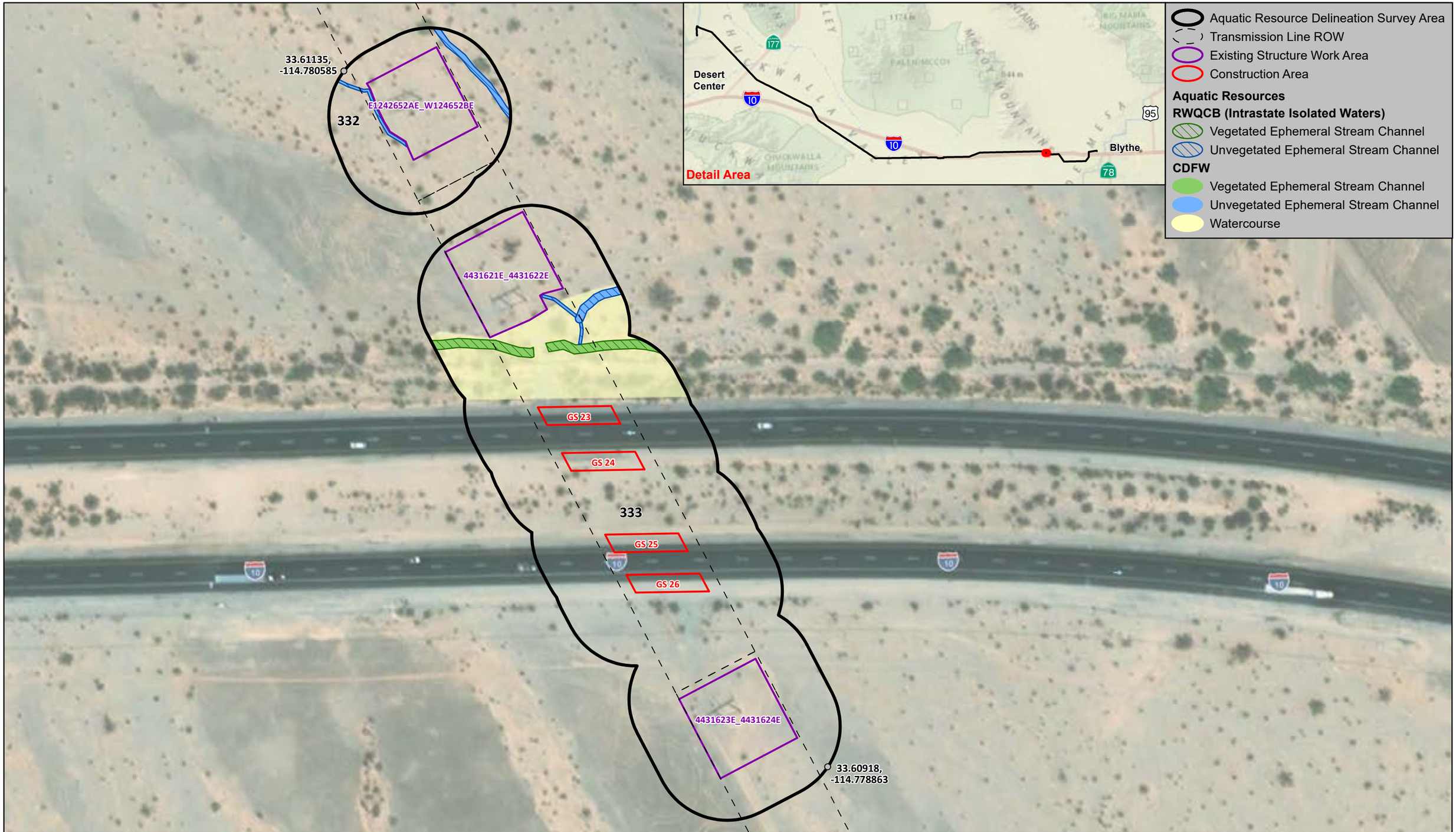


Figure 6-159

Aquatic Resource Survey Results - Sheet #159

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

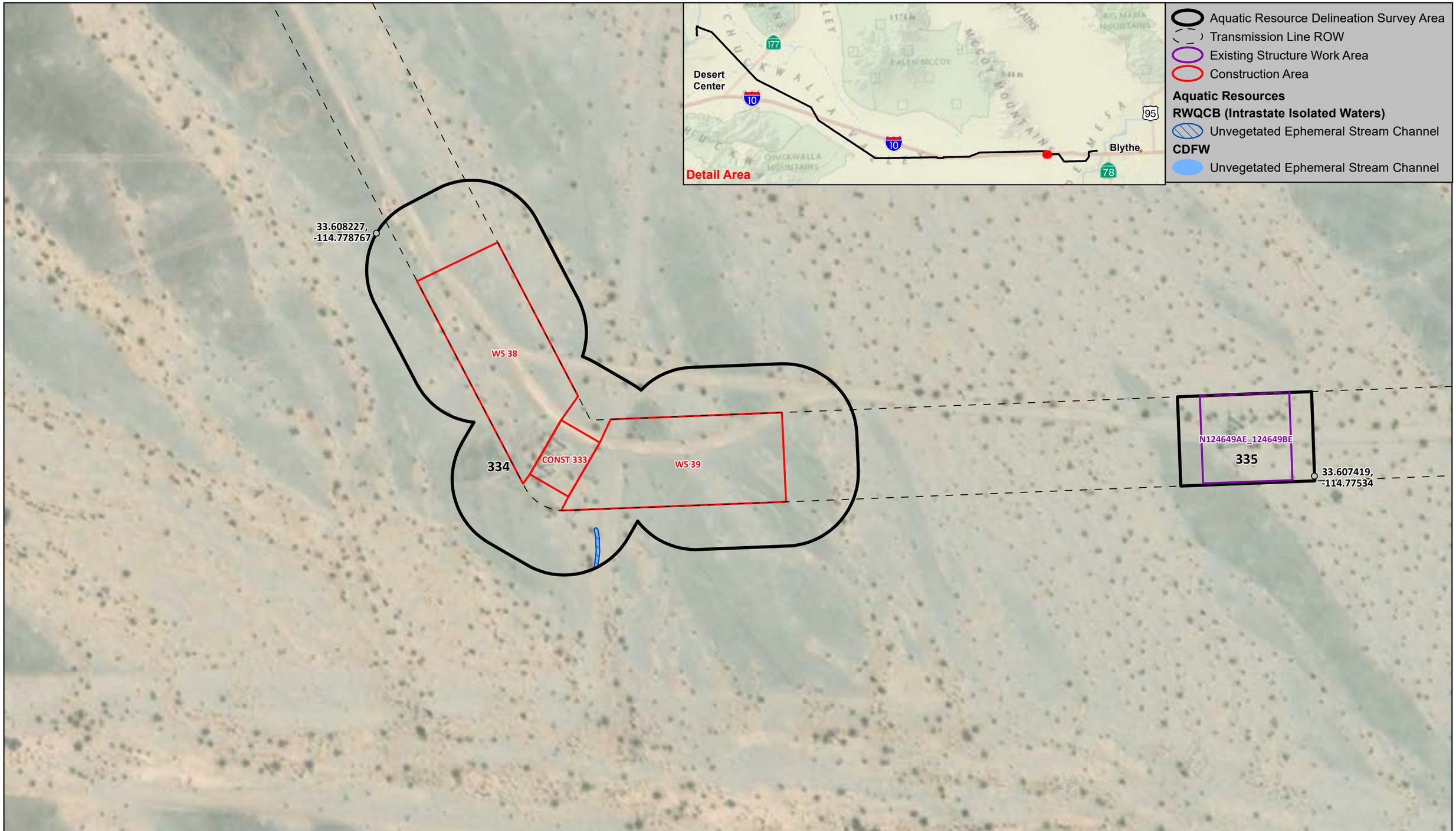


Figure 6-160

Aquatic Resource Survey Results - Sheet #160

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

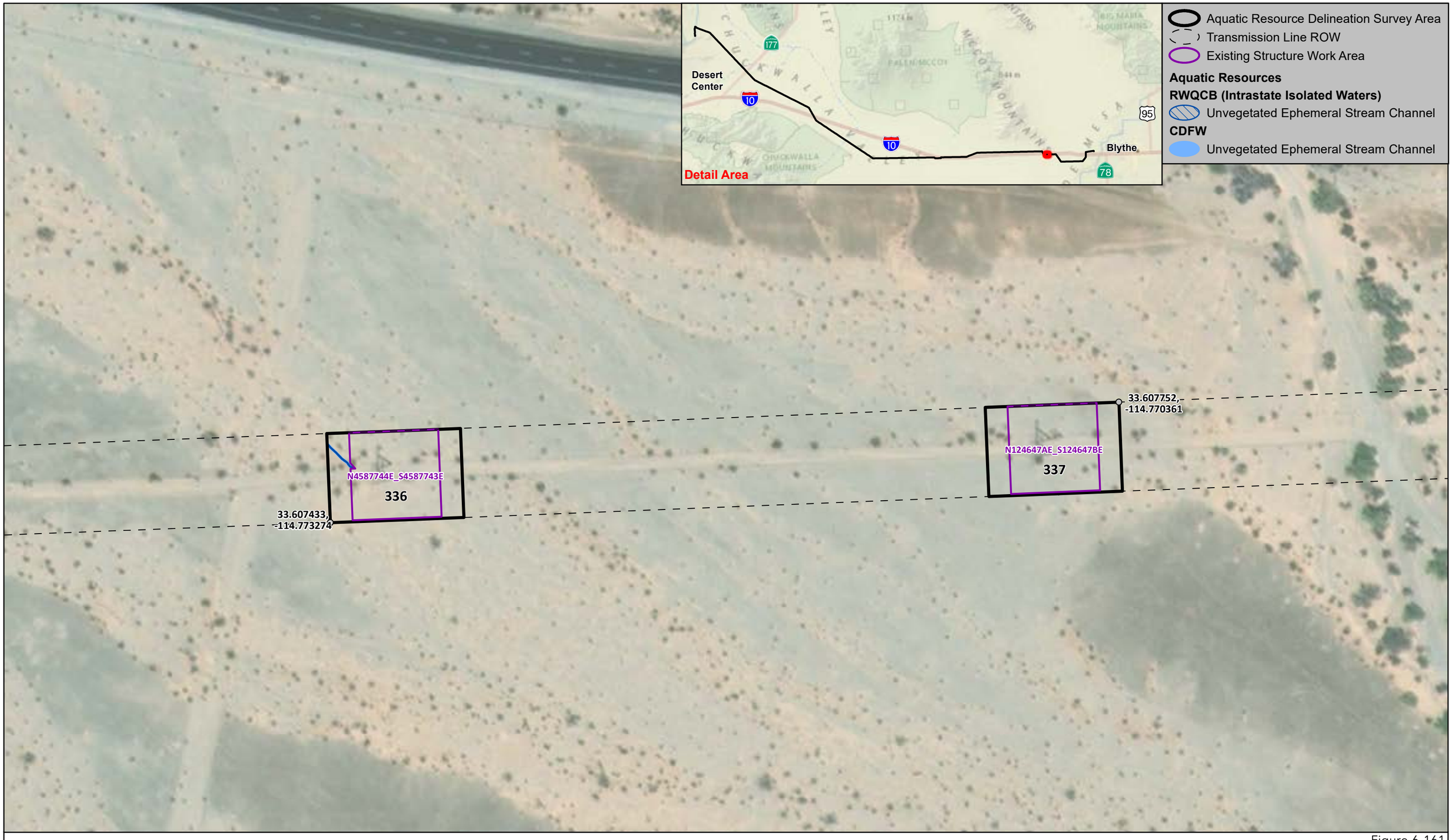


Figure 6-161

Aquatic Resource Survey Results - Sheet #161

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

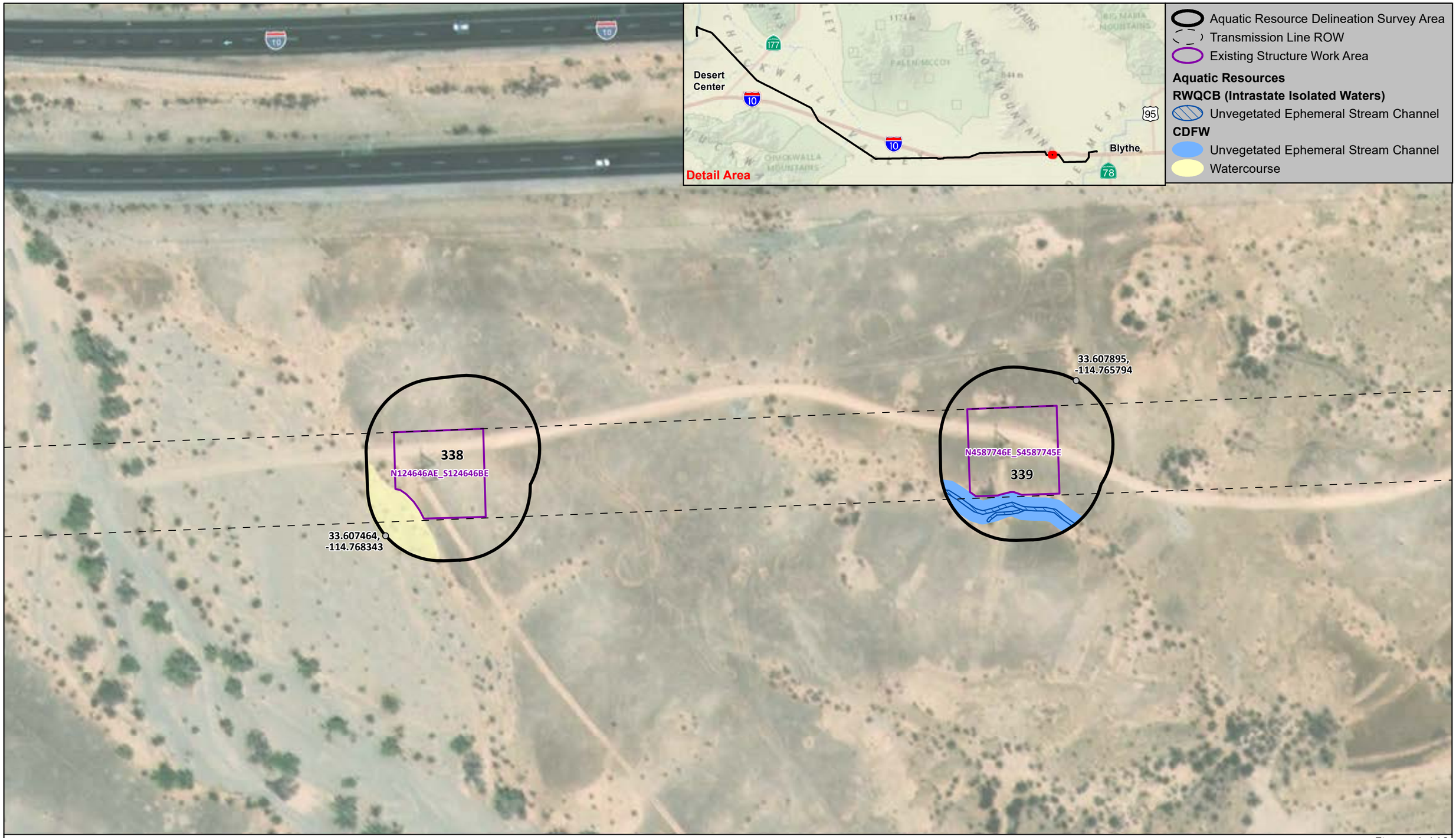


Figure 6-162

Aquatic Resource Survey Results - Sheet #162

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

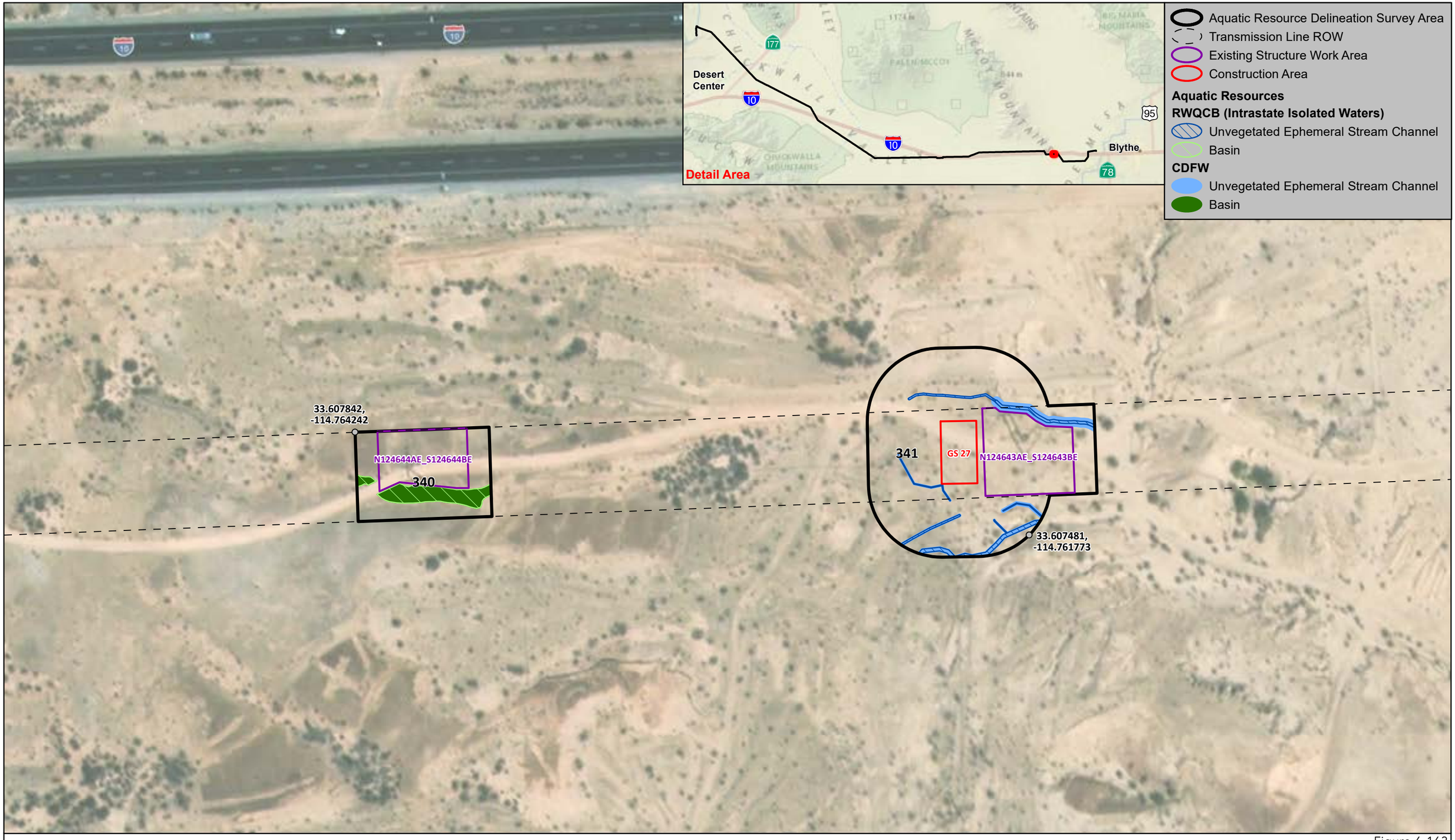


Figure 6-163

Artemis Environmental Services, Inc.

N

0 100 Feet

Aquatic Resource Survey Results - Sheet #163

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

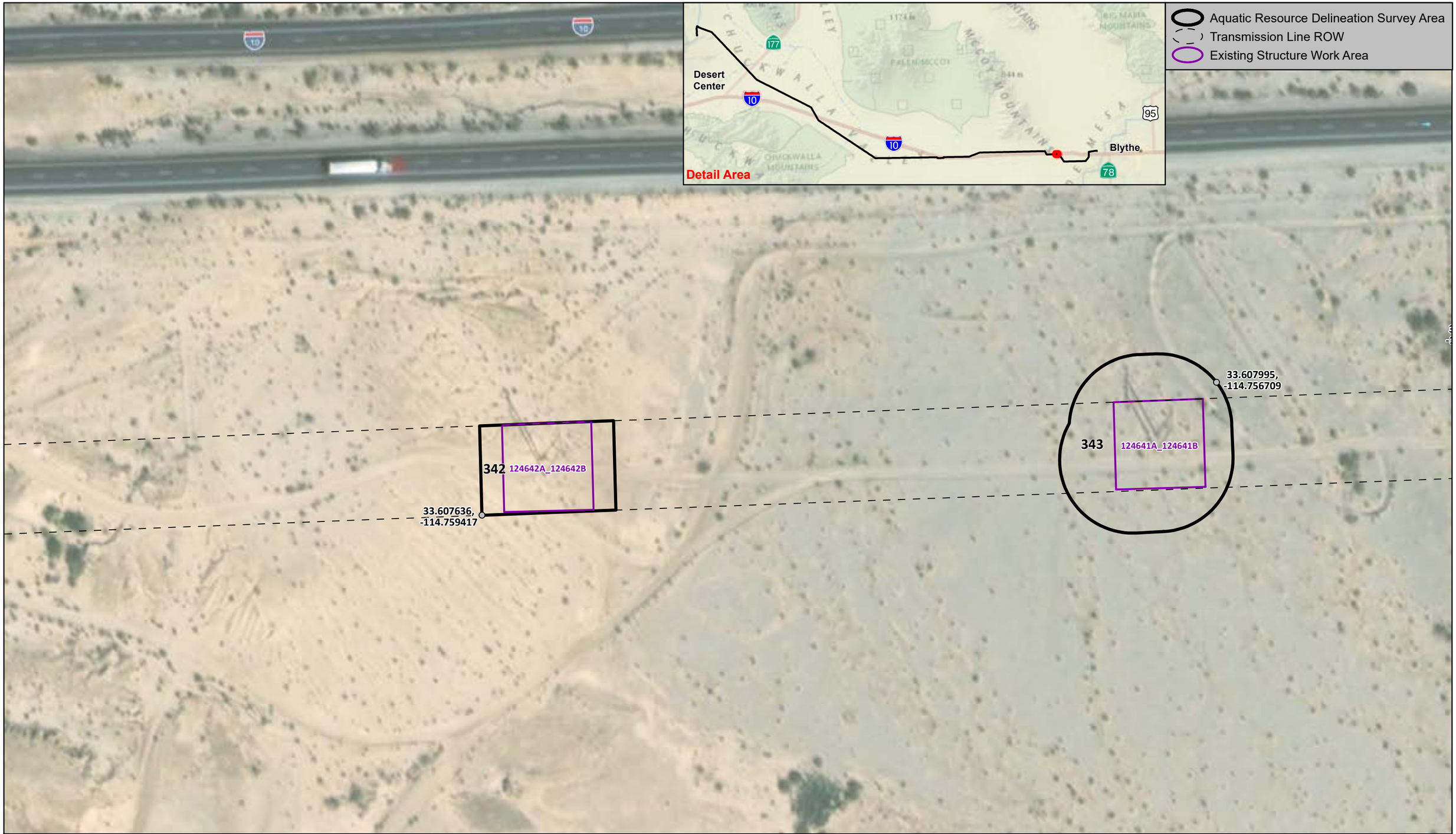


Figure 6-164

Aquatic Resource Survey Results - Sheet #164

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

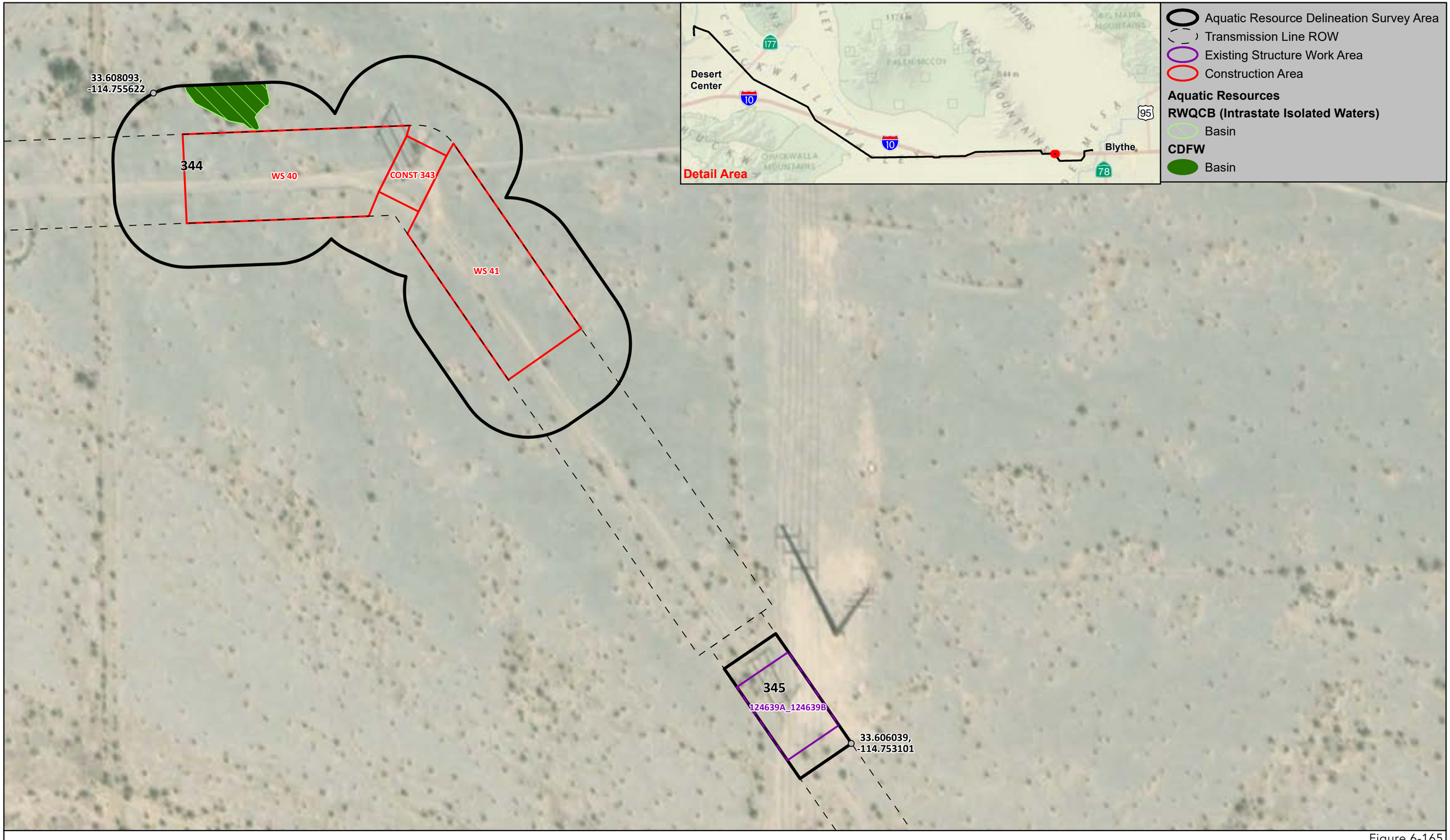


Figure 6-165

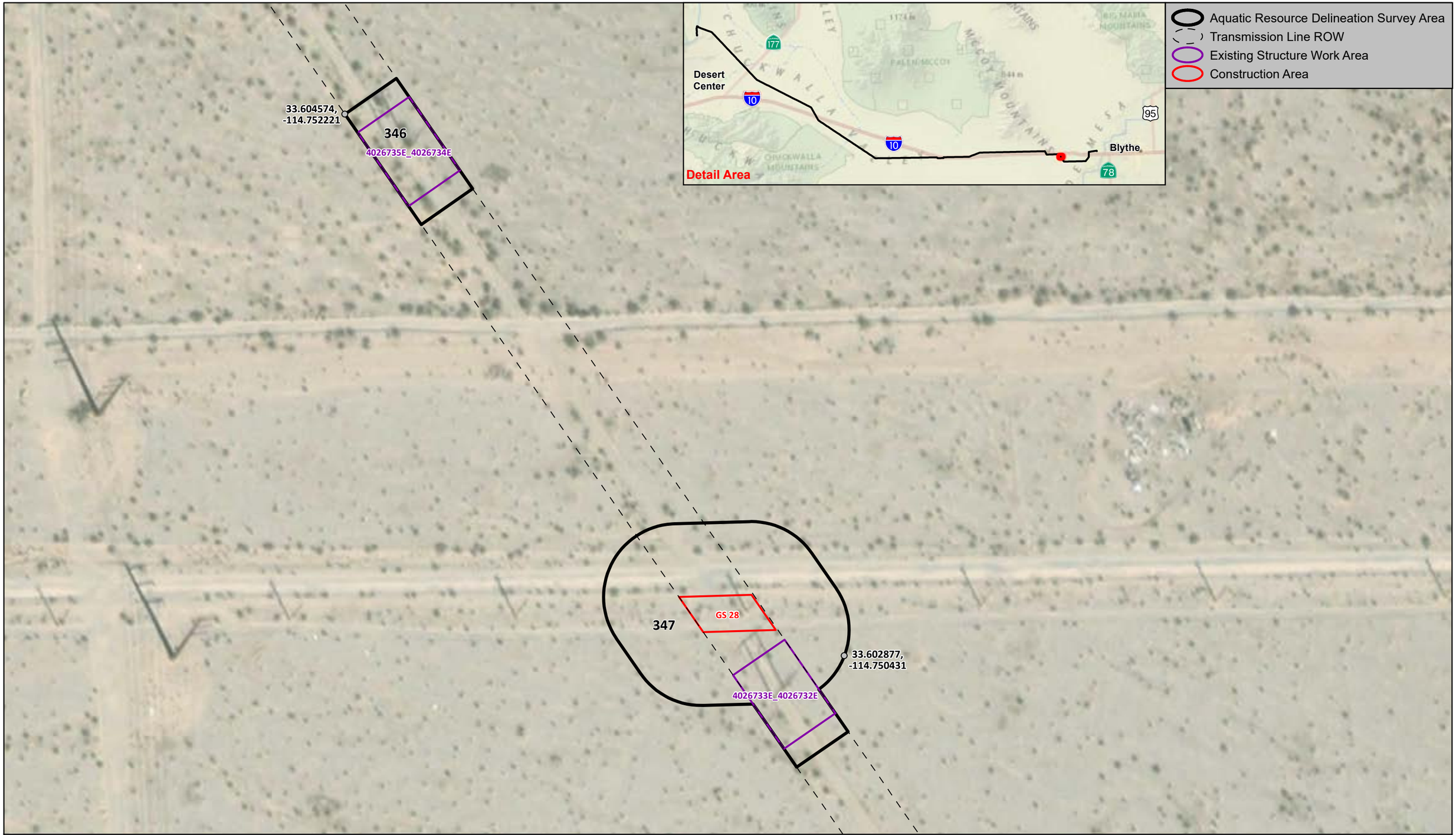
Aquatic Resource Survey Results - Sheet #165

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet



Artemis Environmental Services, Inc.

Figure 6-166

Aquatic Resource Survey Results - Sheet #166

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

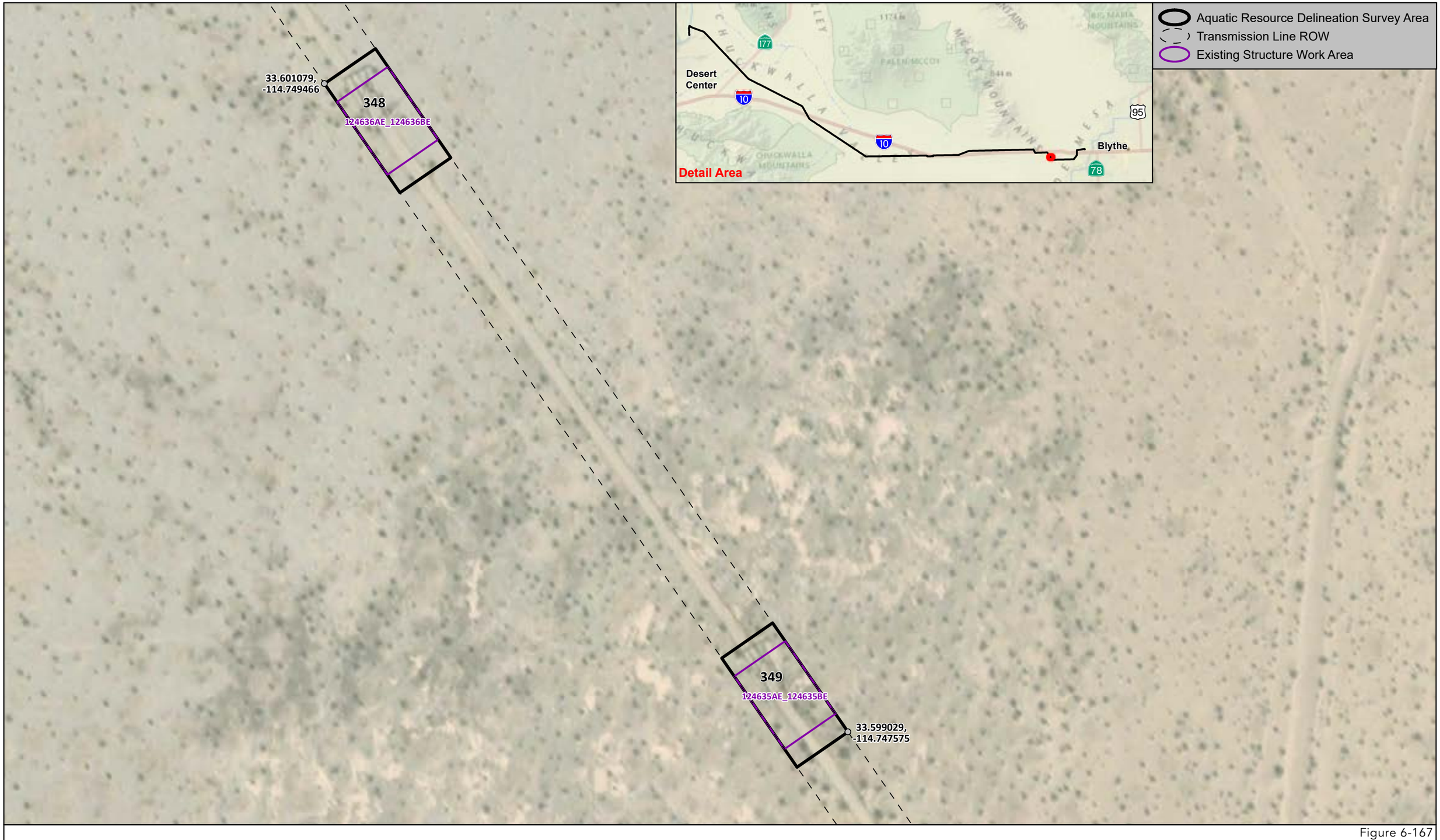


Figure 6-167

Aquatic Resource Survey Results - Sheet #167

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

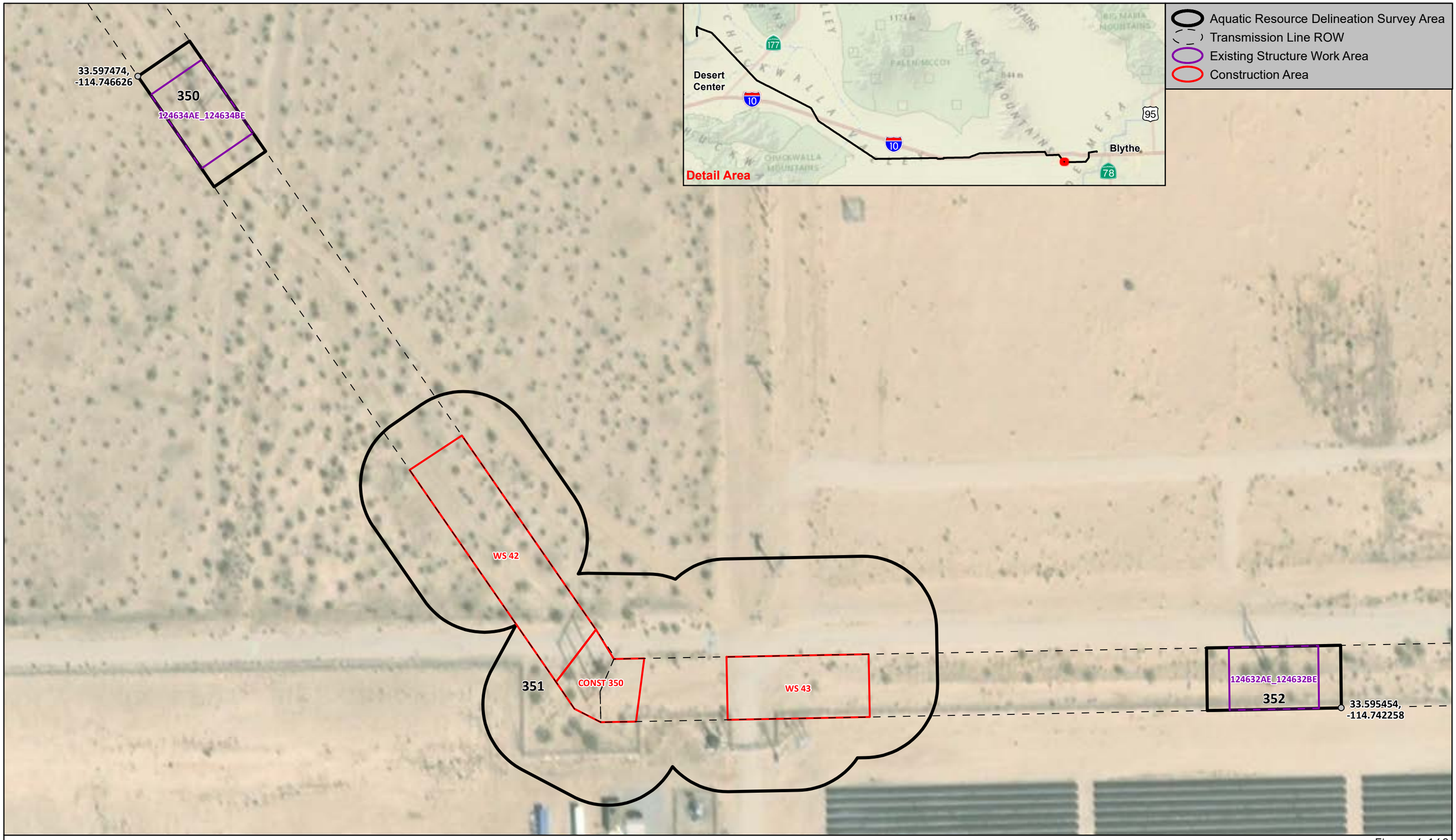


Figure 6-168

Aquatic Resource Survey Results - Sheet #168

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

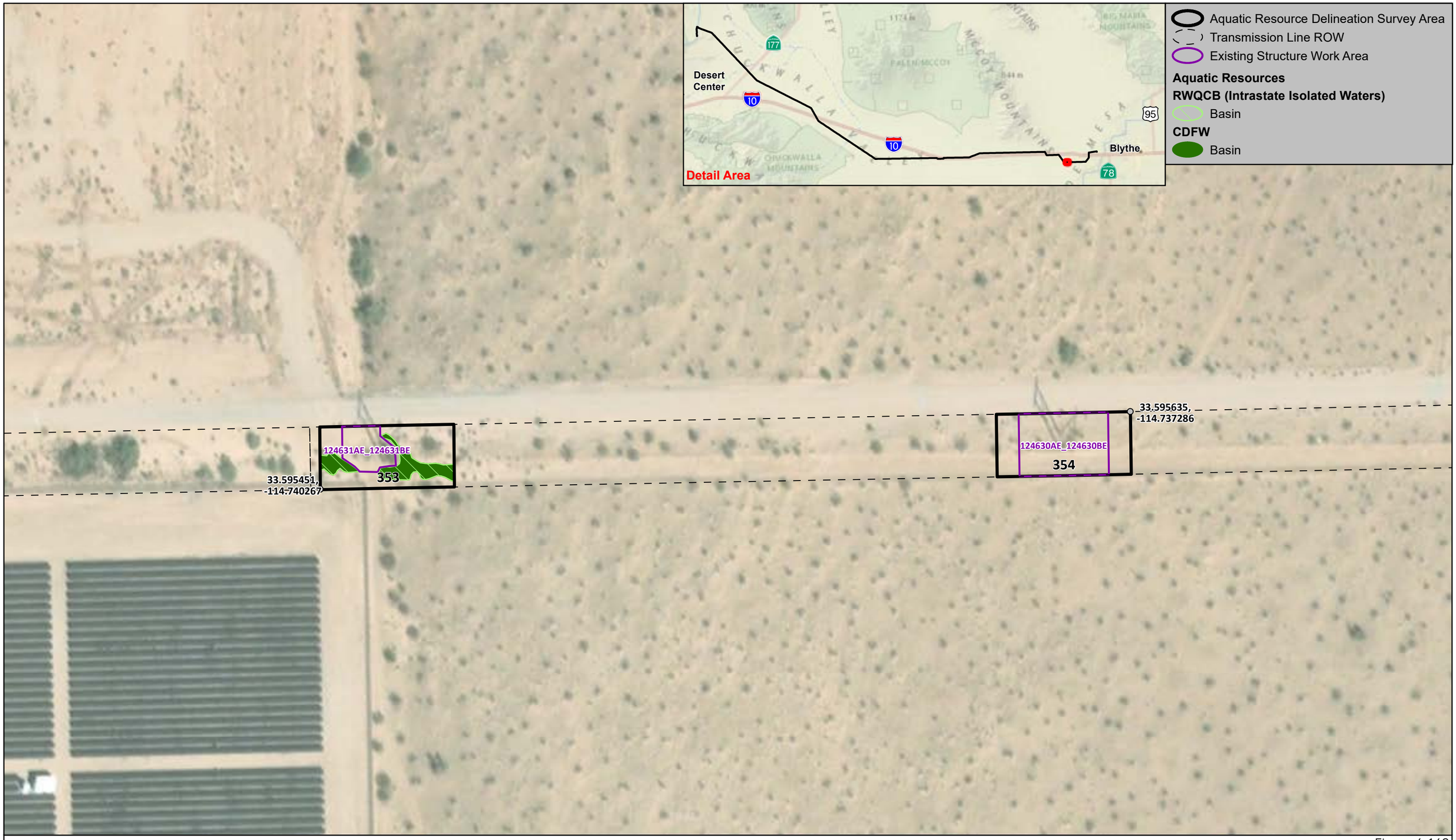


Figure 6-169

Aquatic Resource Survey Results - Sheet #169

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-170

Aquatic Resource Survey Results - Sheet #170

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

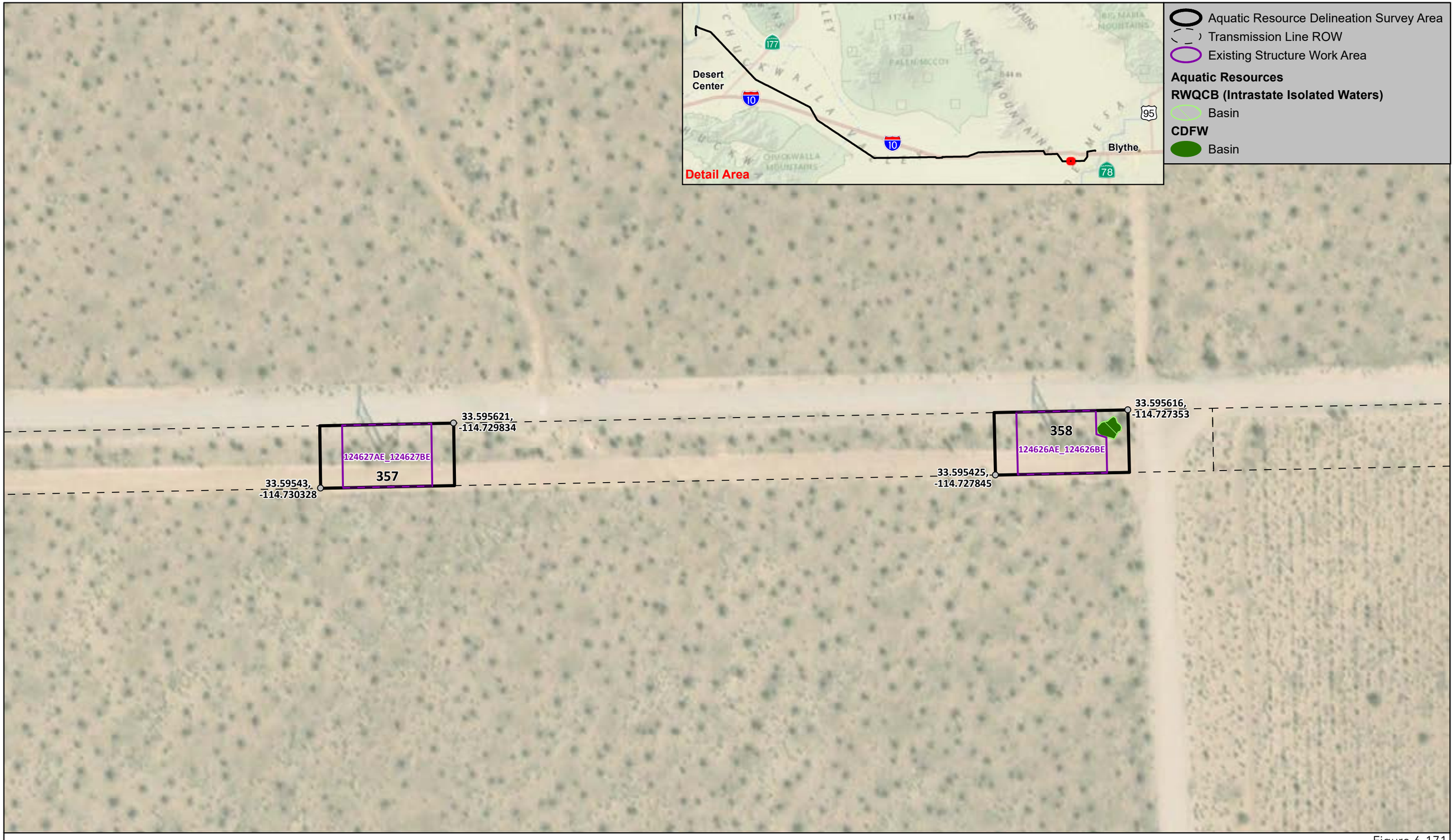


Figure 6-171

Aquatic Resource Survey Results - Sheet #171

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

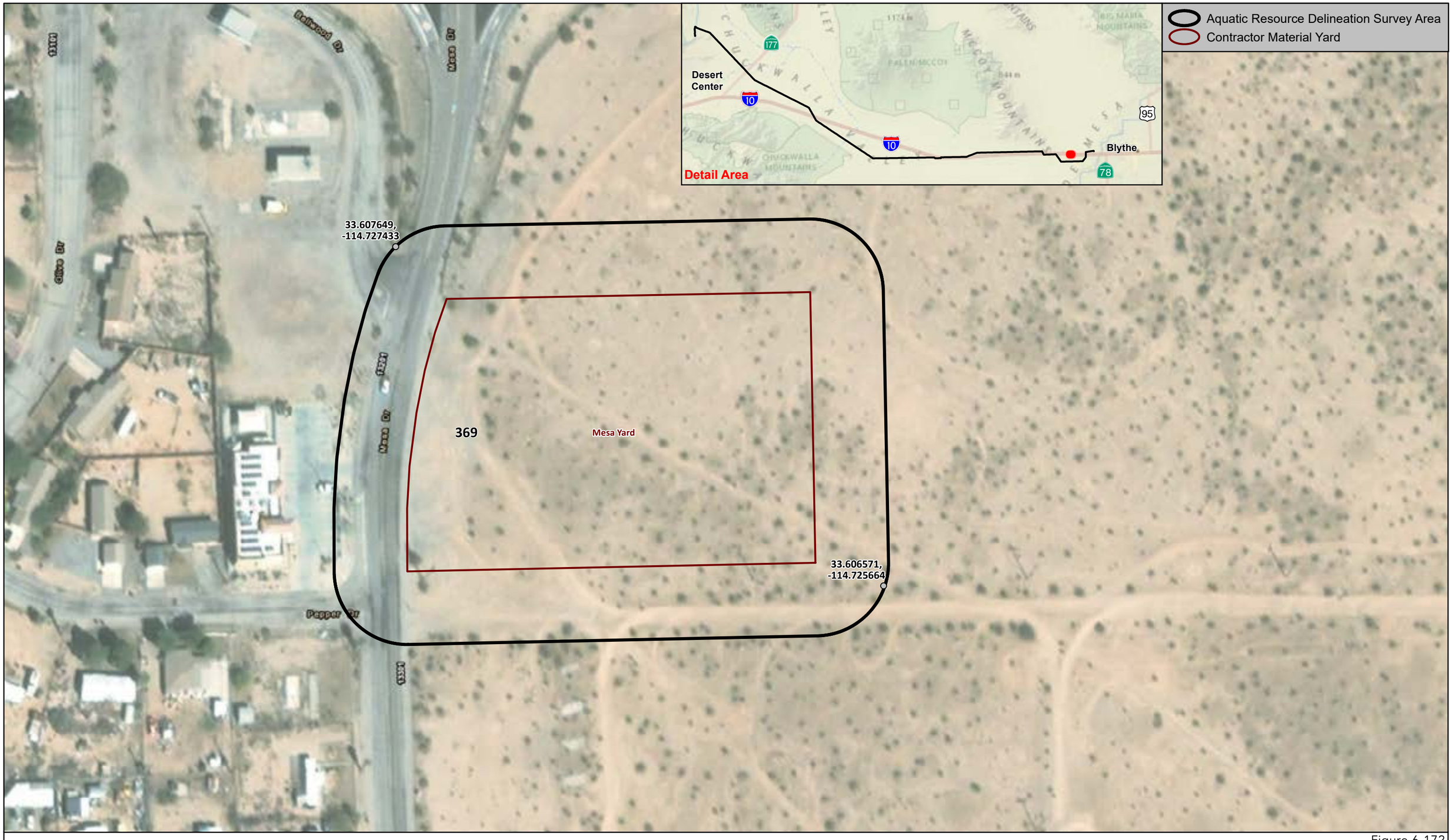


Figure 6-172

Aquatic Resource Survey Results - Sheet #172

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

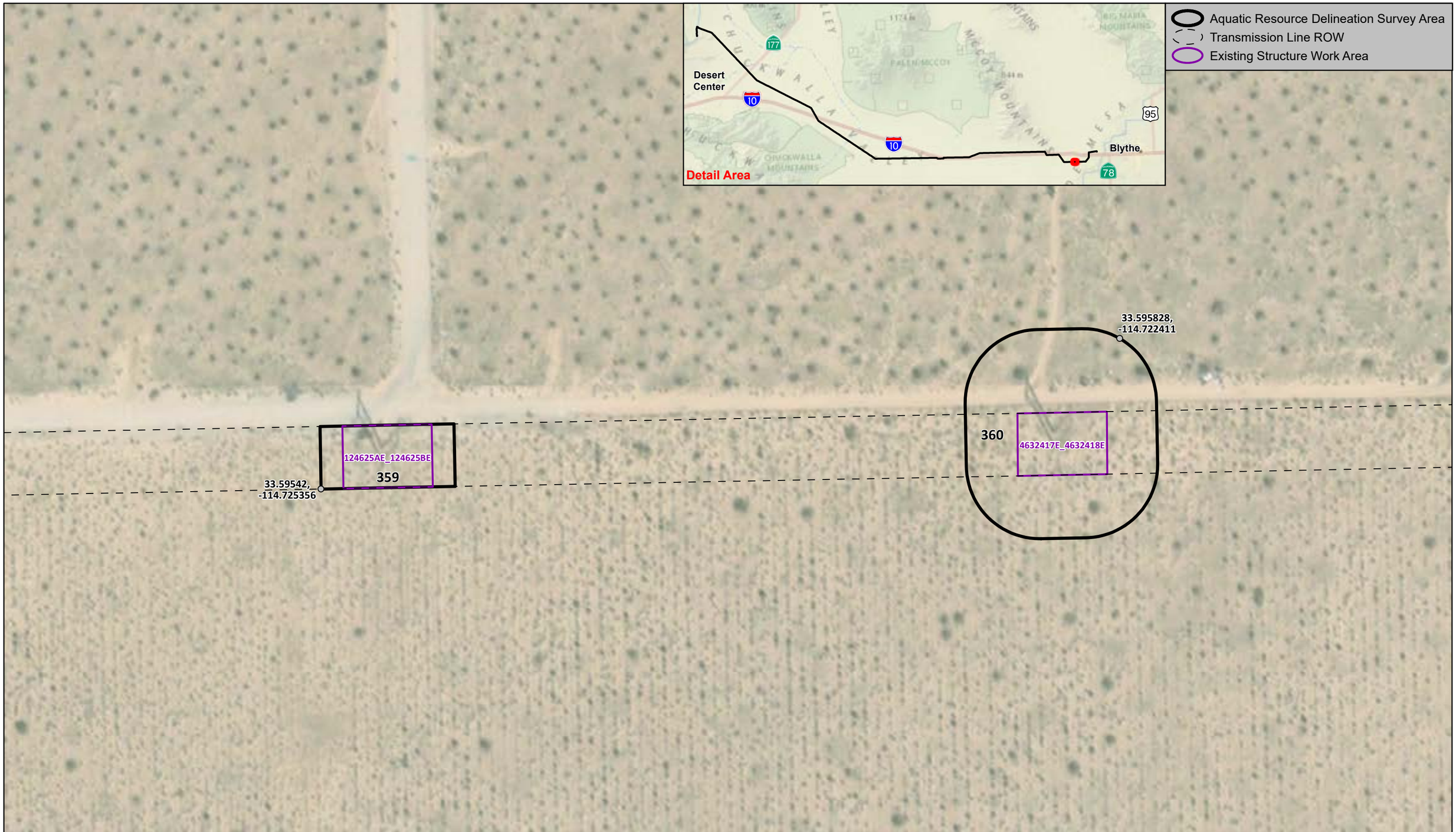


Figure 6-173

Aquatic Resource Survey Results - Sheet #173

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

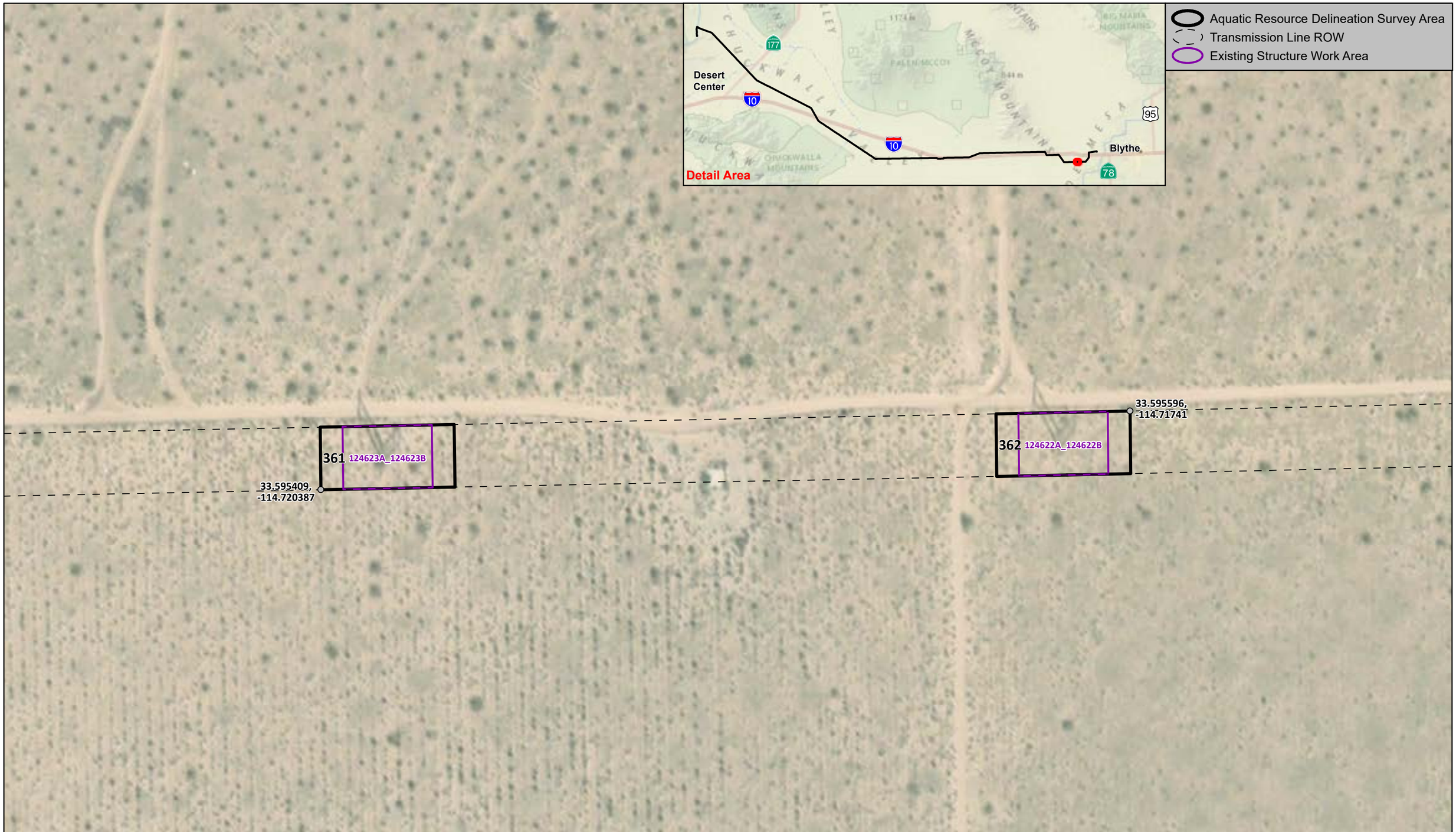


Figure 6-174

Aquatic Resource Survey Results - Sheet #174

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N 0 100 Feet

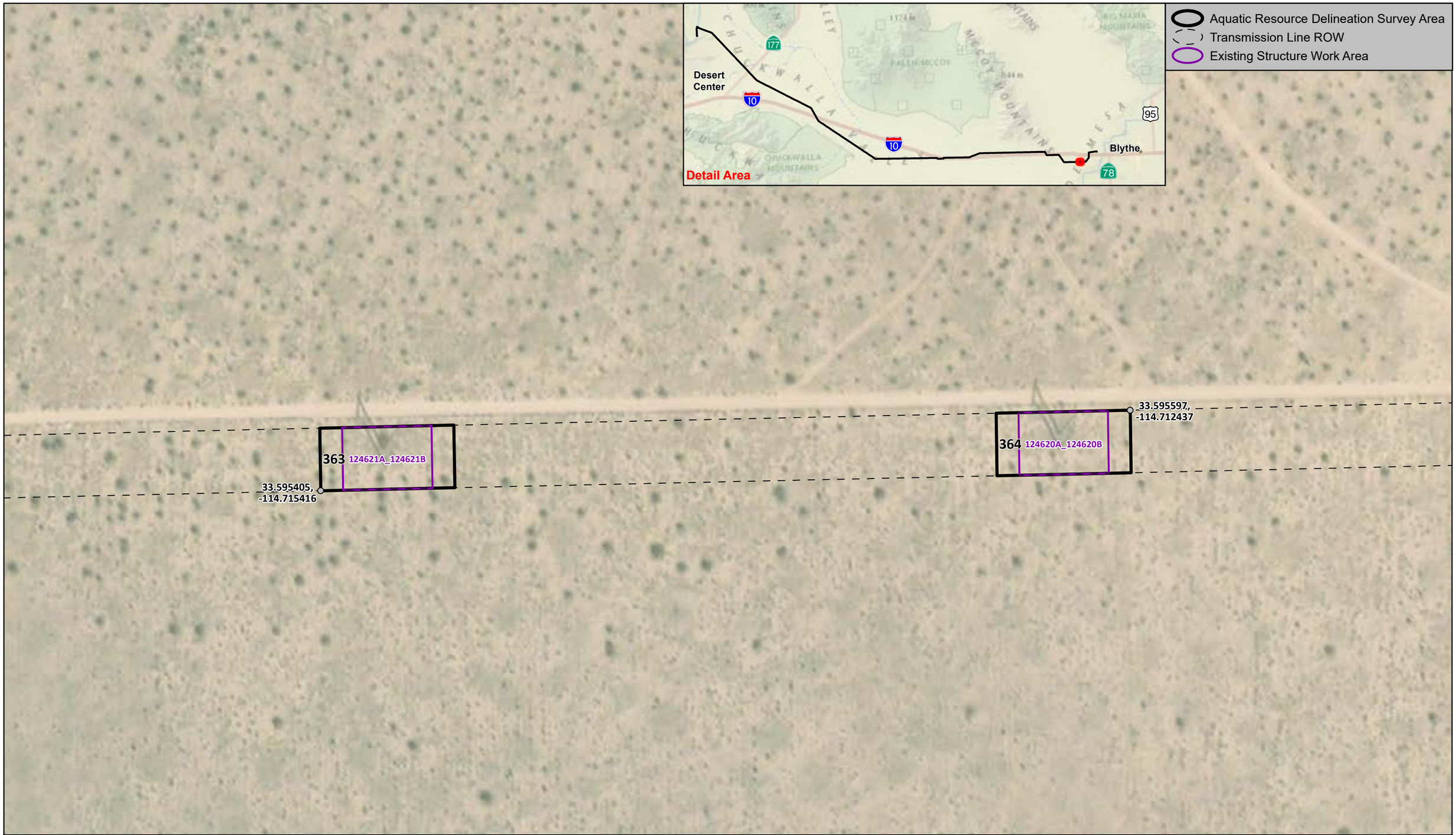


Figure 6-175

Aquatic Resource Survey Results - Sheet #175

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

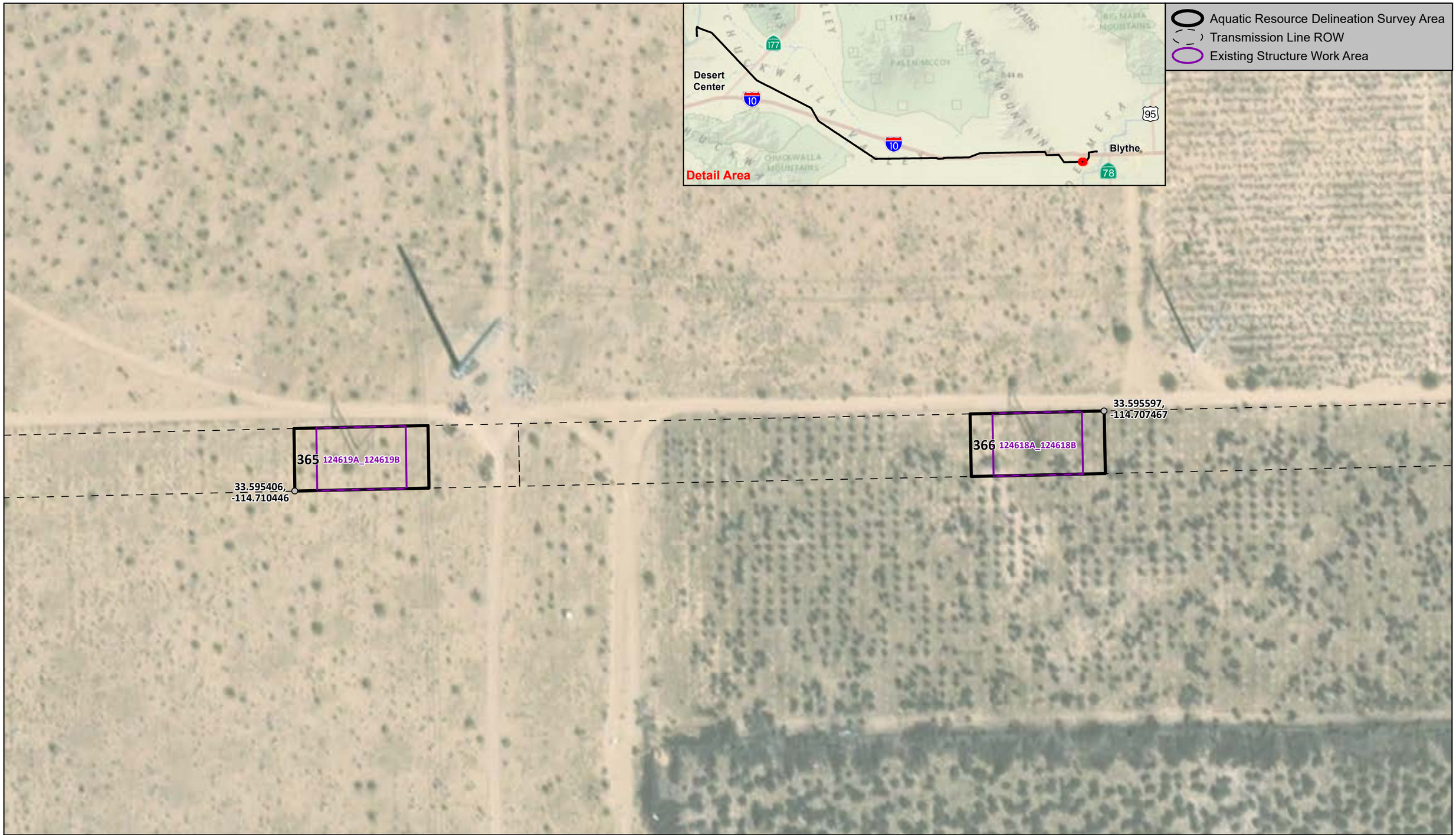


Figure 6-176

Aquatic Resource Survey Results - Sheet #176

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

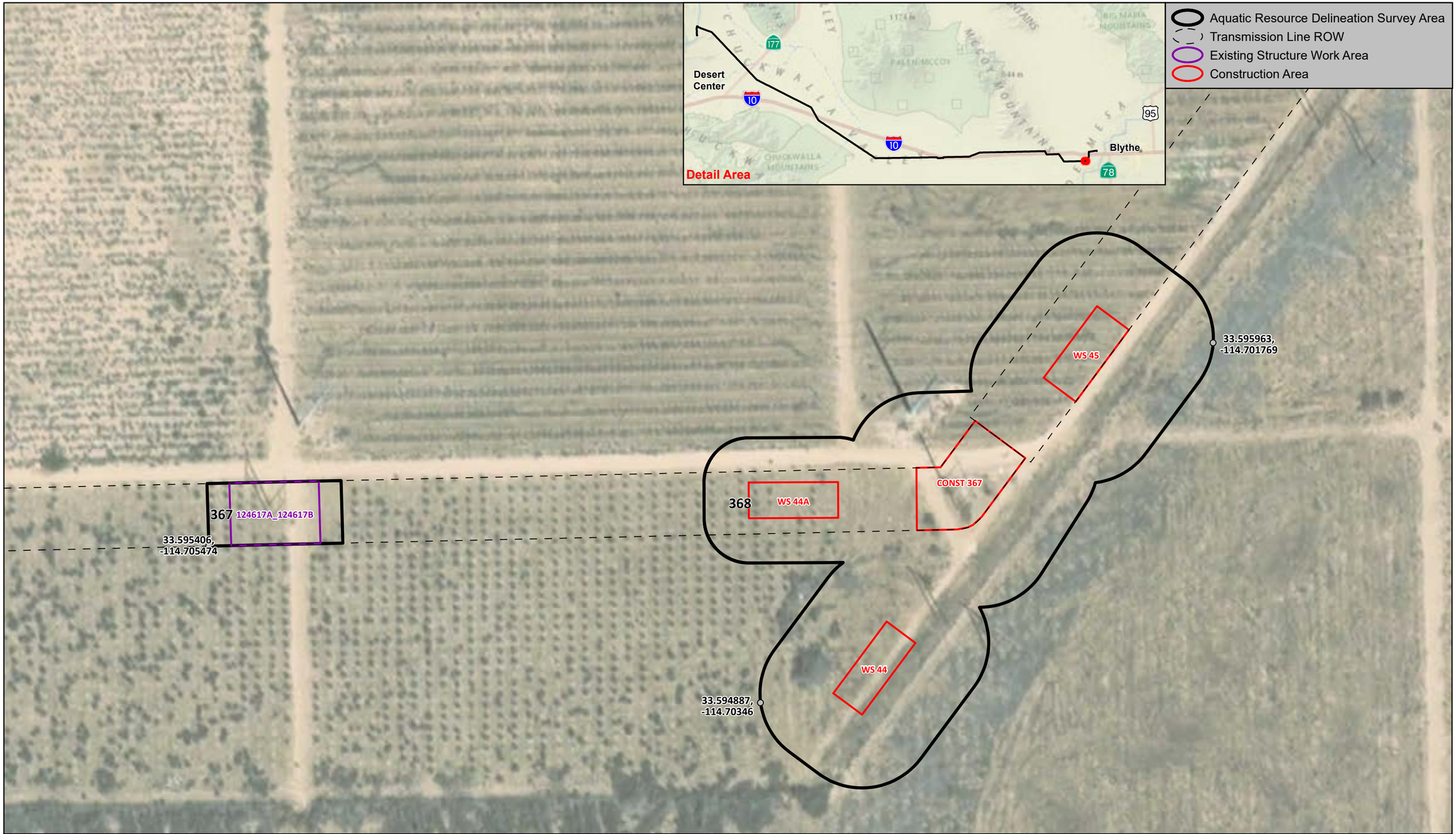


Figure 6-177

Aquatic Resource Survey Results - Sheet #177

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

Figure 6-178

Aquatic Resource Survey Results - Sheet #178

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

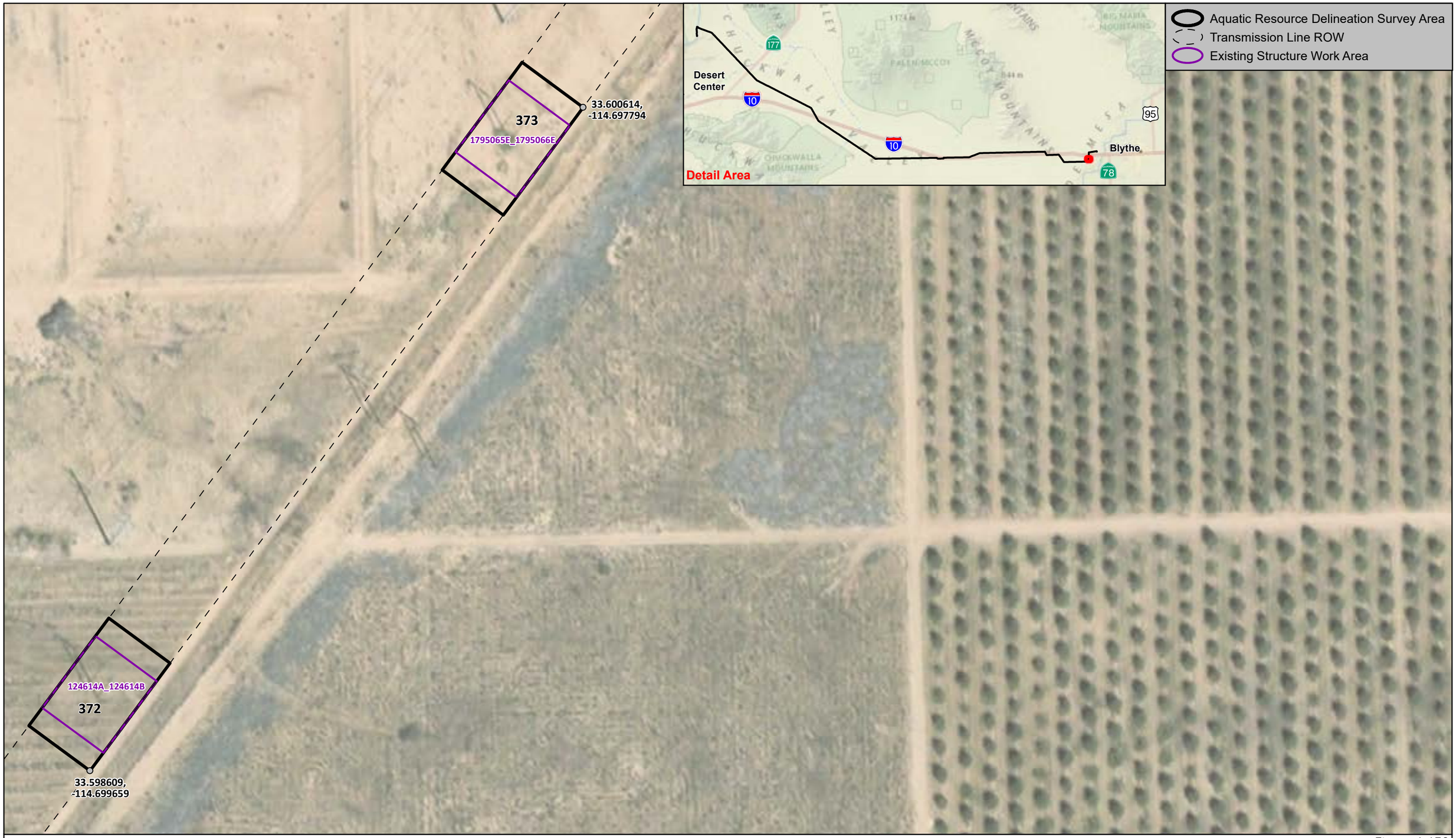


Figure 6-179

Aquatic Resource Survey Results - Sheet #179

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

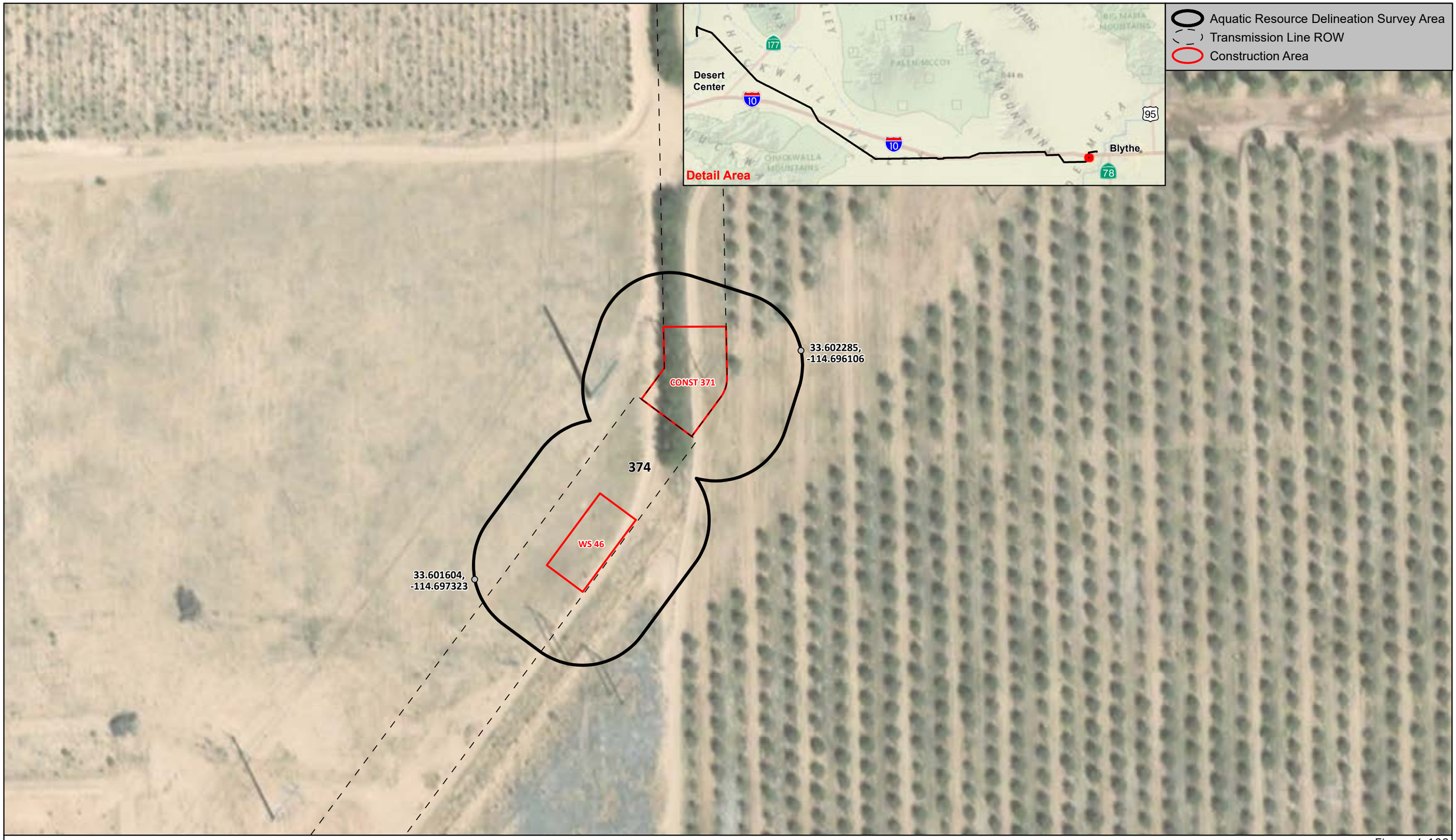


Figure 6-180

Aquatic Resource Survey Results - Sheet #180

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Figure 6-181

Aquatic Resource Survey Results - Sheet #181

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

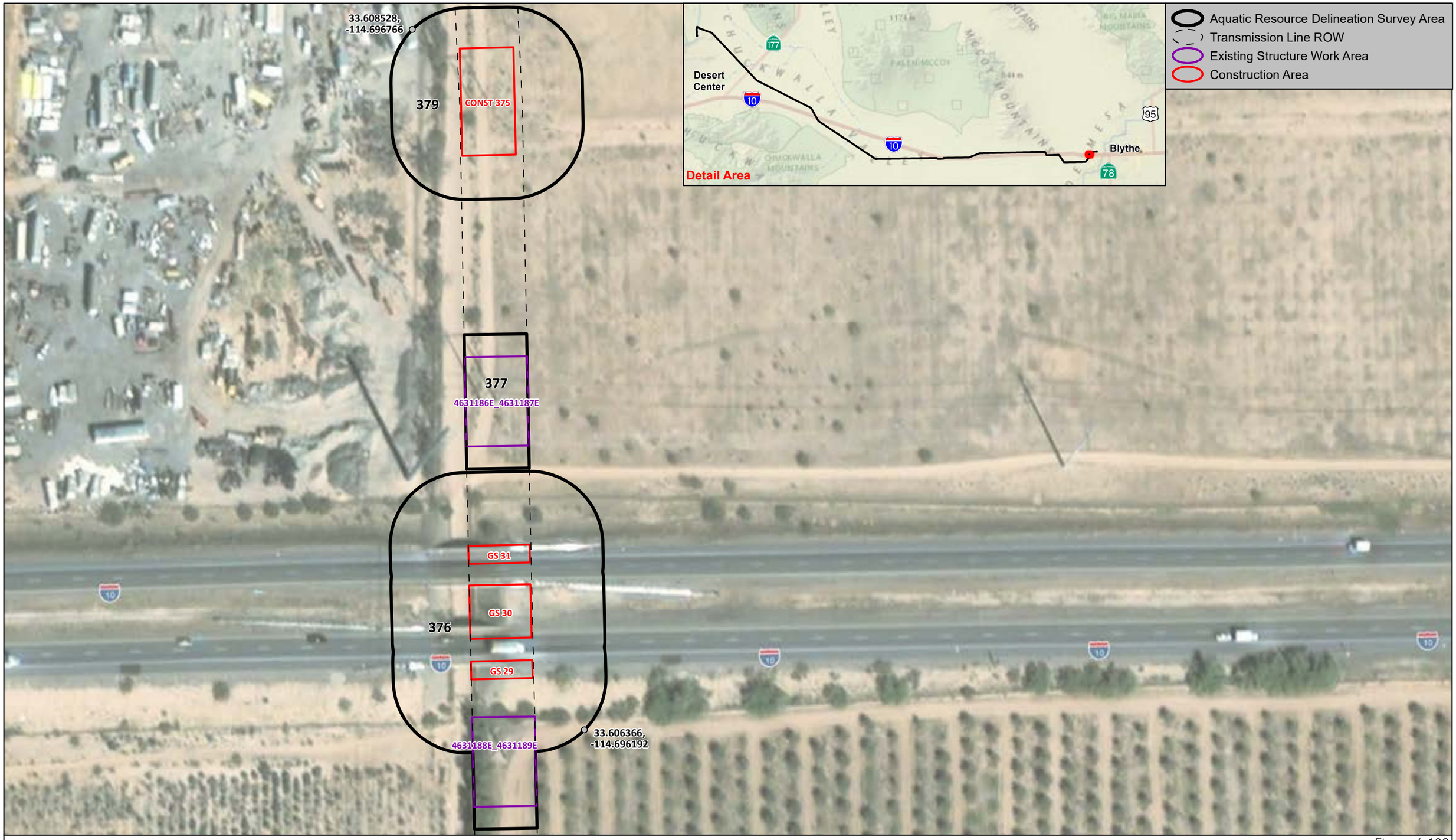


Figure 6-182

Aquatic Resource Survey Results - Sheet #182

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

Aquatic Resource Delineation Survey Area
Contractor Material Yard

Desert Center
Blythe
Detail Area

33.612552,
-114.709539

370

DPV Yard 3

33.611485,
-114.706985

N
0 100 Feet

Artemis Environmental Services, Inc.

Figure 6-183

Aquatic Resource Survey Results - Sheet #183

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

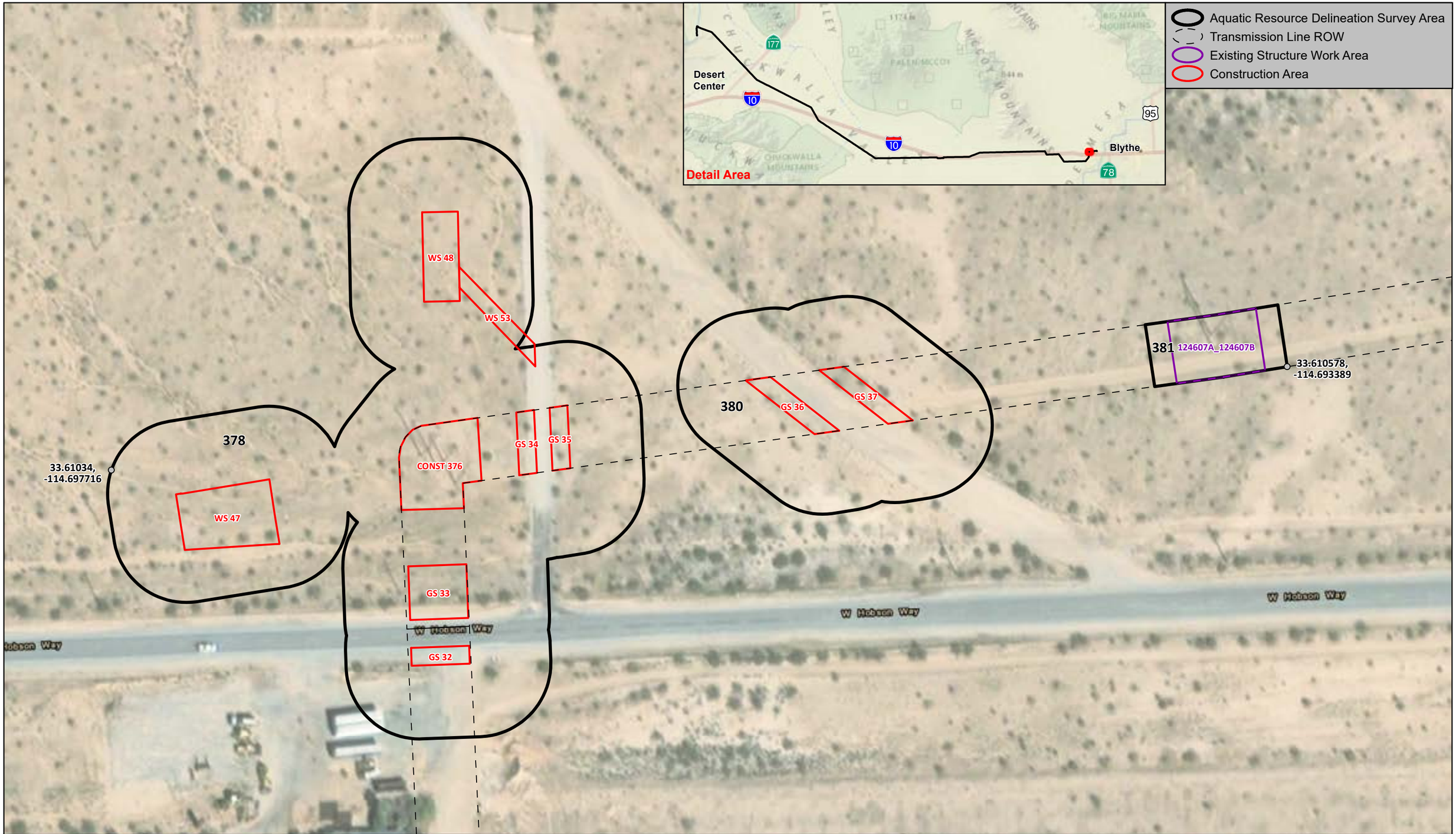


Figure 6-184

Aquatic Resource Survey Results - Sheet #184

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N 0 100 Feet

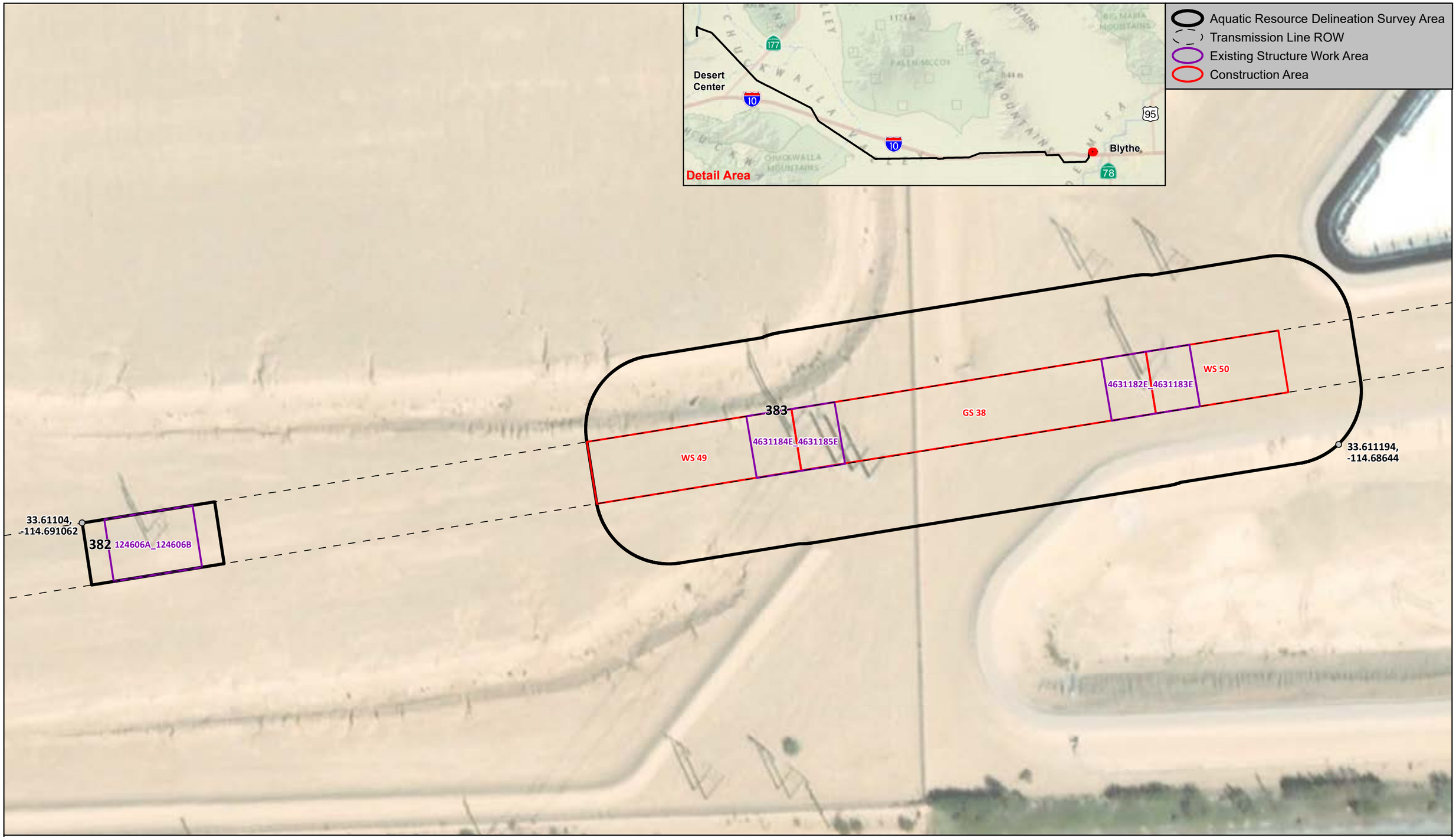


Figure 6-185

Aquatic Resource Survey Results - Sheet #185

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N
0 100 Feet

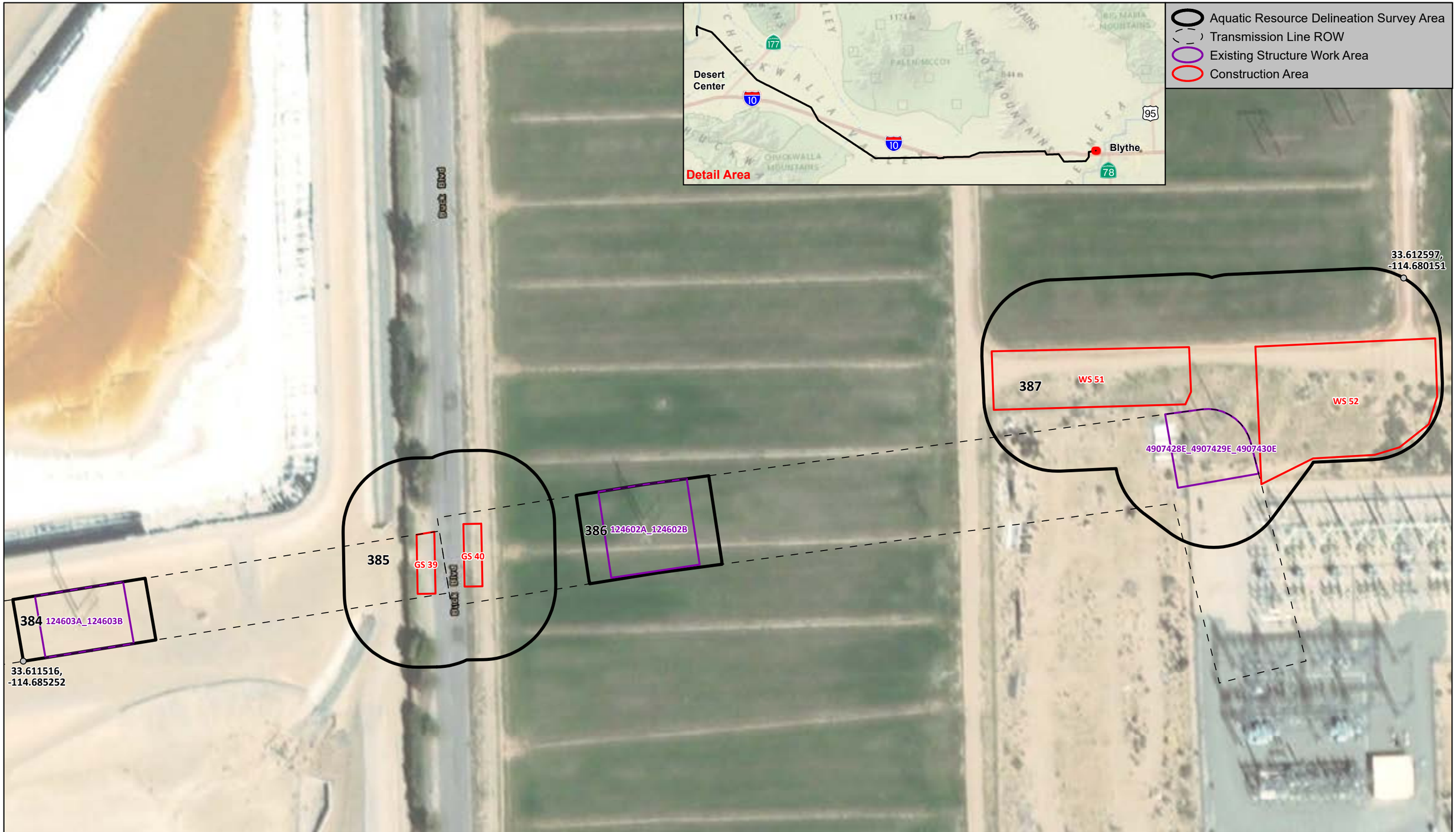


Figure 6-186

Aquatic Resource Survey Results - Sheet #186

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

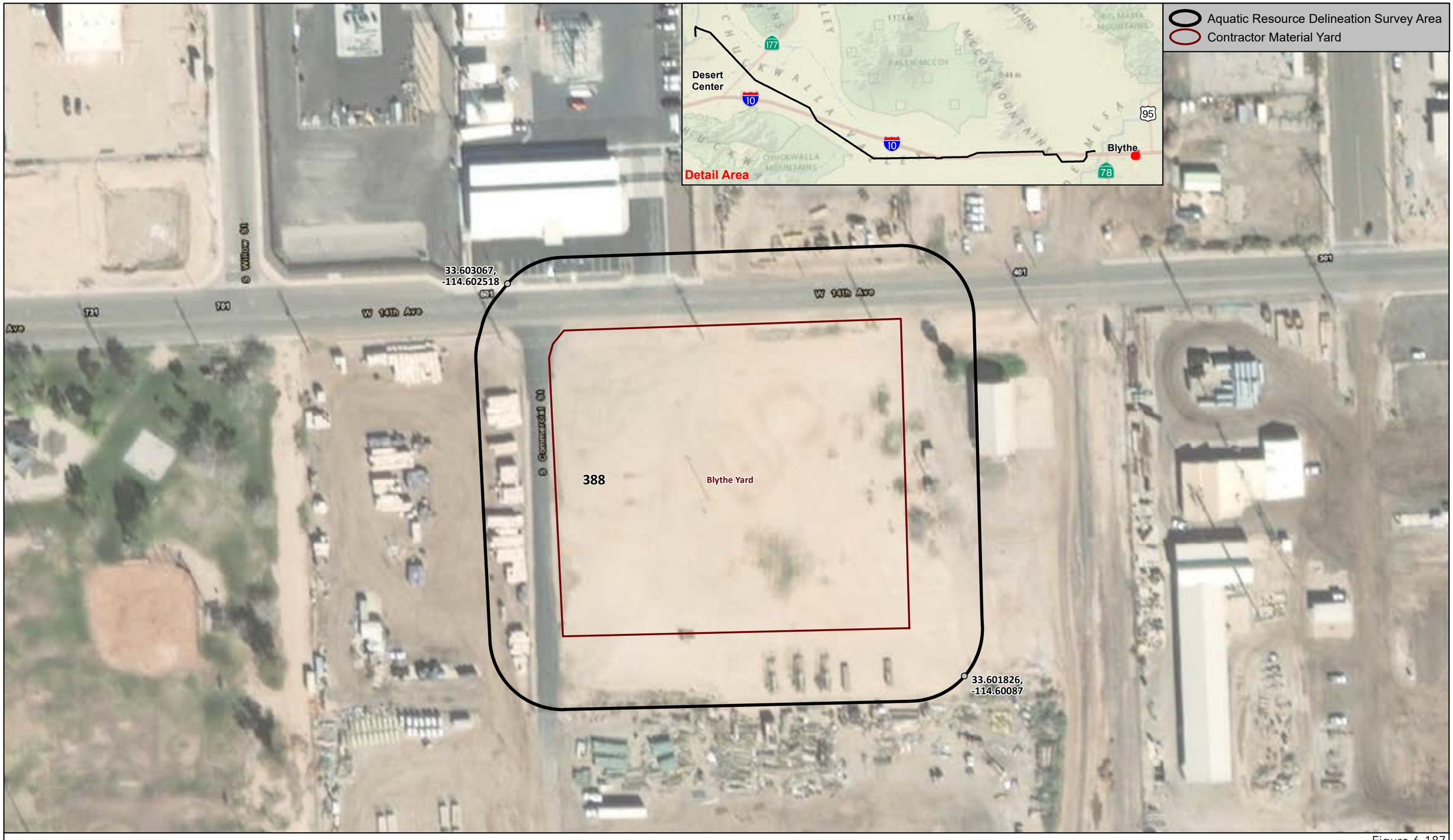


Figure 6-187

Aquatic Resource Survey Results - Sheet #187

EAGLE MOUNTAIN-BLYTHE 161-KV TRANSMISSION LINE RATING REMEDIATION PROJECT
AQUATIC RESOURCE DELINEATION

Artemis Environmental Services, Inc.

N

0 100 Feet

APPENDIX B

Table 2, Jurisdictional Delineation Survey Sites and SCE Work Area IDs and Area

Table 2. Jurisdictional Delineation Survey Sites and SCE Work Area IDs and Area

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
1	5.29	CONST 2	0.49
		CONST 3	0.35
		CONST 3A	0.56
		WS 1	0.09
		WS 2	0.09
2	6.88	1604706E	0.23
		CONST 4	0.47
		CONST 5	0.66
		CONST 6	0.54
3	2.77	CONST 7	0.94
4	4.20	1604714E	0.07
		CONST 8	0.54
		CONST 9	0.48
5	2.80	1604717E	0.11
		CONST 10	0.65
6	2.81	1604718E	0.34
		CONST 11	0.38
7	13.28	1604721E	0.24
		1604723E	0.52
		1604725E	0.35
		CONST 12	0.38
		CONST 13	0.50
		CONST 14	0.46
		CONST 15	0.45
		CONST 16	0.16
		GS 1	0.06
		GS 2	0.03
8	0.34	ESWA: 1580930W	0.23
9	0.95	ESWA: 1580929W	0.23
10	1.74	CONST 19	0.20
		GS 3	0.14
11	0.34	ESWA: N4169138E_S4169137E	0.16
12	0.92	CONST 21	0.15
13	0.92	CONST 22	0.05
14	0.34	ESWA: N124955AE_S124955BE	0.22
15	0.34	ESWA: N4587701E_S4587702E	0.12
16	0.34	ESWA: N4169134E_S4169133E	0.14
17	0.34	ESWA: N124952AE_S124952BE	0.12
18	0.34	ESWA: N4169132E_S4169131E	0.10
19	0.34	ESWA: N124950AE_S124950BE	0.15
20	0.34	ESWA: N4169130E_S4169129E	0.20
21	3.19	CONST 30	0.17
		WS 5	0.14
		WS 6	0.12
22	0.34	ESWA: N4169128E_S4169127E	0.11
23	0.34	ESWA: N4531845E_S4531846E	0.23
24	0.34	ESWA: N124945AE_S124945BE	0.23

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
25	0.92	ESWA: N124944AE_S124944BE	0.17
26	0.34	ESWA: N4169126E_S4169125E	0.23
27	0.34	ESWA: N124942AE_S124942BE	0.21
28	0.34	ESWA: N124941AE_S124941BE	0.16
29	0.34	ESWA: N124940AE_S124940BE	0.13
30	0.34	ESWA: N124939AE_S124939BE	0.11
31	0.34	ESWA: 124938AE_124938BE	0.23
32	0.34	ESWA: 124937AE_124937BE	0.17
33	0.34	ESWA: 124936AE_124936BE	0.23
34	0.92	ESWA: 124935AE_124935BE	0.23
35	1.47	GS 4 GS 5	0.06 0.06
36	1.06	ESWA: 4169124E_4169123E	0.23
37	0.34	ESWA: 4169122E_4169121E	0.14
38	0.34	ESWA: 124932AE_124932BE	0.09
39	0.34	ESWA: 4169120E_4169119E	0.08
40	1.10	WS 7	0.08
41	0.34	ESWA: 124930A_124930B	0.13
42	0.34	ESWA: 4169118E_4169117E	0.12
43	0.34	ESWA: 4169116E_4169115E	0.10
44	0.72	ESWA: 124927AE_124927BE	0.23
45	0.71	ESWA: 4169114E_4169113E	0.19
46	0.70	ESWA: 124925AE_124925BE	0.11
47	0.71	ESWA: 124924A_124924B	0.23
48	0.71	ESWA: 124923A_124923B	0.23
49	0.71	ESWA: 4169111E_4169112E	0.23
50	0.70	ESWA: 4169108E_4169107E	0.23
51	0.73	ESWA: 124920A_124920B	0.21
52	0.92	ESWA: 124919A_124919B	0.23
53	0.34	ESWA: 4169106E_4169105E	0.23
54	0.34	ESWA: 124917A_124917B	0.23
55	0.34	ESWA: 124916A_124916B	0.23
56	0.34	ESWA: 124915A_124915B	0.23
57	0.34	ESWA: 124914A_124914B	0.23
58	0.34	ESWA: 124913A_124913B	0.19
59	1.10	WS 8	0.17
60	0.34	ESWA: 124912A_124912B	0.23
61	0.92	ESWA: 4632407E_4632408E	0.23
62	0.34	ESWA: E4531843E_W4531844E	0.23
63	0.34	ESWA: E124909AE_W124909BE	0.23
64	0.34	ESWA: E124908AE_W124908BE	0.23
65	2.05	CONST 71 GS 6 GS 7	0.17 0.09 0.03

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
66	16.00	Desert Center Yard (no longer part of Project) ESWA: E4169104E_W4169103E	N/A 0.23
67	8.99	DPV Yard 2	4.76
68	0.34	ESWA: N124905AE_S124905BE	0.23
69	0.34	ESWA: E4587706E_W4587707E	0.23
70	0.34	ESWA: 41694102E_4169101E	0.23
71	0.34	ESWA: 4169100E_4169099E	0.23
72	0.34	ESWA: 124901A_124901B	0.23
73	0.70	ESWA: 124900A_124900B	0.23
74	0.71	ESWA: 4169098E_4169097E	0.17
75	0.71	ESWA: 124898A_124898B	0.17
76	3.11	CONST 81 WS 10 WS 9	0.08 0.30 0.16
77	0.71	ESWA: 4169096E_4169095E	0.21
78	0.34	ESWA: 124895A_124895B	0.16
79	0.34	ESWA: 124894A_124894B	0.07
80	0.34	ESWA: 124893A_124893B	0.12
81	0.34	ESWA: 124892A_124892B	0.10
82	0.34	ESWA: 124891A_124891B	0.23
83	0.34	ESWA: 124890A_124890B	0.23
84	0.34	ESWA: 124889A_124889B	0.23
85	0.71	ESWA: 124888A_124888B	0.23
86	0.71	ESWA: 124887A_124887B	0.17
87	0.71	ESWA: 124886A_124886B	0.12
88	1.10	WS 11	0.18
89	0.71	ESWA: 124885A_124885B	0.17
90	0.71	ESWA: 124884A_124884B	0.16
91	0.71	ESWA: 124883	0.14
92	0.71	ESWA: 124882	0.21
93	0.71	ESWA: 124881H	0.12
94	0.71	ESWA: 124880	0.11
95	0.71	ESWA: 4286697E_4286698E	0.20
96	0.71	ESWA: 124878	0.20
97	0.71	ESWA: 4169094E_4169093E	0.20
98	0.71	ESWA: 124876	0.08
99	0.71	ESWA: 124875A_124875B	0.08
100	0.71	ESWA: 124874A_124874B	0.21
101	0.71	ESWA: 124873A_124873B	0.11
102	0.92	ESWA: 4632426E_4632427E	0.18
103	0.71	ESWA: 124871A_124871B	0.23
104	0.71	ESWA: 124870A_124870B	0.11
105	0.71	ESWA: 124869A_124869B	0.23

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
106	0.71	ESWA: 124868A_124868B	0.23
107	0.71	ESWA: 124867A_124867B	0.13
108	1.10	WS 12	0.04
109	0.71	ESWA: 124866A_124866B	0.18
110	0.71	ESWA: 124865A_124865B	0.23
111	0.71	ESWA: 124864A_124864B	0.23
112	0.71	ESWA: 124863A_124863B	0.23
113	0.34	ESWA: 124862A_124862B	0.21
114	0.34	ESWA: 124961A_124961B	0.17
115	0.34	ESWA: 124860	0.23
116	0.71	ESWA: 124859	0.23
117	0.71	ESWA: N124858AE_S124858BE	0.23
118	0.71	ESWA: N124857AE_S124857BE	0.23
119	0.71	ESWA: N124856AE_S124856BE	0.23
120	0.71	ESWA: N4169092E_S4169091E	0.15
121	0.71	ESWA: N124854AE_S124854BE	0.15
122	0.71	ESWA: N4169090E_S4169089E	0.23
123	0.92	CONST 126	0.17
124	0.71	ESWA: N124851AE_S124851BE	0.23
125	3.08	CONST 128 WS 13 WS 14	0.08 0.32 0.32
126	0.71	ESWA: 124849A_124849B	0.22
127	0.71	ESWA: 124848A_124848B	0.22
128	0.76	ESWA: 4169088E_4169087E	0.22
129	0.71	ESWA: 124846A_124846B	0.22
130	0.71	ESWA: 124845A_124845B	0.22
131	0.71	ESWA: 4169086E_4169185E	0.10
132	0.71	ESWA: E1562191E_W1562190E	0.12
133	3.03	ESWA: 4449051E_4449052E GS 10 GS 11 GS 8 GS 9	0.22 0.05 0.05 0.05 0.05
134	1.16	ESWA: 4449053E_4449054E	0.14
135	0.73	ESWA: E124841A_W124841B	0.17
136	0.73	ESWA: E124840A_W124840B	0.20
137	2.86	CONST 140 WS 15 WS 16	0.07 0.10 0.22
138	0.73	ESWA: N4169084E_S4169083E	0.23
139	0.71	ESWA: 4169082E_4169081E	0.17
140	0.71	ESWA: 4169080E_4169079E	0.23
141	0.71	ESWA: N4169078E_S4169077E	0.10
142	0.71	ESWA: N124834AE_S124834BE	0.22

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
143	0.71	ESWA: N124833AE_S124833BE	0.23
144	0.71	ESWA: N4169076E_S4169075E	0.23
145	0.71	ESWA: N124831AE_S124831BE	0.23
146	0.71	ESWA: N4531838E_S4531839	0.23
147	0.71	ESWA: N4169074E_S4169073	0.11
148	0.71	ESWA: 4169072E_4169071E	0.23
149	0.92	CONST 152	0.17
150	0.24	ESWA: 124826AE_124826B	0.04
151	0.24	ESWA: 4169070E_4169069	0.16
152	0.24	ESWA: 4169068_4169067E	0.11
153	0.28	ESWA: 124823A_124823B	0.16
154	0.71	ESWA: 124822A_124822B	0.23
155	0.71	ESWA: 124821A_124821B	0.12
156	1.10	WS 17	0.09
157	0.71	ESWA: 124820A_124820B	0.23
158	0.71	ESWA: 124819A_124819B	0.20
159	0.71	ESWA: 4169066E_4169065E	0.21
160	0.71	ESWA: 124817A_124817B	0.22
161	0.71	ESWA: N4169064E_S4169063E	0.23
162	0.24	ESWA: N4531836E_S4531837E	0.15
163	0.92	CONST 165	0.17
164	0.24	ESWA: N4169060E_S4169059E	0.04
165	0.24	ESWA: N124812AE_S124812BE	0.16
166	0.24	ESWA: N4169058E_S4169057E	0.16
167	0.71	ESWA: N4169056E_S4169055E	0.23
168	0.71	ESWA: N4169054E_S4169053E	0.20
169	0.71	ESWA: N124808A_S124808B	0.19
170	0.71	ESWA: N4169052E_S4169051E	0.23
171	0.71	ESWA: N4169050E_S4169049E	0.23
172	0.71	ESWA: N4169048E_S4169047E	0.23
173	0.71	ESWA: N4169046E_S4169045E	0.23
174	0.71	ESWA: N4169044E_S4169043E	0.14
175	0.71	ESWA: N4169042E_S4169041E	0.23
176	1.10	WS 18	0.09
177	0.71	ESWA: N4587712E_S4587711E	0.23
178	0.92	ESWA: 124800A_124800B	0.23
179	0.71	ESWA: 4169040E_4169037E	0.23
180	0.92	CONST 181	0.17
181	0.28	ESWA: 4169038E_4169039E	0.15
182	0.71	ESWA: 4169036E_4169035E	0.23
183	0.71	ESWA: 124795A_124795B	0.23
184	0.71	ESWA: 4169034E_4169033E	0.18
185	0.71	ESWA: 124793A_124793B	0.21

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
186	0.71	ESWA: 124792A_124792B	0.23
187	0.71	ESWA: 4169032E_4169031E	0.19
188	0.71	ESWA: 124790AE_124790BE	0.23
189	0.71	ESWA: 124789AE_124789BE	0.05
190	0.71	ESWA: 4169030E_4169029E	0.23
191	0.71	ESWA: N4169028E_S4169027E	0.23
192	3.04	CONST 193 WS 19 WS 20	0.08 0.35 0.33
193	0.71	ESWA: N4169026E_S4169025E	0.23
194	0.24	ESWA: N4169024E_S4169023E	0.16
195	0.24	ESWA: N124783AE_S124783BE	0.16
196	0.24	ESWA: N4169022E_S4169021E	0.16
197	0.71	ESWA: N4587714E_S4587713E	0.23
198	0.71	ESWA: N4169020E_S4169019E	0.23
199	0.71	ESWA: 124779A_124779B	0.23
200	0.71	ESWA: 124778A_124778B	0.23
201	0.71	ESWA: 124777A_124777B	0.23
202	0.92	ESWA: 124776A_124776B	0.23
203	0.71	ESWA: 124775A_124775B	0.23
204	0.71	ESWA: 124774A_124774B	0.16
205	0.71	ESWA: 124773A_124773B	0.16
206	0.71	ESWA: N124772A_S124772B	0.16
207	0.71	ESWA: N124771A_S124771B	0.16
208	0.24	ESWA: N124770A_S124770B	0.16
209	0.71	ESWA: N124769A_S124769B	0.14
210	0.71	ESWA: N124768A_S124768B	0.16
211	1.10	WS 21	0.17
212	0.24	ESWA: N4587716E_S4587715E	0.16
213	0.24	ESWA: N4169018E_S4169017E	0.16
214	0.24	ESWA: N124765A_S124765B	0.16
215	0.24	ESWA: N124764A_S124764B	0.16
216	0.24	ESWA: N124763A_S124763B	0.10
217	9.03	Chuckwalla Yard (no longer part of project)	5.02
218	0.24	ESWA: N4587718E_S4587717E	0.16
219	0.24	ESWA: N124761A_S124761B	0.16
220	0.24	ESWA: N124760A_S124760B	0.16
221	0.24	ESWA: N124759A_S124759B	0.16
222	0.24	ESWA: N124758A_S124758B	0.16
223	0.24	ESWA: N124757A_S124757B	0.14
224	0.24	ESWA: N124756A_S124756B	0.08
225	0.24	ESWA: 124755AE_124755BE	0.08

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
226	0.24	ESWA: 124754AE_124754BE	0.16
227	0.34	ESWA: 124753AE_124753BE	0.23
228	0.34	ESWA: 124752AE_124752BE	0.23
229	0.34	ESWA: 4169016E_4169015E	0.23
230	0.34	ESWA: 124750AE_124750BE	0.23
231	0.34	ESWA: 124749AE_124749BE	0.23
232	1.10	WS 22	0.09
233	0.34	ESWA: 124748AE_124748BE	0.23
234	0.34	ESWA: 124747AE_124747BE	0.23
235	0.24	ESWA: 124746AE_124746BE	0.16
236	0.24	ESWA: 124745AE_124745BE	0.16
237	0.24	ESWA: 4169014E_4169013E	0.16
238	0.24	ESWA: 4169012E_4169011E	0.16
239	0.24	ESWA: 124742AE_124742BE	0.16
240	0.24	ESWA: 124741AE_124741BE	0.16
241	0.71	ESWA: N124738AE_S124738BE	0.16
242	0.85	ESWA: N4531834E_S453135E	0.23
243	6.34	CONST 241 CONST 242 GS 12 GS 13 GS 14 GS 15 WS 23 WS 24 WS 25 WS 26	0.08 0.09 0.04 0.04 0.04 0.04 0.33 0.23 0.26 0.37
244	0.71	ESWA: N1562178E_S1562179E	0.23
245	0.73	ESWA: N1562176E_S1562177E	0.10
246	0.73	ESWA: N1562174E_S1562175E	0.05
247	0.72	ESWA: N1562172E_S1562173E	0.10
248	0.73	ESWA: N1562170E_S1562171E	0.05
249	10.04	ESWA: 4431626E_4431627E_4431628E ESWA: 4431629E_4431630E_4431631E GS 16 GS 17 GS 18 GS 19 WS 31	0.11 0.06 0.03 0.03 0.03 0.03 0.69
250	0.76	ESWA: N4531832E_S4531833E	0.21
251	0.72	ESWA: N124731AE_S124731BE	0.13
252	0.34	ESWA: N124730AE_S124730BE	0.05
253	0.30	ESWA: N4169008E_S4169009E	0.05
254	0.24	ESWA: N124728AE_S124728BE	0.05
255	0.24	ESWA: N124727AE_S124727BE	0.05

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
256	0.24	ESWA: N4587720E_S4587719E	0.05
257	0.24	ESWA: N4531832E_S4531833E	0.05
258	0.24	ESWA: N124724AE_S124724BE	0.16
259	1.10	WS 32	0.24
260	0.24	ESWA: N124723AE_S124723BE	0.16
261	0.24	ESWA: N124722AE_S124722BE	0.05
262	0.24	ESWA: N124721AE_S124721BE	0.05
263	0.24	ESWA: N124720AE_S124720BE	0.05
264	0.24	ESWA: N124719AE_S124719BE	0.05
265	0.24	ESWA: N124718AE_S124718BE	0.05
266	0.24	ESWA: N4587722E_S4587721E	0.05
267	0.24	ESWA: N124716AE_S124716BE	0.05
268	0.24	ESWA: N4169006E_S4169005E	0.05
269	0.71	ESWA: N124714AE_S124714BE	0.16
270	0.97	CONST 269	0.18
271	0.24	ESWA: N4587727E_S4587726E	0.05
272	0.24	ESWA: N24711AE_S124711BE	0.05
273	0.24	ESWA: N124710AE_S124710BE	0.05
274	0.24	ESWA: N124709AE_S124709BE	0.05
275	0.24	ESWA: N4587729E_S4587728E	0.05
276	0.92	ESWA: N124707AE_S124707BE	0.16
277	0.24	ESWA: 4531828E_4131829E	0.16
278	5.25	CONST 278 ESWA: N124705AE_S124705BE GS 20 GS 21 WS 33 WS 34	0.09 0.16 0.09 0.09 0.35 0.35
279	0.71	ESWA: N124703AE_S124703BE	0.23
280	0.71	ESWA: N124702AE_S124702BE	0.23
281	0.92	ESWA: N124701AE_S124701BE GS22	0.23 0.06
282	0.92	ESWA: 4632428E_4632429E	0.23
283	0.73	ESWA: N124699A_S124699B	0.23
284	0.73	ESWA: N124698A_S124968B	0.27
285	0.73	ESWA: N124697A_S124697B	0.23
286	0.73	ESWA: N124696A_S124696B	0.22
287	0.75	ESWA: N4587731E_S4587730E	0.22
288	0.73	ESWA: N124694A_S124694B	0.23
289	0.92	ESWA: N124693A_S124693B	0.23
290	0.73	ESWA: N124692A_S124692B	0.23
291	0.73	ESWA: 124691AE_124691BE	0.23
292	0.75	ESWA: 124690AE_124690BE	0.23
293	0.73	ESWA: 124689AE_124689BE	0.22

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
294	0.73	ESWA: 124688AE_124688BE	0.15
295	0.73	ESWA: 124687AE_124687BE	0.23
296	0.34	ESWA: 4169004E_4169003E	0.09
297	0.71	ESWA: 124685AE_124685BE	0.22
298	1.10	WS 35	0.17
299	0.92	SWA 298	0.17
300	0.73	ESWA: N4587733E_S4587732E	0.23
301	0.24	ESWA: N124682AE_S124682BE	0.16
302	0.24	ESWA: N124681AE_S124681BE	0.13
303	0.24	ESWA: N124680AE_S124680BE	0.16
304	0.73	ESWA: N124679AE_S124679BE	0.23
305	0.73	ESWA: N4587735E_S4587734E	0.23
306	0.92	ESWA: 4632430E_4632431E	0.27
307	0.73	ESWA: N124676AE_S124676BE	0.23
308	0.24	ESWA: N4587737E_S4587736	0.16
309	0.24	ESWA: N124674AE_S124674BE	0.16
310	0.92	SWA 309	0.16
311	0.34	ESWA: N4587739E_S4587738E	0.22
312	0.70	ESWA: N124671AE_S124671BE	0.18
313	0.71	ESWA: N124670AE_S124670BE	0.21
314	0.71	ESWA: N124669AE_S124669BE	0.21
315	0.73	ESWA: 124668AE_124668BE	0.23
316	0.73	ESWA: 124667AE_124667BE	0.22
317	0.73	ESWA: 124666AE_124666BE	0.23
318	1.10	WS 36	0.17
319	0.73	ESWA: 124665AE_124665BE	0.22
320	0.92	SWA 318	0.17
321	0.73	ESWA: 124663AE_124663BE	0.20
322	0.24	ESWA: 124662AE_124662BE	0.16
323	0.24	ESWA: 124661AE_124661BE	0.16
324	0.24	ESWA: N4169002E_S4169001E	0.12
325	0.24	ESWA: N124659AE_S124659BE	0.12
326	0.24	ESWA: N124658AE_124658BE	0.16
327	0.24	ESWA: 4531826E_4531827E	0.16
328	0.24	ESWA: N124656AE_S124656BE	0.12
329	0.73	ESWA: N124655AE_S124655BE	0.23
330	0.73	ESWA: N124654AE_S124654BE	0.23
331	2.02	SWA 329 WS 37	0.07 0.52
332	0.74	ESWA: E1242652AE_W124652BE	0.20
333	3.55	ESWA: 4431621E_4431622E ESWA: 4431623E_4431624E GS 23 GS 24 GS 25	0.24 0.22 0.04 0.04 0.04

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
		GS 26	0.04
334	2.99	CONST 333 WS 38 WS 39	0.08 0.31 0.30
335	0.34	ESWA: N124649AE_124649BE	0.23
336	0.34	ESWA: N4587744E_S4587743E	0.22
337	0.34	ESWA: N124647AE_S124647BE	0.23
338	0.76	ESWA: N124646AE_S124646BE	0.21
339	0.70	ESWA: N4587746E_S4587745E	0.22
340	0.34	ESWA: N124644AE_S124644BE	0.14
341	1.08	ESWA: N124643AE_S124643BE GS 27	0.20 0.06
342	0.34	ESWA: 124642A_124642B	0.23
343	0.73	ESWA: 124641A_124641B	0.23
344	3.02	CONST 343 WS 40 WS 41	0.08 0.32 0.31
345	0.24	ESWA: 124639A_124639B	0.16
346	0.24	ESWA: 4026735E_4026734E	0.16
347	1.16	ESWA: 4026733E_4026732E GS28	0.16 0.07
348	0.24	ESWA: 124636AE_124636BE	0.16
349	0.24	ESWA: 124635AE_124635BE	0.16
350	0.24	ESWA: 124634AE_124634BE	0.16
351	3.71	CONST 350 WS 42 WS 43	0.14 0.37 0.26
352	0.24	ESWA: 124632AE_124632BE	0.16
353	0.24	ESWA: 124631AE_124631BE	0.06
354	0.24	ESWA: 124630AE_124630BE	0.16
355	0.24	ESWA: 124629AE_124629BE	0.16
356	0.24	ESWA: 124628AE_124628BE	0.16
357	0.24	ESWA: 124627AE_124627BE	0.16
358	0.24	ESWA: 124626AE_124626BE	0.15
359	0.24	ESWA: 124625AE_124625BE	0.16
360	1.02	ESWA: 4632417E_4632418E	0.16
361	0.24	ESWA: 124623A_124623B	0.16
362	0.24	ESWA: 124622A_124622B	0.16
363	0.24	ESWA: 124621A_124621B	0.16
364	0.24	ESWA: 124620A_124620B	0.16
365	0.24	ESWA: 124619A_124619B	0.16
366	0.24	ESWA: 124618A_124618B	0.16
367	0.24	ESWA: 124617A_124617B	0.16
368	3.79	CONST 367 WS 44	0.20 0.09

JD Survey Site ID	JD Survey Site Area (acres)	SCE Work Area ID	SCE Work Area Size (acres)
		WS 44A	0.09
		WS 45	0.10
369	6.37	Mesa Yard (no longer part of project)	3.10
370	8.08	DPV Yard 3 (no longer part of project)	4.09
371	1.13	ESWA: 4632419E_4632420E	0.20
372	0.29	ESWA: 124614A_124614B	0.20
373	0.29	ESWA: 1795065E_1795066E	0.20
374	2.12	CONST 371	0.18
		WS 46	0.11
375	0.24	ESWA: 4168913E_4168912E	0.16
376	1.72	ESWA: 4631188E_4631189E	0.16
		GS 34	0.03
		GS 35	0.10
		GS 36	0.03
377	0.24	ESWA: 4631186E_4631187E	0.16
378	4.80	CONST 376	0.18
		GS 32	0.03
		GS 33	0.09
		GS 34	0.03
		GS 35	0.03
		WS 47	0.09
		WS 48	0.09
379	0.92	CONST 375	0.17
380	1.46	GS 36	0.05
		GS 37	0.05
381	0.24	ESWA: 124607A_124607B	0.16
382	0.24	ESWA: 124606A_124606B	0.16
383	4.56	ESWA: 4631182E_4631183E	0.16
		ESWA: 4631184E_4631185E	0.16
		GS 38	0.64
		WS 49	0.37
		WS 50	0.24
384	0.24	ESWA: 124603A_124603B	0.16
385	1.14	GS 39	0.03
		GS 40	0.03
386	0.34	ESWA: 124602A_124602B	0.22
387	2.71	ESWA:	0.16
		4907428E_4907429E_4907430EWS 51	0.33
		WS 52	0.58
388	6.34	Blythe Yard (no longer part of project)	3.10
TOTAL	**368.85**		**121.42**

*Survey sites with no construction work area proposed due to re-design after completion of the delineation. Survey site retained to show areas where surveys were completed and because data forms and cross-sections were associated with the site.

ESWA = Existing Structure Work Area, CONST = Construction Work Area or Structure Work Area, WS = Wire Setup, GS = Guard Site, N/A = Not Applicable; site was surveyed, but work within survey site no longer proposed.

APPENDIX C

Climatological Data

WETS Station: BLYTHE ASOS, CA

Requested years: 1987 - 2019

Month	Temperature (°F)			Precipitation (inches)				
	Avg daily max	Avg daily min	Avg daily mean	Avg	30% chance will have		Avg number of days with 0.10 inch or more	Average total snowfall
					less than	more than		
Jan	68.1	42.7	55.4	0.53	0.14	0.49	1	0.0
Feb	72.4	46.0	59.2	0.58	0.10	0.50	1	0.0
Mar	80.1	51.3	65.7	0.38	0.10	0.36	1	0.0
Apr	87.5	57.3	72.4	0.09	0.00	0.05	0	0.0
May	95.5	64.9	80.2	0.05	0.00	0.03	0	0.0
Jun	105.1	73.2	89.1	0.01	0.00	0.00	0	0.0
Jul	108.4	81.1	94.7	0.30	0.00	0.22	1	0.0
Aug	107.3	81.0	94.2	0.43	0.00	0.37	1	0.0
Sep	101.9	73.6	87.7	0.30	0.05	0.23	1	0.0
Oct	90.2	61.0	75.6	0.17	0.00	0.12	1	0.0
Nov	76.7	49.0	62.8	0.21	0.00	0.15	0	0.0
Dec	66.5	41.5	54.0	0.42	0.00	0.34	1	0.0
Annual:					2.37	4.03		
Average	88.3	60.2	74.3	-	-	-	-	-
Total	-	-	-	3.46			8	0.0

GROWING SEASON DATES

Requested years of data: 1987 - 2019

Years with missing data: 24 deg = 1 28 deg = 1 32 deg = 3

WETS Table

WETS Station: BLYTHE ASOS, CA								
Requested years: 1989 - 2019								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	68.2	42.9	55.5	0.55	0.14	0.51	1	0.0
Feb	72.2	45.9	59.1	0.59	0.10	0.50	1	0.0
Mar	80.1	51.5	65.8	0.41	0.12	0.40	1	0.0
Apr	87.4	57.3	72.3	0.06	0.00	0.04	0	0.0
May	95.5	64.9	80.2	0.05	0.00	0.03	0	0.0
Jun	105.1	73.2	89.1	0.01	0.00	0.00	0	0.0
Jul	108.4	81.4	94.9	0.27	0.00	0.20	1	0.0
Aug	107.4	81.2	94.3	0.43	0.00	0.37	1	0.0
Sep	101.9	73.8	87.8	0.31	0.06	0.26	1	0.0
Oct	89.9	60.8	75.3	0.16	0.00	0.11	0	0.0
Nov	76.8	49.0	62.9	0.20	0.00	0.14	0	0.0
Dec	66.6	41.6	54.1	0.43	0.00	0.33	1	0.0
Annual:					2.35	4.07		
Average	88.3	60.3	74.3	-	-	-	-	-
Total	-	-	-	3.48			8	0.0

GROWING SEASON DATES

Years with missing data:	24 deg = 1	28 deg = 1	32 deg = 3
Years with no occurrence:	24 deg = 30	28 deg = 26	32 deg = 7
Data years used:	24 deg = 30	28 deg = 30	32 deg = 28
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	No occurrence	1/8 to 12/24: 350 days
70 percent *	No occurrence	No occurrence	12/23 to 1/10: 383 days
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1948							0.05	0.90	0.49	1.33	0.00	0.24	3.01
1949	2.48	0.00	0.01	0.02	0.00	0.00	T	0.18	T	0.23	T	0.07	2.99
1950	T	0.05	0.00	0.00	0.00	0.00	0.24	0.00	0.02	0.00	0.00	0.00	0.31
1951	0.54	0.00	0.00	0.73	0.07	0.00	0.19	5.92	0.00	0.41	0.69	0.13	8.68
1952	0.40	0.18	0.59	0.65	0.00	0.91	0.25	0.05	0.10	0.00	0.33	1.42	4.88
1953	T	0.10	0.10	T	T	T	0.07	0.06	0.00	0.00	0.00	0.26	0.59
1954	0.70	T	0.76	0.01	0.00	T	0.14	0.46	0.20	0.16	T	T	2.43
1955	1.05	0.00	0.00	0.02	0.00	0.00	0.04	1.14	0.00	T	0.01	T	2.26

1956	T	0.07	0.00	T	0.00	0.00	1.03	0.00	0.01	T	0.00	T	1.11
1957	0.97	0.03	T	0.13	T	T	0.32	0.48	0.00	1.53	0.05	0.13	3.64
1958	0.12	1.35	0.60	0.25	0.02	T	0.02	0.57	0.01	0.09	0.03	0.00	3.06
1959	0.07	0.36	0.00	T	0.00	0.01	0.07	1.30	0.07	0.38	0.00	1.95	4.21
1960	0.42	0.17	0.21	0.03	T	0.00	0.12	0.09	1.03	0.02	0.25	T	2.34
1961	0.13	0.00	T	T	T	0.00	0.04	0.50	0.00	0.00	0.12	0.75	1.54
1962	0.79	0.26	0.09	0.00	0.00	0.00	0.02	0.48	T	T	0.00	0.57	2.21
1963	0.55	0.23	0.20	T	T	0.00	T	1.05	1.03	1.17	0.41	0.00	4.64
1964	T	0.22	0.33	0.08	T	0.00	0.08	T	0.00	T	0.30	0.12	1.13
1965	0.14	0.09	0.23	3.00	0.01	0.00	T	0.35	T	0.00	0.81	1.44	6.07
1966	1.08	0.02	0.15	0.03	T	0.00	0.61	0.13	0.18	1.09	0.02	0.19	3.50
1967	0.26	0.00	0.22	T	0.00	0.00	T	1.16	1.04	0.00	0.70	0.87	4.25
1968	0.00	0.12	0.25	0.06	0.00	T	0.38	0.05	0.00	0.32	0.03	0.11	1.32
1969	1.00	0.01	0.03	0.00	T	0.00	1.05	0.17	0.60	0.17	0.47	0.05	3.55
1970	0.11	0.66	1.11	0.01	0.00	0.00	T	0.73	0.00	T	T	0.03	2.65
1971	T	T	0.00	0.05	T	0.00	0.01	1.07	0.97	0.06	0.00	0.08	2.24
1972	0.00	0.00	0.00	0.00	0.00	0.10	0.21	0.30	0.01	1.89	0.38	0.03	2.92
1973	0.07	0.96	1.12	0.00	0.00	0.00	T	0.38	0.00	0.00	0.05	0.00	2.58
1974	0.71	0.00	0.19	0.00	0.00	0.00	0.12	0.11	T	0.89	0.00	0.70	2.72
1975	0.05	0.11	0.07	0.32	0.00	0.00	0.76	0.00	0.56	0.00	0.01	0.04	1.92
1976	T	1.78	T	0.91	T	0.00	0.14	0.00	2.14	0.05	0.02	0.18	5.22
1977	0.16	0.01	0.12	0.01	0.09	0.01	0.17	1.10	0.70	0.06	0.00	0.40	2.83
1978	1.73	1.07	0.22	0.10	0.04	0.00	0.06	0.99	0.00	1.42	0.43	0.89	6.95
1979	1.44	0.06	0.81	0.00	0.12	0.00	0.36	2.09	0.52	0.06	0.00	0.18	5.64
1980	0.84	1.57	0.65	0.24	T	0.00	0.10	0.72	0.18	0.03	0.00	0.02	4.35
1981	0.05	0.19	1.01	0.00	0.07	0.04	T	1.77	0.03			0.00	3.16
1982	0.13	0.26	0.87	0.00	0.12	0.00	0.49	1.25	0.51	T	0.28	1.26	5.17
1983	0.13	0.37	1.75	T	0.00	0.00	T	2.07	0.88	0.00	0.03	0.73	5.96
1984	0.06	0.00	0.00	0.00	0.02	0.00	2.44	0.11	0.00	0.00	0.10	3.33	6.06
1985	0.27	0.29	0.03	0.06	0.00	0.00	0.00	0.00	1.61	0.90	1.84	0.07	5.07
1986	0.07	0.40	0.19	0.02	0.00	0.00	0.11	0.05	0.90	0.50	0.69	0.75	3.68
1987	0.00	0.03	0.00	0.05	0.00	0.03	1.40	0.00	0.01	0.42	0.71	M0.68	3.33
1988	0.42	0.61	0.02	0.98	0.00	0.00	0.00	0.83	T	0.07	T	T	2.93
1989	1.08	0.00	0.06	0.00	T	0.00	0.32	0.15	0.01	0.00	T	0.00	1.62

1990	0.14	0.01	0.21	T	0.02	T	0.22	1.47	0.13	0.06	T		2.26
1991		0.76	1.24	0.00	0.00	T	0.01	0.28	1.52	0.14	0.04	0.31	4.30
1992	0.78	1.59	2.15	0.28	0.03	0.00	T	1.93	0.00	0.20	0.00	2.20	9.16
1993	2.33	2.19	0.17	0.00	T	0.00	0.00	0.00	0.00	0.05	0.87	0.01	5.62
1994	0.01	0.29	0.68	0.02	0.12	0.00	0.69	0.14	0.00	T	0.06	1.23	3.24
1995	2.29	0.32	0.49	0.09		0.00	0.05	1.37	0.08	0.00	0.00	T	4.69
1996	0.10	0.27	0.09	0.00	0.22	0.00	T	T	0.85	0.01	0.04	0.01	1.59
1997	0.47	T	0.00	0.06	T	0.00	0.61	0.03	2.05	0.01	0.03	1.06	4.32
1998	0.28	3.03	1.29	0.01	0.01	0.00	0.05	0.47	0.52	0.04	0.16	0.21	6.07
1999	T	0.34	0.00	1.00	0.04	T	1.20	T	0.74	0.00	0.00	0.00	3.32
2000	T	0.08	0.38	T	0.00	0.01	T	1.03	0.00	T	MT	T	1.50
2001	0.81	0.67	1.55	0.01	0.00	T	T	MT	T	T	0.11	0.03	3.18
2002	0.00	0.00	0.04	T	0.00	0.00	T	0.00	0.75	0.04	0.03	T	0.86
2003	0.11	1.08	0.28	0.08	0.00	0.00	0.06	T	0.07	0.00	0.33	T	2.01
2004	0.02	0.57	0.81	0.06	0.00	0.00	T	0.02	0.12	1.02	0.31	0.57	3.50
2005	1.55	2.83	0.21	T	0.00	0.00	T	1.35	T	0.85	0.00	0.00	6.79
2006	0.00	T	0.25	T	0.00	0.20	0.15	1.46	1.44	0.04	0.00	T	3.54
2007	0.16	0.07	0.53	T	0.00	0.00	T	T	0.06	0.00	1.11	T	1.93
2008	0.77	0.02	0.00	0.00	0.18	0.00	0.27	0.15	0.06	0.00	0.24	0.65	2.34
2009	0.02	0.43	0.00	0.00	0.03	0.01	0.07	0.02	0.03	0.00	0.00	0.85	1.46
2010	2.12	0.90	0.67	0.01	0.00	0.00	T	0.03	T	0.26	T	0.54	4.53
2011	T	1.17	0.06	T	0.00	0.00	1.64	T	0.08	0.12	0.29	0.60	3.96
2012	T	0.01	0.19	0.14	0.00	0.00	1.88	1.05	0.07	0.27	T	0.86	4.47
2013	0.77	0.01	0.03	T	0.00	0.00	0.54	0.66	0.57	0.02	0.74	0.01	3.35
2014	T	0.07	0.04	T	0.01	0.00	MT	0.57	0.11	0.03	0.00	0.78	1.61
2015	0.57	0.04	1.02	T	0.35	0.04	0.23	T	0.04	0.84	0.05	T	3.18
2016	0.56	T	T	0.14	T	0.03	0.24	0.14	0.13	0.14	0.06	1.95	3.39
2017	0.72	1.27	T	0.00	0.55	T	0.02	0.41	0.27	0.00	T	0.00	3.24
2018	0.14	T	0.03	0.00	0.00	0.00	0.10	0.70	0.02	0.85	T	0.49	2.33
2019	M0.64	0.33	0.19	0.10	T	0.00	0.00	0.00	0.03	0.00	1.80	0.42	3.51
2020	T	0.24	1.92	0.66	0.00	0.00	0.00	0.00	0.00	0.00	T	M0.00	2.82

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2016-07-22

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-12-03

User Inputs

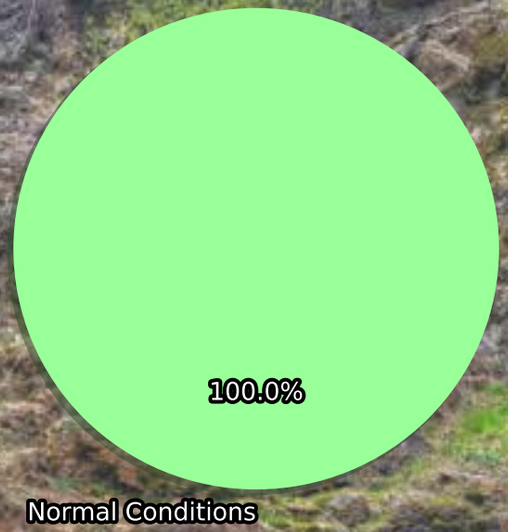
Coordinates	33.595747, -114.744811
Date	2017-07-17
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	150301040804
Watershed Size	301.24 mi^2
# Random Sampling Points	20

Preliminary Result

Average Antecedent Precipitation Score	13.0
Preliminary Determination	Normal Conditions



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
13	Normal Conditions	Dry Season	Normal	20

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-12-03

User Inputs

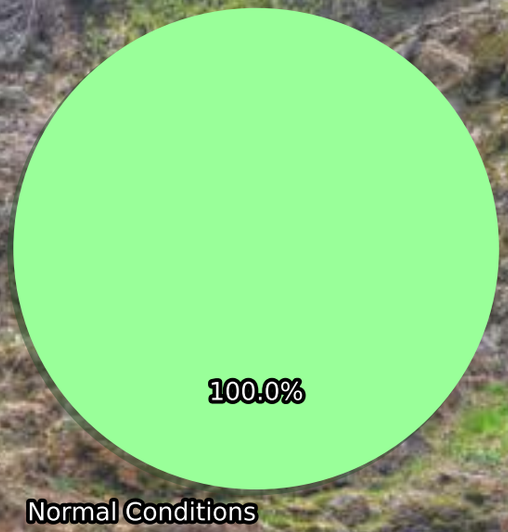
Coordinates	33.595747, -114.744811
Date	2017-07-23
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	150301040804
Watershed Size	301.24 mi^2
# Random Sampling Points	22

Preliminary Result

Average Antecedent Precipitation Score	13.0
Preliminary Determination	Normal Conditions



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
13	Normal Conditions	Dry Season	Normal	22

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-12-03

User Inputs

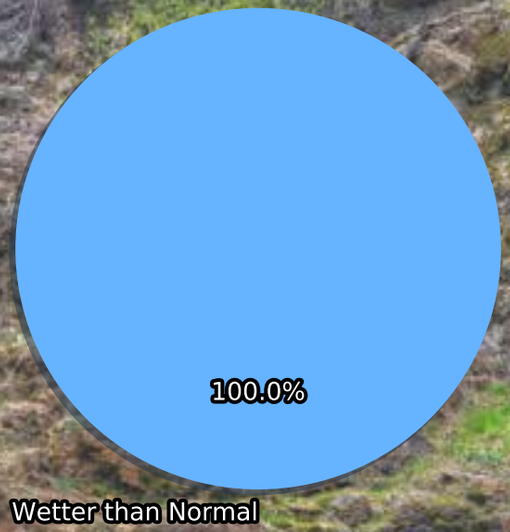
Coordinates	33.595747, -114.744811
Date	2019-04-24
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	150301040804
Watershed Size	301.24 mi^2
# Random Sampling Points	19

Preliminary Result

Average Antecedent Precipitation Score	15.0
Preliminary Determination	Wetter than Normal



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
15	Wetter than Normal	Dry Season	Moderate wetness	19

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-12-03

User Inputs

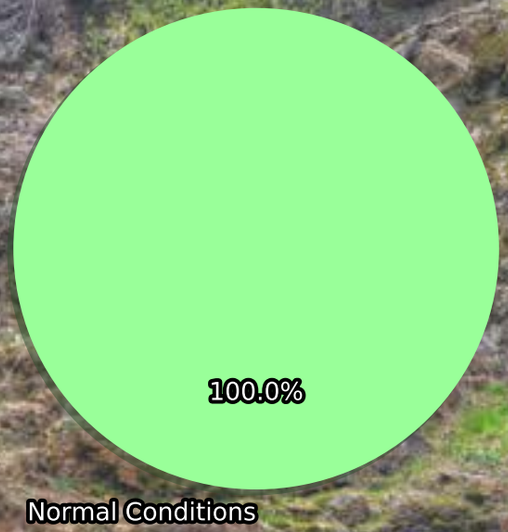
Coordinates	33.676708, -115.223972
Date	2017-07-17
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	181001005003
Watershed Size	26.35 mi^2
# Random Sampling Points	4

Preliminary Result

Average Antecedent Precipitation Score	12.5
Preliminary Determination	Normal Conditions



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
13	Normal Conditions	Dry Season	Normal	2
12	Normal Conditions	Dry Season	Normal	2

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-12-03

User Inputs

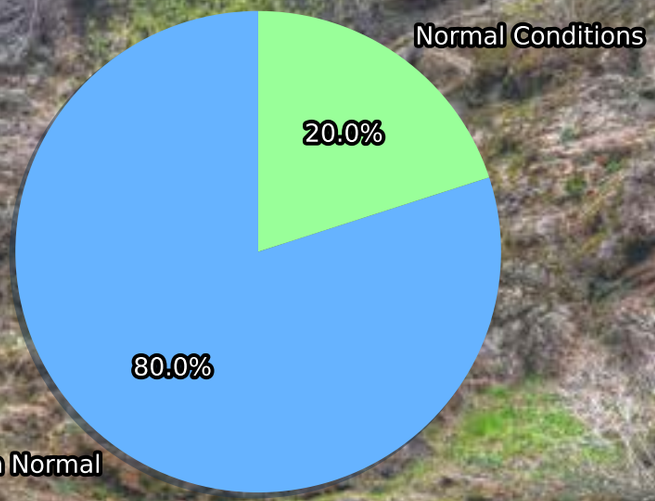
Coordinates	33.676708, -115.223972
Date	2017-07-23
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	181001005003
Watershed Size	26.35 mi^2
# Random Sampling Points	5

Preliminary Result

Average Antecedent Precipitation Score	15.0
Preliminary Determination	Wetter than Normal



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
16	Wetter than Normal	Dry Season	Normal	3
15	Wetter than Normal	Dry Season	Normal	1
12	Normal Conditions	Dry Season	Normal	1

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

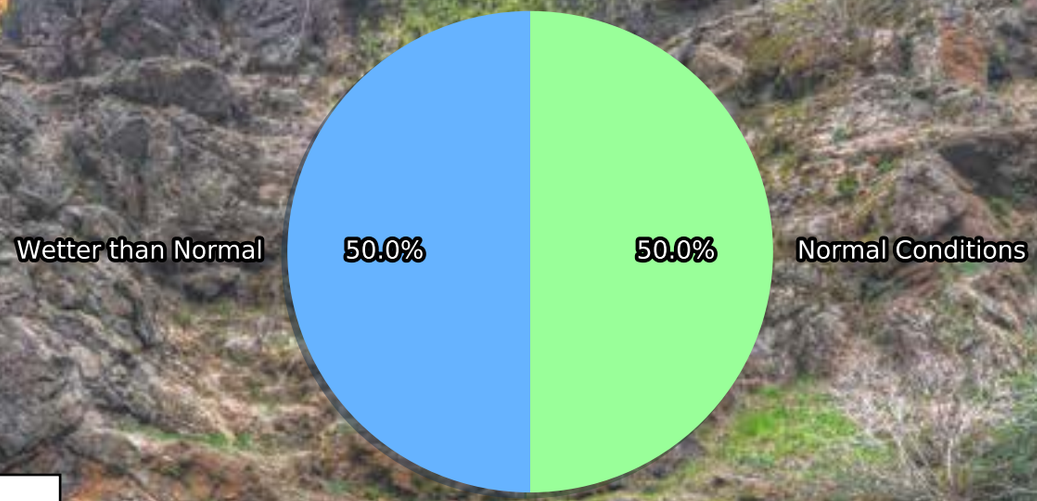
Generated on 2020-12-03

User Inputs

Coordinates	33.676708, -115.223972
Date	2019-04-24
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	181001005003
Watershed Size	26.35 mi^2
# Random Sampling Points	4



Preliminary Result

Average Antecedent Precipitation Score	14.25
Preliminary Determination	Normal Conditions

Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
16	Wetter than Normal	Dry Season	Moderate wetness	1
15	Wetter than Normal	Dry Season	Moderate wetness	1
13	Normal Conditions	Dry Season	Moderate wetness	2

APPENDIX D

Photo Log

Photo 7-1: Looking northwest. Pin flag to left is placed in upland landform; pin flag in middle placed along upland - floodplain boundary; pin flag to right is placed in floodplain.

Photo 7-2a: Looking west. Pin flag to left is placed in active floodplain while pin flag to right is placed in the low-flow channel.

Photo 7-2b: Looking northwest. Pin flag to left is placed in floodplain - low-flow channel boundary; pin flag in middle is placed in the low-flow channel; pin flag to right is located in upland.

Photo 7-3: Looking northwest. Pin flag to left is placed in low-flow channel; pin flag in middle is placed in the active floodplain; pin flag to right is located in upland.

Photo 21-1: Looking west across roadway toward largest central unvegetated ephemeral stream channel within Survey Site 11, shelving and bank visible in left side of photo.

Photo 21-2: Looking east at central unvegetated ephemeral stream channel. Existing pole and anchors located within feature. Debris stacking against pole visible from recent water flow events.

Photo 21-3: Looking east at larger eastern unvegetated ephemeral stream channel within Survey Site 11, shelving and bank visible in lest side of photo.

Photo 21-4: Looking west across road toward eastern unvegetated ephemeral stream channel extending from larger central feature.

Photo 86-1: Looking northeast. Pin flag is placed in a swale, upland interfluves on both sides.

Photo 86-2: Looking southwest. Pin flag to the left is placed in a swale; pin flag in the middle is placed in the low-flow channel; pin flag to the right is placed in upland.

Photo 86-3: Looking northeast. Pin flag to left is placed in the low-flow channel while the pin flag to the right is placed in upland/interfluve.

Photo 86-4: Looking west. Pin flag to left is placed in the low-flow channel, pin flag in the middle is placed on the OHWM; pin flag to the right is place is upland.

Photo 134-1: Looking northeast toward existing pole. Pole is located right on edge of unvegetated ephemeral stream channel with evidence of scouring from recent flow events at base of pole.

Photo 134-2: Looking northeast at unvegetated ephemeral stream channel flowing through fencing toward other site of poles.

Photo 137-1: Looking southwest. Pin flag to left is placed in the low-flow channel while the pin flag to the right is placed is upland desert pavement.

Photo 137-2: Pin flag to the left is placed in upland desert pavement while the pin flag to the right is placed in the low-flow channel.

Photo 137-3: Looking south. Pin flag to the left is placed in the low-flow channel and upland transitions along the OHWM while the pin flag to the right is placed in the low-flow channel.

Photo 147-1: Looking southwest. Pin flag to the left is placed in floodplain/watercourse (MESA) while the pin flag to the right is placed in a secondary channel.

Photo 147-2: Looking northeast. Left pin flag is placed in the active floodplain; the middle pin flag is placed in a secondary channel; the right pin flag is placed in the low-flow channel.

Photo 147-3: Looking northeast. Let pin flag is placed in the active floodplain; the middle-left flag is placed in the low-flow channel and floodplain boundary; the middle-center flag is placed in the low-flow channel; the middle-right flag is placed in the low-flow channel and floodplain boundary; the right flag is placed in the active floodplain. A secondary channel is visible in the lower left of the photograph.

Photo 174-1: Looking northeast. Left pin flag is placed in upland while the right pin flag is placed in a paleo channel/swale.

Photo 174-2: Looking north. Left pin flag placed in upland; middle pin flag placed in floodplain; right pin flag placed in secondary channel.

Photo 174-3: Looking southwest. Left pin flag is placed in the low-flow channel while the right pin flag is placed in the active floodplain/island.

Photo 174-4: Looking northeast. Left pin flag is placed in the low-flow channel while the right pin flag is placed in the active floodplain.

Photo 174-5: Looking south. Left pin flag is placed in the active floodplain/island while the right pin flag is placed in the low-flow channel.

Photo 174-6: Looking southeast. Transect measurement and feature marking.

Photo 174-7: Looking south. Left pin flag is placed in the low-flow channel; middle pin flag is located in the low-flow channel and floodplain boundary; right pin flag is placed in the active floodplain.

Photo 174-8: Looking north. Left pin flag is placed in upland while right pin flag is placed is the active floodplain.

Photo 249-1: Looking east toward basin with 3 poles in background center.

Photo 249-2: Looking west on other side of basin toward 2 poles in background left.

Photo 249-3: Looking west toward basin at edge of I-10 freeway, EM-B subtransmission alignment spans freeway.

APPENDIX E

Completed MESA Forms

Episodic Stream Indicator Data Sheet

Site ID: 7	Stream ID:	Date: 7/22/2017
Nearest Town: Desert Center, CA		County: Riverside
Investigators: EK, AG, JZ		

Base Map

Aerial Photo #: Google	Date: 2/6/2016	Topographic Map Name: Victory Pass, Calif.	Date: 1987

GPS Data

GPS Name: Arrow-100	Datum: WGS 84	Transect Elevation: 995 ft.	Zone 10 / (11)	GPS Error: ± 1.5 (ft) / m
GPS co-ords start of transect: 33.823403,-115.453506		GPS co-ords end of transect: 33.823255,-115.453727		

Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan	X	Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided	X	Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
X	Document habitat associations		Document a change in watercourse morphology
	Other:		

Date of most recent runoff event (if known): Unknown

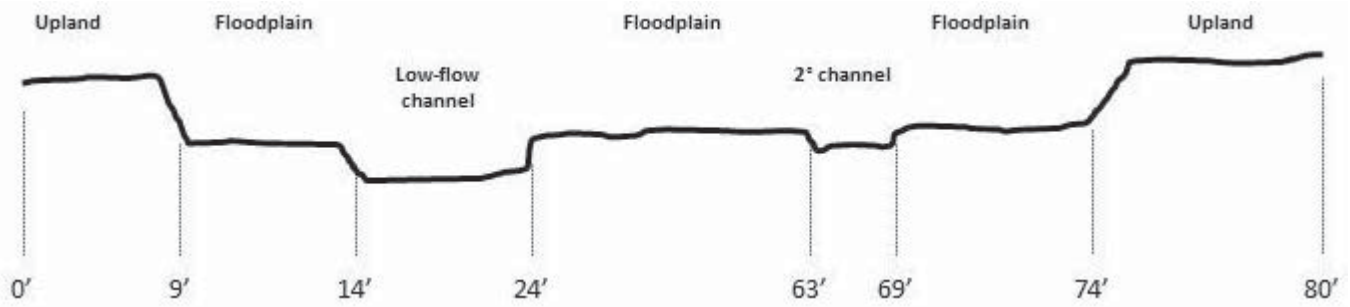
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

The transect is located across an incised compound channel within an alluvial fan. There is a single low-flow channel and a single secondary channel within a small floodplain. The watercourse is approximately 3-5 ft. below the level of the surrounding desert pavement uplands. The substrate within the watercourse is a mixture of sand, gravel, and cobble. There are graded dirt roads and utility lines downstream of the transect, but the upstream area appears to be undisturbed.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

NE — Not to scale — SW

Left ——— Right



Site ID: 7	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
				Estimated percentages		
X	Biotic soil crusts		Rock fractured in place	0	% Bedrock / Cemented substrate	
X	Bioturbation	X	Rock varnish	2	% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble	X	Rock weathering	30	% Cobble	≥ 64 – 256mm
	Carbonate etching	X	Rubified rock undersides	45	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	10	% Granule	≥ 2 – 4 mm
	Deflated surface	X	Surface rounding of landform	13	% Sand	≤ 2 mm
X	Pavement		Woody debris in place	0	% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel	X	Mud: (cracks) / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift	X	Vegetation-channel alignment
X	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
3%	Creosote bush = 2%, blue palo verde = 1%	Creosote bush = 1.5 X 2 m, blue palo verde = 3 X 4 m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

The total vegetation cover is higher in the watercourse (~10%) than in the surrounding uplands (~3%).

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Desert lavender and catclaw acacia are present in the watercourse, but absent from the surrounding uplands.

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

The uplands are very sparsely vegetated with creosote bush and blue palo verde. Both of these species are more abundant in the watercourse.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel	x	Secondary channels
x	Bifurcated flow		Sediment plastering
x	Drainage swales	x	Sediment ramps: (sand) / gravel
	Flow lineations	x	Sediment sheets: (sand) / gravel
x	Imbricated gravel	x	Sediment sorting
	Levee ridges: sand / gravel		Sediment tails: sand / gravel
	Mud: cracks / curls / drapes	x	Vegetation-channel alignments
	Organic drift		Wrack
x	Overturned rocks		Wrinkle marks
x	Out-of-channel flow: ✓ Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
2	% Boulder	≥ 256 mm
25	% Cobble	≥ 64 – 256 mm
25	% Pebble	≥ 4 – 64 mm
15	% Granule	≥ 2 – 4 mm
33	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

x	Cut banks		Rills	x	Water-cut benches
x	Exposed roots	x	Scour		Water level mark
	Headcuts	x	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10%	Blue palo verde 4%; creosote bush 3%; desert lavender 1%; catclaw acacia 1%; cheesebush 1%	Blue palo verde 3x4m; creosote bush 2x3m; desert lavender 2x1.5m; catclaw acacia 2x3m; cheesebush 1.5x2m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

The low-flow channel is unvegetated, while the floodplain has about 10% total vegetation cover.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

The low-flow channel is unvegetated, see above for composition of floodplain.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

The low-flow channel is unvegetated, see above for composition of floodplain.

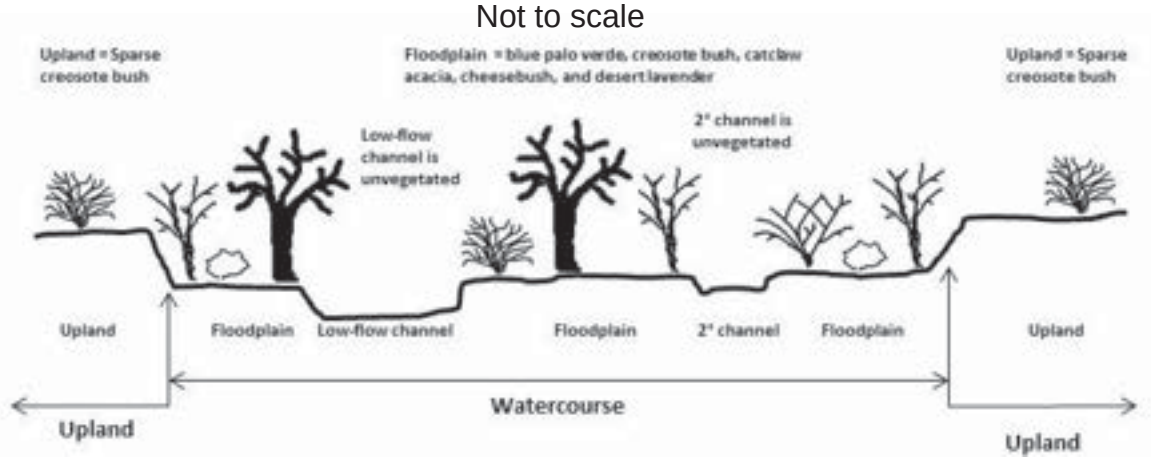
Site ID 7	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict	x	Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
x	Mud: (cracks) / (curls) polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

NE Not to scale SW



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
	See report figures and maps for photos and locations		

Episodic Stream Indicator Data Sheet												page 1 of 4
Site ID: 38			Stream ID:								Date: 7/22/2017	
Nearest Town: Desert Center, CA								County: Riverside				
Investigators: EK, AG, JZ												
Base Map												
Aerial Photo #: Google	Date: 2/6/2016		Topographic Map Name: Corn Springs								Date: 1986	
GPS Data												
GPS Name: Arrow-100	Datum: WGS 84		Transect Elevation: 605 ft.			Zone 10 / 11		GPS Error: ± 1.5 (ft)/ m				
GPS co-ords start of transect: 33.727815,-115.316102						GPS co-ords end of transect: 33.727749,-115.315946						
Geomorphic Province (✓one)			Mojave	X	Sonoran/Colorado		Great Basin	Other:				
Landform (✓ all that apply)												
	Headwater		Upper fan		Middle fan	X	Lower fan		Alluvial plain		Axial valley		Playa
Channel Form (✓ one)												
	Single thread		Braided		Compound	X	Distributary		Discontinuous	Other:		
Transect was selected to:												
X	Document fluvial activity & boundaries				Document channel elevations & boundaries							
X	Document habitat associations				Document a change in watercourse morphology							
	Other:											
Date of most recent runoff event (if known): Unknown												

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

The transect is located in the lower section of an alluvial fan where the interfluves between channels do not regularly flood and show indicators of upland habitat. The channels in the area have cut banks and sandy unvegetated bottoms. A regularly maintained dirt road and utility poles occur immediately downstream of the transect location.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

NW Not to scale SE

Left — Right

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon	x	Relict bars & swales	Estimated percentages		
x	Biotic soil crusts		Rock fractured in place	0	% Bedrock / Cemented substrate	
x	Bioturbation		Rock varnish	0	% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	3	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	25	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	35	% Granule	≥ 2 – 4 mm
x	Deflated surface	x	Surface rounding of landform	37	% Sand	≤ 2 mm
	Pavement		Woody debris in place	0	% Silt/Clay	Fines
	Other:					

Substrate Particle Size

Estimated percentages

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
x	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
6%	Creosote bush = 3%; desert ironwood = 2%; white bursage = <1%; indigo bush = 1%	Creosote bush 1.7 x 2 m; desert ironwood 4 x 3.5 m; white bursage 0.5 x 0.5 m; indigo bush 1.7 x 2.5 m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

The active channels are unvegetated.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Vegetation is similar throughout uplands and watercourse, but the channels are unvegetated.

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

The channels are unvegetated.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators				**Substrate Particle Size**		
	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering	0	% Bedrock / Cemented substrate	
x	Drainage swales	x	Sediment ramps: sand / gravel	0	% Boulder	≥ 256 mm
x	Flow lineations	x	Sediment sheets: sand / gravel	1	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	x	Sediment sorting	5	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	30	% Granule	≥ 2 – 4 mm
	Mud: cracks / curls / drapes	x	Vegetation-channel alignments	64	% Sand	≤ 2 mm
	Organic drift		Wrack	0	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: ☐ Lateral floodplain / Terminal floodplain ☐					
	Ripples					
	Other:					

Erosion Indicators					
x	Cut banks		Rills	x	Water-cut benches
	Exposed roots	x	Scour	x	Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0%, watercourse at transect location is limited to a single unvegetated channel	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

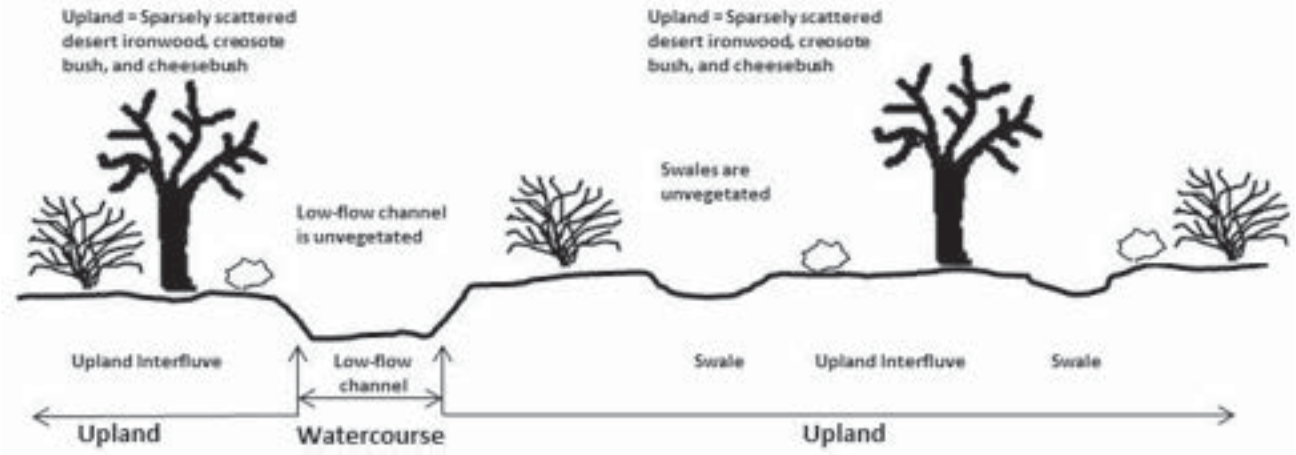
N/A

Site ID 38	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges	x	Springs		
	Coppice dunes: active / relict	x	Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under “Upland” and “Watercourse Complex”.



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
	See report figures and maps for photos and locations		

Episodic Stream Indicator Data Sheet												page 1 of 4
Site ID: 86			Stream ID:								Date: 7/22/2017	
Nearest Town: Desert Center, CA								County: Riverside				
Investigators: EK, AG, JZ												
Base Map												
Aerial Photo #: Google		Date: 2/6/2016			Topographic Map Name: Sidwinder Well, Calif						Date: 1983	
GPS Data												
GPS Name: Arrow-100		Datum: WGS 84			Transect Elevation: 665 ft.			Zone 10 / (11)		GPS Error: ± 1.5 (ft)/ m		
GPS co-ords start of transect: 33.670369,-115.219478								GPS co-ords end of transect: 33.670231,-115.219346				
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:					
Landform (✓ all that apply)												
	Headwater		Upper fan		Middle fan	X	Lower fan		Alluvial plain		Axial valley		Playa
Channel Form (✓ one)												
X	Single thread		Braided		Compound		Distributary		Discontinuous	Other:		
Transect was selected to:												
X	Document fluvial activity & boundaries						Document channel elevations & boundaries					
X	Document habitat associations						Document a change in watercourse morphology					
	Other:											
Date of most recent runoff event (if known): Unknown												

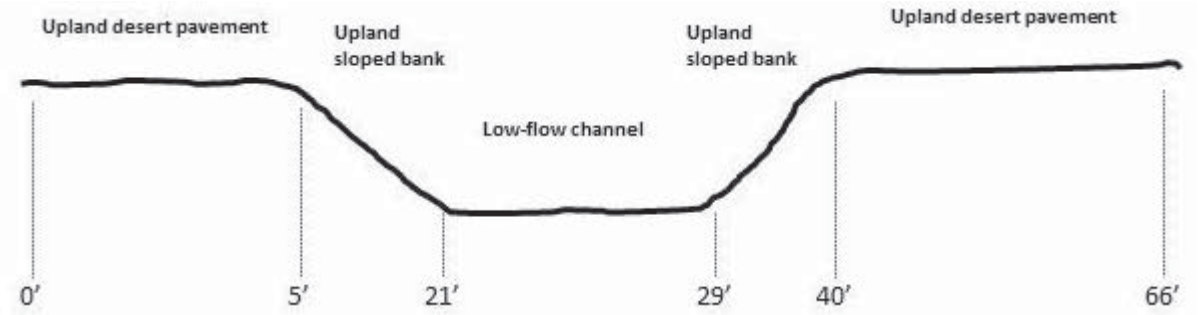
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

The transect is located in the lower section of an alluvial fan across a deeply incised single thread channel. The surrounding uplands are varnished desert pavement. The channel bottom is composed of sand and rock. There is some nearby OHV disturbance and some litter and debris in the channel upstream of the transect. There is a regularly maintained dirt road and utility poles upstream of the transect location.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

NE — Not to scale — SE

Left — Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
				Estimated percentages		
X	Biotic soil crusts	X	Rock fractured in place	0	% Bedrock / Cemented substrate	
	Bioturbation	X	Rock varnish	0	% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble	X	Rock weathering	7	% Cobble	≥ 64 – 256mm
	Carbonate etching	X	Rubified rock undersides	50	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	40	% Granule	≥ 2 – 4 mm
	Deflated surface	X	Surface rounding of landform	33	% Sand	≤ 2 mm
X	Pavement		Woody debris in place	0	% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
2%	Creosote bush = 2%; white bursage = <1%	Creosote bush 1.7 x 2 m; white bursage 0.75 x 1 m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

The vegetation in the upland flats is very sparse and is more abundant in the upland margins of the channel.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Desert ironwood occurs in the channel, but not in the adjacent uplands.

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Desert ironwood occurs in the channel, but not in the adjacent uplands. Creosote bush is slightly more abundant in the channel than in the adjacent uplands.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering	0	% Bedrock / Cemented substrate	
	Drainage swales		Sediment ramps: sand / gravel	0	% Boulder	≥ 256 mm
	Flow lineations		Sediment sheets: sand / gravel	1	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	x	Sediment sorting	5	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	20	% Granule	≥ 2 – 4 mm
x	Mud: cracks / curls / drapes	x	Vegetation-channel alignments	73	% Sand	≤ 2 mm
	Organic drift		Wrack	1	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: ☐ Lateral floodplain / Terminal floodplain ☐					
	Ripples					
	Other:					

Erosion Indicators

x	Cut banks		Rills		Water-cut benches
	Exposed roots	x	Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
5%	Creosote bush = 4%; desert ironwood = 1%; white bursage = <1%	Creosote bush 1.5 x 2m; desert ironwood 3 x 3m; white bursage 0.75 x 1m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

There is no floodplain at the transect location, just a single deeply incised channel.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

There is no floodplain at the transect location, just a single deeply incised channel.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

There is no floodplain at the transect location, just a single deeply incised channel.

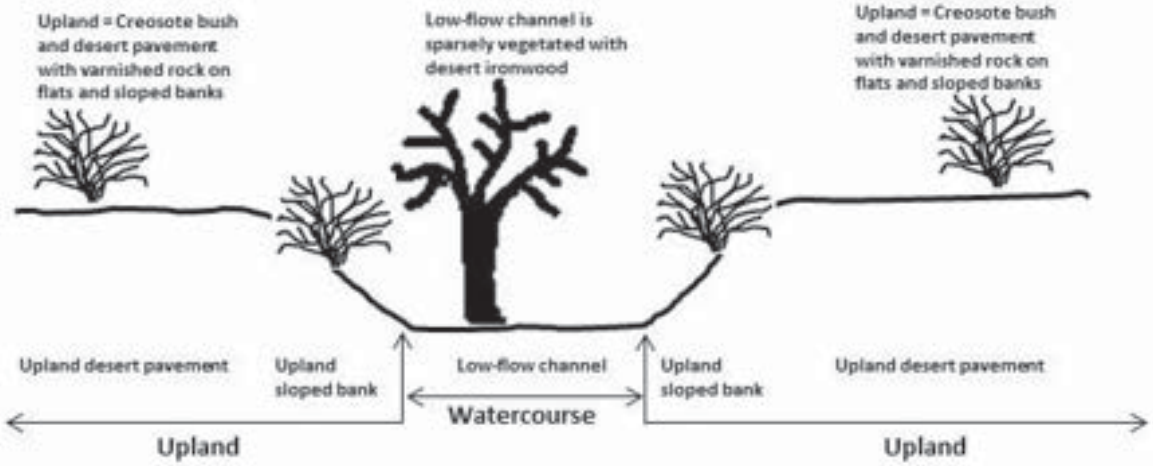
Site ID 86	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges	x	Springs		
	Coppice dunes: active / relict	x	Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
x	Mud: (cracks) / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
	See report figures and maps for photos and locations		

Episodic Stream Indicator Data Sheet												page 1 of 4
Site ID: 96			Stream ID:									Date: 7/22/2017
Nearest Town: Desert Center, CA									County: Riverside			
Investigators: EK, AG, JZ												
Base Map												
Aerial Photo #: Google		Date: 2/6/2016			Topographic Map Name: Sidewinder Well, Calif.							Date: 1983
GPS Data												
GPS Name: Arrow-100		Datum: WGS 84			Transect Elevation: 640 ft.				Zone 10 / (11)			GPS Error: ± 1.5 (ft) / m
GPS co-ords start of transect: 33.658374,-115.199148									GPS co-ords end of transect: 33.658256,-115.199021			
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:					
Landform (✓ all that apply)												
	Headwater		Upper fan		Middle fan	X	Lower fan		Alluvial plain		Axial valley	Playa
Channel Form (✓ one)												
	Single thread	X	Braided		Compound		Distributary		Discontinuous	Other:		
Transect was selected to:												
X	Document fluvial activity & boundaries						Document channel elevations & boundaries					
X	Document habitat associations						Document a change in watercourse morphology					
X	Other: To demonstrate the characteristics of a watercourse resulting from a break in the upstream levee system.											
Date of most recent runoff event (if known):												

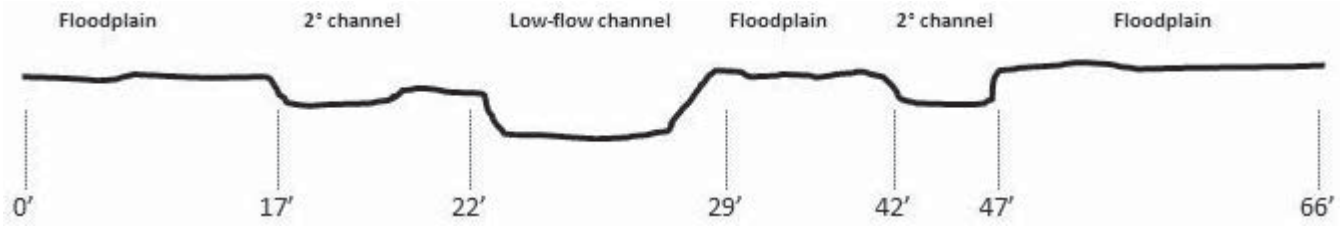
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Water flow to this area was previously blocked by an upstream levee (marked "diversion dike" on USGS maps), but currently receives water flow from an narrow breach in the levee about 1,100 meters upstream of the transect. The watercourse consists of a series of braided channels and a few smaller swales. The channel bottoms are sand. Scattered islands of cobble and rock occur within the watercourse. A regularly-maintained dirt access road and utility poles are located just upstream of the transect location. The watercourse is much broader than the project work area, and the transect samples representative section of the watercourse and does not include the adjacent uplands.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

NW — Not to scale — SE

Left — Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
	Bioturbation		Rock varnish		% Bedrock / Cemented substrate	
	Caliche: coatings / layers / rubble		Rock weathering		% Boulder	≥ 256 mm
	Carbonate etching		Rubified rock undersides		% Cobble	≥ 64 – 256mm
	Coppice dunes: active / relict		Soil development		% Pebble	≥ 4 – 64 mm
	Deflated surface		Surface rounding of landform		% Granule	≥ 2 – 4 mm
	Pavement		Woody debris in place		% Sand	≤ 2 mm
	Other:				% Silt/Clay	Fines

Upland area not sampled due to location outside of project work area

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

Upland area not sampled due to location outside of project work area

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel	x	Secondary channels
x	Bifurcated flow		Sediment plastering
x	Drainage swales	x	Sediment ramps: (sand) / gravel
	Flow lineations	x	Sediment sheets: (sand) / gravel
	Imbricated gravel	x	Sediment sorting
x	Levee ridges: sand / gravel		Sediment tails: sand / gravel
x	Mud: (cracks) / curls / drapes		Vegetation-channel alignments
	Organic drift		Wrack
x	Overturned rocks		Wrinkle marks
x	Out-of-channel flow: ☑ Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
5	% Boulder	≥ 256 mm
20	% Cobble	≥ 64 – 256 mm
30	% Pebble	≥ 4 – 64 mm
10	% Granule	≥ 2 – 4 mm
33	% Sand	≤ 2 mm
2	% Silt/Clay	Fines

Erosion Indicators

x	Cut banks		Rills	x	Water-cut benches
x	Exposed roots	x	Scour		Water level mark
	Headcuts	x	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
12%	Creosote bush = 4%; white bursage = 5%; desert ironwood = 2%; cheesebush = 1%	Creosote bush 2 x2 m; white bursage 0.75 x 1 m; desert ironwood 4x 3 m; cheesebush 1 x 2 m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

The low-flow channels are unvegetated.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

The low-flow channels are unvegetated.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

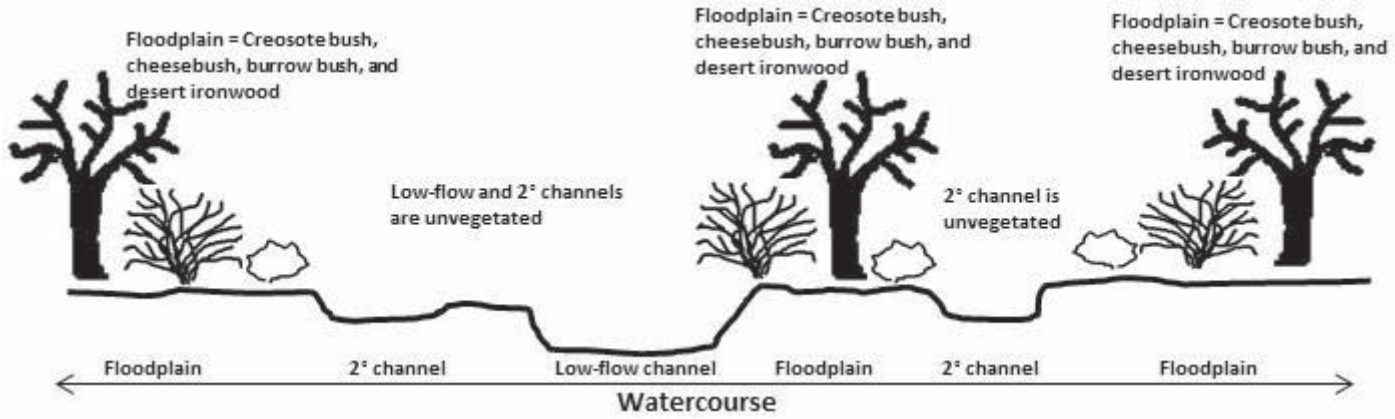
The low-flow channels are unvegetated.

Site ID 96	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts	x	Sand-filled channels		
	Beach ridges	x	Springs		
	Coppice dunes: active / relict	x	Substrate staining		
	Crusts: carbonate / salt / soda	x	Vegetation-landscape alignments		
x	Mud: (cracks) / (curls) / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
	See report figures and maps for photos and locations		

Episodic Stream Indicator Data Sheet													page 1 of 4
Site ID: 115			Stream ID:									Date: 7/22/2017	
Nearest Town: Desert Center									County: Riverside				
Investigators: EK, AG, JZ													
Base Map													
Aerial Photo #: google		Date: 2/6/2016			Topographic Map Name: Sidewinder Well, Calif.							Date: 1983	
GPS Data													
GPS Name: Arrow 100		Datum: WGS 84			Transect Elevation: 545 ft.				Zone 10 / (11)			GPS Error: ± 1.5 (ft)/ m	
GPS co-ords start of transect: 33.627283,-115.145877									GPS co-ords end of transect: 33.627089,-115.145519				
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:						
Landform (✓ all that apply)													
	Headwater		Upper fan		Middle fan	X	Lower fan	X	Alluvial plain		Axial valley		Playa
Channel Form (✓ one)													
	Single thread	X	Braided		Compound		Distributary		Discontinuous	Other:			
Transect was selected to:													
X	Document fluvial activity & boundaries						Document channel elevations & boundaries						
X	Document habitat associations						Document a change in watercourse morphology						
	Other:												
Date of most recent runoff event (if known): Unknown													

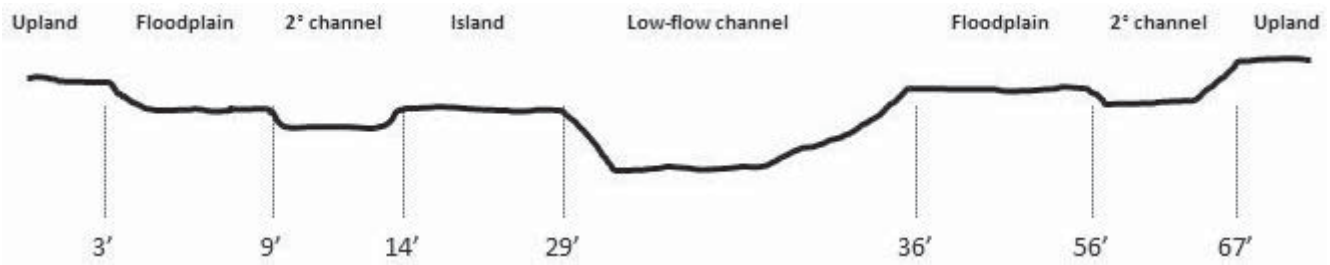
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

The transect is located at the margin of a watercourse that originates in an outflow area of the upstream levee system (marked "diversion dike" on USGS maps) located about 360 meters upstream. The watercourse consists of a system of braided low-flow and secondary channels with scattered interfluve islands. The unvegetated channel bottoms are composed of sand. There is a regularly maintained dirt access road and utility lines located downstream of the transect.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

NW — Not to scale — SE

Left — Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon	x	Relict bars & swales	Estimated percentages		
	Biotic soil crusts		Rock fractured in place	0	% Bedrock / Cemented substrate	
x	Bioturbation		Rock varnish	0	% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	2	% Cobble	≥ 64 – 256mm
	Carbonate etching	x	Rubified rock undersides	35	% Pebble	≥ 4 – 64 mm
x	Coppice dunes: (active) / relict		Soil development	5	% Granule	≥ 2 – 4 mm
x	Deflated surface	x	Surface rounding of landform	53	% Sand	≤ 2 mm
x	Pavement		Woody debris in place	0	% Silt/Clay	Fines
	Other:					

Substrate Particle Size

No fluvial indicators were observed in the uplands.

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

No fluvial indicators were observed in the uplands.

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
3%	Creosote bush = 3%; white bursage = <1%; cheesebush = <1%	Creosote bush 1.3 x 1.5 m; white bursage 0.75 x 0.75 m; cheesebush = 1 x 1 m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

There is less vegetation cover in the upland areas than in the drainage.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Desert ironwood and blue palo verde occur in the watercourse, but are mostly absent from the upland areas.

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Creosote bush is more abundant in the uplands than in the watercourse.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (**+**) for those indicators observed, and a minus (**–**) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

x	Bar forms: (sand) / gravel	x	Secondary channels
x	Bifurcated flow	x	Sediment plastering
x	Drainage swales		Sediment ramps: sand / gravel
x	Flow lineations		Sediment sheets: sand / gravel
	Imbricated gravel	x	Sediment sorting
x	Levee ridges: (sand) / gravel		Sediment tails: sand / gravel
x	Mud: (cracks) / curls / drapes		Vegetation-channel alignments
	Organic drift		Wrack
x	Overturned rocks		Wrinkle marks
x	Out-of-channel flow: ☑ Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
6	% Cobble	≥ 64 – 256 mm
15	% Pebble	≥ 4 – 64 mm
25	% Granule	≥ 2 – 4 mm
52	% Sand	≤ 2 mm
2	% Silt/Clay	Fines

Erosion Indicators

x	Cut banks	x	Rills	x	Water-cut benches
x	Exposed roots	x	Scour	x	Water level mark
	Headcuts	x	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
6%	Creosote bush = 5%; blue palo verde = 1%; desert ironwood = <1%; cheesebush = <1%; big galleta = <1%	Creosote bush 1.5 x 2 m; blue palo verde 3 x 6 m; desert ironwood = 4 x 6 m; cheesebush = 1 x 1 m; big galleta = 1 x 0.75 m

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

The low-flow channel is unvegetated

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

The low-flow channel is unvegetated

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

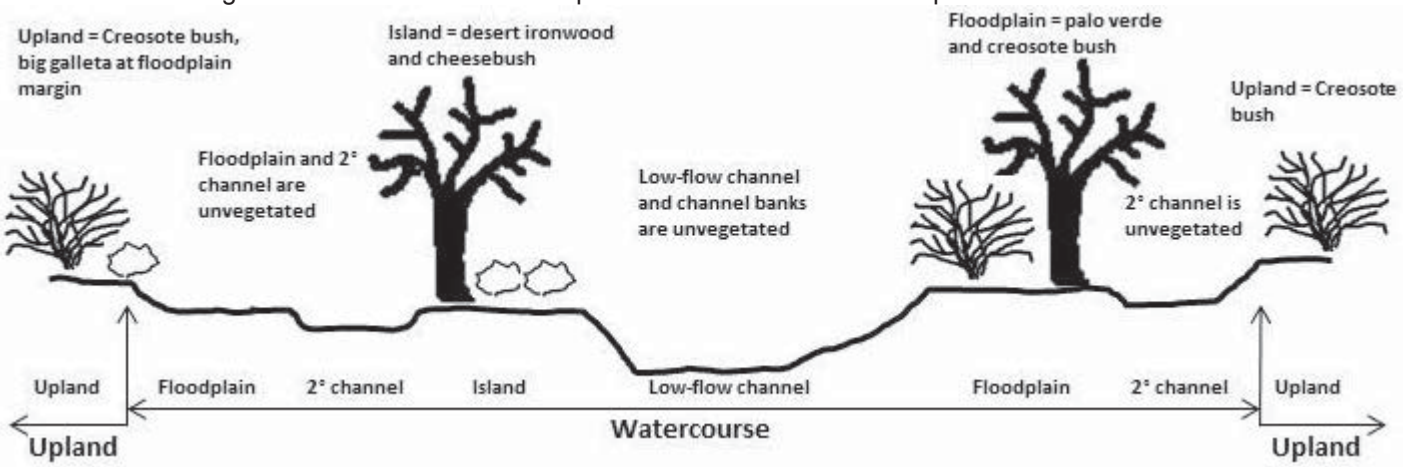
The low-flow channel is unvegetated

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts	x	Sand-filled channels		
	Beach ridges		Springs		
x	Coppice dunes: (active) / relict	x	Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
x	Mud: (cracks) / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
	See report figures and maps for photos and locations		

APPENDIX F

Completed USACE OHWM Forms

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Eagle Mountain - Blythe delineation
Project Number:
Stream: Survey area 7
Investigator(s): EK, AG, JZ

Date: 7/22/2017
Town: Desert Center
Photo begin file#:

Time:
State: California
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates: 33.823403,-115.453506

Potential anthropogenic influences on the channel system:

There are graded dirt roads and utility lines downstream of the transect, but the upstream area appears to be undisturbed.

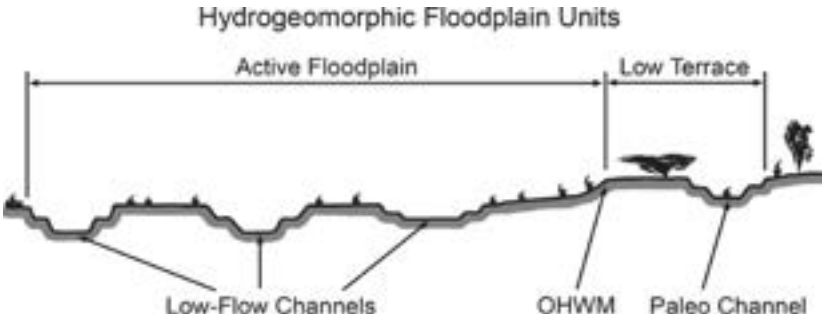
Brief site description:

The transect is located across an incised compound channel within an alluvial fan. There is a single low-flow channel and a single secondary channel within a small floodplain. The watercourse is approximately 3-5 ft. below the level of the surrounding desert pavement uplands. The substrate within the watercourse is a mixture of sand, gravel, and cobble.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2/6/2016
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

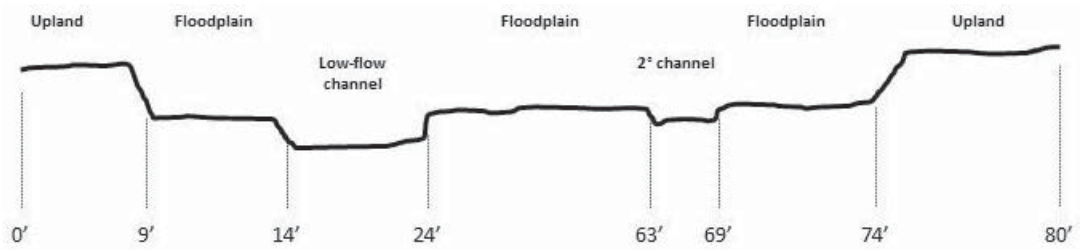


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☒ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: Survey Area 7 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Cross section drawing:



OHWM

GPS point: See map series in JD report

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: mixture of sand, pebble and cobble

Total veg cover: 10 % Tree: 4 % Shrub: 6 % Herb: <1 %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [x] Surface relief
- [x] Other: secondary channels
- [x] Other: overturned rocks
- [ ] Other: _____

Comments:

Project ID: Survey Area 7 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: mostly sand and gravel, some cobble

Total veg cover: 0 % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☒ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☒ Surface relief
- ☒ Other: exposed roots
- ☒ Other: imbricated gravel
- ☒ Other: sediment ramps

Comments:

The low-flow channel is scoured and devoid of vegetation.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☒ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Eagle Mountain - Blythe delineation
Project Number:
Stream: Survey Area 38
Investigator(s): EK, AG, JZ

Date: 7/22/2017
Town: Desert Center
Photo begin file#:

Time:
State: California
Photo end file#:

Y ■ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ■ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates: 33.727815,-115.316102

Potential anthropogenic influences on the channel system:

A regularly maintained dirt road and utility poles occur immediately downstream of the transect location.

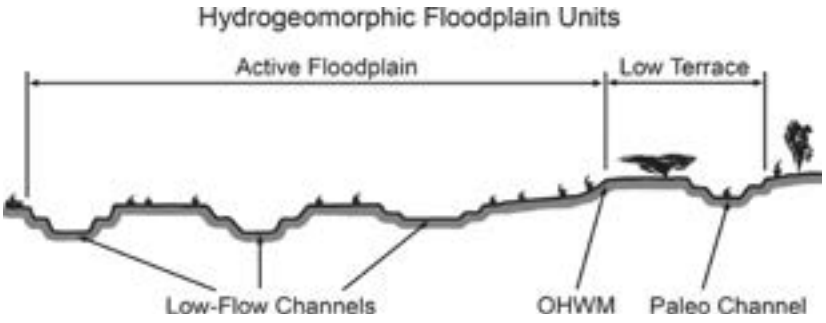
Brief site description:

The transect is located in the lower section of an alluvial fan where the interfluves between channels do not regularly flood and show indicators of upland habitat. The channels in the area have cut banks and sandy unvegetated bottoms.

Checklist of resources (if available):

- ■ Aerial photography
  Dates: 2/6/2016
- ■ Topographic maps
- ☐ Geologic maps
- ■ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ■ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ■ Mapping on aerial photograph
   - ■ Digitized on computer
   - ■ GPS
   - ☐ Other:

Project ID: Survey Area 38 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Cross section drawing:

OHWM

GPS point: See map series in JD report

Indicators:

- [■] Change in average sediment texture
- [ ] Change in vegetation species
- [■] Change in vegetation cover
- [■] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit: [■] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: 0 % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- [■] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Low-flow channel is scoured and devoid of vegetation.

Project ID: Survey Area 38 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ■ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ■ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Eagle Mountain - Blythe delineation
Project Number:
Stream: Survey Area 86
Investigator(s): EK, AG, JZ

Date: 7/22/2017
Town: Desert Center
Photo begin file#:

Time:
State: California
Photo end file#:

Y ■ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ■ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates: 33.670369,-115.219478

Potential anthropogenic influences on the channel system:

There is some nearby OHV disturbance and some litter and debris in the channel upstream of the transect. There is a regularly maintained dirt road and utility poles upstream of the transect location.

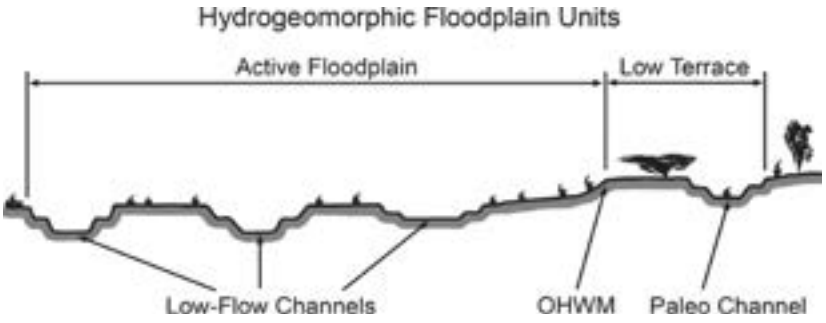
Brief site description:

The transect is located in the lower section of an alluvial fan across a deeply incised single thread channel. The surrounding uplands are varnished desert pavement. The channel bottom is composed of sand and rock.

Checklist of resources (if available):

- ■ Aerial photography
  Dates: 2/6/2016
- ■ Topographic maps
- ☐ Geologic maps
- ■ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ■ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

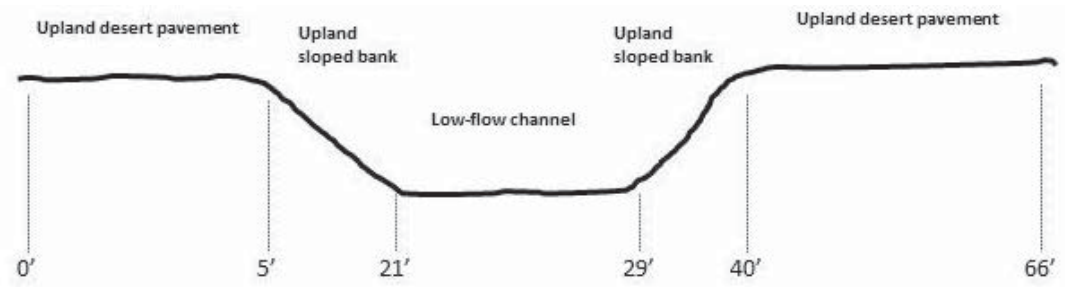


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ■ Mapping on aerial photograph
   - ■ Digitized on computer
   - ■ GPS
   - ☐ Other:

Project ID: Survey Area 86 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Cross section drawing:



OHWM

GPS point: See map series in JD report

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: mostly sand and granule, some pebble

Total veg cover: 1 % Tree: 1 % Shrub: 0 % Herb: 0 %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [x] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [x] Other: sediment sorting
- [ ] Other: _____
- [ ] Other: _____

Comments:

Project ID: Survey Area 86 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ■ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ■ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Eagle Mountain - Blythe delineation
Project Number:
Stream: Survey Area 96
Investigator(s): EK, AG, JZ

Date: 7/22/2017
Town: Desert Center
Photo begin file#:

Time:
State: California
Photo end file#:

Y ■ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ■ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates: 33.658374,-115.199148

Potential anthropogenic influences on the channel system:

Water flow to this area was previously blocked by an upstream levee (marked "diversion dike" on USGS maps), but currently receives water flow from an narrow breach in the levee about 1,100 meters upstream of the transect. A regularly-maintained dirt access road and utility poles are located just upstream of the transect location

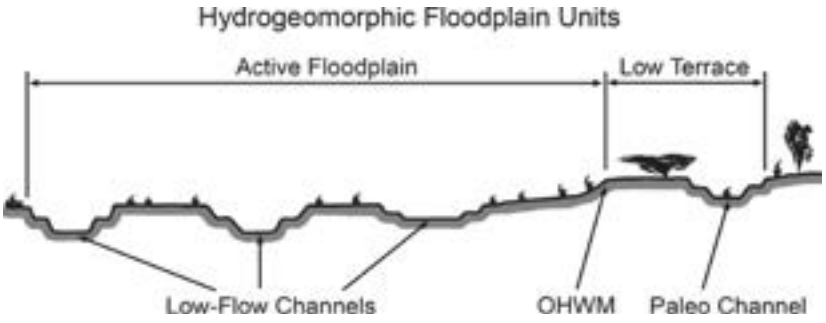
Brief site description:

The watercourse consists of a series of braided channels and a few smaller swales. The channel bottoms are sand. Scattered islands of cobble and rock occur within the watercourse.

Checklist of resources (if available):

- ■ Aerial photography
  Dates: 2/6/2016
- ■ Topographic maps
- ☐ Geologic maps
- ■ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ■ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

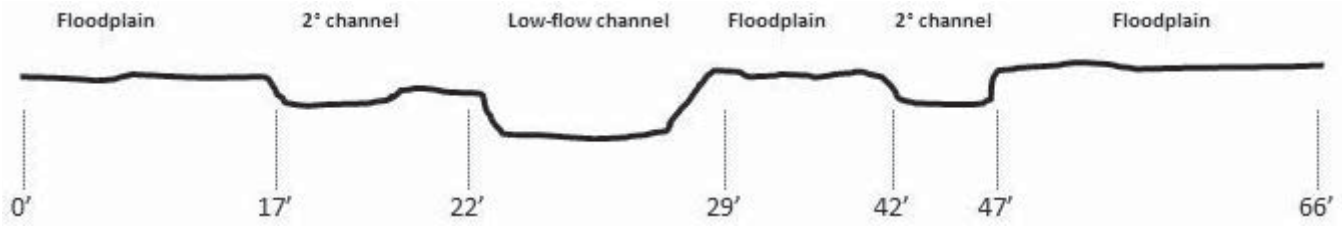


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ■ Mapping on aerial photograph
   - ■ Digitized on computer
   - ■ GPS
   - ☐ Other:

Project ID: Survey Area 96 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Cross section drawing:



OHWM

GPS point: See map series in JD report

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: 0 % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [x] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [x] Surface relief
- [x] Other: Sediment sheets
- [x] Other: Bifurcated flow
- [x] Other: Overturned rocks

Comments:

The low-flow channel is scoured and devoid of vegetation.

Project ID: Survey Area 96 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Floodplain unit: ☐ Low-Flow Channel ■ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: Mixture of sand, pebble, and cobble

Total veg cover: 12 % Tree: 2 % Shrub: 10 % Herb: <1 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ■ Late (herbaceous, shrubs, mature trees)

Indicators:

- ■ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ■ Presence of bed and bank
- ■ Benches
- ☐ Soil development
- ■ Surface relief
- ■ Other: Secondary channels
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ■ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Eagle Mountain - Blythe delineation
Project Number:
Stream: Survey Area 115
Investigator(s): EK, AG, JZ

Date: 7/22/2017
Town: Desert Center
Photo begin file#:

Time:
State: California
Photo end file#:

Y ■ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ■ Is the site significantly disturbed?

Location Details:

Projection: WGS **Datum:** 1984
Coordinates: 33.627283,-115.145877

Potential anthropogenic influences on the channel system:

The transect is located at the margin of a watercourse that originates in an outflow area of the upstream levee system (marked "diversion dike" on USGS maps) located about 360 meters upstream. There is a regularly maintained dirt access road and utility lines located downstream of the transect.

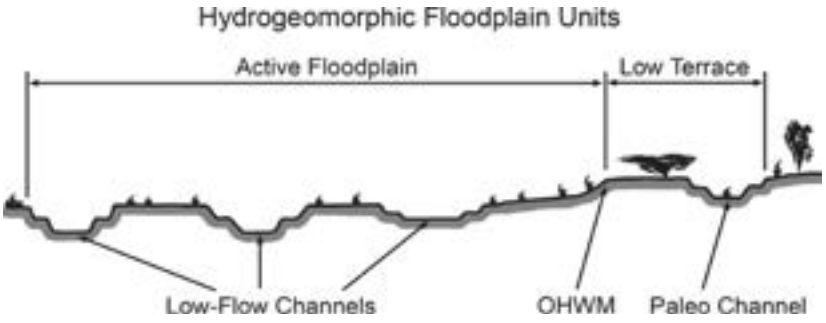
Brief site description:

The watercourse consists of a system of braided low-flow and secondary channels with scattered interfluve islands. The unvegetated channel bottoms are composed of sand.

Checklist of resources (if available):

- ■ Aerial photography
  Dates: 2/6/2016
- ■ Topographic maps
- ☐ Geologic maps
- ■ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ■ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

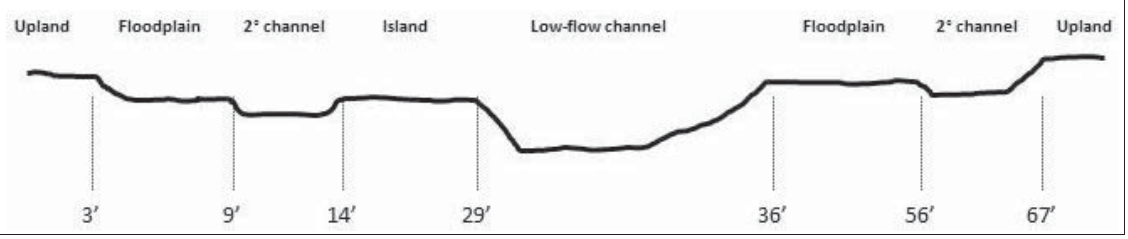


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ■ Mapping on aerial photograph
   - ■ Digitized on computer
   - ■ GPS
   - ☐ Other:

Project ID: Survey Area 115 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Cross section drawing:



OHWM

GPS point: See map series in JD report

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: Sand

Total veg cover: 0 % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [x] Other: flow liniations
- [x] Other: Bifurcated flow
- [x] Other: Sediment sorting

Comments:

The low-flow channel is scoured and devoid of vegetation.

Project ID: Survey Area 115 **Cross section ID:** **Date:** 7/22/2017 **Time:**

Floodplain unit: ☐ Low-Flow Channel ■ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: Sand, granule, and pebble

Total veg cover: 6 % Tree: 1 % Shrub: 4 % Herb: 1 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ■ Late (herbaceous, shrubs, mature trees)

Indicators:

- ■ Mudcracks
- ■ Ripples
- ☐ Drift and/or debris
- ■ Presence of bed and bank
- ■ Benches
- ☐ Soil development
- ■ Surface relief
- ■ Other: Secondary channels
- ■ Other: Exposed roots
- ■ Other: Scour

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: See map series in JD report

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ■ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

APPENDIX G

Tables of Results by Survey Site

Table 14. Potential Jurisdictional Waters of the State (RWQCB/CDFW Jurisdiction) Existing Conditions by Survey Site #

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
1	--	--	--	0.02	81.69	--	--
2	--	--	--	0.19	513.64	0.61	1,392.07
3	--	--	--	0.02	177.01	0.02	177.10
4	--	--	--	0.17	535.23	0.10	138.33
5	--	--	--	0.04	261.91	--	--
6	--	--	--	0.32	490.95	--	--
7	--	--	--	0.52	2,064.77	0.10	131.35
9	--	--	--	0.04		--	--
10	--	--	--	--	--	0.04	
11	--	--	--	0.02		--	--
12	--	--	--	0.09	646.54	--	--
13	--	--	--	0.04	193.16	0.01	21.39
14	--	--	--	<0.01		--	--
15	--	--	--	0.05		--	--
16	--	--	--	0.03		--	--
17	--	--	--	0.05		--	--
18	--	--	--	0.06		--	--
19	--	--	--	0.05		--	--
20	--	--	--	0.07		--	--
21	--	--	--	1.14	577.14	<0.01	--
22	--	--	--	--	--	0.15	
25	--	--	--	0.14	470.34	--	--
26	--	--	--	<0.01		--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
27	--	--	--	0.01		--	--
28	--	--	--	0.05		--	--
29	--	--	--	0.02		--	--
30	--	--	--	0.04		--	--
31	--	--	--	<0.01		--	--
32	--	--	--	0.01		--	--
33	--	--	--	0.02		--	--
35	--	--	--	0.12	557.89	--	--
37	--	--	--	0.04		--	--
38	--	--	--	0.06		--	--
39	--	--	--	0.06		--	--
40	--	--	--	0.20	923.77	--	--
41	--	--	--	0.07		--	--
42	--	--	--	0.10		--	--
43	--	--	--	0.07		--	--
44	--	--	--	<0.01		--	--
45	--	--	--	0.03		--	--
46	--	--	--	0.09		--	--
51	--	--	--	0.01		--	--
58	--	--	--	0.02		--	--
65	--	0.02	212.95	--	--	--	--
66	--	0.07	791.99	--	--	--	--
74	--	--	--	0.02		--	--
75	--	--	--	0.07		--	--
76	--	--	--	0.01	159.65	0.14	162.20
77	--	--	--	0.02	191.10	--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
78	--	--	--	0.03		--	--
79	--	--	--	0.03		--	--
80	--	--	--	0.03		--	--
81	--	--	--	0.07		--	--
83	--	--	--	<0.01		--	--
85	--	--	--	0.06		0.01	
86	--	--	--	0.02		--	--
87	--	--	--	0.03		--	--
88	--	--	--	0.08	367.90	--	--
89	--	--	--	0.05		--	--
90	--	--	--	0.05		--	--
91	--	--	--	0.10		--	--
92	--	--	--	0.09		--	--
93	--	--	--	0.10		--	--
94	--	--	--	0.07		--	--
95	--	--	--	0.03		--	--
96	--	--	--	0.03		--	--
97	--	--	--	0.05		--	--
98	--	--	--	0.12		--	--
99	--	--	--	0.08		0.01	
100	--	--	--	0.03		0.04	
101	--	--	--	0.09		--	--
102	--	--	--	0.04	454.62	--	--
103	--	--	--	0.01		--	--
104	--	--	--	0.04		--	--
106	--	--	--	0.08		--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
107	--	--	--	0.03		--	--
108	--	--	--	0.19	171.39	--	--
109	--	--	--	0.07		--	--
113	--	--	--	<0.01		--	--
114	--	--	--	0.01		--	--
120	--	--	--	0.10		--	--
121	--	--	--	0.06		--	--
131	--	--	--	0.10		--	--
132	--	--	--	0.13		--	--
134	--	--	--	0.05	217.80	--	--
135	--	--	--	0.01		0.01	
136	--	--	--	0.01		--	--
137	--	--	--	0.18	775.29	0.05	212.56
138	--	--	--	0.01		--	--
139	--	--	--	0.05		--	--
141	--	--	--	0.13		--	--
142	--	--	--	0.02		--	--
147	--	--	--	0.15	164.58	--	--
148	--	--	--	0.03		--	--
150	--	--	--	0.10		--	--
151	--	--	--	0.01		--	--
152	--	--	--	0.06		--	--
153	--	--	--	0.01		--	--
155	--	--	--	0.21		--	--
156	--	--	--	0.04	317.72	--	--
158	--	--	--	0.01		--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
159	--	--	--	0.05		--	--
160	--	--	--	0.01		--	--
162	--	--	--	0.01		--	--
164	--	--	--	0.08		--	--
165	--	--	--	<0.01		--	--
168	--	--	--	0.02		--	--
169	--	--	--	0.06		--	--
173	--	--	--	0.03		--	--
174	--	--	--	0.10	173.14	--	--
181	--	--	--	0.02		--	--
184	--	--	--	0.10		--	--
185	--	--	--	0.02		--	--
187	--	--	--	0.02		--	--
189	--	--	--	0.18		--	--
190	--	--	--	0.02		--	--
204	--	--	--	0.03		--	--
214	--	--	--	0.01		--	--
216	--	--	--	<0.01		--	--
223	--	--	--	0.02		--	--
224	0.02	--	--	0.01		--	--
225	--	--	--	0.05		--	--
234	--	--	--	0.01		--	--
245	0.30	--	--	0.01		--	--
246	0.67	--	--	--		--	--
247	0.49	--	--	0.01		--	--
248	0.48	--	--	--		--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
249	2.66	--	--	--		--	--
251	--	--	--	0.19		--	--
252	0.29	--	--	--		--	--
253	0.24	--	--	--		--	--
254	0.19	--	--	--		--	--
255	0.19	--	--	--		--	--
256	0.18	--	--	--		--	--
257	0.19	--	--	--		--	--
261	0.18	--	--	--		--	--
262	0.19	--	--	--		--	--
263	0.19	--	--	--		--	--
264	0.19	--	--	--		--	--
265	0.18	--	--	--		--	--
266	0.19	--	--	--		--	--
267	0.19	--	--	--		--	--
268	0.19	--	--	--		--	--
271	0.19	--	--	--		--	--
272	0.19	--	--	--		--	--
273	0.17	--	--	--		--	--
274	0.14	--	--	<0.01		--	--
275	0.19	--	--	<0.01		--	--
283	--	--	--	<0.01		--	--
284	--	--	--	0.02		--	--
286	--	--	--	0.03		--	--
287	--	--	--	0.08		--	--
293	--	--	--	0.02		--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
294	--	--	--	0.02		0.01	
296	--	--	--	0.01		--	--
297	--	0.05	--	0.01		--	--
298	--	0.07	261.80	--	--	--	--
299	--	0.06	209.97	--	--	0.01	81.22
300		0.03		0.01		<0.01	
301	--	--	--	<0.01		--	--
302	--	--	--	<0.01		--	--
306	--	--	--	0.06	255.99	--	--
311	--	--	--	<0.01		--	--
312	--	--	--	0.01		--	--
313	--	--	--	--		<0.01	
314	--	--	--	0.02		--	--
316	--	--	--	<0.01		--	--
319	--	--	--	0.01		--	--
320	--	--	--	0.03	187.59	--	--
321	--	--	--	0.03		0.02	
323	--	--	--	<0.01		--	--
324	--	--	--	0.01	102.28	--	--
325	--	--	--	<0.01		--	--
326	--	--	--	<0.01		--	--
328	--	--	--	<0.01		--	--
331	--	--	--	0.01		--	--
332	--	--	--	0.03		--	--
333	--	--	--	0.02	142.27	0.05	235.42
334	--	--	--	<0.01	42.77	--	--

Survey Site #	Basin	Ditch/Canal		Unvegetated Channel		Vegetated Channel	
	Acres	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
336	--	--	--	<0.01		--	--
339	--	--	--	0.02		--	--
340	0.05	--	--	--	--	--	--
341	--	--	--	0.03	541.85	--	--
344	0.07	--	--	--	--	--	--
353	0.05	--	--	--	--	--	--
358	0.01	--	--	--	--	--	--
TOTAL	**8.44**	**0.30**	**1,476.70**	**8.88**	**11,759.98**	**1.39**	**2,867.32**

Table 15. Potential Jurisdictional Waters of the State (CDFW Exclusive Jurisdiction) Existing Conditions by Survey Site #

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
1	--	0.01	--	--
2	--	0.01	0.01	0.65
3	--	0.02	--	--
4	--	0.06	<0.01	0.56
5	--	0.01	--	0.38
6	--	0.01	--	0.51
7	--	0.09	--	0.79
9	--	0.02	--	--
10	--	--	0.01	--
11	--	0.01	--	--
12	--	--	--	0.01
13	--	<0.01	--	0.38
14	--	<0.01	--	--
15		0.02	--	--
16		0.02	--	0.08
17		0.03	--	--
18		0.03	--	0.19
19		0.02	--	0.20
20		<0.01	--	0.07
21	--	0.02	--	1.78
22	--	--	--	0.14
25	--	0.02	--	0.15

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
26	--	<0.01	--	--
27	--	<0.01	--	--
28	--	0.02	--	--
29	--	0.02	--	--
30	--	0.01	--	--
31	--	<0.01	--	--
32	--	<0.01	--	--
33	--	0.01	--	--
35	--	0.02	--	--
37	--	0.02	--	--
38	--	0.02	--	--
39	--	0.02	--	--
40	--	0.01	--	--
41	--	0.03	--	--
42	--	0.03	--	--
43	--	0.03	--	--
44	--	<0.01	--	--
45	--	<0.01	--	--
46	--	0.02	--	--
51	--	0.07	--	--
58	--	<0.01	--	--
65	0.03	--	--	--
66	0.11	--	--	--
74	--	0.02	--	--

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
75	--	<0.01	--	--
76	--	0.01	--	0.77
77	--	0.03	--	--
78	--	0.03	--	--
79	--	0.03	--	--
80	--	0.04	--	--
81	--	0.06	--	--
83	--	<0.01	--	--
85	--	<0.01	<0.01	--
86	--	0.02	--	--
87	--	0.04	--	--
88	--	<0.01	--	--
90	--	0.02	--	--
92	--	0.03	--	0.14
94	--	0.03	--	--
95	--	0.02	--	--
97	--	0.01	--	--
98	--	0.05	--	--
99	--	<0.01	--	--
101	--	0.02	--	--
102	--	<0.01	--	--
104	--	0.05	--	--
106	--	0.04	--	--
107	--		--	0.56

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
108	--	0.01	--	0.80
109	--	<0.01	--	--
113	--	0.01	--	--
114	--		--	--
120	--	0.05	--	0.53
121	--	0.03	--	0.25
131	--	0.02	--	-
132	--		--	0.49
134	--	0.02	--	0.48
135	--	<0.01	--	0.61
136	--	<0.01	--	--
137	--	0.07	0.02	0.63
139	--	0.02	--	0.48
141	--	0.02	--	0.48
142	--	0.02	--	--
147	--	--	--	0.49
148	--	<0.01	--	--
150	--	0.03	--	--
151	--	0.01	--	--
152	--	0.01	--	--
153	--	<0.01	--	--
155	--	0.06	--	0.38
156	--	0.14	--	0.22
158	--	0.01	--	--

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
159	--	0.02	--	--
160	--		--	--
162	--	0.01	--	--
164	--	0.01	--	--
165	--	<0.01	--	--
168	--	0.01	--	--
169	--	0.01	--	--
173	--	<0.01	--	--
174	--	0.07	--	0.19
181	--	<0.01	--	--
184	--	0.03	--	0.19
185	--	0.02	--	0.08
187	--	<0.01	--	--
189	--	0.10	--	0.35
190	--	0.01	--	--
204	--	0.02	--	0.04
209	--		--	0.16
214	--	<0.01	--	--
216	--	<0.01	--	--
223	--	0.01	--	--
224	--	<0.01	--	0.11
225	--	0.01	--	0.13
234	--	0.01	--	--
244	--	--	--	--

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
245	--	--	--	--
246	--	--	--	--
247	--	0.01	--	--
248	--	-	--	--
249	--	--	--	--
250	--	--	--	0.26
251	--	0.06	--	0.29
252	--	--	--	--
253	--	--	--	--
254	--	--	--	--
255	--	--	--	--
256	--	--	--	--
257	--	--	--	--
261	--	--	--	--
262	--	--	--	--
263	--	--	--	--
264	--	--	--	--
265	--	--	--	--
266	--	--	--	--
267	--	--	--	--
268	--	--	--	--
271	--	--	--	--
272	--	--	--	--
273	--	--	--	--

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
274	--	0.05	--	--
275	--	<0.01	--	--
283	--	<0.01	--	--
284	--	--	--	--
286	--	--	--	--
287	--	0.01	--	--
293	--	--	--	--
294	--	--	--	--
296	--	0.02	--	--
297	0.02	--	--	--
298	0.02	--	--	0.11
299	0.02	--	<0.01	0.08
300	0.01	--	--	0.10
301	--	<0.01	--	--
302	--	<0.01	--	--
306	--	--	--	0.22
310	--	--	--	0.30
311	--	<0.01	--	--
312	--	--	--	0.05
313	--	--	--	--
314	--	--	--	--
319	--	--	--	0.18
320	--	--	--	0.10
321	--	--	--	0.27

Survey Site #	Ditch/Canal – Channel Bank Acres	Unvegetated Streambed – Channel Bank Acres	Vegetated Streambed – Channel Bank Acres	Watercourse Acres
323	--	0.00	--	--
324	--	0.01	--	--
325	--	0.00	--	--
326	--	0.00	--	--
328	--	0.00	--	--
330	--	--	--	0.08
331	--	--	--	0.10
333	--	--	--	0.44
336	--	<0.01	--	--
338	--	--	--	0.09
339	--	0.07	--	--
340	--	--	--	--
341	--	0.03	--	--
344	--	--	--	--
353	--	--	--	--
358	--	--	--	--
TOTAL	**0.21**	**2.50**	**0.04**	**17.03**

Note: Linear feet distances reported as concurrent jurisdiction with RWQCB.

APPENDIX H

Tables of Impacts by Survey Site and Work Area

Table 16. Potential Jurisdictional Waters of the State (RWQCB/CDFW Jurisdiction) Impacts by Survey Site # and Work Area ID

Survey Site #	Work Area ID	Basin	Unvegetated Channel		Vegetated Channel[1]	
		Acres	Acres	Linear Feet[1]	Acres	Linear Feet[2]
21	CONST 30	--	0.07	112.47	--	--
21	WS 5/6	--	0.01	16.23	--	--
TOTAL		**--**	**0.08**	**128.70**	**0.00**	**0.00**

[1] Linear distances for these features already included in streams sharing the same site.

Table 17.Potential Jurisdictional Waters of the State (CDFW Exclusive Jurisdiction) Impacts by Survey Site # and Work Area ID

Survey Site #	Work Area ID	Ditch/Canal - Channel Bank Acres	Unvegetated Channel - Channel Bank Acres	Vegetated Channel - Channel Bank Acres	Watercourse Acres
2	1604706E	--	--	--	0.23
4	1604714E	--	--	--	0.07
5	1604717E	--	--	--	0.03
21	CONST 30	--	<0.01	--	0.06
21	WS 5	--	--	--	0.05
21	WS 6	--	--	--	0.05
TOTAL		**0.00**	**<0.01**	**0.00**	**0.48**

Appendix I

Aquatic Resources Delineation Report (Artemis 2021b)

Eagle Mountain–Blythe 161-kV Transmission Line Rating Remediation Project Riverside County, California

2017 Desert Tortoise Survey

August 2017; Revised February 2021

Southern California Edison

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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cm	centimeter(s)
CNDDB	California Natural Diversity Database
CPUC	California Public Utilities Commission
DOI	U.S. Department of the Interior
DPV2	Devers–Palo Verde No. 2
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EM-B	Eagle Mountain-Blythe
EPC	EnviroPlus Consulting, LLC
FESA	federal Endangered Species Act
FR	Federal Register
GANDA	Garcia and Associates
GIS	Geographic Information Systems
G.O.	General Order
GPS	Global Positioning System
I-10	Interstate 10
IPaC	Information for Planning and Conservation
Jacobs	Jacobs Engineering Group, Inc.
kV	kilovolt(s)
NERC	North American Electric Reliability Corporation
PBF	physical or biological features
project	Eagle Mountain-Blythe 161-kilovolt Transmission Line Rating Remediation Project
Report	2017 Desert Tortoise Survey Report
ROW	right-of-way
SCE	Southern California Edison
TLRR	Transmission Line Rating Remediation
TSP	tubular steel pole
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WECC	Western Electricity Coordinating Council

1. Introduction

This 2017 Desert Tortoise Survey Report (Report) describes the methods and results of a focused survey for the Agassiz's desert tortoise (desert tortoise) (*Gopherus agassizii*) survey conducted in May 2017 for Southern California Edison's (SCE's) Eagle Mountain-Blythe (EM-B) 161-kilovolt (kV) Transmission Line Rating Remediation (TLRR) Project (project). Based on historical records from publicly available datasets such as the California Natural Diversity Database (CNDDB), data from other projects in the vicinity, a habitat and resource assessment conducted as part of preliminary planning efforts for the project, and data from nearby projects, it was assumed that desert tortoises are present in the Action Area[1] for the project. The purpose of the survey was to confirm the species' presence and to provide data useful for determining abundance of desert tortoises in the Action Area. This Report was initially prepared immediately following the field surveys, then updated in February 2021 to account for changes to the project description and mapping.

The desert tortoise survey was conducted following the U.S. Fish and Wildlife Service's (USFWS's) *2010 Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats* (USFWS, 2010a). No live tortoises were observed; however, four Class 3 burrows, nineteen Class 4 burrows, six Class 5 burrows, and one Class 5 remains (carcass) were observed (see definitions of the classes in Section 3.3.2). Given the presence of Class 3 burrows and remains identified in the survey, desert tortoises are assumed to be present in the Action Area. Because the 2010 USFWS protocol bases abundance on presence of live desert tortoises and no live tortoises were observed, abundance could not be calculated. The results of the survey suggest that the use of the Action Area by desert tortoises was low at the time of the survey. Because population trends are dynamic, however, it is assumed that tortoises may be present when the project is executed.

1.1 Project Summary

Developed in 2016, SCE's TLRR program is a compliance-based effort needed to comply with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council standards, and the revised California Public Utilities Commission General Order (G.O.) 95. SCE requires that all circuits meet or exceed the most stringent strength, clearance, and reliability requirements of those regulating bodies. G.O. 95, while not applicable to the NERC transmission ratings requirements, requires greater mechanical and electrical performance. SCE has determined that all of its lines will meet the requirements of G.O. 95 and that any remediation efforts requiring new construction will meet the latest SCE standards.

Without the TLRR program, some circuits lack sufficient clearances between conductors and/or the ground and, therefore, have the potential to "short out" under certain circumstances. For example, over time electrical conductors begin to deteriorate due to metal fatigue and the additional stress of the heat associated with conducting electrical current and, especially in the desert, the high ambient air temperatures. As a conductor deteriorates, it begins to "sag" and may cause "discrepancies." These discrepancies reduce reliability and increase public health and safety hazards. The TLRR program is intended to address approximately 11,164 discrepancies among 300 circuits throughout SCE's service territory by replacing existing conductors, and many TLRR projects include the upgrade and/or replacement of select structures within the alignment.

The EM-B project, which represents one project in SCE's broader TLRR program, will resolve approximately 168 discrepancies by replacing the existing conductor, and replacing some structures along the EM-B 161-kV circuit to increase the phase-to-ground and/or phase-to-phase clearance for the lines. Specifically, the project consists of:

- Replacing approximately 53 circuit miles of the existing 161-kV 336.4 Merlin and Linnet line with new 336 Oriole line between Eagle Mountain and Blythe Substations (i.e., re-conductoring)
- Installing approximately 1 mile of overhead ground wire along the segment of the circuit extending north from Eagle Mountain Substation
- Removing 25 Pumco steel poles and 1 single wood pole and replacing them with 17 tubular steel poles (TSPs) (nine of the Pumco steel poles that will be removed will be not replaced)

[1] The Action Area, as defined in section 1.3, is the existing EM-B ROW, including all areas where ground disturbance will occur, the project laydown yard. and the existing access roads plus a 200-foot buffer around all project features (3,460.99 acres total).

- Replacing 16 wood three-pole dead-end structures with 16 three-pole TSPs
- Replacing 11 wood H-frame structures with 11 lightweight steel H-frame structures

The Pumco steel poles to be removed support the EM-B 161-kV circuit, as well as two 66-kV underbuild circuits and a 12-kV underbuild circuit. These Pumco steel poles and their associated overhead ground wire and underbuilds are located in the portion of the alignment extending for approximately 1 mile north from the Eagle Mountain Substation.

Currently the EM-B line has 375 structures. This includes 322 structures that will not be removed or replaced as part of this project. The project includes removal of 53 structures and replacement with 44 structures, resulting in a total of 366 structures on the EM-B line after completion of the project, which is a net reduction of the project "footprint."

1.2 Project Location

The project is located within an existing right-of-way (ROW) that extends approximately 53 miles between the existing Eagle Mountain and Blythe Substations (Figure 1-1). The alignment traverses lands managed by the BLM (approximately 34.5 linear miles) and privately-owned lands (approximately 18.5 linear miles) (Figure 1-2). The project is located in the Chuckwalla Valley, from Desert Center to Blythe, Riverside County, California. The project area falls within the Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, and Ripley 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles.

The project is located in the California Desert Conservation Area, Northern and Eastern Colorado Desert Management Plan area, and the Desert Renewable Energy Conservation Plan area, all of which are BLM land management plan areas. The portion of the project south of Interstate 10 (I-10) crosses USFWS-designated critical habitat for the desert tortoise. Figure 1-2 shows these management areas.

1.3 Action Area

The Action Area is defined as all areas in which federally listed species would be affected directly or indirectly by the proposed action (Title 50 of the Code of the Federal Regulations [CFR] § 402.02). The Action Area for the purpose of analyzing potential effects on the desert tortoise potentially resulting from this project is defined as the existing EM-B ROW, including all areas where ground disturbance will occur (e.g., structure replacement work areas, existing structure work areas, wire setup sites, guard structure sites), the project laydown yard, and the existing transmission line access road plus a 200-foot buffer. The Action Area, totaling 3,460.99 acres, encompasses the areas where project work will be performed and where potential direct and indirect effects may occur. For the purpose of discussion, Action Area is synonymous with Survey Area.

1.4 Species Description and Listing Status

The desert tortoise is a species of terrestrial desert turtle native to the Mojave Desert of the southwestern United States and northwestern Mexico. The desert tortoise has a high domed shell, front limbs flattened for digging, and round elephantine hind legs (USFWS, 2010b). Spending most of its lifespan underground, desert tortoises are usually found in burrows dug in dry, gravelly, or sandy soil often at the base of a bush. The plasteron (the abdominal plate protecting the tortoise's underbelly) is often a yellowish color with the margins of the scutes (the individual polygonal scales that comprise the shell) being varying shades of brown. The small, round head is a red or tan color and the iris is a green-yellow color. The tail is short, and the legs are stumpy with front and hind legs measuring about equal in size (Behler and King, 1979). Desert tortoises occur throughout most of the Mojave Desert, most often found on gently sloping terrain with sandy-gravel. Soils must be firm enough so that burrows do not collapse, but soft enough for digging. Typical habitat for the desert tortoise in the Mojave Desert has been characterized as creosote bush scrub below 1,677 meters (5,500 feet). The ideal habitat would be where the production of ephemeral plants is high, the diversity of perennial plants is relatively high, and where precipitation ranges from 5 to 20 centimeters (cm) (2 to 8 inches) (USFWS, 2011a).

Desert tortoises feed on grasses and a variety of herbaceous annuals. They retreat into their horizontal burrow to avoid high and low temperatures. Desert tortoises mate in spring and can lay 2-3 clutches of eggs. Their populations have decreased dramatically in recent years for a variety of reasons, including habitat loss and a serious respiratory disease. For the purposes of the federal Endangered Species Act (FESA), desert tortoise habitat is defined as (1) areas with presence of desert tortoises or desert tortoise sign (e.g., shells, bones, scutes, scats, shelter sites, tracks, egg shell fragments, courtship rings, drinking sites, etc.) that are likely to be part or all of a lifetime home range, (2) dispersal areas (i.e., habitat corridors), or (3) areas suitable for desert tortoise as identified by the USFWS or in the most recent recovery plan for the Mojave population of the desert tortoise (i.e., Agassiz's desert tortoise) (USFWS, 2011a).

The desert tortoise was emergency listed by the USFWS as an endangered species in August 1989 (54 Federal Register [FR] 32326-32331) and subsequently listed as threatened on April 2, 1990 (55 FR 12178-12191). As provided for by the FESA (16 United States Code Sections 1531-1544), the "taking" of any federally listed species without first obtaining necessary authority from the USFWS is prohibited (FESA §9 [a][1]). The term "taking" includes "harming, harassing, pursuing, hunting, shooting, wounding, killing, capturing, collecting, or attempting to engage in any such conduct" (FESA §3 [18]). The desert tortoise is also listed as threatened by the State of California.

A final critical habitat rule was published for the desert tortoise in 1994 (59 FR 5820-5866). Critical habitat is defined as "the specific areas within the geographic area occupied by a species on which are found those physical or biological features (PBF) essential to the conservation of the species and which may require special management considerations or protection." The PBFs for the desert tortoise include sufficient space for individual and population growth and normal behavior, which can range anywhere from 100–200 acres; food, water, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproducing, and rearing of offspring; and habitats that are protected from disturbance or representative of the historical geographical and ecological distribution of a species (55 FR 12178-12191). Designated critical habitat for the desert tortoise encompasses over 2,428,114 hectares (6,000,000 acres) in portions of the Mojave and Colorado deserts and consists of six recovery units. This designation includes primarily Federal lands in southwestern Utah, northwestern Arizona, southern Nevada, and southern California.

1.5 Survey Purpose

Based on historical records from publicly available datasets such as the CNDDB (see Section 2.1), data from other projects in the vicinity such as SCE's Devers–Palo Verde No. 2 Transmission Line Project (DPV2) and a habitat and resource assessment conducted as part of preliminary planning efforts for the project, , it is assumed that desert tortoises are present in the Action Area. The purpose of the survey was to confirm presence and potentially to provide data useful for determining abundance of desert tortoises in the Action Area. The data will be used to support project planning, determine potential permitting implications, and to support consultation pursuant to Section 7 of FESA (16 United States Code 1536[c]) and permitting pursuant to Section 2081 or 2080.1 of the California Fish and Game Code, if needed.

2. Survey Methods

The following sections describe the methods of the database search and literature review, habitat assessment, and focused desert tortoise survey conducted for the project.

2.1 Database Queries and Literature Review Methods

Prior to the field survey, Jacobs Engineering Group, Inc. (Jacobs) (formerly CH2M HILL Engineers, Inc.) conducted Geographical Information System (GIS) queries of publicly available datasets. A query of the CNDDB included the Action Area plus a 1-mile buffer[2]. Jacobs also generated an informal USFWS Information for Planning and Conservation (IPaC) Trust Resource Report of federally threatened and endangered species and their critical habitats that may occur in the Action Area using GIS shapefiles of the Action Area. As time has passed between the survey and current revision of this Report, the database queries have been updated to include current information (California Department of Fish and Wildlife [CDFW], 2020; USFWS, 2020a).

Data from other SCE projects or related renewable energy projects in the vicinity of the Action Area were also reviewed. The projects from which the reviewed data were derived included the following:

- Devers–Palo Verde No. 2 Transmission Line Project (DPV2)
- Devers–Palo Verde No. 1 Reconductor Project
- Desert Sunlight Solar Farm Project
- Red Bluff Substation Project
- Colorado River Substation Expansion

2.2 Habitat Assessment Methods

On May 1, 2017, prior to conducting the focused survey, Jacobs biologists Morgan King and Chris Taylor conducted an assessment of the Action Area to map habitats suitable for desert tortoise. In preparation for field surveys, strip maps of the Action Area featuring aerial imagery and project features were prepared. The Jacobs biologists drove the alignment stopping every approximately 0.5 linear mile to mark up the field maps. Based on aerial imagery and historical data, it was assumed that the majority of the Action Area included suitable habitats for desert tortoise (e.g., various desert scrub communities). The biologists mapped areas not suitable for desert tortoise, such as developed land and agricultural areas, and areas that were inaccessible to the biologists due to factors such as land ownership and man-made barriers (e.g., I-10). Areas that were not accessible were assessed for habitat suitability from a distance using binoculars. Polygons representing suitable habitat, unsuitable habitat, and inaccessible areas were later digitized using GIS (see Figure 2-1 for results). The habitat mapping served to characterize the habitat and focus the transect surveys that followed.

2.3 Focused Survey Methodology

From May 1 through May 15, 2017, Jacobs and subcontractor staff conducted a focused protocol-level survey following the *2010 Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats* (USFWS, 2010a). In suitable habitats in the Action Area, surveyors walked transects spaced 10 m (33 ft) apart to ensure 100 percent coverage. The biologists conducted the surveys using one team of 10 people or two teams of 5 people, depending on staff availability, topography, habitat patch size, and other factors. Surveyors searched for desert tortoises, burrows, and desert tortoise sign (e.g., shells, bones, scutes, scats, tracks, egg shell fragments, courtship rings, drinking sites). All desert tortoises and desert tortoise sign observed in identifiable condition were documented.

The survey was conducted during the tortoise's most active periods (April through May or September through October when air temperatures are below 40 degrees Celsius [°C] [104 degrees Fahrenheit (°F)]) (USFWS, 2010a). Air temperature was measured approximately 5 cm from the soil surface in an area of full sun, but in the

[2] A 1-mile buffer was selected instead of the traditional 5 miles to avoid misleading data due to habitats found in the surrounding mountains that are markedly different from the habitats found on the desert floor.

shade of the observer using a Taylor Precision Products digital thermometer (see Section 3.1, Weather Conditions). Measurements were taken at the start and end of each survey day.

The surveyors used ESRI's Collector application in conjunction with ArcGIS Online for navigation and data collection and management. Global Positioning System (GPS)-enabled hand-held data collectors with internal GPS receivers accurate to less than 5 m were loaded with background files including aerial imagery, project features, Action Area, and pre-determined transect lines. Pre-developed data dictionaries mirroring SCE's standard GIS schema were loaded into the Collector application to ensure accurate and efficient data collection. Surveyors collected points and polygons representing the individual locations of desert tortoise sign. Surveyors collected information consistent with the USFWS' 2010 Desert Tortoise Pre-Project Survey Data Sheet with paper data sheets as backup. In accordance with the USFWS protocol, a modified data sheet including a GIS data table of all observations was prepared for submittal to the USFWS. Incidental observations of other special-status species and resources of interest were collected. Each surveyor took field notes, including contributing to a master plant species list. Representative photographs were taken using cellular phone cameras.

2.4 Limitations

The survey was limited to suitable habitats in the Action Area. Certain sections of the Action Area were not accessible and therefore were not surveyed (Figure 2-1). Due to the assumed and confirmed presence of desert tortoise sign and access restrictions, additional 10-m belt transects at 200 m, 400 m, and 600 m from the perimeter of the Action Area were not conducted.

3. Survey Results and Discussion

The following sections described the result of the database search and literature review, habitat assessment, and focused desert tortoise survey conducted for the project.

3.1 Database Search and Literature Review Results

A single historical and presumed extant CNDDB record (#14792) was identified in the western end of the Action Area in the vicinity of the Eagle Mountain Substation (CDFW, 2020) (Figure 2-1). The USFWS iPaC Trust Resource Report identified the desert tortoise as a species potentially affected by the project (USFWS, 2020a).

The project is within the Colorado Desert Recovery Unit for the desert tortoise (USFWS, 2011a). A desktop review of critical habitat boundaries (73 FR 45236-45238) indicates that USFWS-designated critical habitat for the desert tortoise coincides with the Action Area. The Action Area includes 1,336.63 acres of USFWS-designated critical habitat (Chuckwalla Critical Habitat Unit) for desert tortoise (USFWS, 2020b) (Figure 2-1).

The survey area for focused desert tortoise surveys conducted for the DPV2 Transmission Line Project from 2005 through 2007 overlapped with the EM-B TLRR Project Action Area along Chuckwalla Valley Road from Exit 201 (Corn Springs Road) to Exit 217 (Ford Dry Lake Road) (Figures 1-1 and 1-2).Positive sign was observed within this overlapping portion of the EM-B Action Area during the surveys performed for the DVP2 Project. In addition, a nearby set of projects, Blythe and McCoy Solar Power Projects, both located 13 miles northwest of Blythe just east of the McCoy Mountains, include approximately 2,300 acres of occupied desert tortoise habitat (Business Wire, 2013). During the two years of construction (2014 through 2016) approximately three individuals were observed on the solar projects' ROW, which extends the length of Dracker Drive (0.1 mile from the EM-B Action Area).

3.2 Habitat Assessment Results

Within the Action Area, there are 3,287.06 acres of habitat for desert tortoise, which includes 1,336.63 acres of USFWS-designated critical habitat and 1,950.44 acres of suitable habitat. A total of 173.93 acres of unsuitable habitat is also present in the Action Area. Vegetation communities and land cover types supporting desert tortoise in the Action Area include the following: Alkali Weed – Salt Grass Playas and Sinks, Blue Palo Verde – Ironwood Woodland, Creosote Bush Scrub, Creosote Bush – White Bursage Scrub, Desert Dunes, Mesquite Thicket, Smoke Tree Woodland, and Tamarisk Thicket. Areas deemed to be unsuitable included developed land (e.g., roads, material yards), disturbed land (e.g., barren and ruderal areas), and active agricultural lands. Among the areas of desert tortoise habitat, 165.94 acres were determined to be inaccessible to the survey team. Figure 2-1 shows the areas of unsuitable habitat and inaccessible areas. All other areas are suitable for desert tortoise. High-quality desert tortoise habitat was observed along the project alignment south of I-10 and in the alluvial fan northeast of Pilot Mountain and the portion of the project alignment traversing the alluvial areas extending south from McCoy Peak. Representative photographs of the habitat present in the Action Area are included in Appendix C (photos 1 through 16).

3.3 Focused Survey Results

The following sections present the results of focused protocol-level desert tortoise surveys conducted in the Action Area from May 1 through May 15, 2017. The names of the surveyors, their contract affiliations, and the specific survey dates are listed in Appendix A.

3.3.1 Weather Conditions

The Blythe AP, California Station (No. 040927) is the closest weather station to the Action Area with reliable monthly rainfall totals for the winter preceding the focused surveys (i.e., no missing days during this period). Rainy season (September 2016 through May 2017) precipitation data are provided in Table 3-1 (Western Regional Climate Center [WRCC], 2020). Average total precipitation for the area is approximately 8.81 cm (3.47 inches) per calendar year.

Table 3-1. 2016/2017 Rainy Season Monthly Precipitation

Sept. (cm/in)	Oct. (cm/in)	Nov. (cm/in)	Dec. (cm/in)	Jan. (cm/in)	Feb. (cm/in)	Mar. (cm/in)	Apr. (cm/in)	May (cm/in)	Total (cm/in)
0.33/00.13	0.36/0.14	0.15/0.06	4.95/1.95	1.83/0.72	3.23/1.27	0.00/0.00	0.00/0.00	1.40/0.55	12.24/4.82

Source: WRCC, 2020

Table 3-2 summarizes the daily weather conditions recorded for the survey. Air temperature was measured approximately 5 cm from the soil surface in an area of full sun, but in the shade of the observer using a Taylor Precision Products digital thermometer. Measurements were taken at the start and end of each survey day.

Table 3-2. Daily Weather Conditions

Date	Time	Air Temp. (°F/°C)	Ground Temp. (°F/°C)	Precipitation (inches)
5/1/17	0550 1300	63/17.2 98/36.6	69.8/14.1 106/41.3	0
5/2/17	0545 1341	65/18.3 102/38.8	59.4/15.2 105/40.5	0
5/3/17	0545 1415	72/22.2 103/39.4	67.1/19.5 108/42.2	0
5/4/17	0533 1215	73/22.7 105/40.5	70.2/21.2 104/40.0	0
5/5/17	0555 1250	75/23.8 107/41.6	68.5/20.3 109.4/43.0	0
5/6/17	0545 1130	76/24.4 91/32.7	69.8/21.0 106.2/41.2	0
5/8/17	0605 1520	58/14.4 81/27.2	60.9/16.1 78.9/26.1	0
5/9/17	0622 1452	57/13.8 63/17.2	60.8/16.0 61.2/16.2	0.5
5/10/17	0612 1535	56/13.3 76/24.4	55.4/13.8 80.9/27.2	0
5/11/17	0623 1540	63/17.2 88/31.1	64.9/18.3 100.9/38.3	0
5/12/17	0610 1515	67/19.4 36.1/97	69.9/21.1 108.8/42.7	0
5/13/17	0600 1515	20.5/69 31.1/88	80.6/27.0 102.4/39.1	0
5/15/17	0600 1100	62/16.6 75/23.8	66.7/19.3 84.9/29.4	0

3.3.2 Desert Tortoise Observations

Surveyors searched for desert tortoises, burrows, and desert tortoise sign (e.g., shells, bones, scutes, scats, tracks, egg shell fragments, courtship rings, drinking sites) in the Action Area. No live desert tortoises were observed. However, positive desert tortoise sign was observed. The survey results are summarized in Table 3-3 and depicted on Figure 2-1. Appendix B includes a modified version of the USFWS 2010 Desert Tortoise Pre-Project Survey Data Sheet submitted via email to Jenness McBride, Division Chief, Palm Springs Fish and Wildlife Office on June 15, 2017. Appendix C includes photographs of observed sign as referenced in Table 3-3.

Each incident of observed sign is labeled on Figure 2-1 with the corresponding data point identification (ID) number as also referenced in Table 3-3.

Table 3-3. Desert Tortoise Observations

Observation Type	Easting[a]	Northing[a]	Class	Orientation	Photo Number(s)[b]	Data Point ID[c]
Burrow	705985.3739	3721238.772	Class 4	North	17, 18	DTB001
Burrow	705889.2768	3721369.854	Class 4	South	19, 20, 21	DTB002
Burrow	705057.5689	3721401.8	Class 3	South	22, 23	DTB003
Burrow	703365.1087	3721419.863	Class 4	South	24, 25	DTB005
Burrow	702112.2928	3721365.369	Class 5	East	26, 27	DTB006
Burrow	700212.5403	3721373.605	Class 4	Southeast	28, 29	DTB007
Burrow	646097.9519	3742690.845	Class 5	South	30	DTB008
Burrow	648087.9946	3740614.838	Class 5	East	31	DTB009
Burrow	648098.2240	3740597.913	Class 4	South	32	DTB010
Burrow	648553.7714	3740057.959	Class 4	South	33	DTB011
Burrow	645985.8788	3742772.348	Class 3	West	34, 35, 36	DTB012
Burrow	645674.6409	3742899.092	Class 4	West	37, 38	DTB013
Burrow	646302.1515	3742382.219	Class 4	West	39, 40	DTB014
Burrow	646500.2305	3742129.076	Class 4	West	41, 42	DTB015
Burrow	646603.4810	3742033.414	Class 3	Northwest	43, 44	DTB016
Burrow	647461.1016	3741125.104	Class 4	Southeast	45, 46	DTB017
Burrow	648274.9765	3740335.264	Class 4	Northeast	47, 48	DTB018
Burrow	662584.5225	3729946.694	Class 5	Southeast	49, 50	DTB019
Burrow	662126.5636	3730224.103	Class 4	Northeast	51, 52	DTB020
Burrow	661933.8369	3730299.348	Class 4	South	53, 54	DTB021
Burrow	665233.0896	3726946.55	Class 5	Southwest	55	DTB022
Burrow	684192.8333	3720378.816	Class 4	North	56, 57	DTB023
Burrow	683936.4900	3720369.628	Class 4	Southwest	58, 59, 60	DTB024
Burrow	683260.8494	3720345.828	Class 4	East	61, 62	DTB025
Burrow	682408.6819	3720354.881	Class 3	North	63, 64, 65, 66	DTB026
Burrow	682936.9758	3720262.886	Class 4	Northeast	67, 68, 69	DTB027
Burrow	683202.3149	3720248.433	Class 5	West	70, 71	DTB028
Burrow	679105.9049	3720296.652	Class 4	East	72, 73	DTB029
Burrow	677687.9210	3720163.692	Class 4	Northwest	74, 75	DTB030
Carcass	704929.1311	3721423.311	Class 5	N/A	76	DTB004

[a] Coordinate system: North American Datum of 1983 Universal Transverse Mercator Zone 11

[b] See Appendix C for the indicated photographs

[c] See Figure 2-1 for locations of observed sign as identified by the data ID

A “burrow” means any structure that could be used by a desert tortoise for shelter. Examples of shelter sites that could be utilized by a desert tortoise include tortoise-dug soil burrows, caliche caves, lava tubes, pallets (shallow depressions in the soil), rock caves, rodent or other animal burrows, and shrubs or man-made structures such as vehicles and equipment (USFWS, 2009). Four Class 3 burrows, nineteen Class 4 burrows, and six Class 5 burrows were observed in the Action Area during the focused survey. All burrow observations were soil burrows except for one Class 4 burrow located in a rock cave (photos 39, 40 in Appendix C). Table 3-4 summarizes the USFWS’ condition class system (USFWS, 2009) for desert tortoise burrows. Class 1, 2, and 3 burrows indicate desert tortoise presence. Class 4 and 5 burrows are not definitive.

Table 3-4. USFWS Burrow Condition Classes

Condition Class	Burrow Condition	Confirmed Desert Tortoise Burrow	Survey Observations
Class 1	Currently active, with desert tortoise or recent desert tortoise sign (tracks, freshly disturbed soil on mound/runway)	Definitely desert tortoise	0
Class 2	No structural degradation; no evidence of recent use, used this season; cleared annuals; no freshly disturbed soil	Definitely desert tortoise	0
Class 3	Deteriorated condition; substantial structural degradation; much effort needed to use the burrow; substantial remodeling to use burrow; this includes collapsed burrows.	Definitely desert tortoise	4
Class 4	Good condition; not sure what species uses burrow	Possibly desert tortoise	19
Class 5	Deteriorated condition; this includes collapsed burrows; not sure what species uses burrow	Possibly desert tortoise	6

Source: Desert Tortoise (Mojave Population) Field Manual (USFWS, 2009).

Presence of desert tortoise shells, bones, scutes, limbs, and egg shell fragments are another common indicator of presence. A single Class 5 desert tortoise carcass was observed in the Action Area (photo 76 in Appendix C). No scat, tracks, drinking depressions, or other desert tortoise sign was observed.

Table 3-5 summarizes the desert tortoise remains categories (USFWS, 2009) and survey observations.

Table 3-5. USFWS Remains Condition Classes

Condition Class	Remains Condition	Survey Observations
Class 1	Fresh or putrid	0
Class 2	Normal color; scutes adhere to bone	0
Class 3	Scutes peeling off bone	0
Class 4	Shell bone is falling apart; growth rings on scutes are peeling	0
Class 5	Disarticulated and scattered	1

Source: Desert Tortoise (Mojave Population) Field Manual (USFWS, 2009).

3.3.3 Incidental Observations

Incidental observations of species (or sign) other than the desert tortoise are summarized in Table D-1 in Appendix D. These observations included one burrowing owl (*Athene cunicularia*) burrow and three active desert kit fox (*Vulpes macrotis*) complexes (Figure 2-1). White wash and pellets were observed at the apron of the burrowing owl burrow (photos 80–82 in Appendix C), while desert kit fox complexes were observed with scat, fresh digs, and tracks present at excavation entrances (photos 77-79, 83-86 in Appendix C).

In addition, 39 vertebrates or their sign were identified within the Action Area. These included 7 reptiles, 26 birds, and 6 mammal species, most of which were commonly observed species in desert and cismontane habitats. The full list of vertebrate species observed is located in the Wildlife Compendium (Appendix E).

3.3.4 Summary of Results and Discussion

The project is located in the Colorado Desert Recovery Unit for the desert tortoise (USFWS, 2011a). A desktop review of critical habitat boundaries (73 FR 45236-45238) indicates that the Action Area includes approximately 1,336.63 acres of USFWS-designated critical habitat (Chuckwalla Critical Habitat Unit) for desert tortoise (USFWS, 2020b) (Figure 2-1).

Within the Action Area, there are 1,950.44 acres of suitable habitat for desert tortoise (not designated as critical habitat) and 173.93 acres of unsuitable habitat. High-quality desert tortoise habitat was observed along the project alignment south of I-10 and in the alluvial fan northeast of Pilot Mountain and the portion of the project alignment traversing the alluvial areas extending south from McCoy Peak.

No live tortoises were observed in the Action Area; however, four Class 3 burrows, nineteen Class 4 burrows, six Class 5 burrows, and one Class 5 remains (carcass) were observed. Class 1, 2, and 3 burrows and desert tortoise remains indicate species presence. Given the presence of Class 3 burrows and remains identified in the survey, desert tortoises are assumed to be present in the Action Area.

The 2010 USFWS protocol bases abundance on presence of live desert tortoises. Because no live tortoises were observed, abundance could not be calculated.

Based on historical data from publicly available datasets and projects in the vicinity of the EM-B ROW, the Action Area has been historically occupied by desert tortoises. The results of the survey conducted in 2017 suggest that the use of the Action Area by desert tortoises was low at the time of the survey. It is possible that the current home ranges of desert tortoises in the vicinity of the project are predominantly located in higher quality habitats north and south of the Action Area (divided by I-10), especially in the alluvial fans extending from Pilot Mountain and McCoy Peak. Because population trends are dynamic, however, it is assumed that desert tortoises may be present in the Action Area when the project is executed.

4. References

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Figures

Joshua Tree
National Park

Palen/McCoy
Wilderness Area

Eagle Mountain Substation

DPV No. 2 Yard

Desert Center

10

McCoy Peak

DPV2 Right of Way Overlap Area

Blythe Substation

Mesa Verde

Pilot Mountain Peak

Colorado River Substation

bing

SOUTHERN CALIFORNIA EDISON

LEGEND

- Substation
- Existing Laydown Yard
- Wilderness Area
- Action Area
- DPV2 Right of Way Overlap Area
- DPV2 Right of Way
- Existing EM-B Right of Way

0 1.5 3
Miles

Source: SCE, Bing Maps

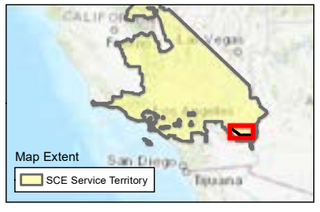

FIGURE 1-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Project Overview and Action Area
Desert Tortoise Survey

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Eagle Mountain Substation

DPV No. 2 Yard

DPV2 Right of Way Overlap Area

McCoy Peak

Blythe Substation

Colorado River Substation

Pilot Mountain Peak

PALO VERDE VALLEY

SOUTHERN CALIFORNIA EDISON

LEGEND

- Substation
- Existing Laydown Yard
- Action Area
- DPV2 Right of Way Overlap Area
- DPV2 Right of Way
- Existing EM-B Right of Way

USFWS Designated Critical Habitat

- Desert Tortoise

Government Lands

- Bureau of Land Management
- National Park Service
- State Land

- California Desert Conservation Area Plan (CDCA)
- Desert Renewable Energy Conservation Plan (DRECP)
- Northern and Eastern Colorado Desert Coordinated Management Plan (NECO)

0 1.75 3.5
Miles

Source: SCE, ESRI Topographic Map

Map Extent
SCE Service Territory

FIGURE 1-2

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Government Lands, Management Areas, and Critical Habitat
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Substation
- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Wire Setup
- Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- CDFW CNDDB Desert Tortoise (Record #14792)
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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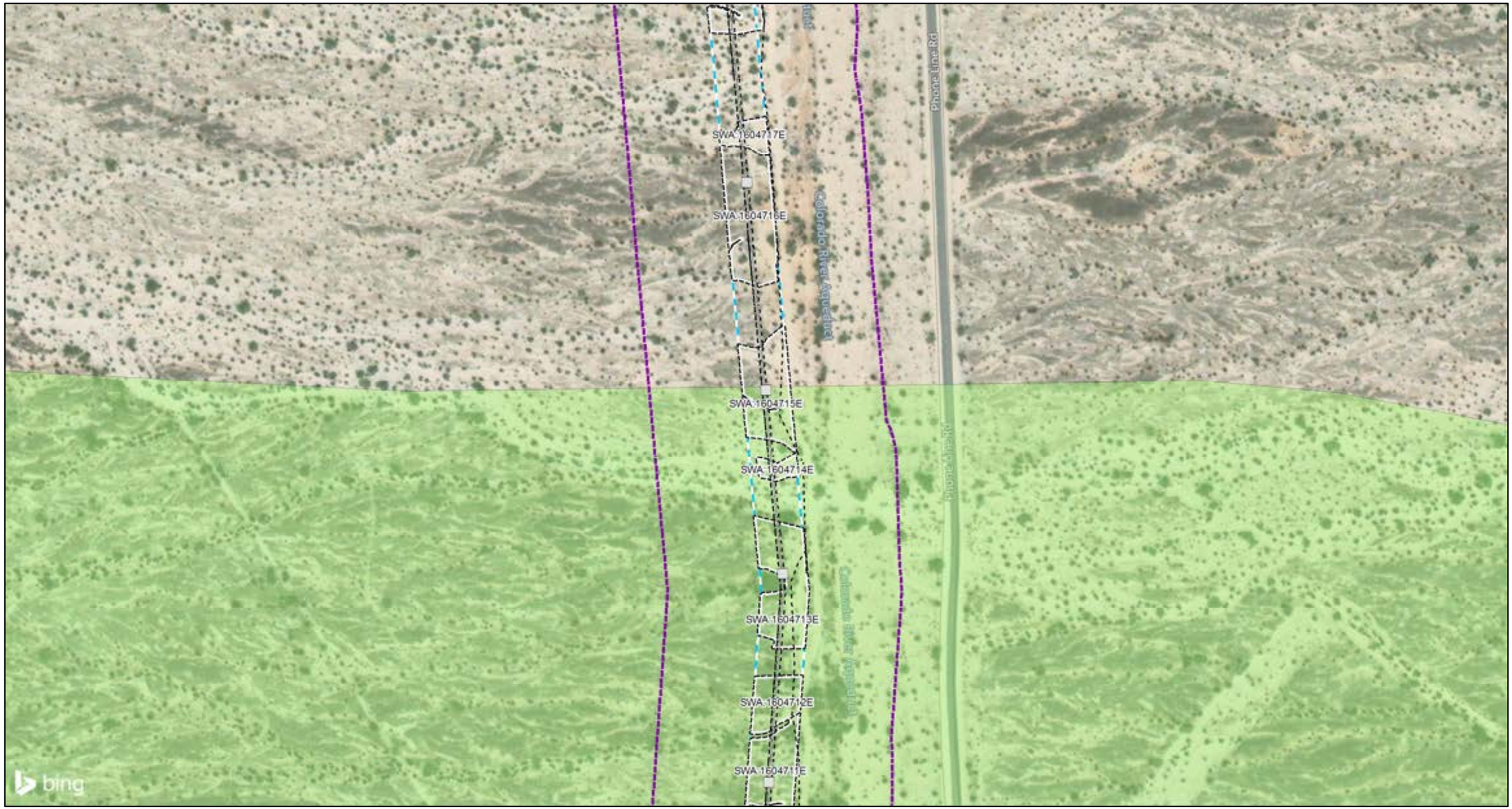
Jacobs



LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing EM-B Right of Way
- Action Area
- CDFW CNDDB Desert Tortoise (Record #14792)
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 2 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Guard Pole
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 3 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

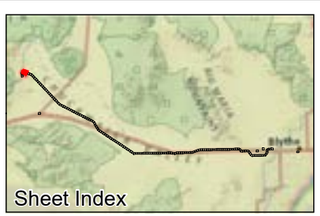

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 5 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
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N

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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- CDFW CNDDB Desert Tortoise (Record #14792)
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
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N

0 100 200
FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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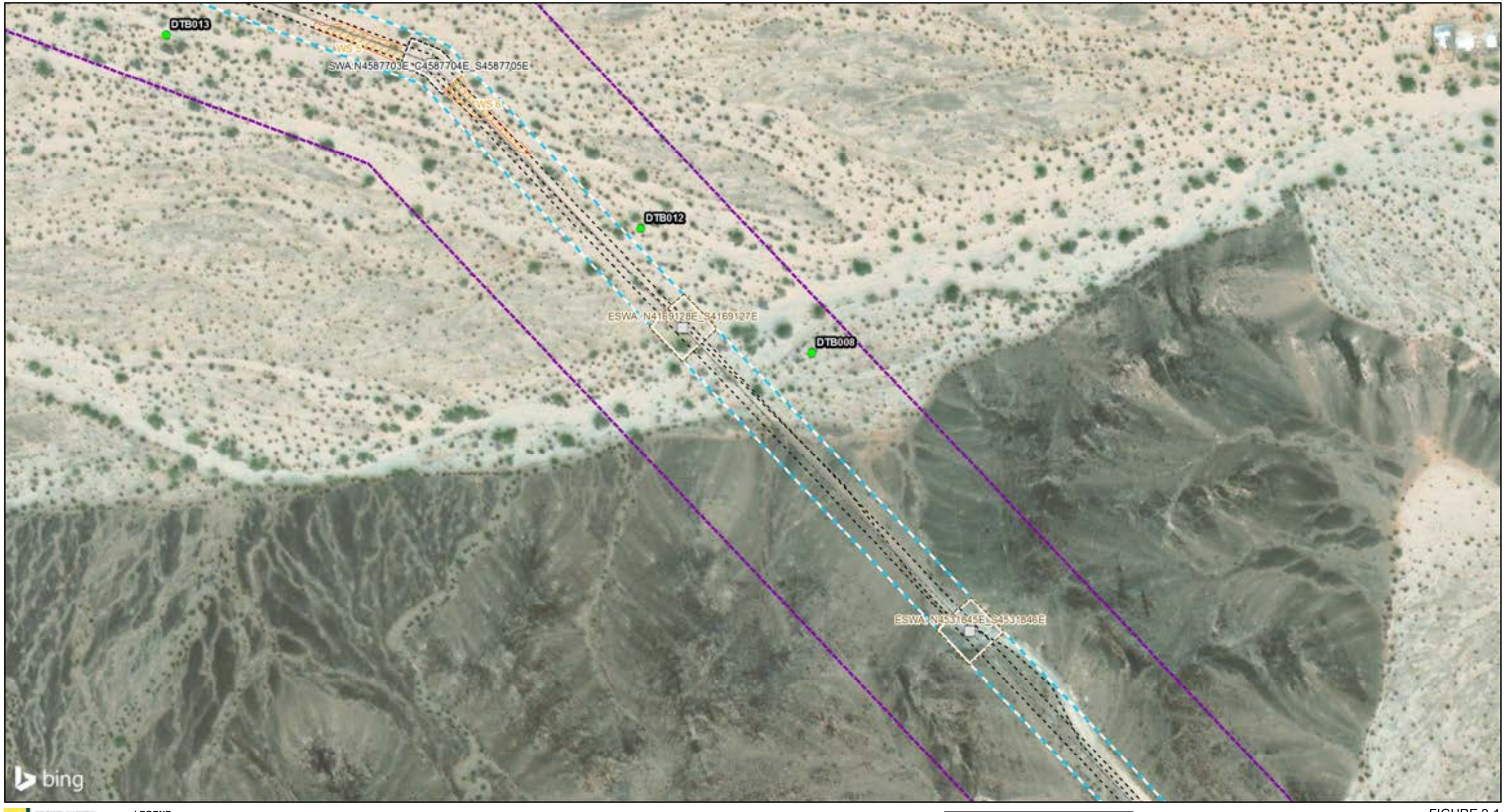

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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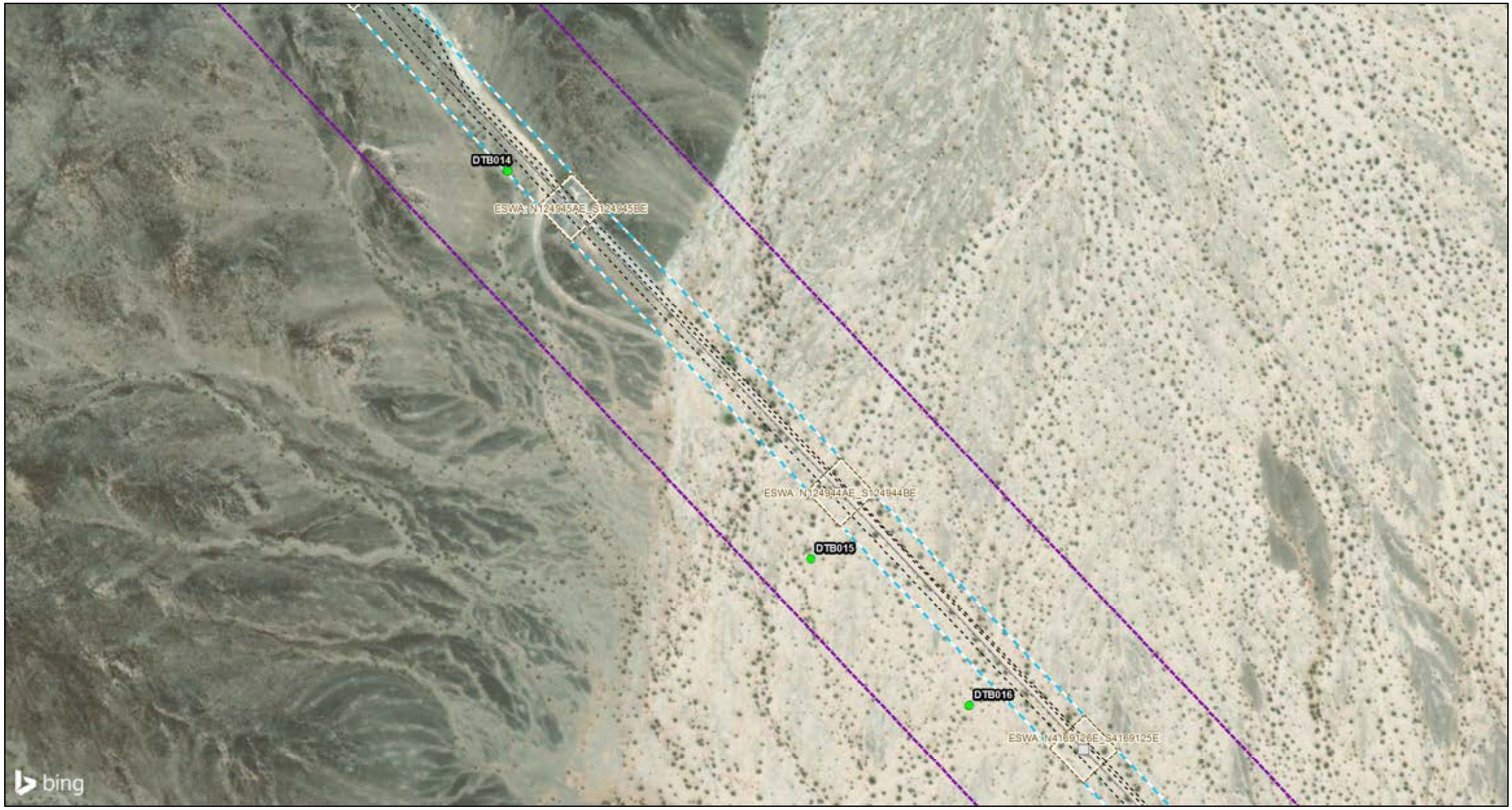

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 9 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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0 100 200
FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 10 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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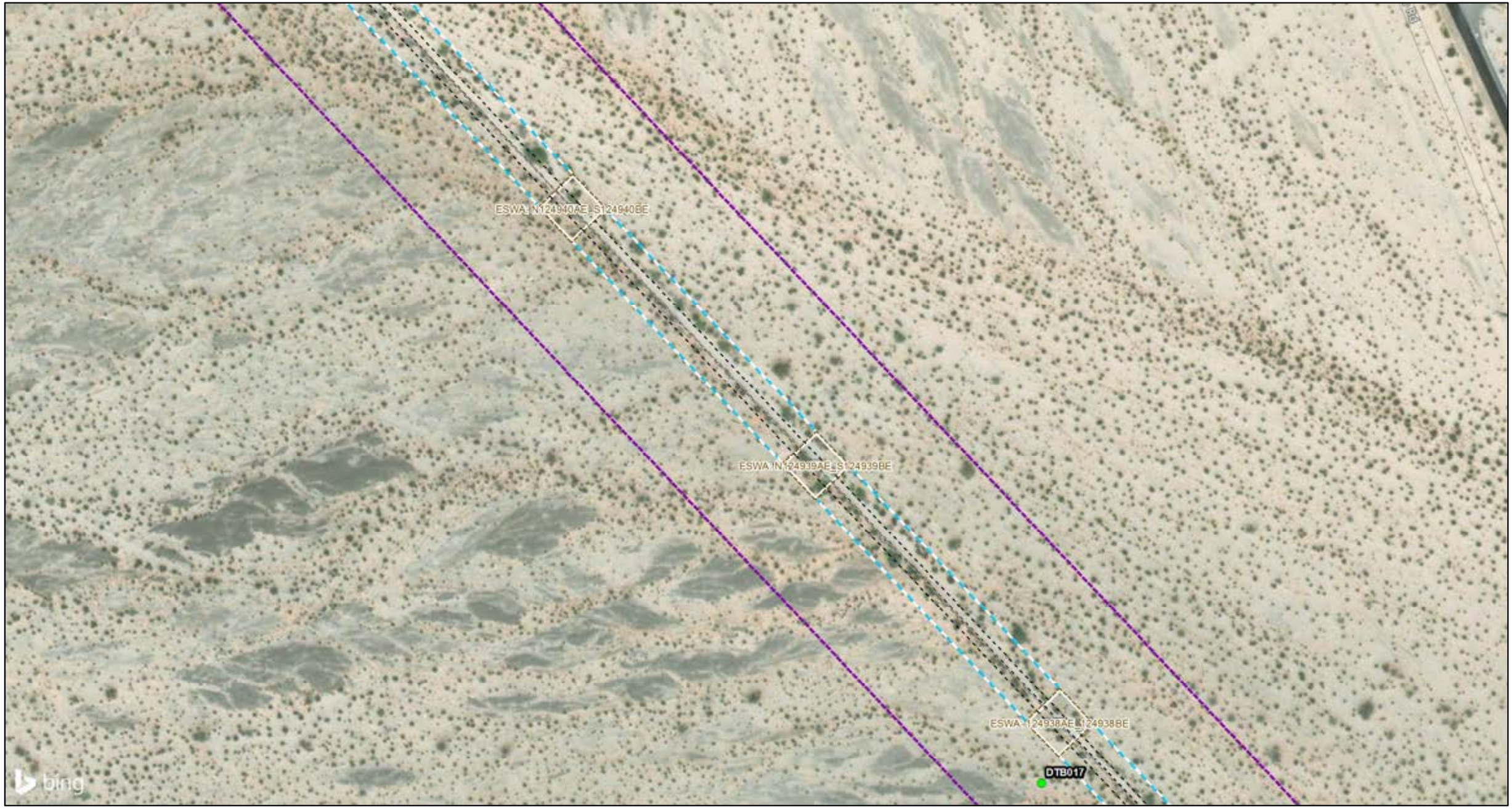

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

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FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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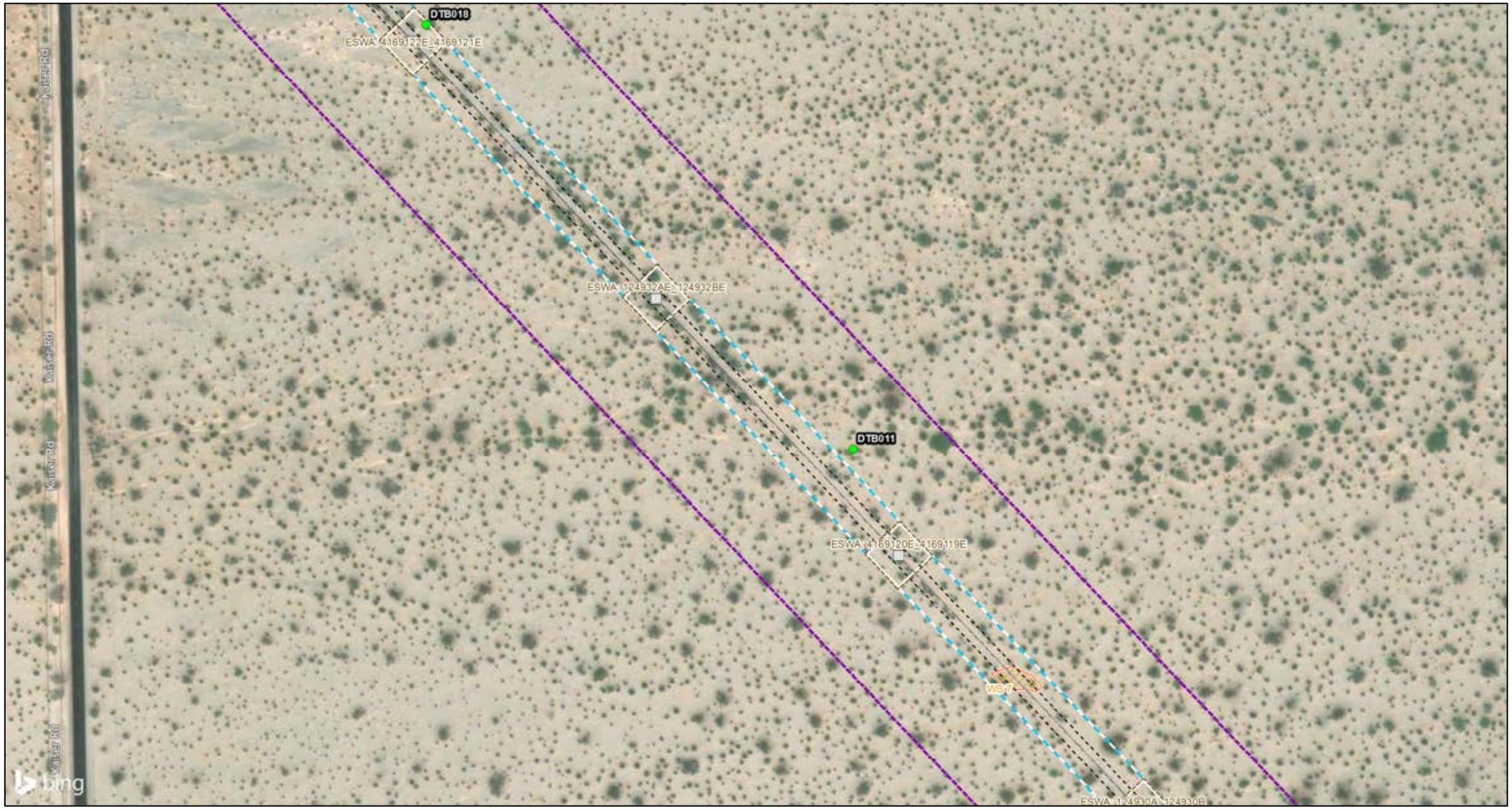

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 14 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1
Page 15 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

FIGURE 2-1
Page 16 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Source: SCE, ESRI World Street Map, Bing Imagery

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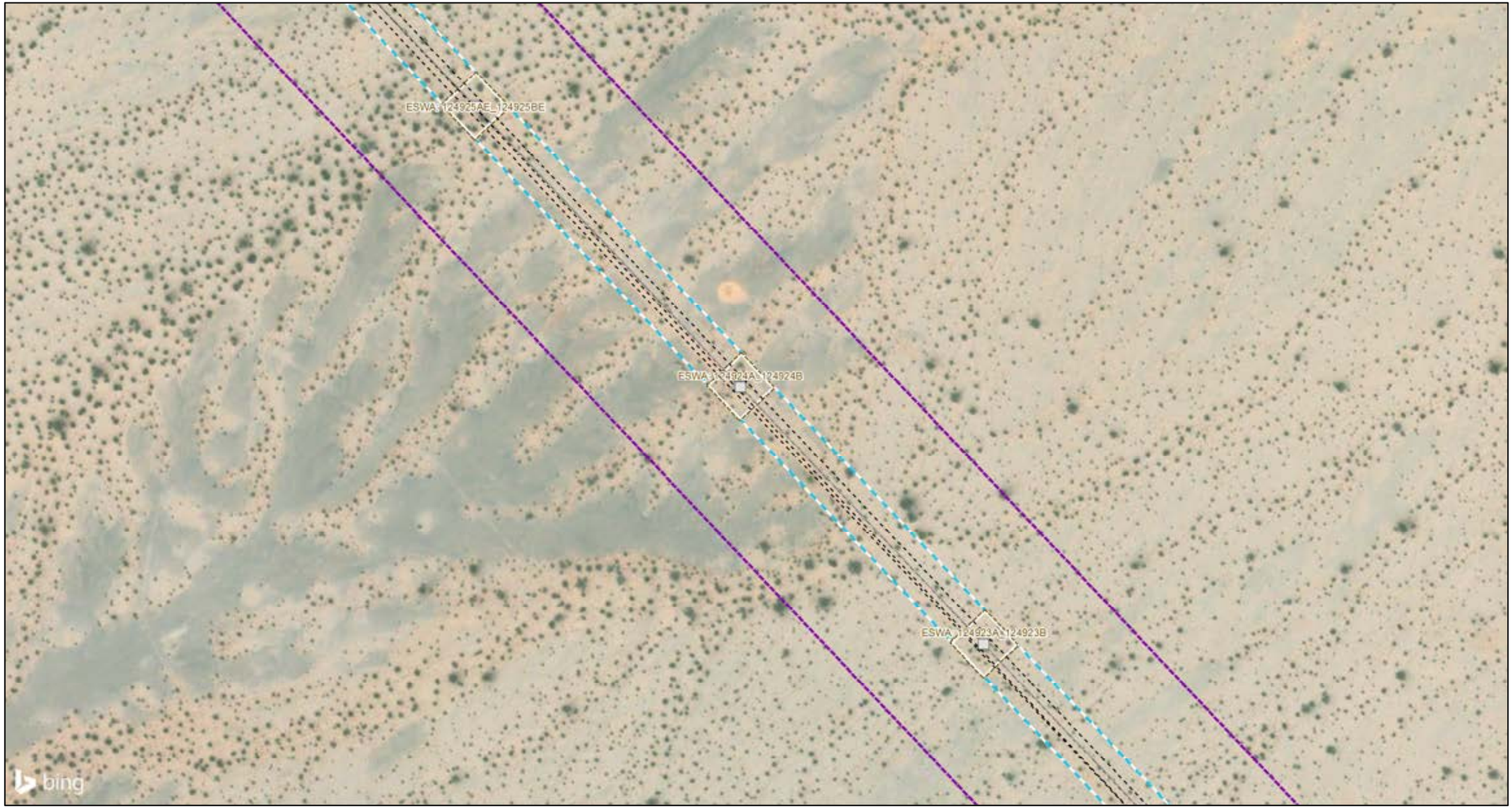

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

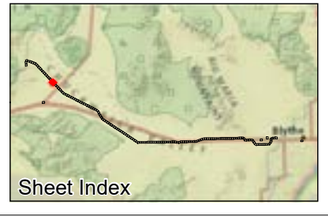

FIGURE 2-1
Page 20 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

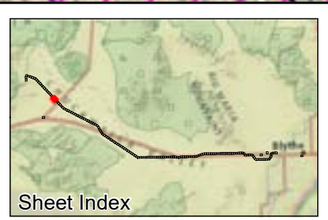
LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery



Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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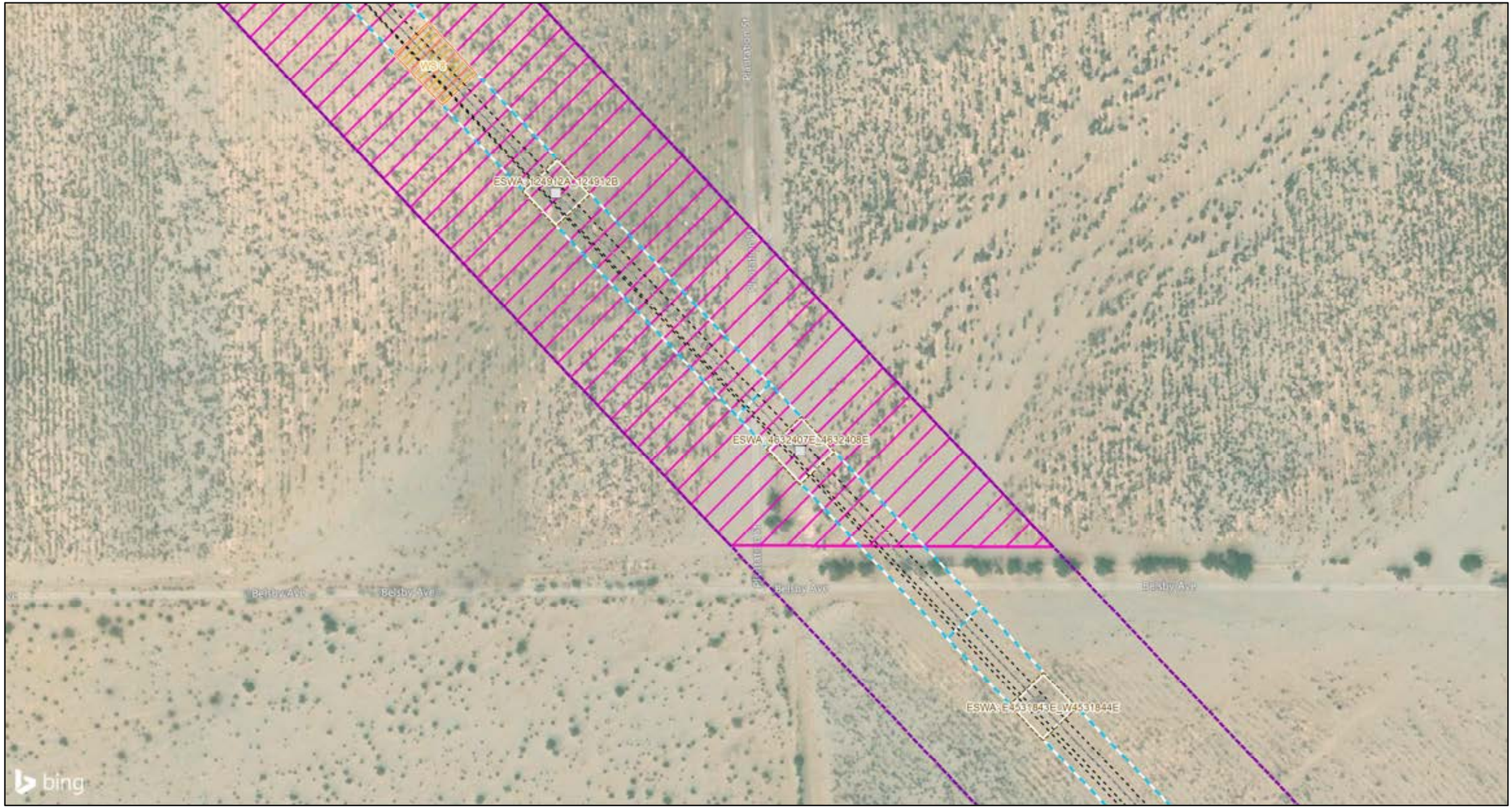

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Jacobs

LEGEND

- Desert Kit Fox Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

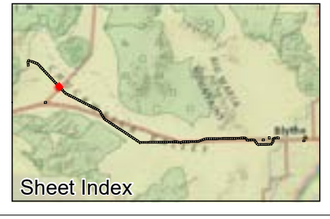

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Laydown Yard
- Action Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Structure Work Area
- Existing Structure Work Area
- Proposed Laydown Yard
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Jacobs

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Proposed Laydown Yard
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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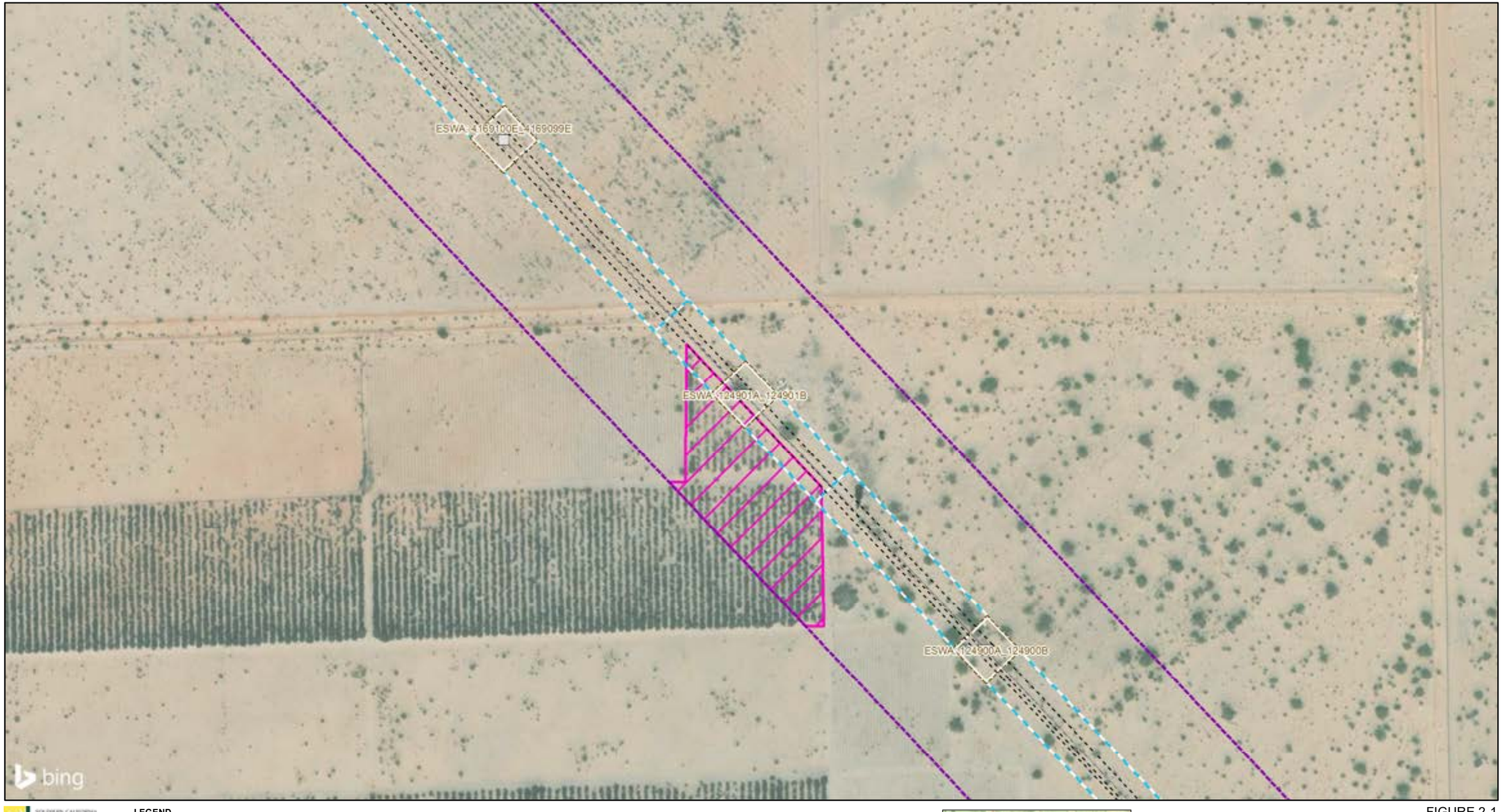
Jacobs



SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

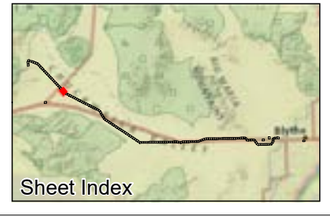


FIGURE 2-1
Page 27 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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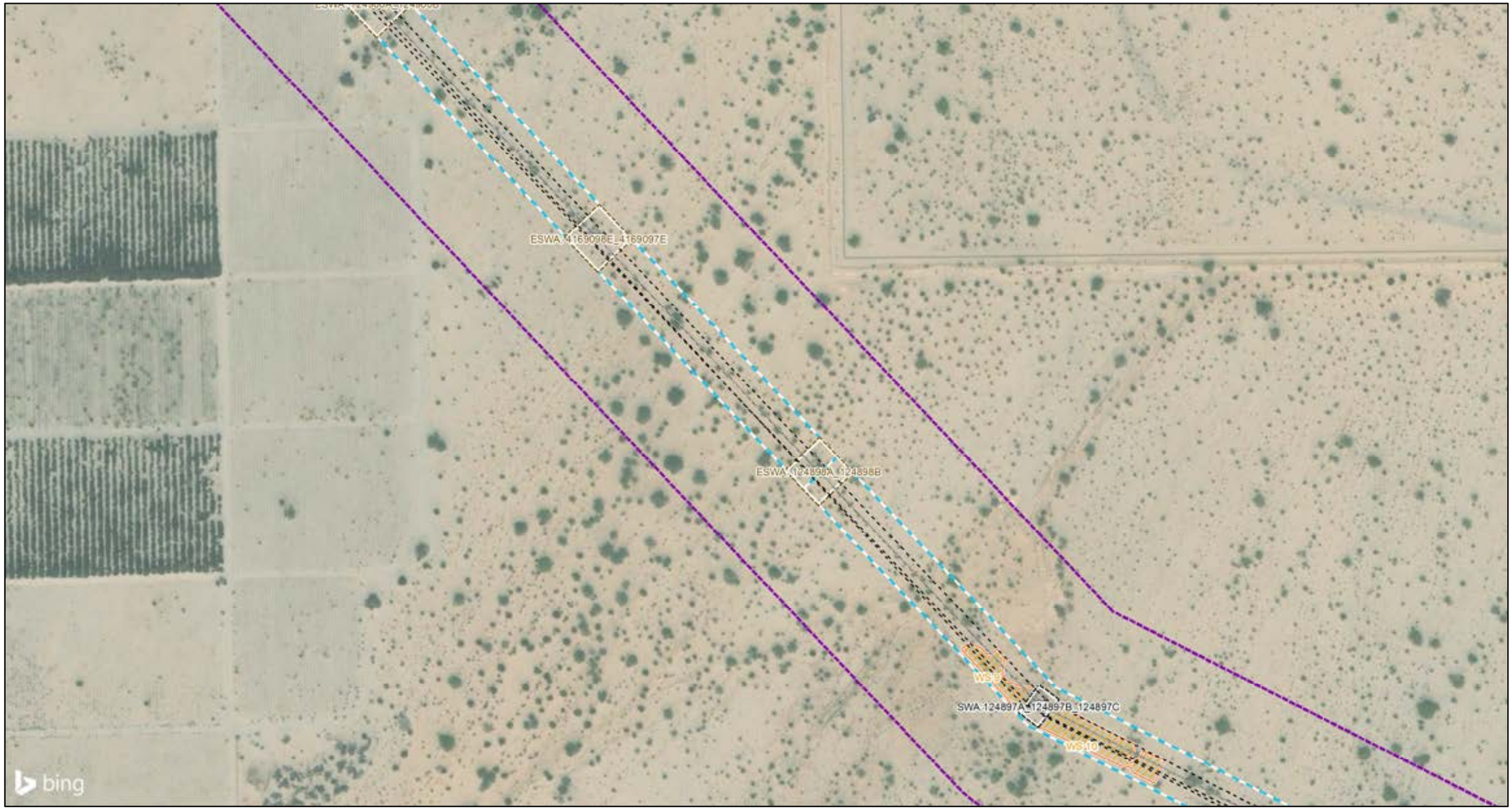

SOUTHERN CALIFORNIA EDISON
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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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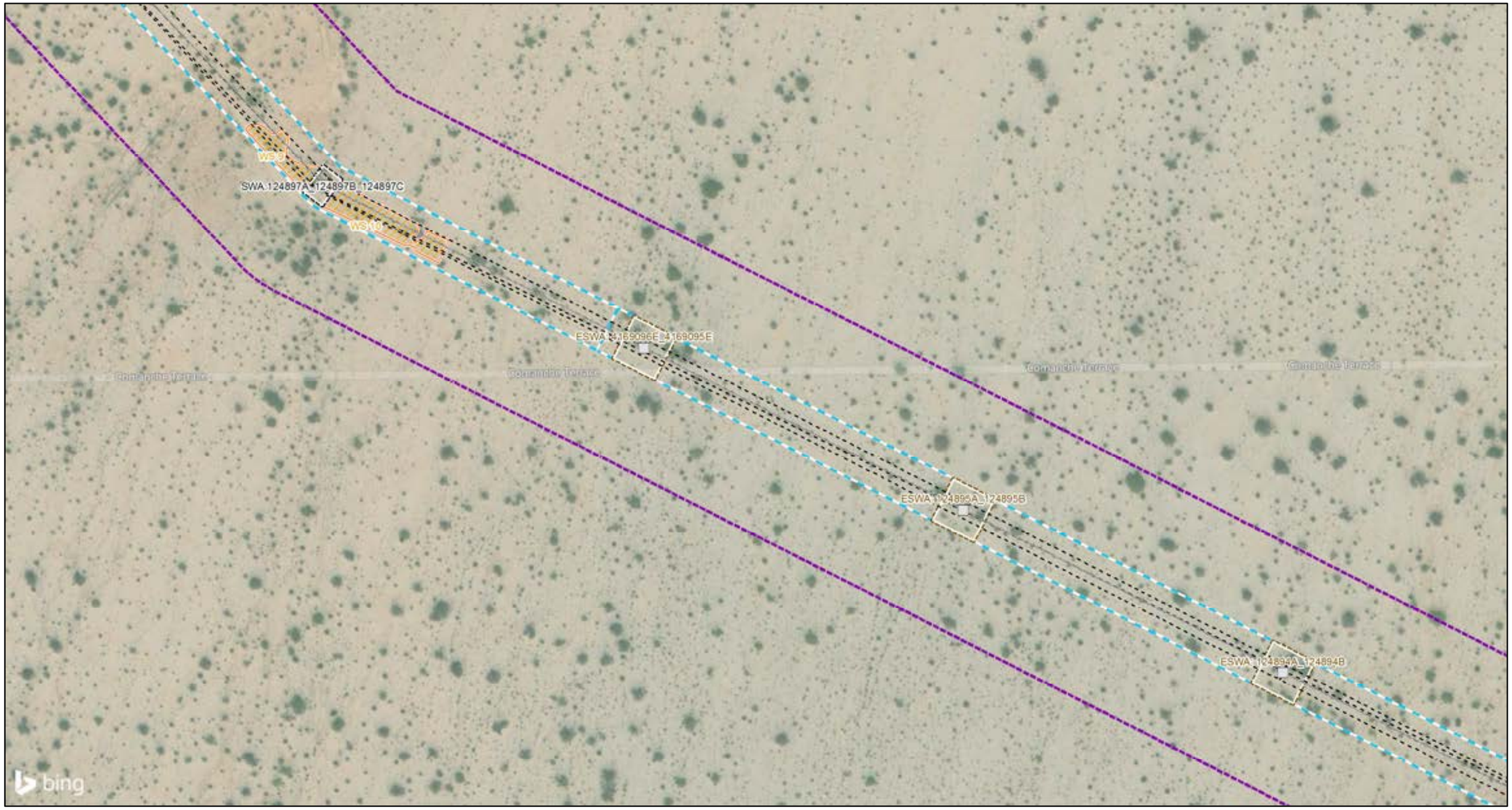
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1
Page 29 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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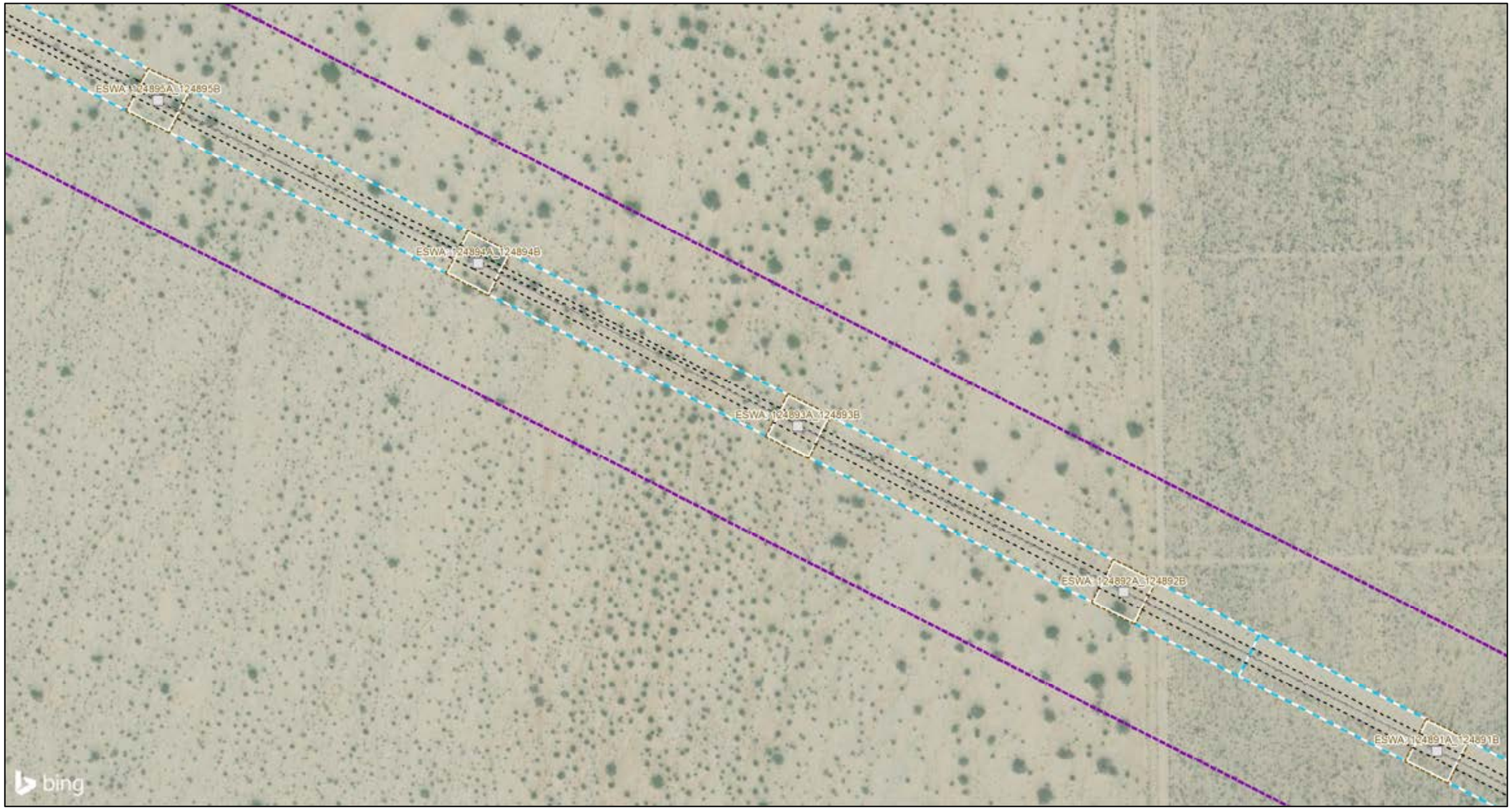

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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

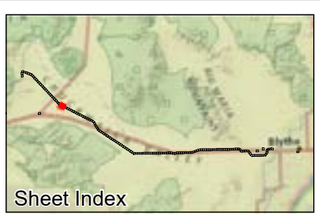

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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ESWA_124892A_124892B

ESWA_124891A_124891B

ESWA_124890A_124890B

ESWA_124889A_124889B

bing

SOUTHERN CALIFORNIA EDISON
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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

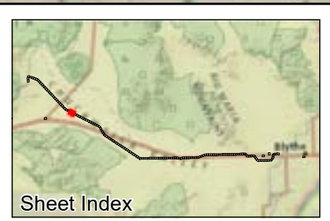

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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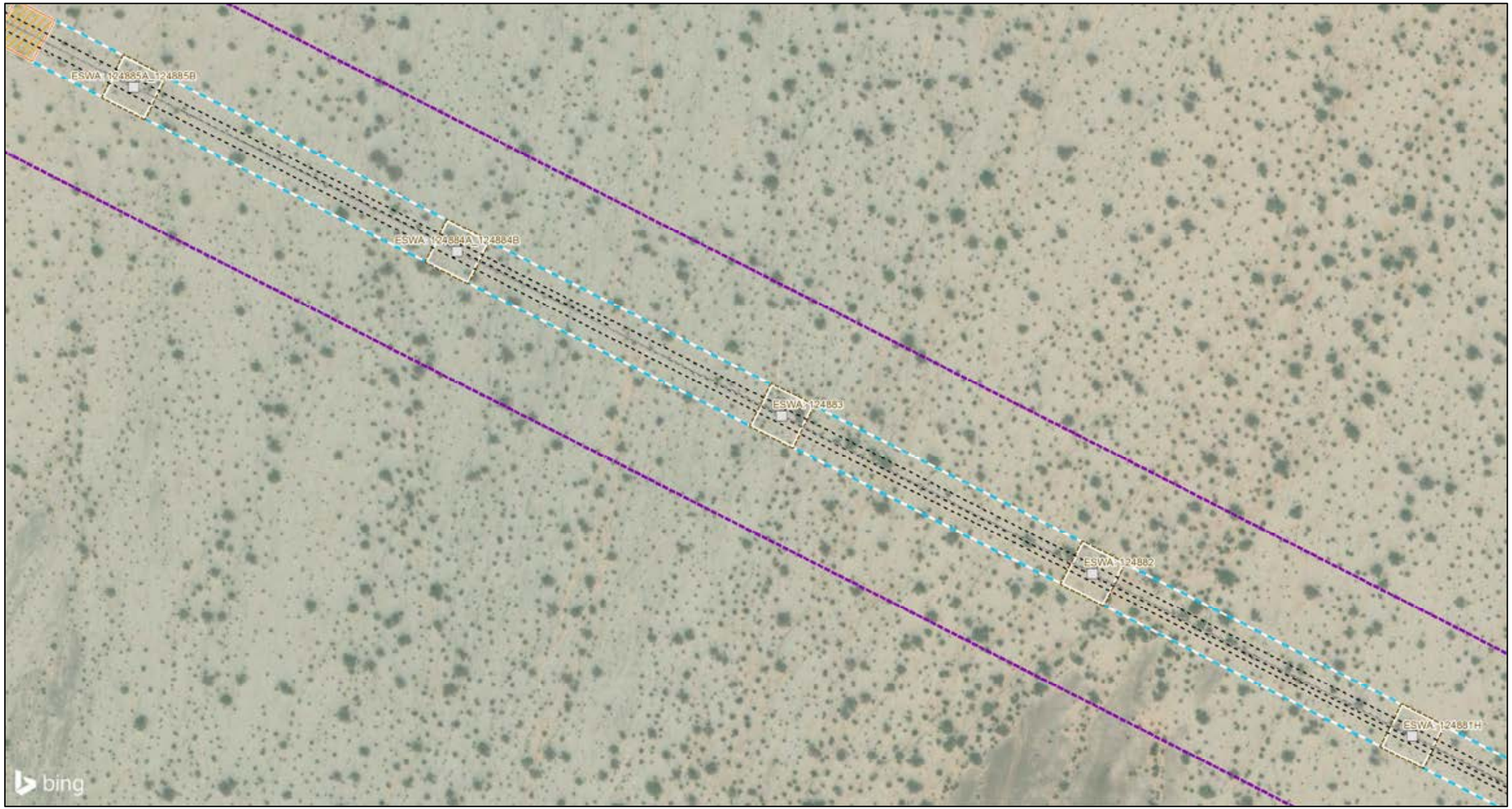

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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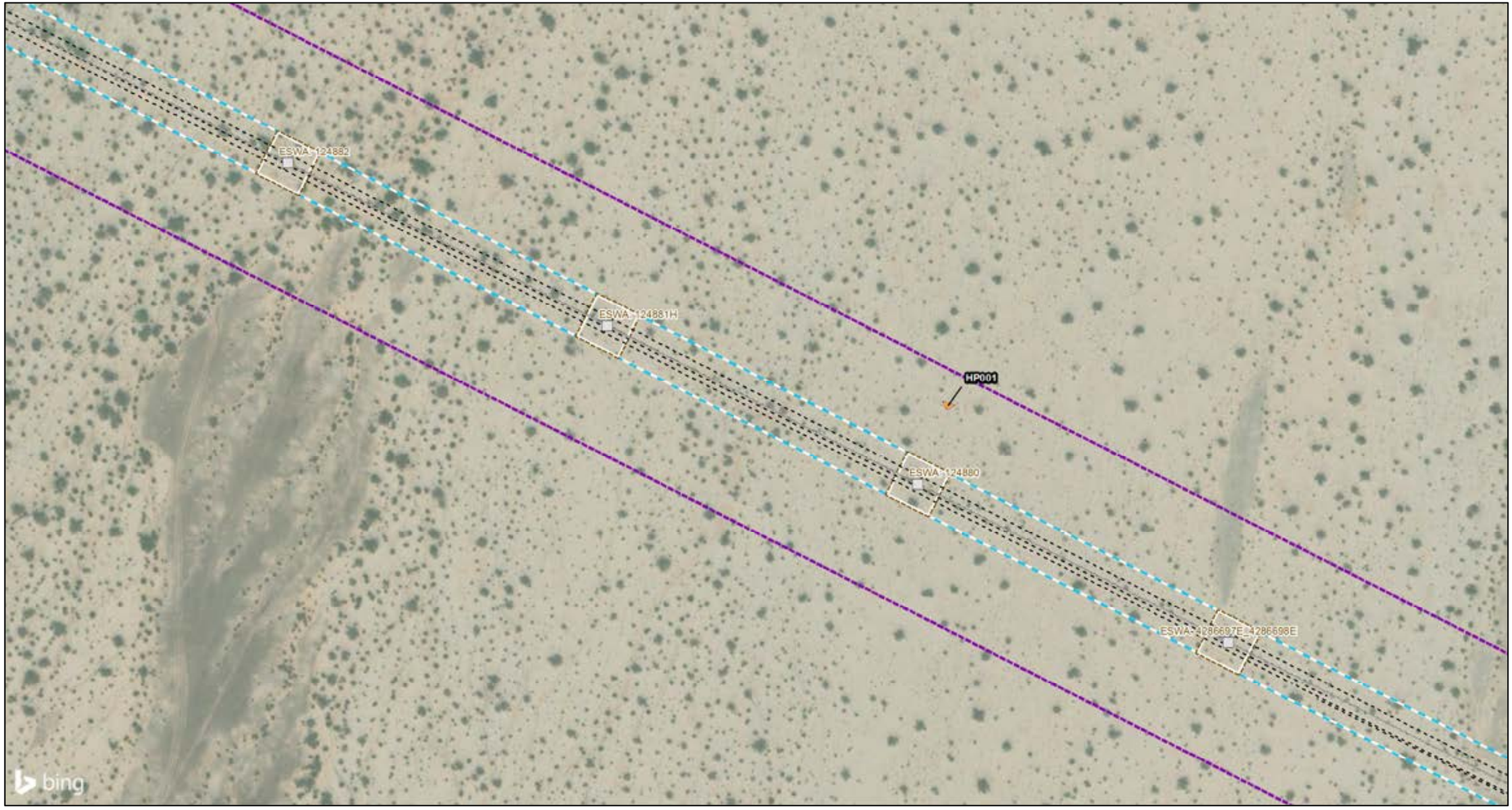
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Desert Kit Fox Burrow Complex
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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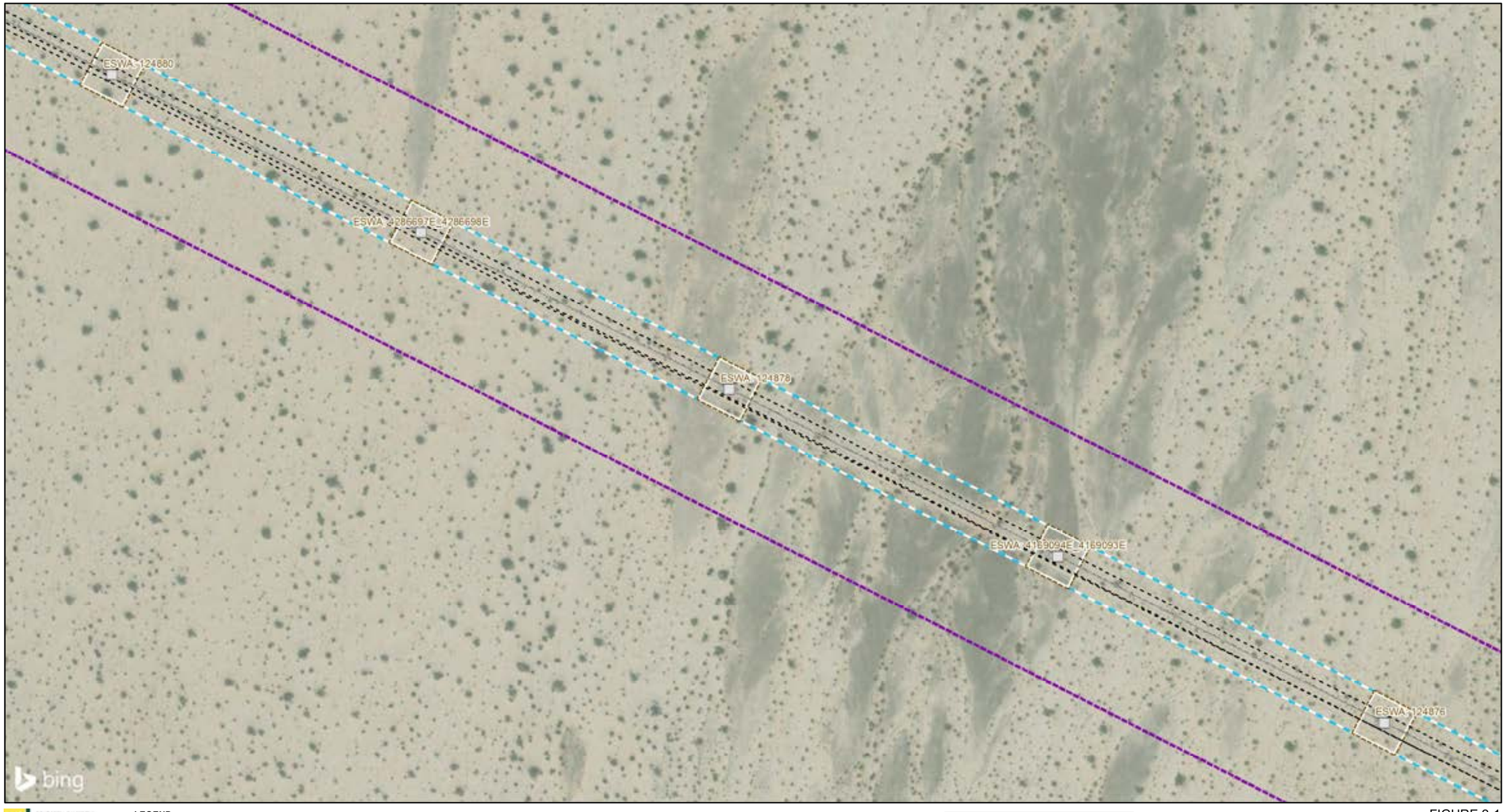
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

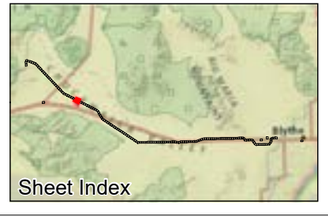

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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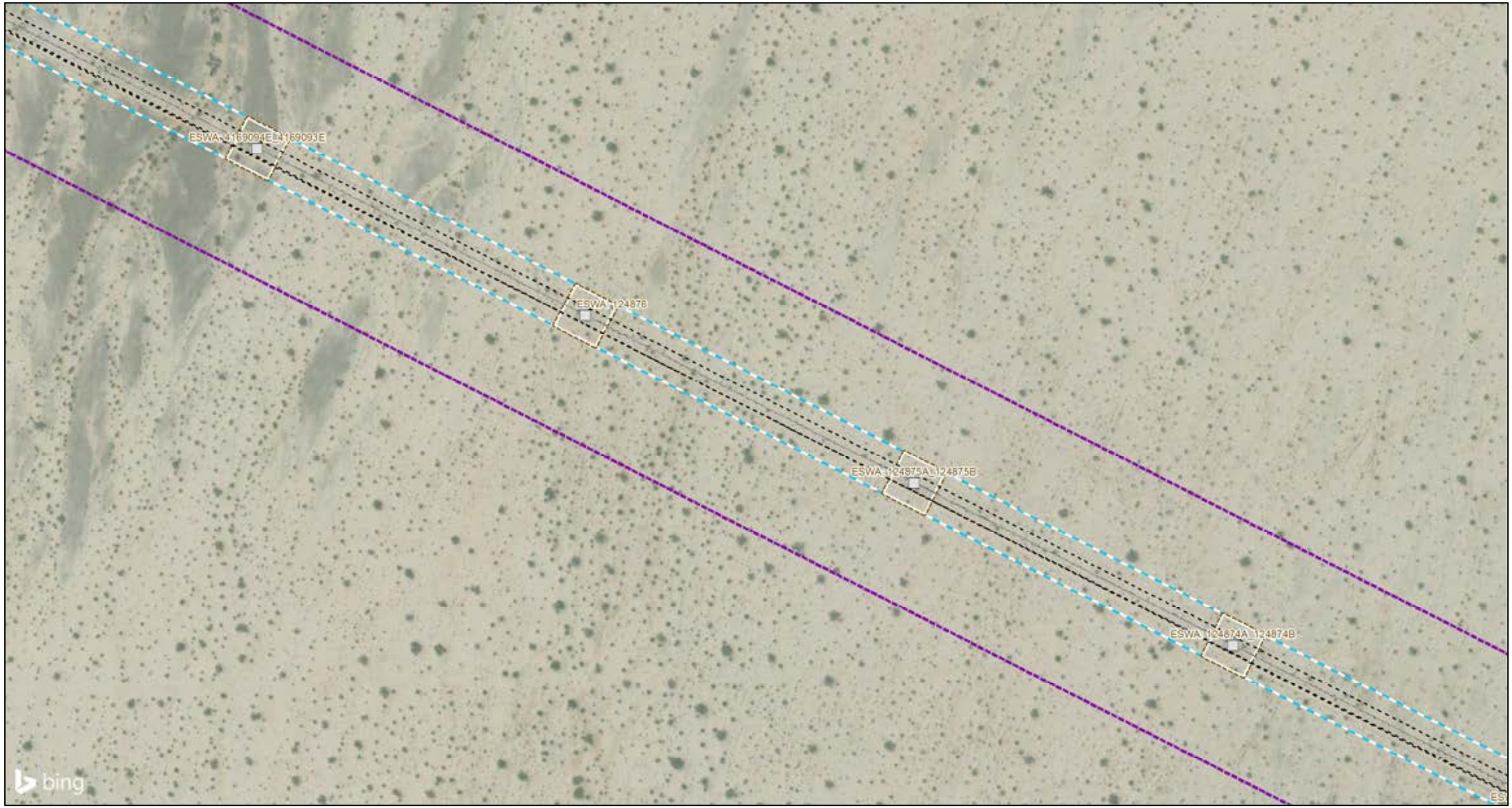

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Jacobs

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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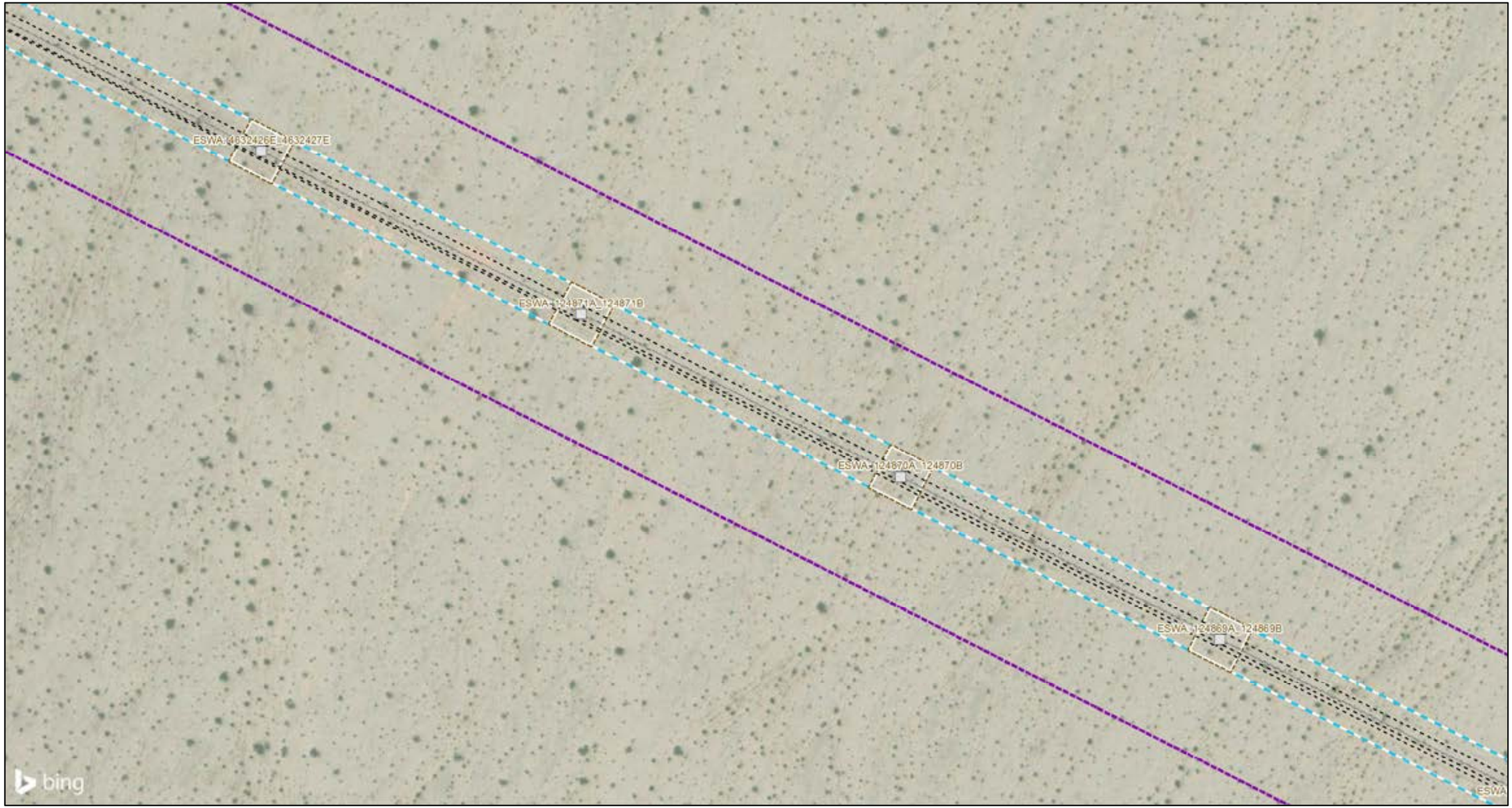

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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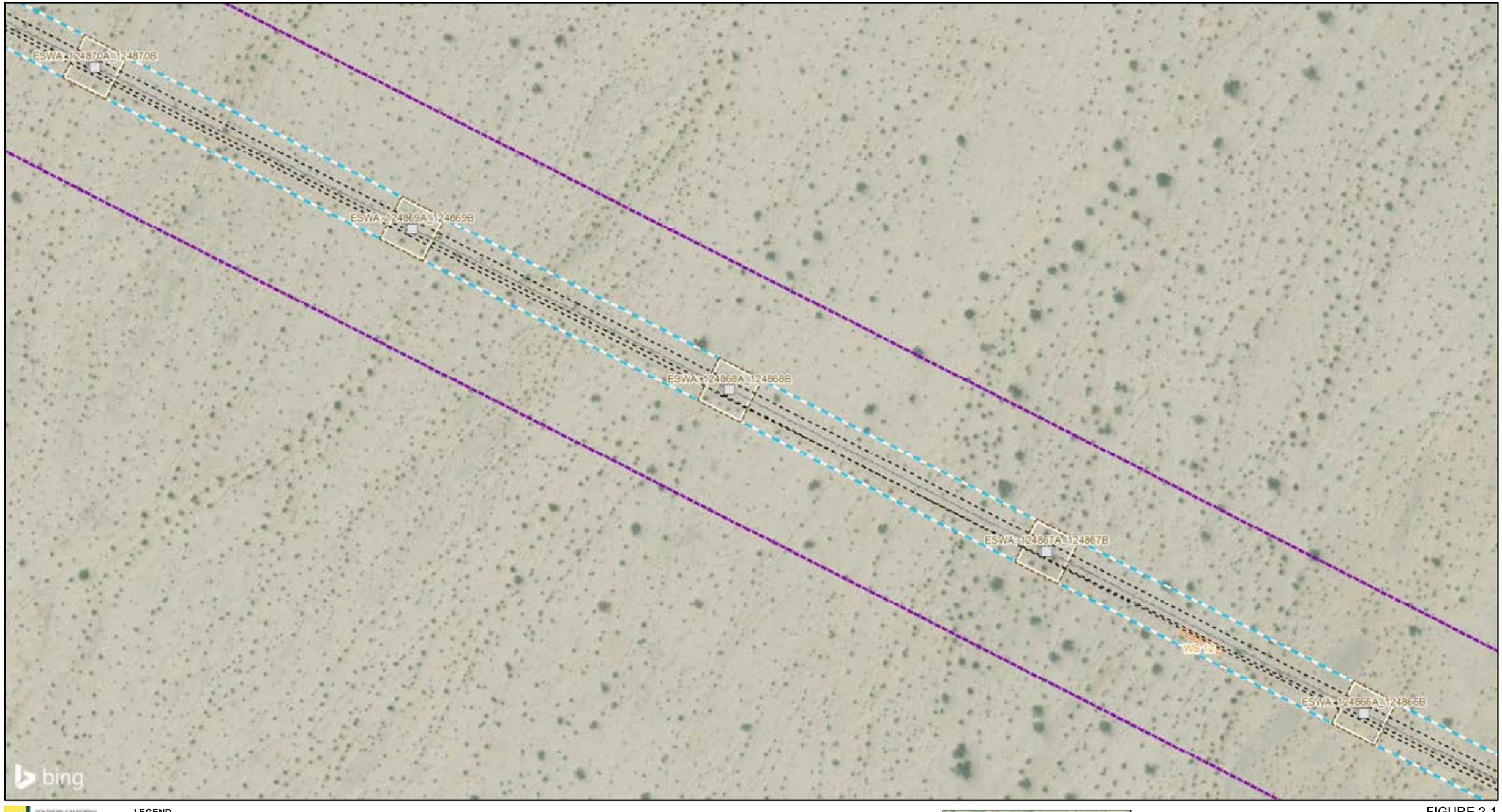

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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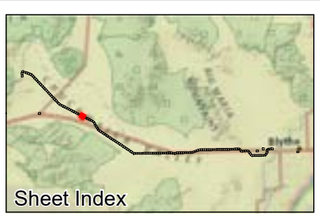
0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary



Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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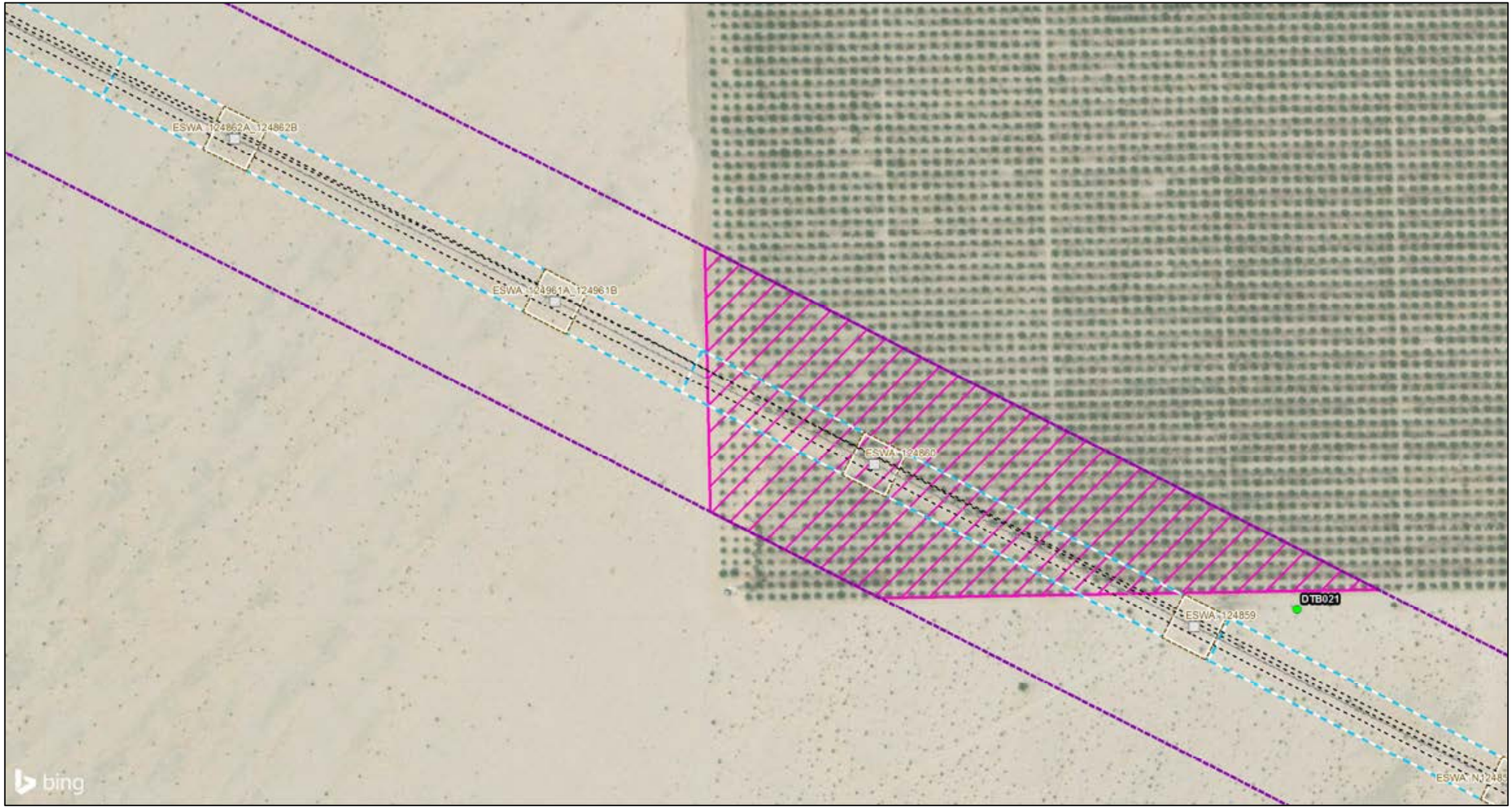

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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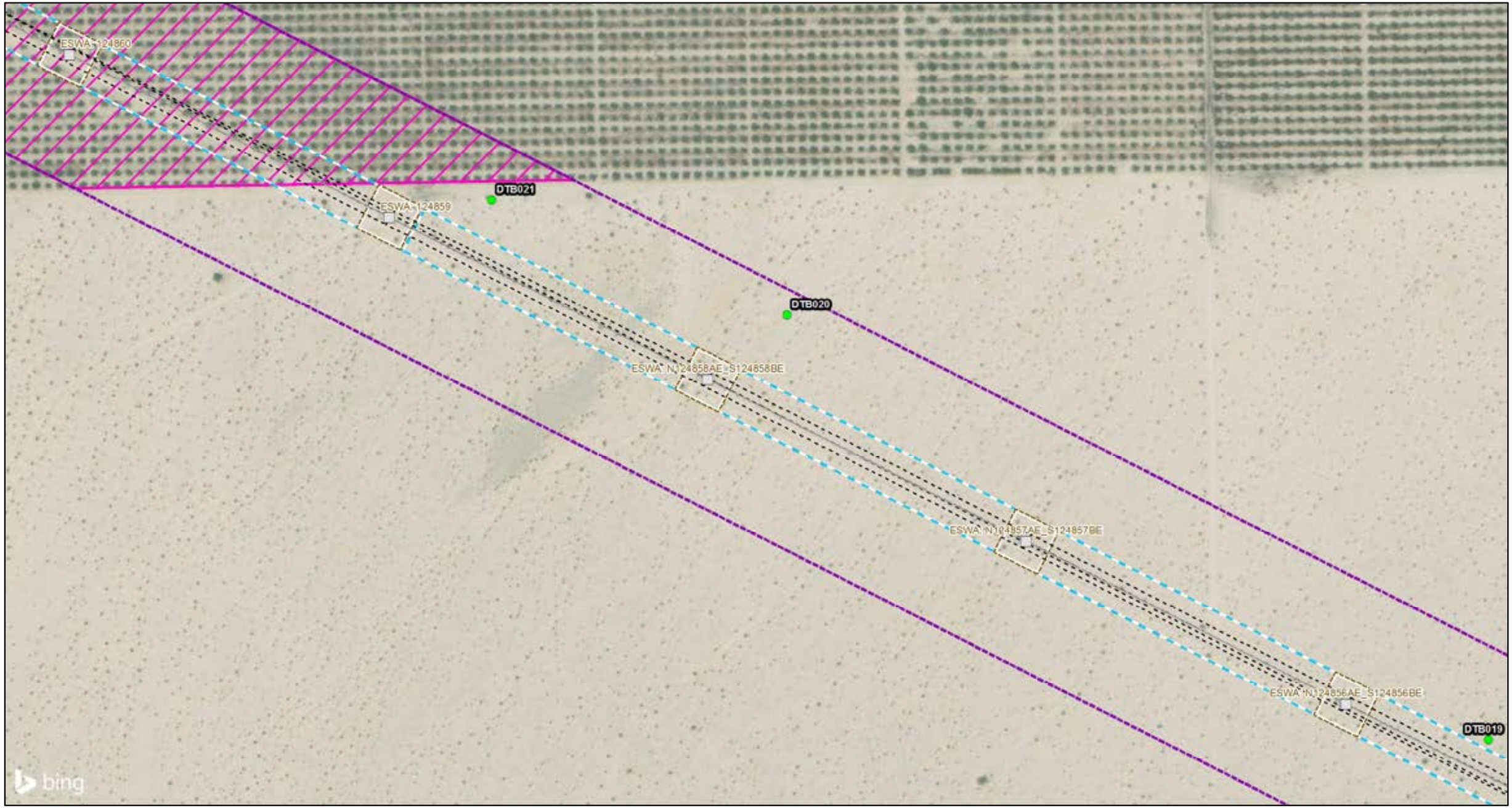
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

0 100 200
FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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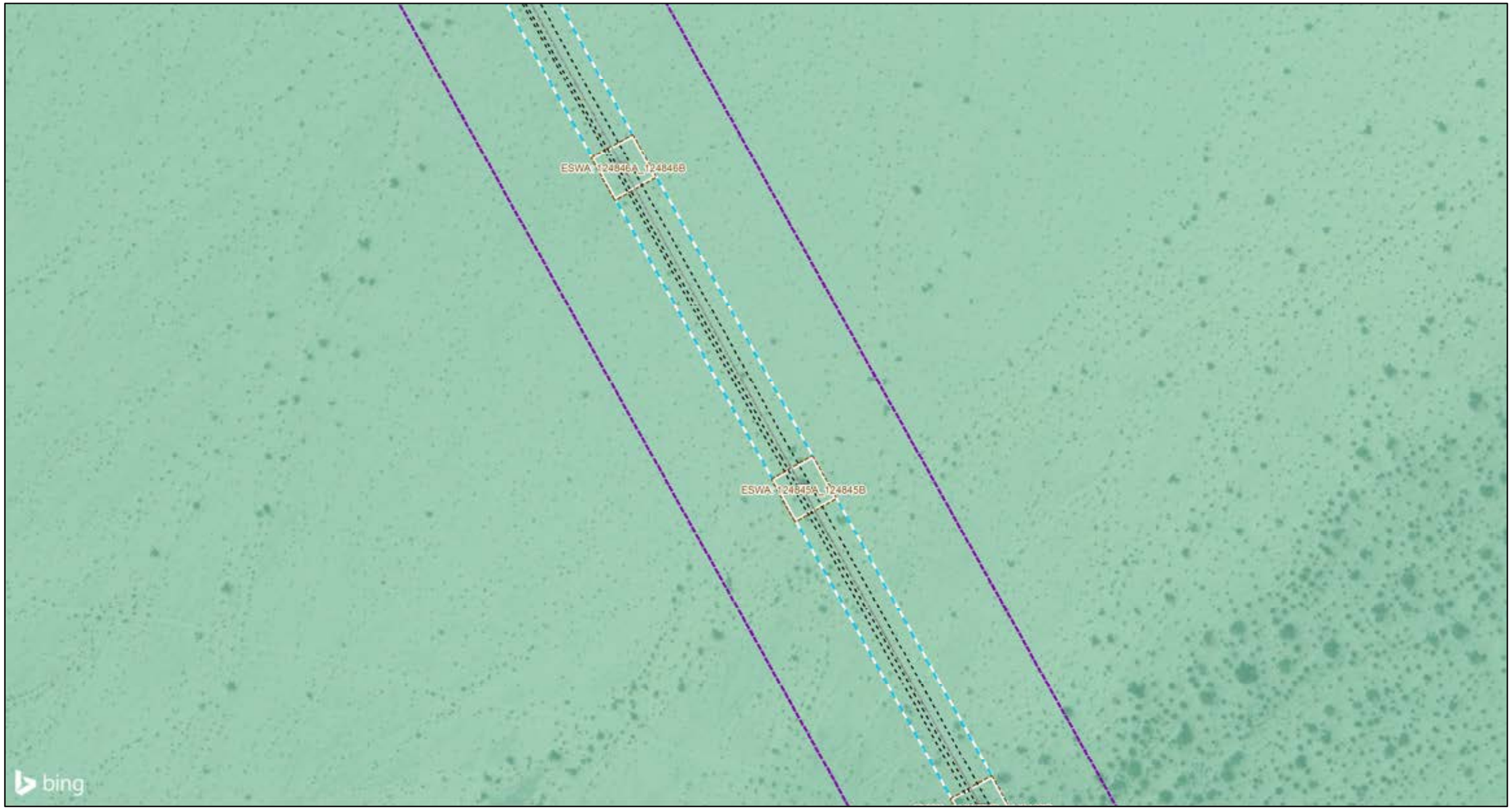

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

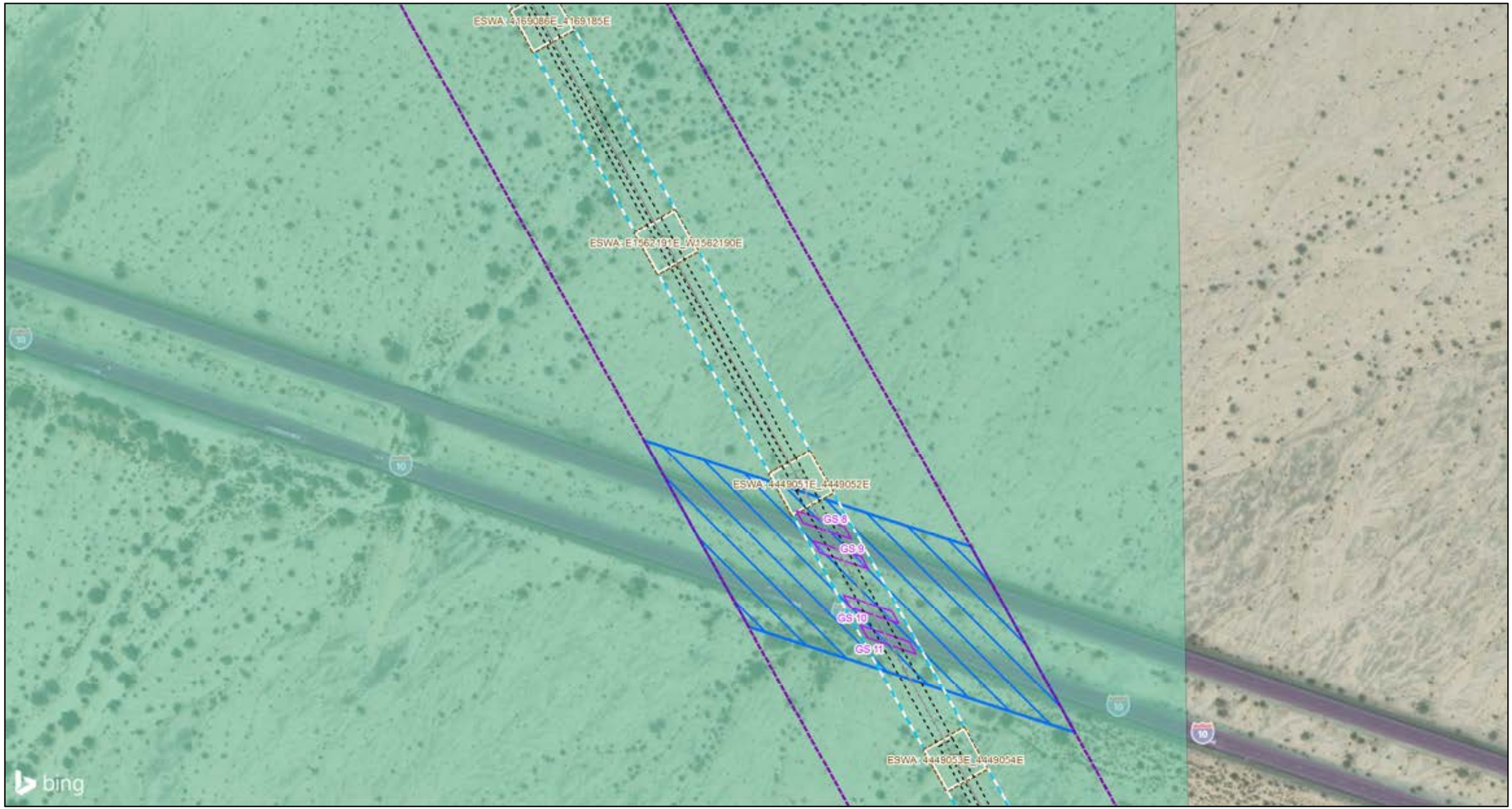
\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

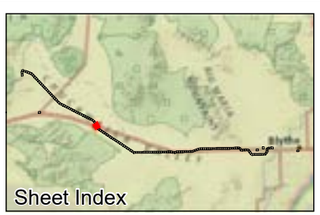
LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery



Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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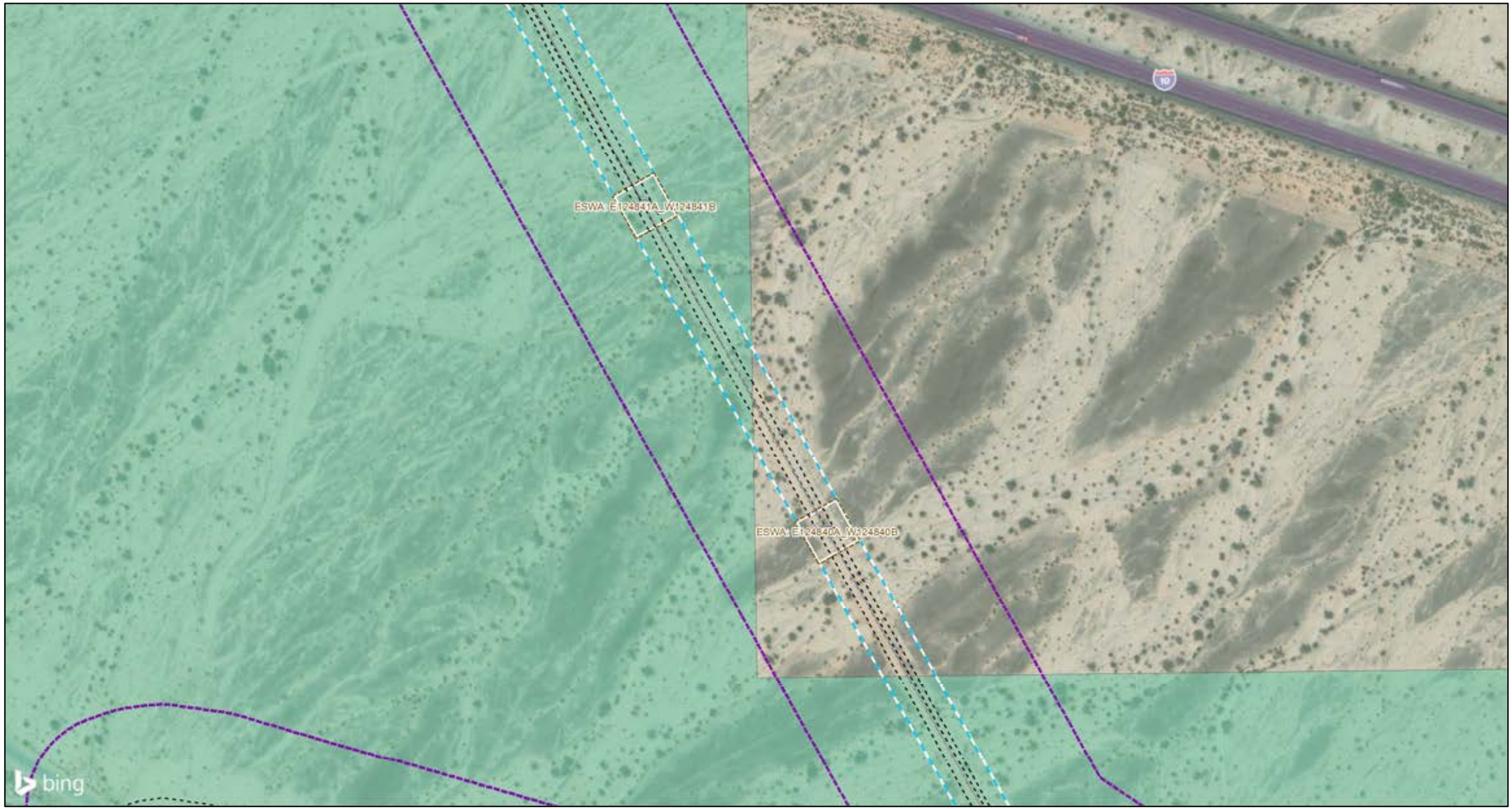

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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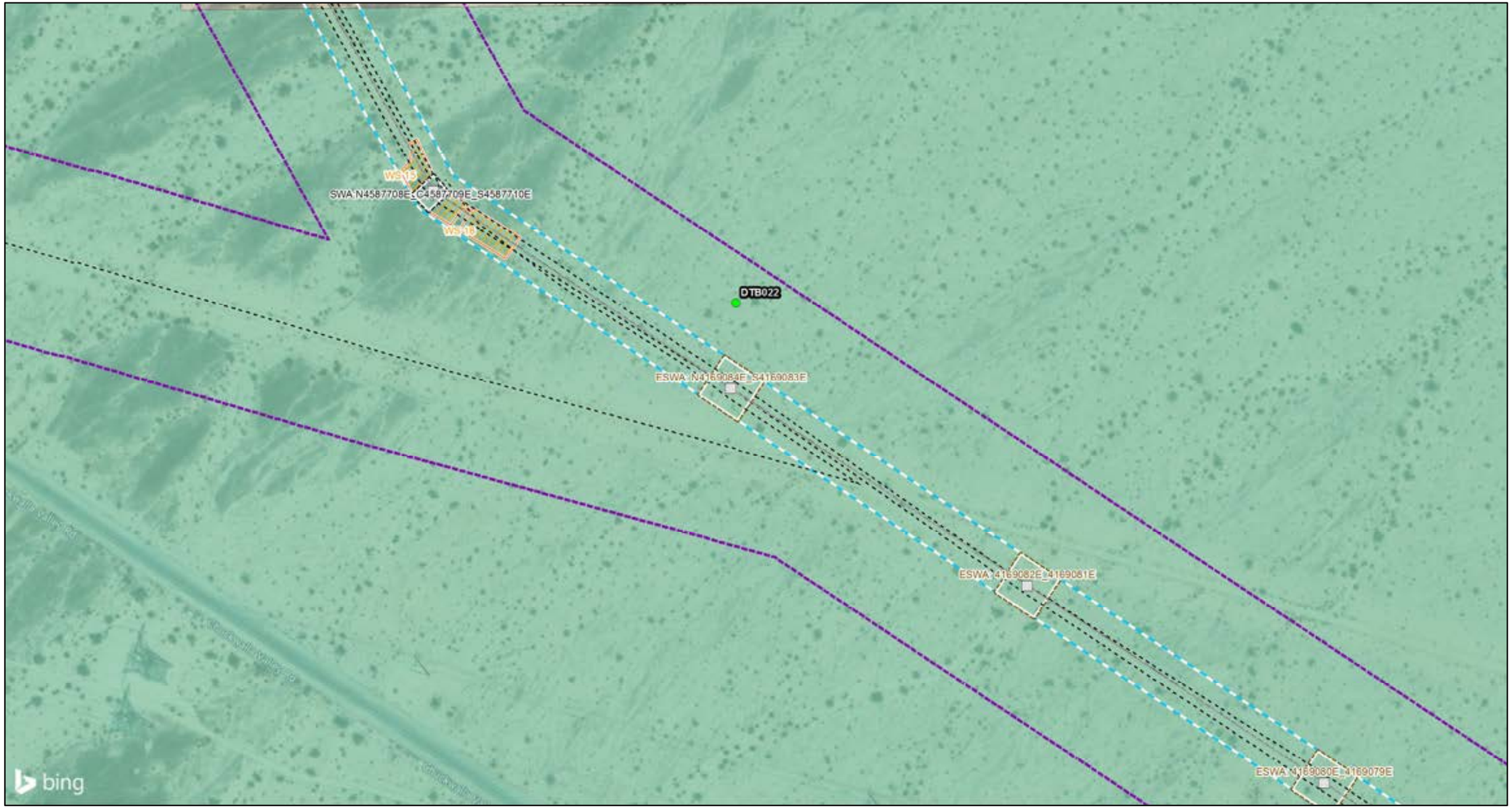
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
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LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
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Source: SCE, ESRI World Street Map, Bing Imagery

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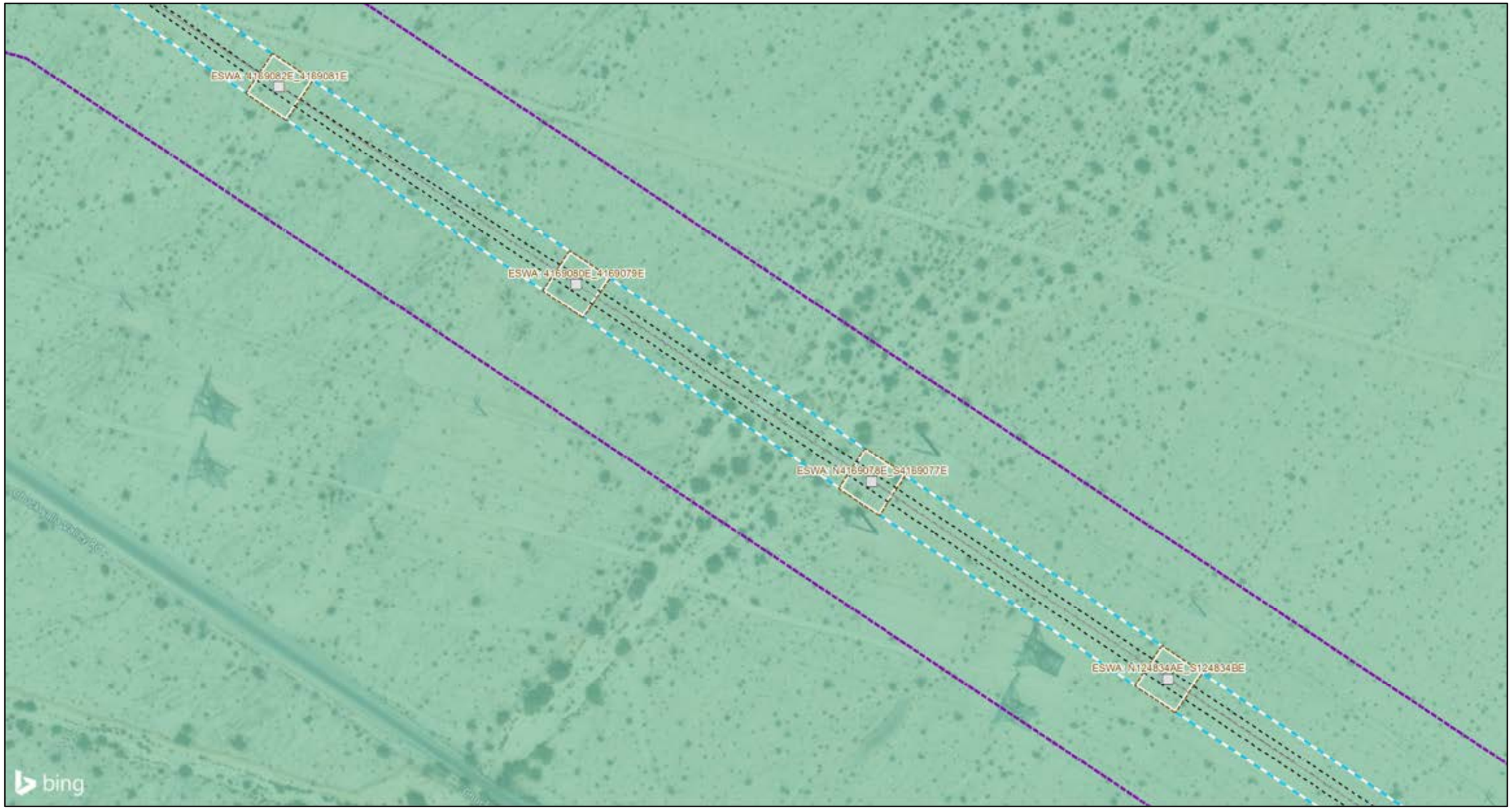
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
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- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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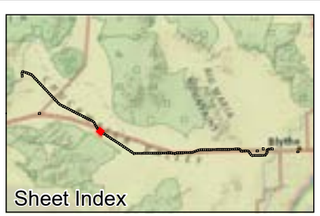
Source: SCE, ESRI World Street Map, Bing Imagery



Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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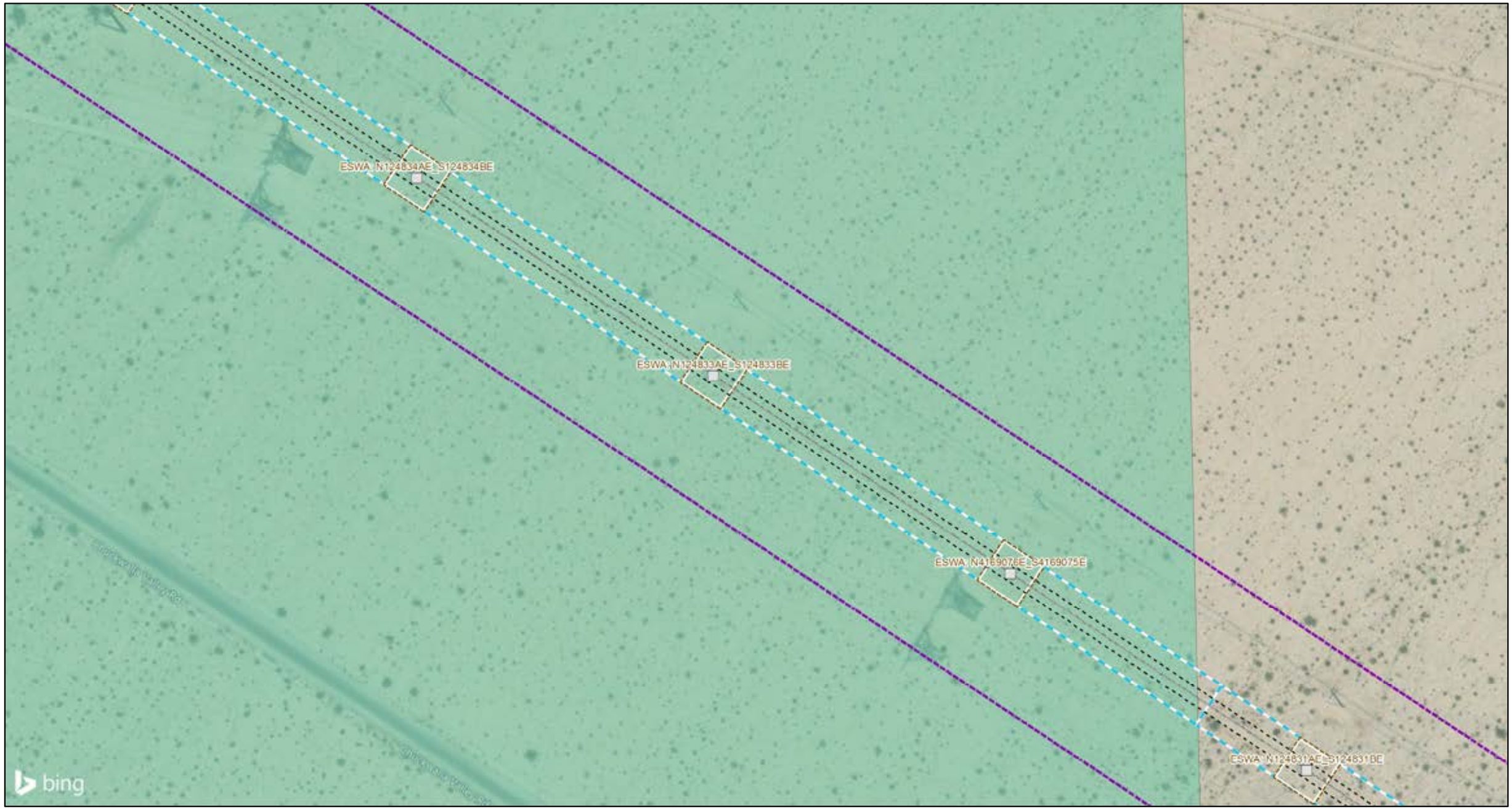

SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
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- Access Road
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Source: SCE, ESRI World Street Map, Bing Imagery

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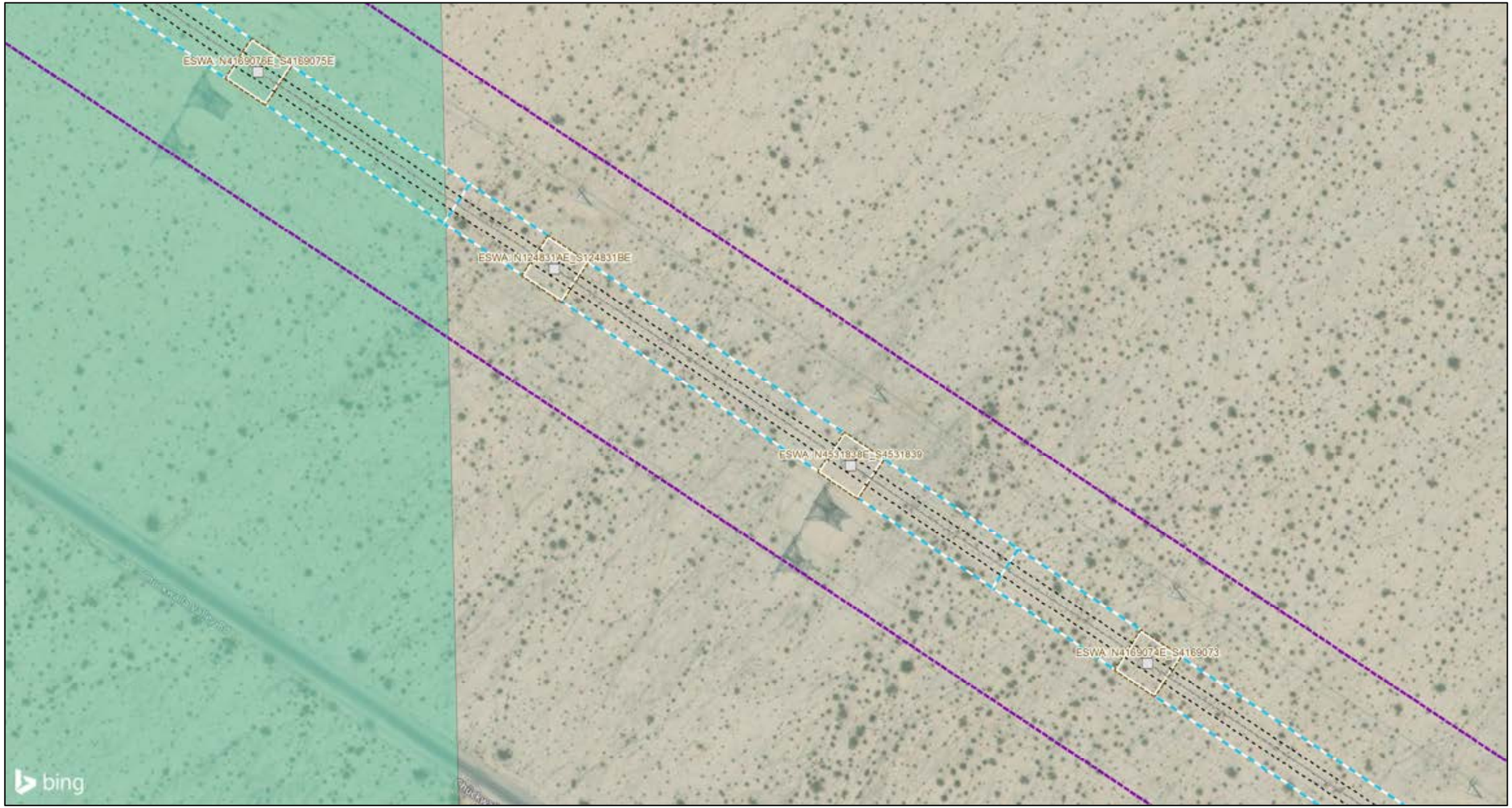
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs



LEGEND

- Existing Structure
- Existing Circuit
- Access Road
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- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
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Source: SCE, ESRI World Street Map, Bing Imagery

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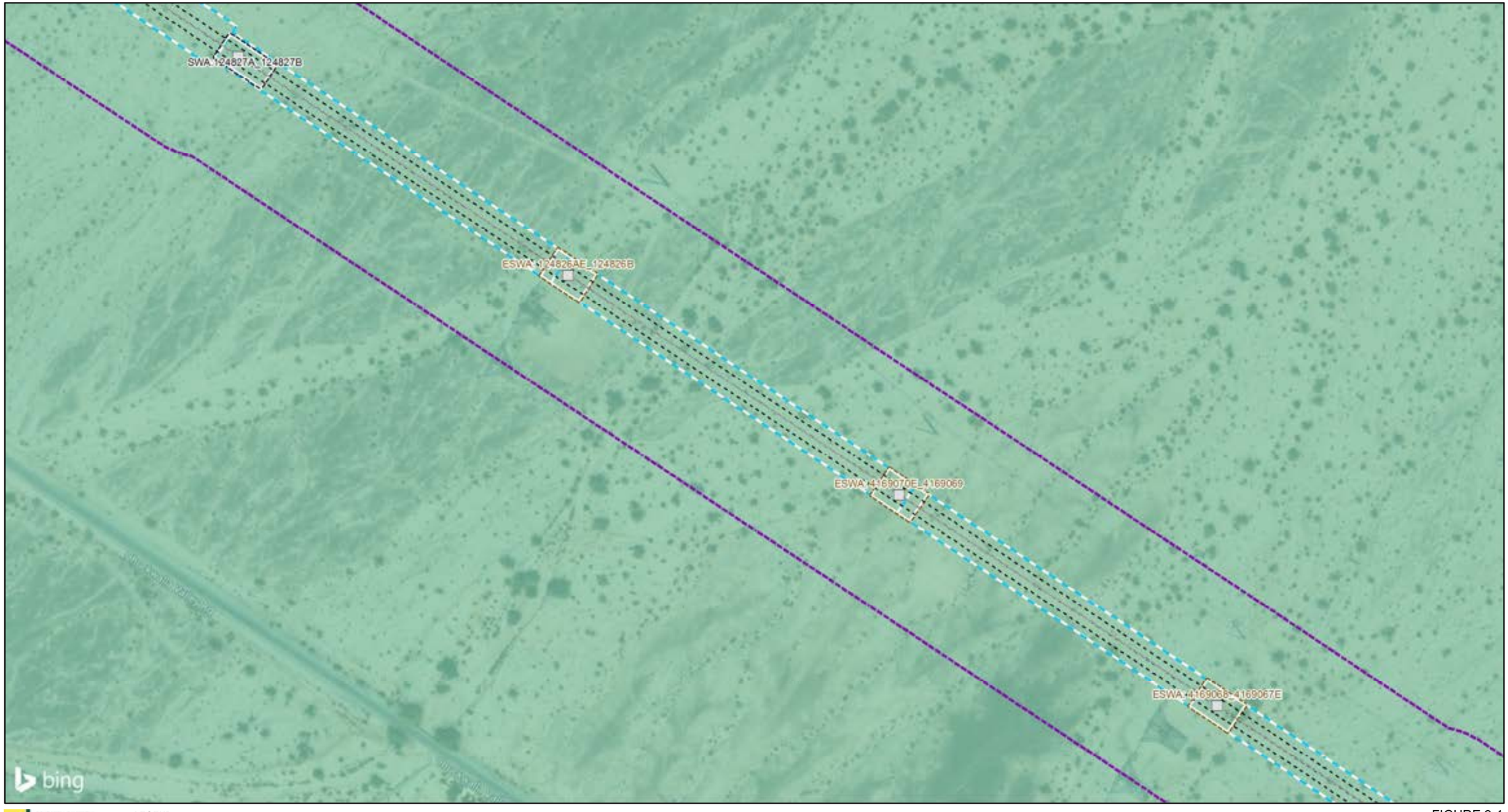
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
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Source: SCE, ESRI World Street Map, Bing Imagery

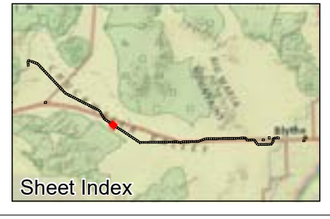

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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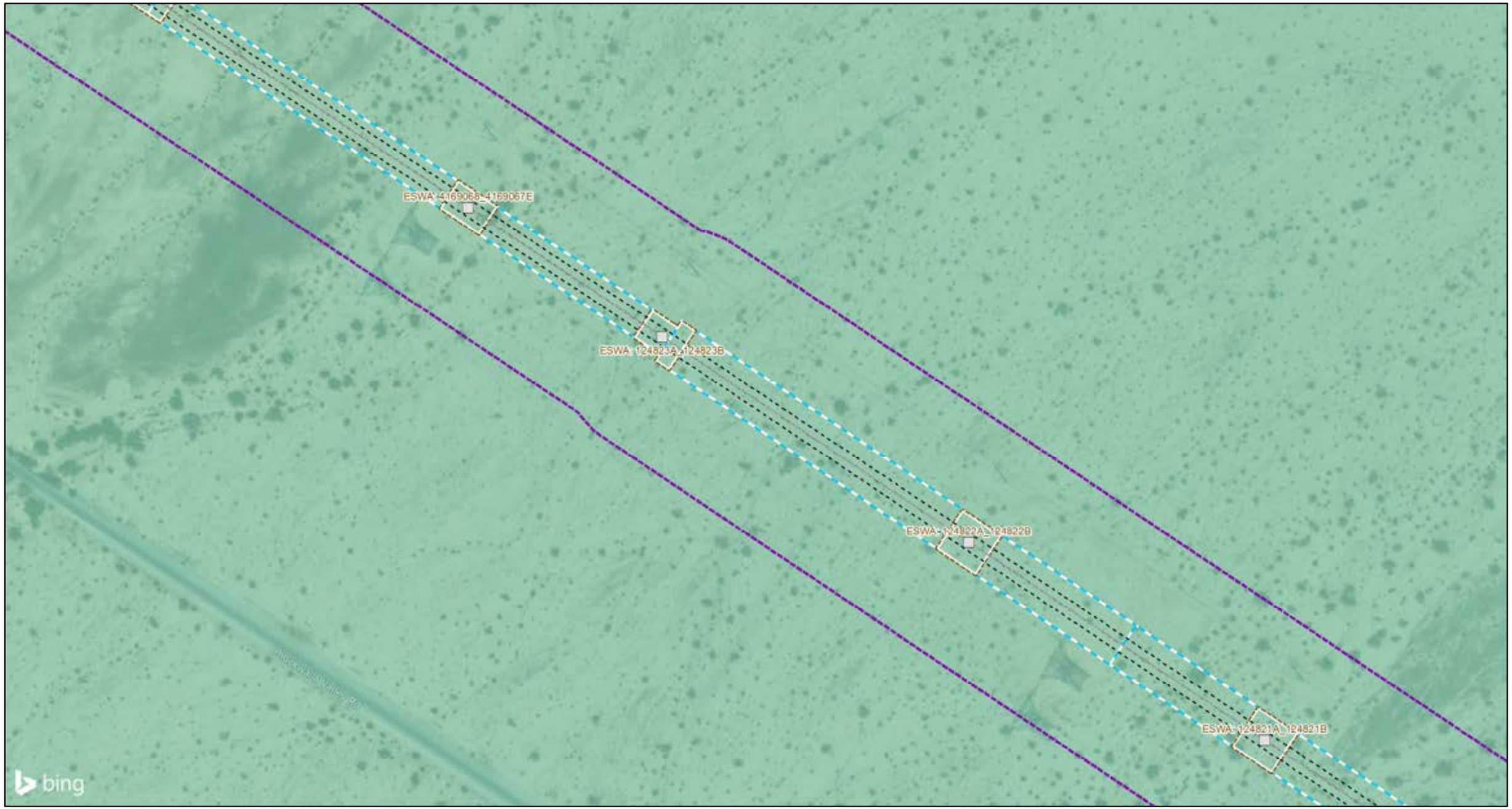

SOUTHERN CALIFORNIA EDISON
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LEGEND

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Source: SCE, ESRI World Street Map, Bing Imagery

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Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON

LEGEND

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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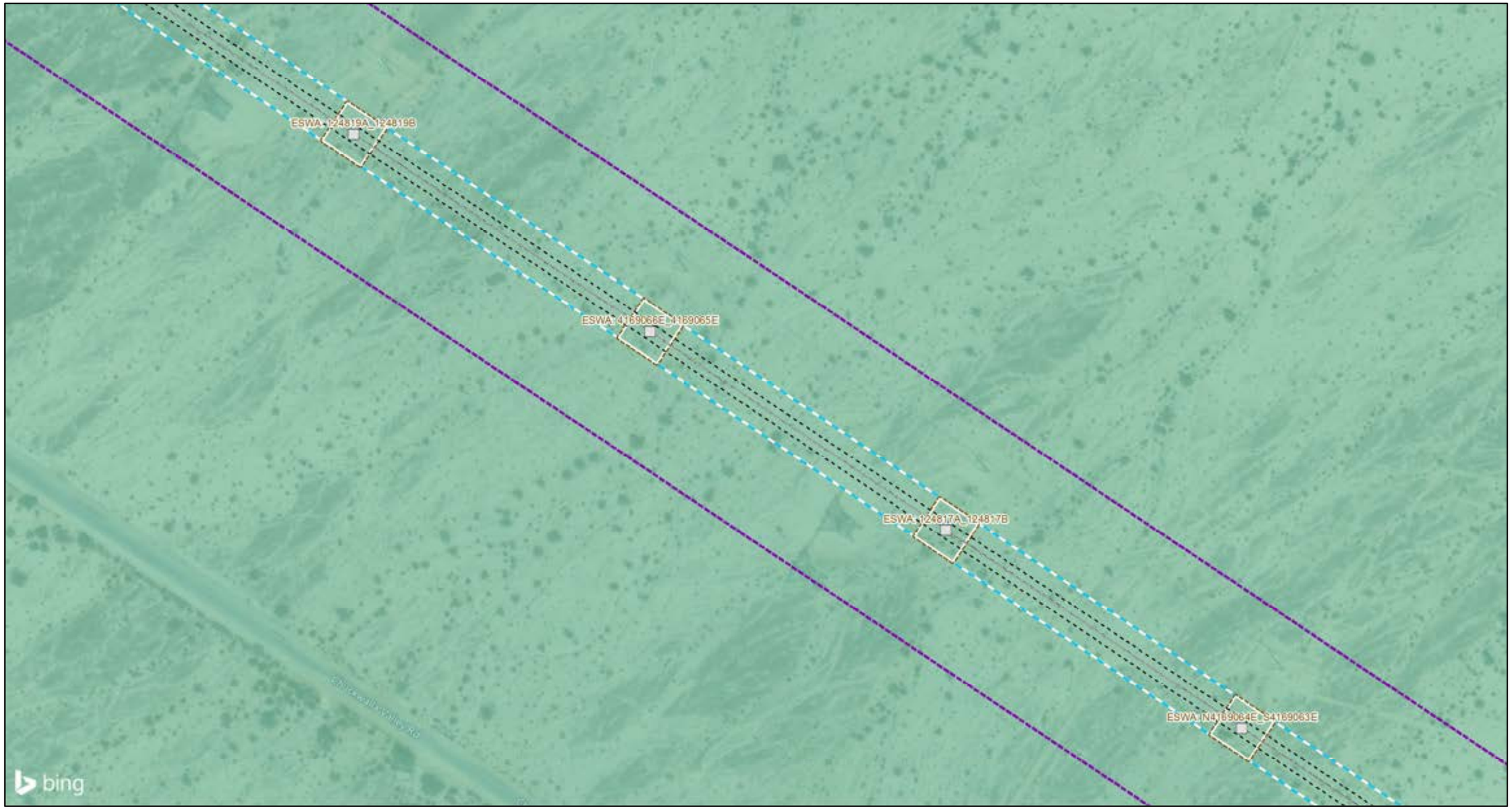

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LEGEND

- Existing Structure
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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
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LEGEND

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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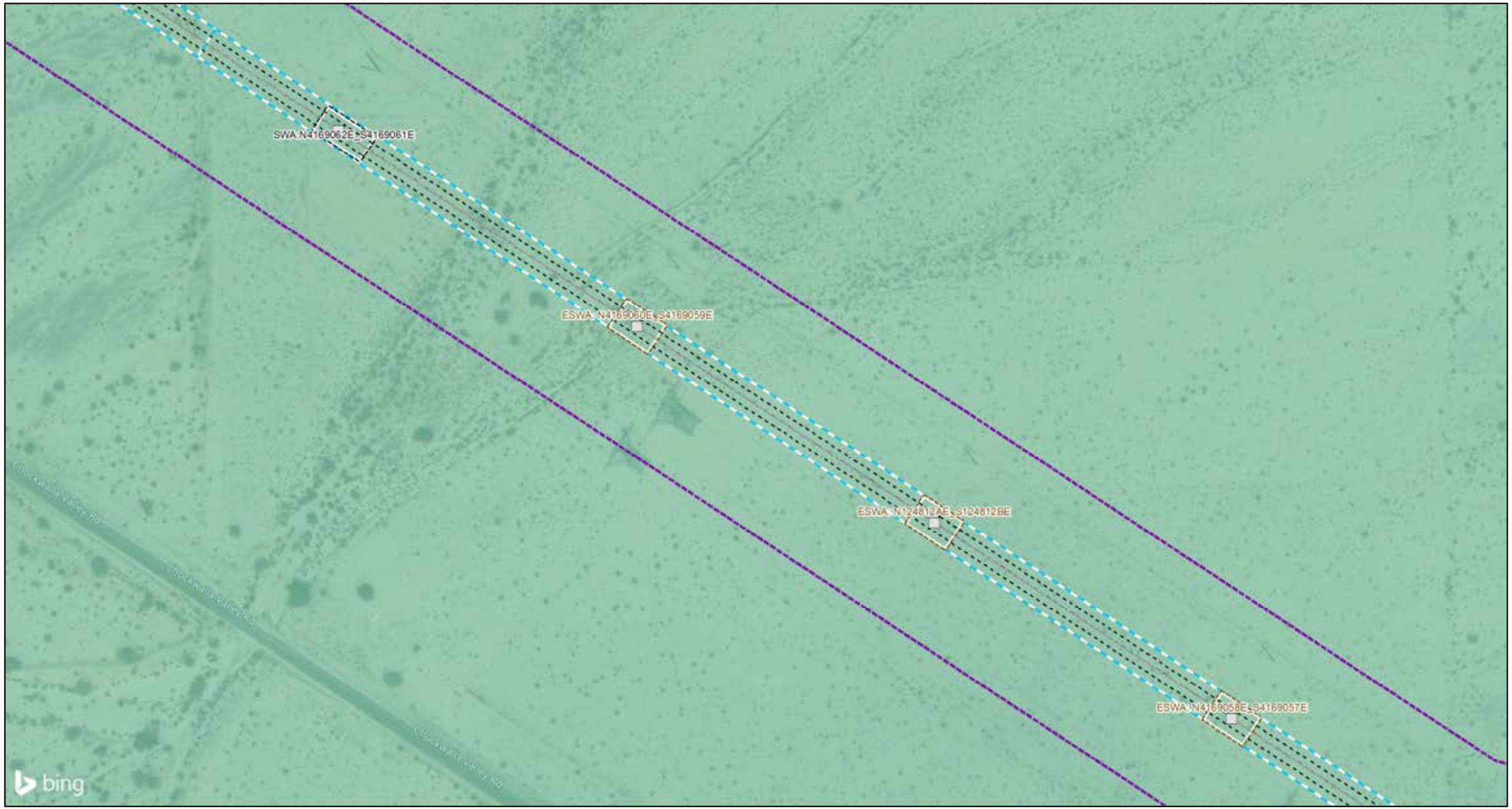

SOUTHERN CALIFORNIA EDISON
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LEGEND

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Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
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LEGEND

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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FEET

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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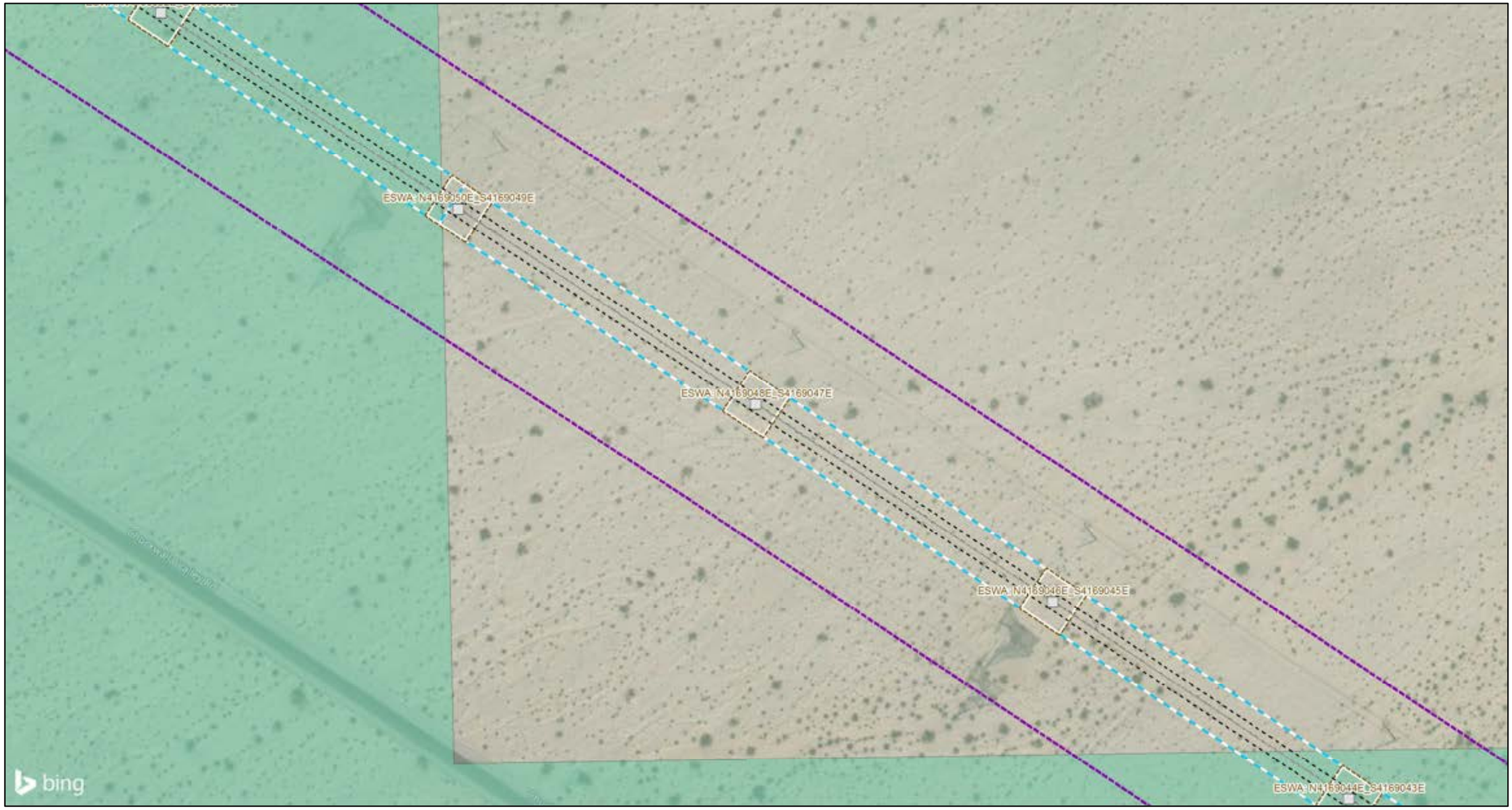

SOUTHERN CALIFORNIA EDISON

LEGEND

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- Access Road
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Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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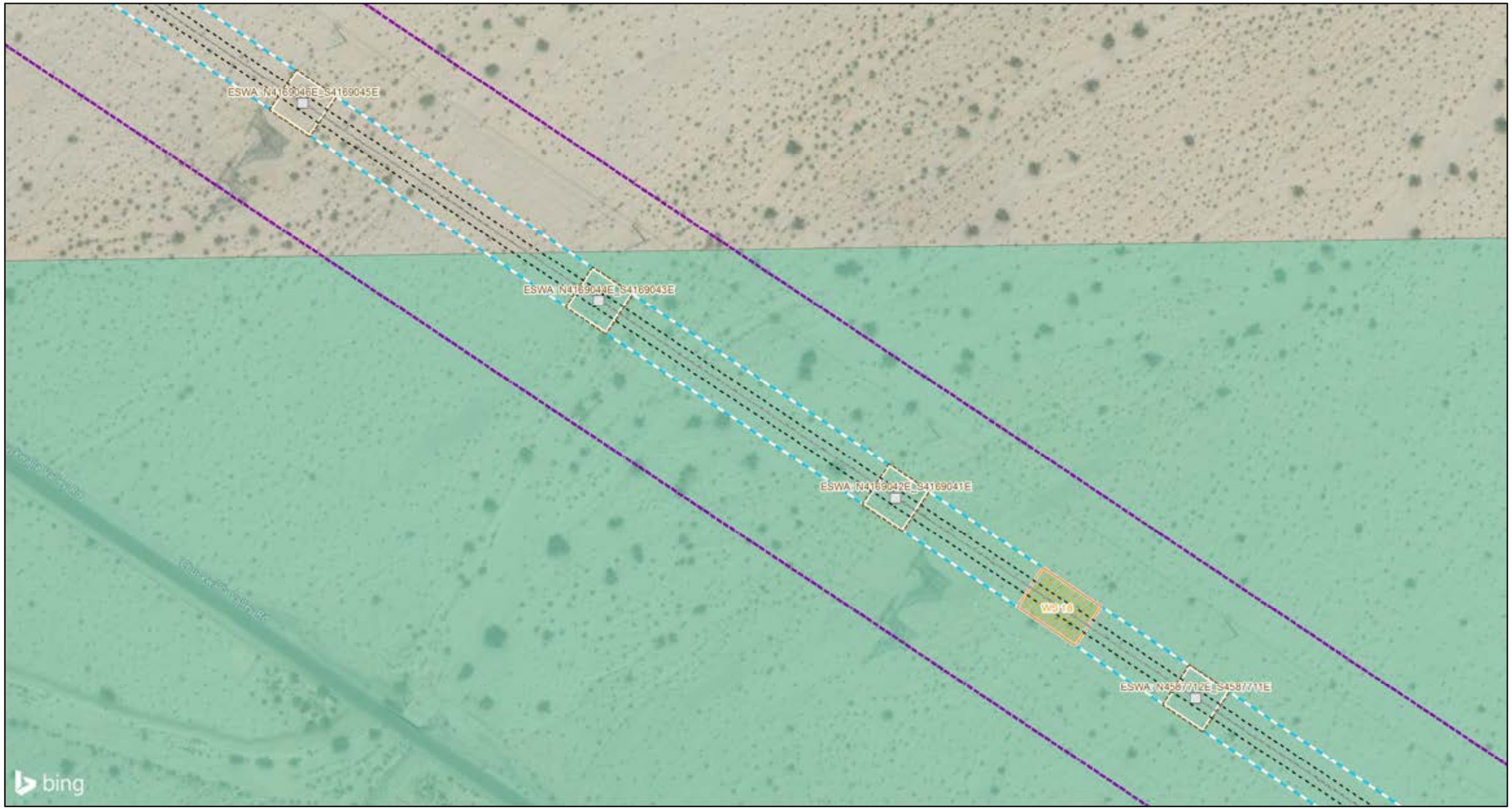

SOUTHERN CALIFORNIA EDISON

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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
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Source: SCE, ESRI World Street Map, Bing Imagery

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Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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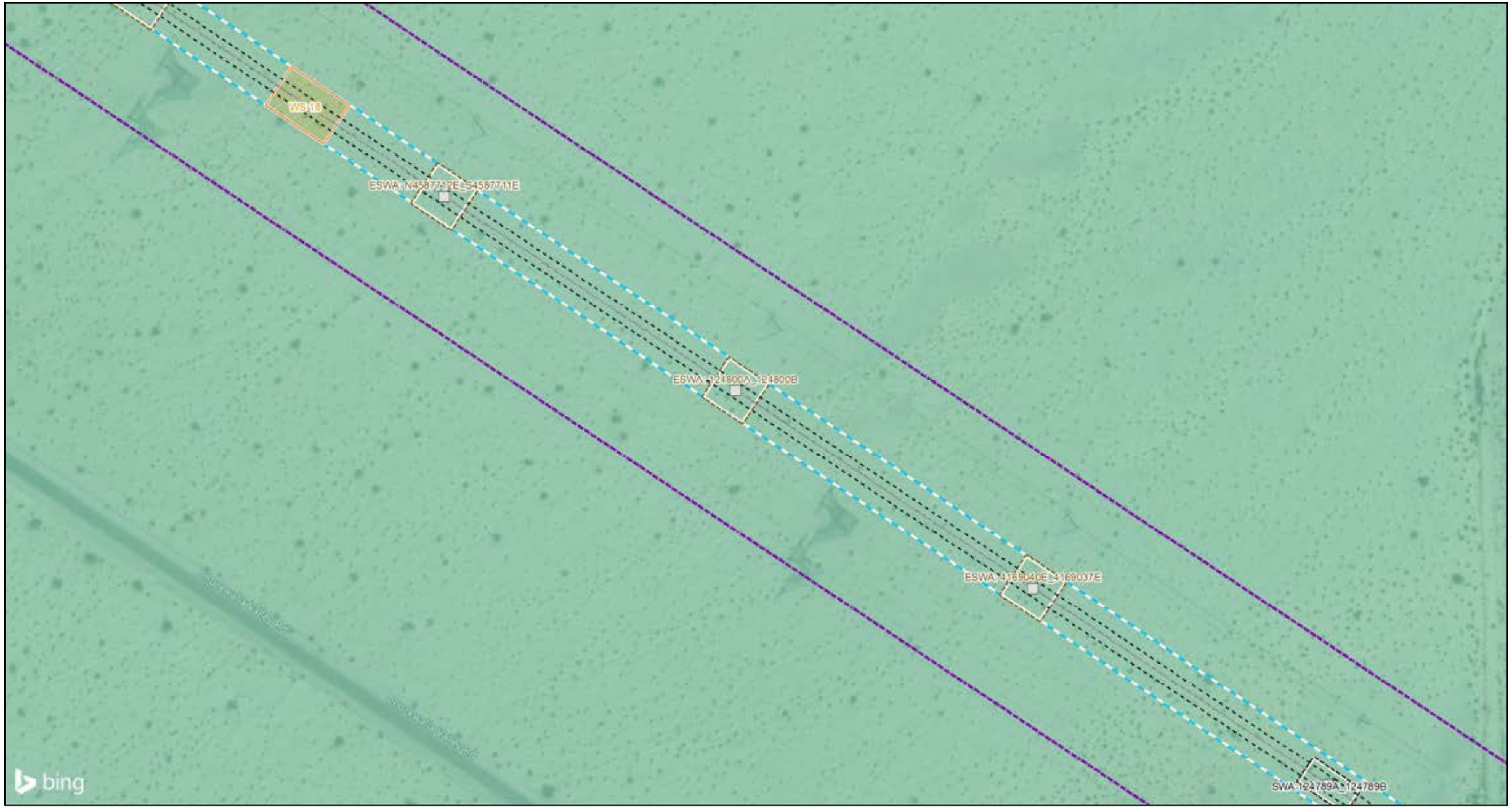

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
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Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1
Page 67 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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LEGEND

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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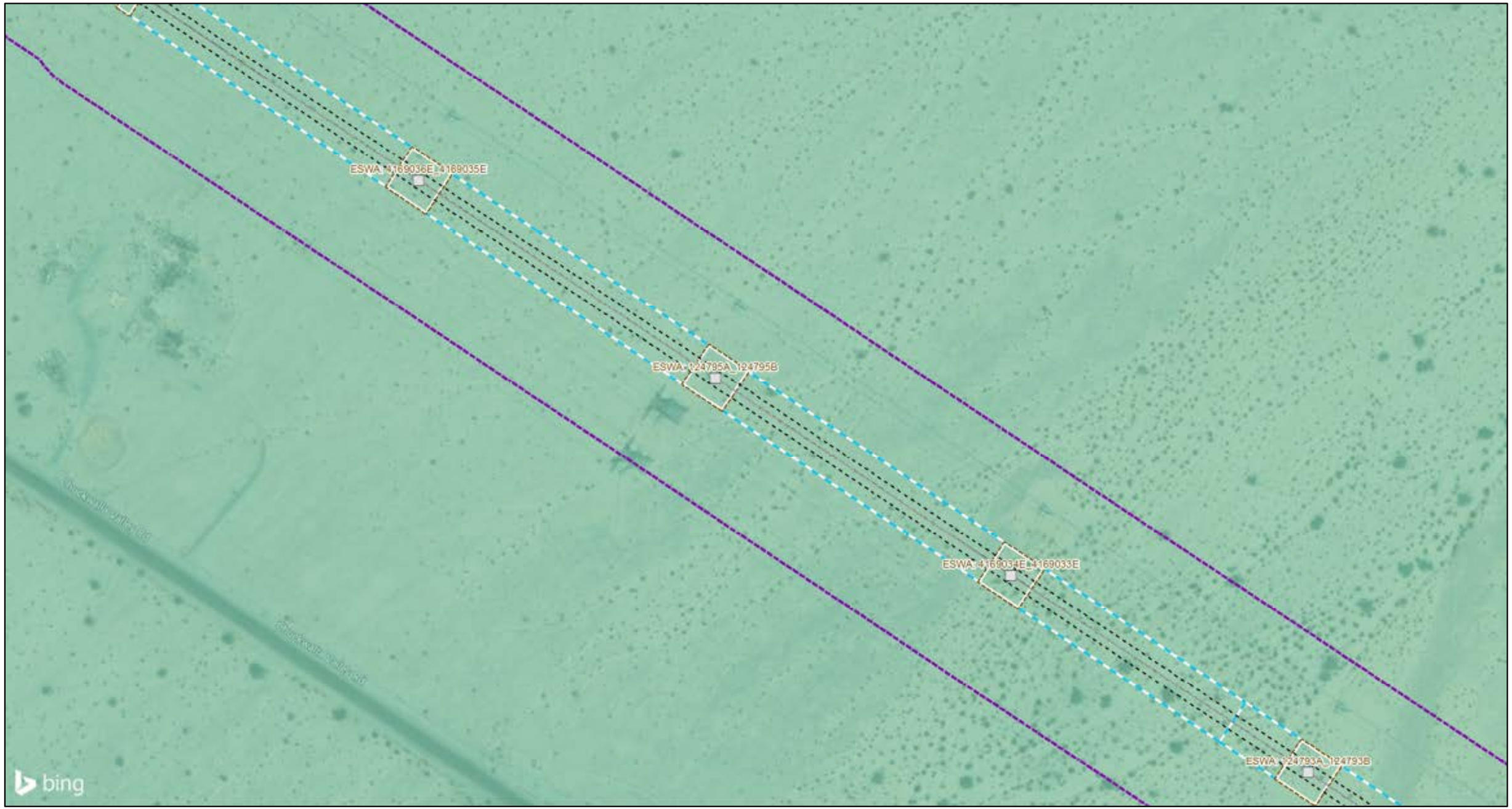

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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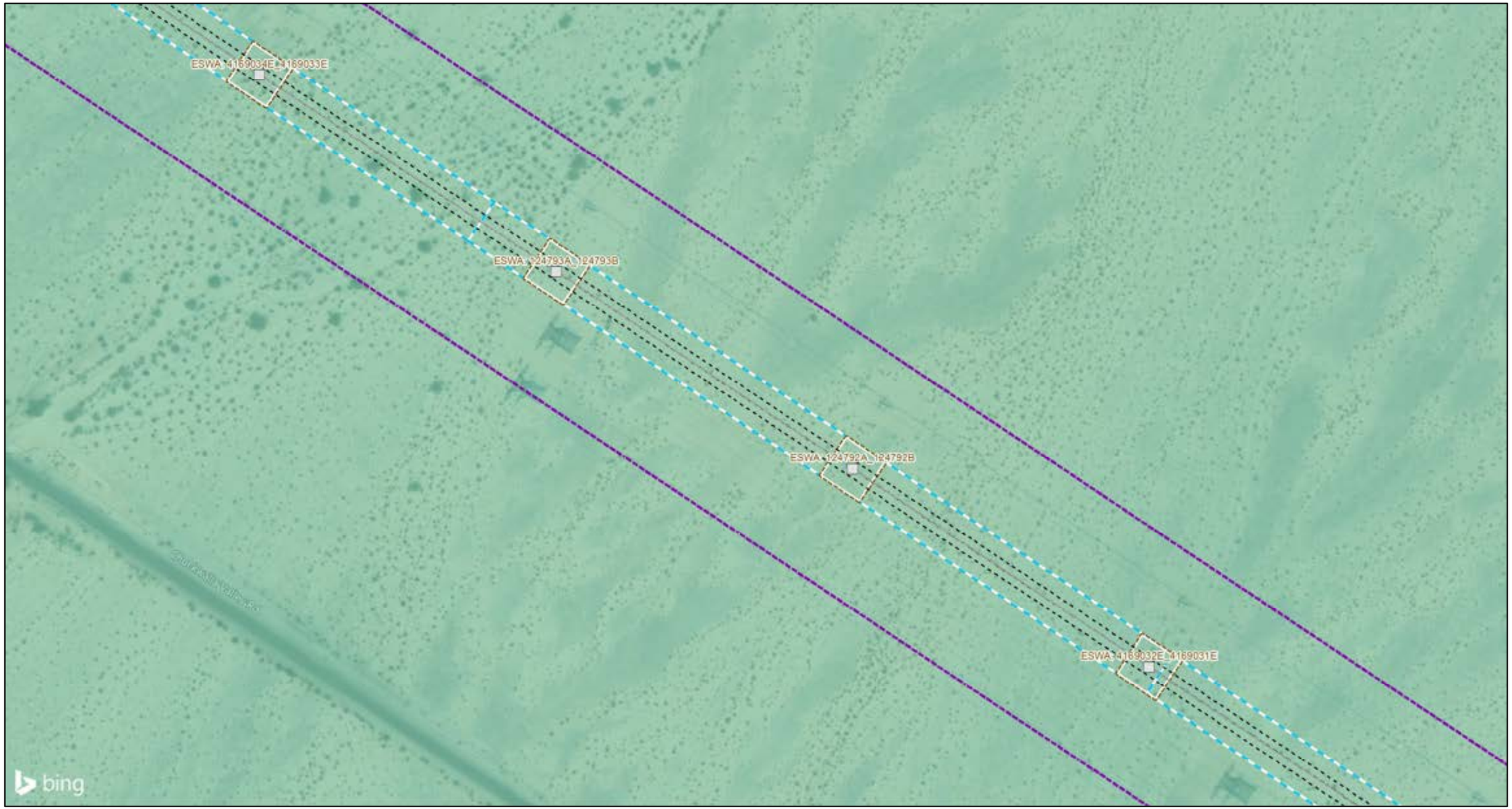

SOUTHERN CALIFORNIA EDISON
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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON

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Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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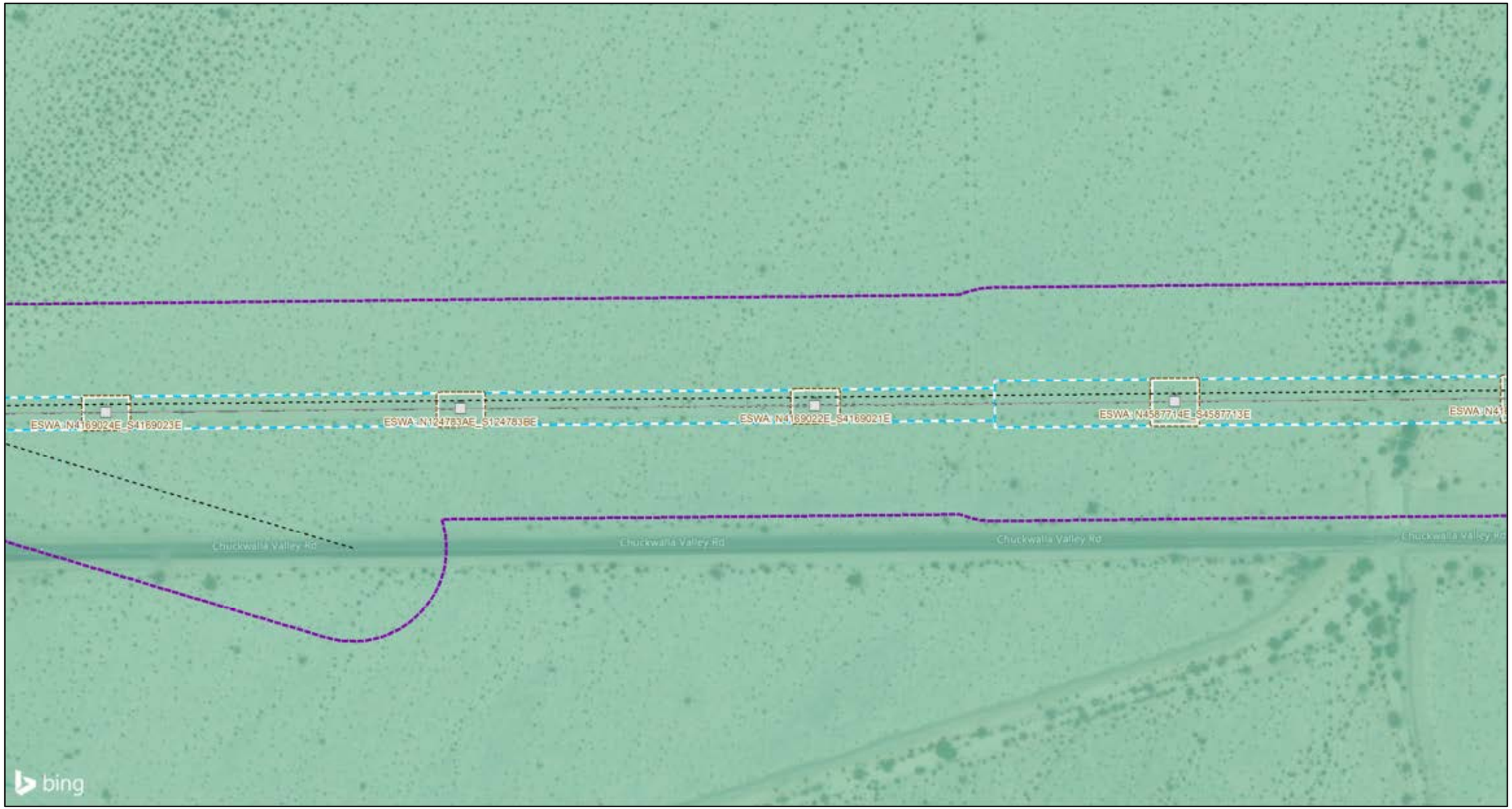

SOUTHERN CALIFORNIA EDISON
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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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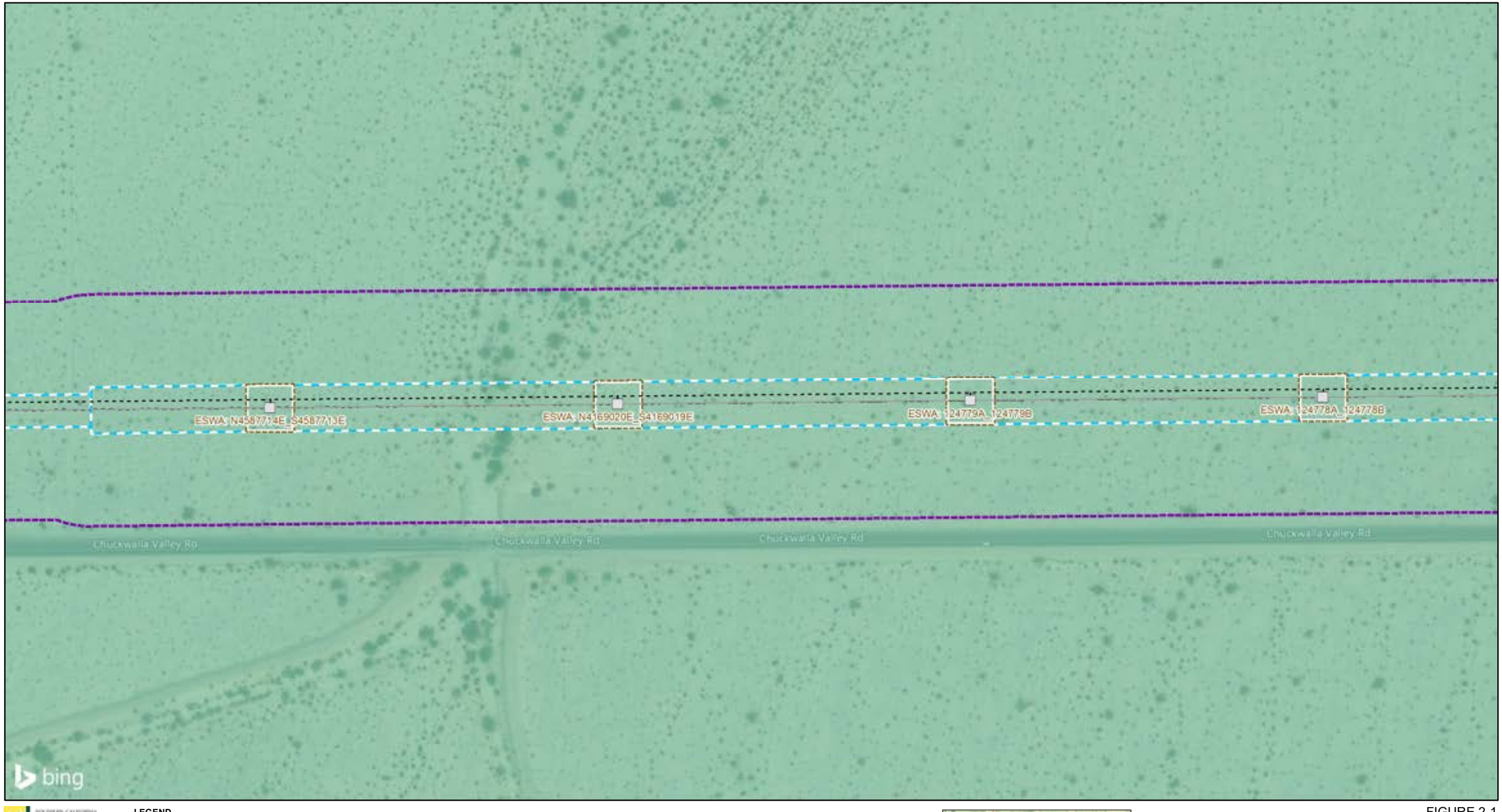

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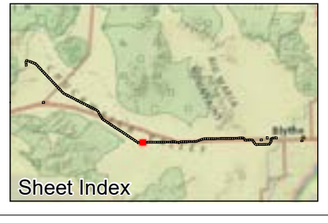

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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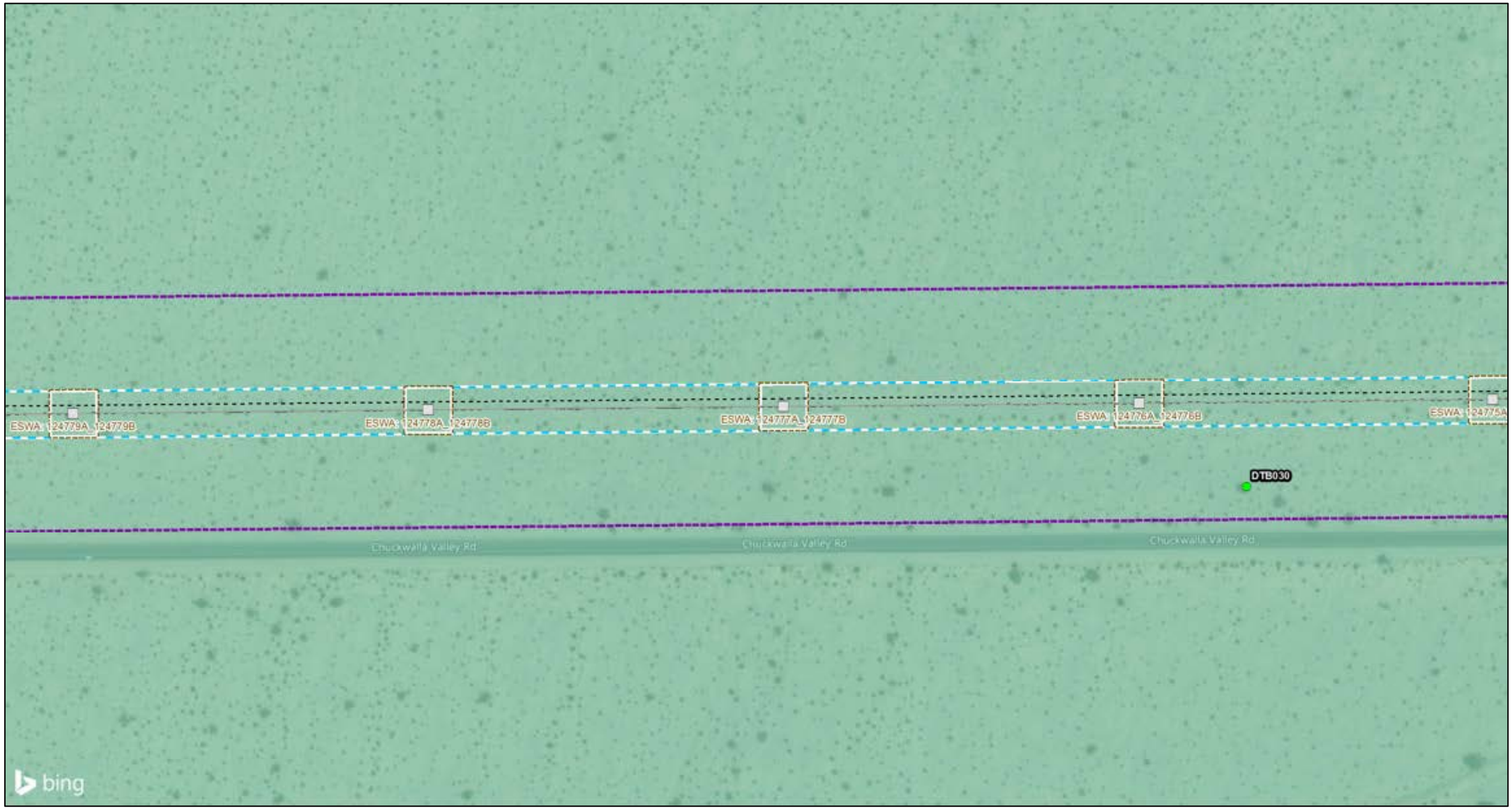

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LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

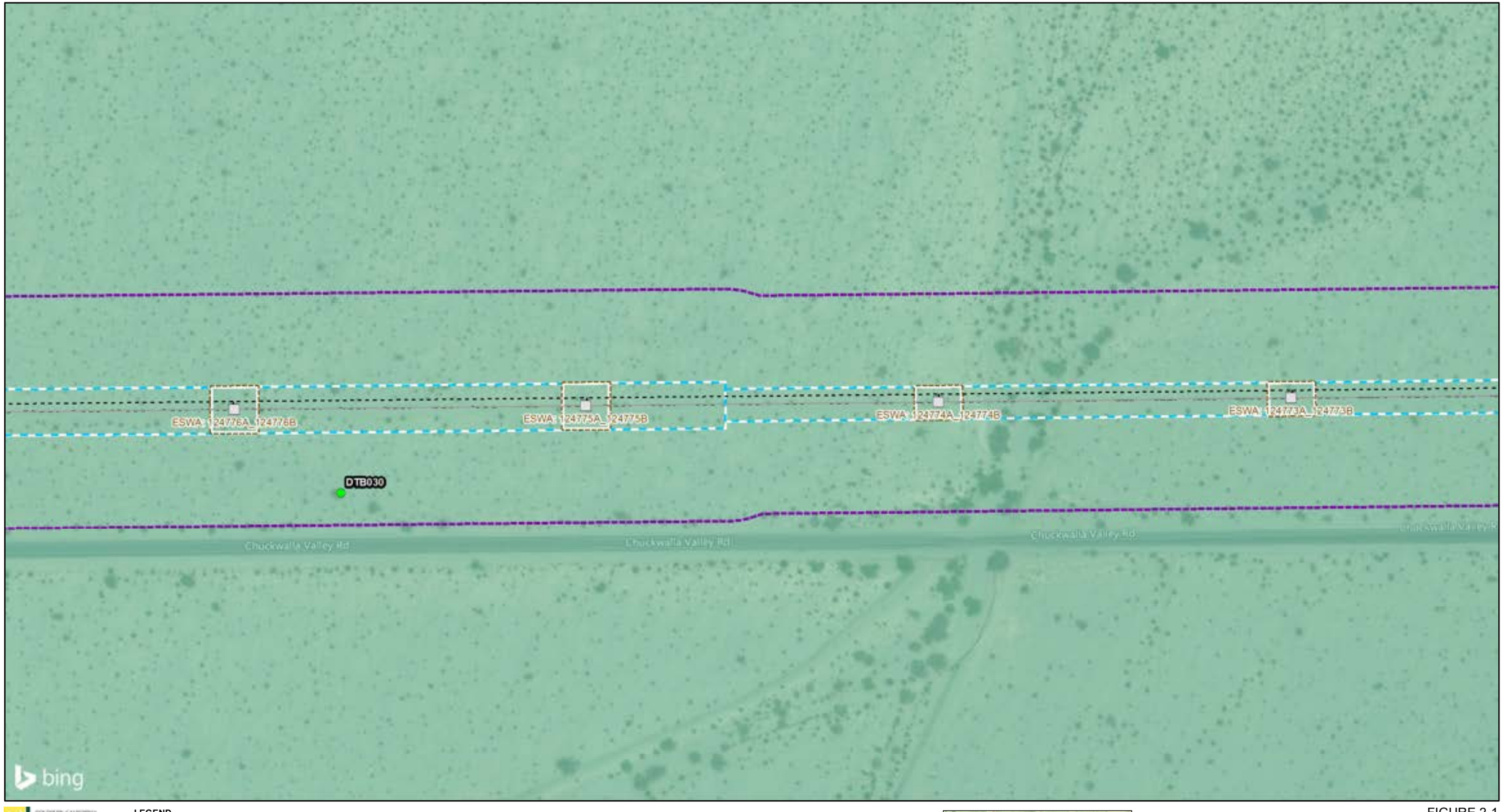
Source: SCE, ESRI World Street Map, Bing Imagery

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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Source: SCE, ESRI World Street Map, Bing Imagery

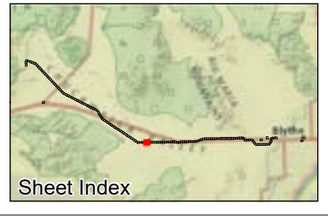

FIGURE 2-1
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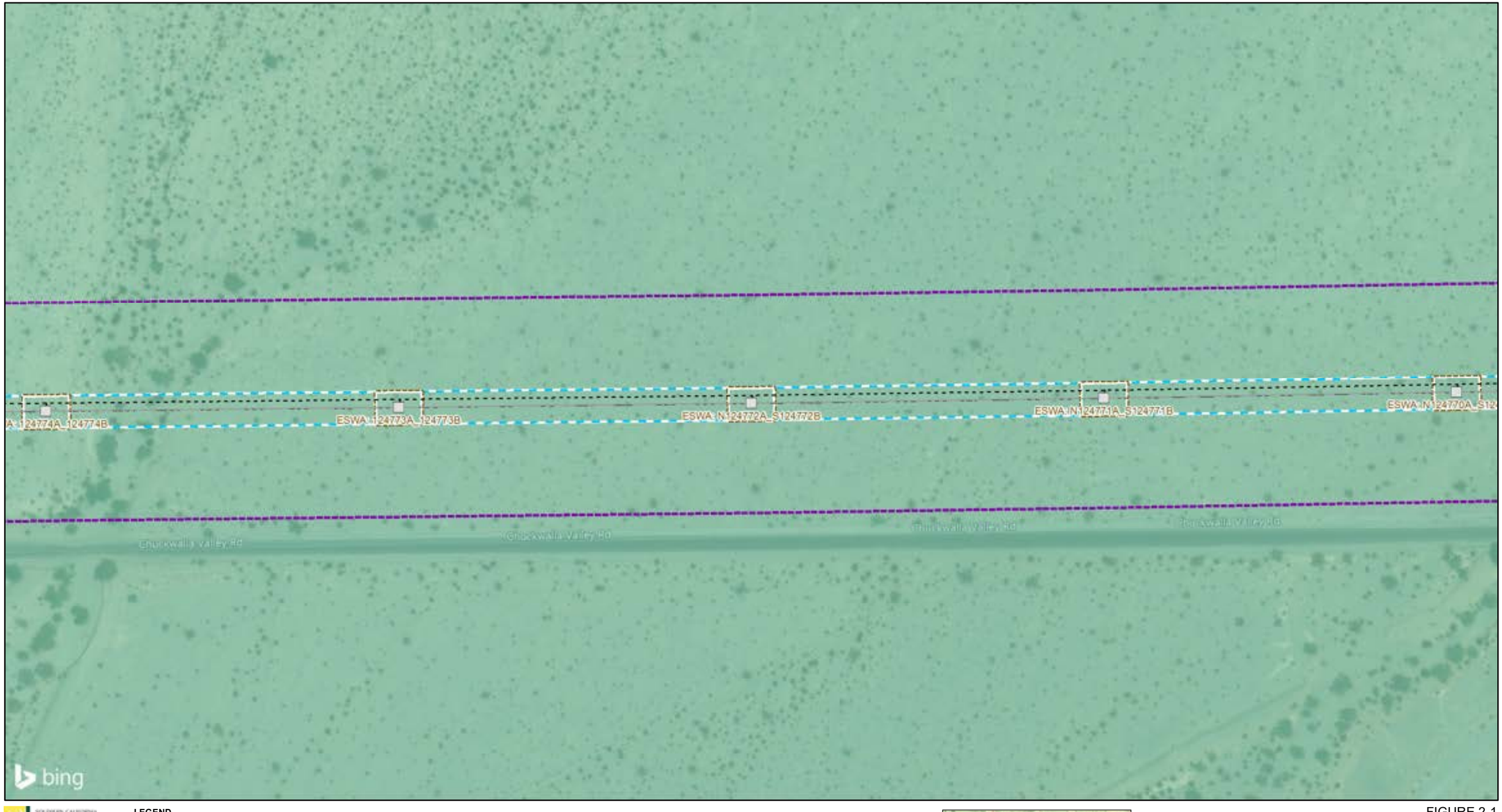
Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Jacobs



LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

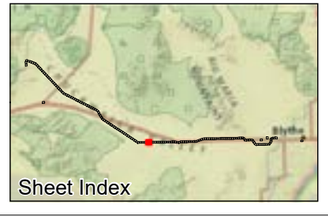


FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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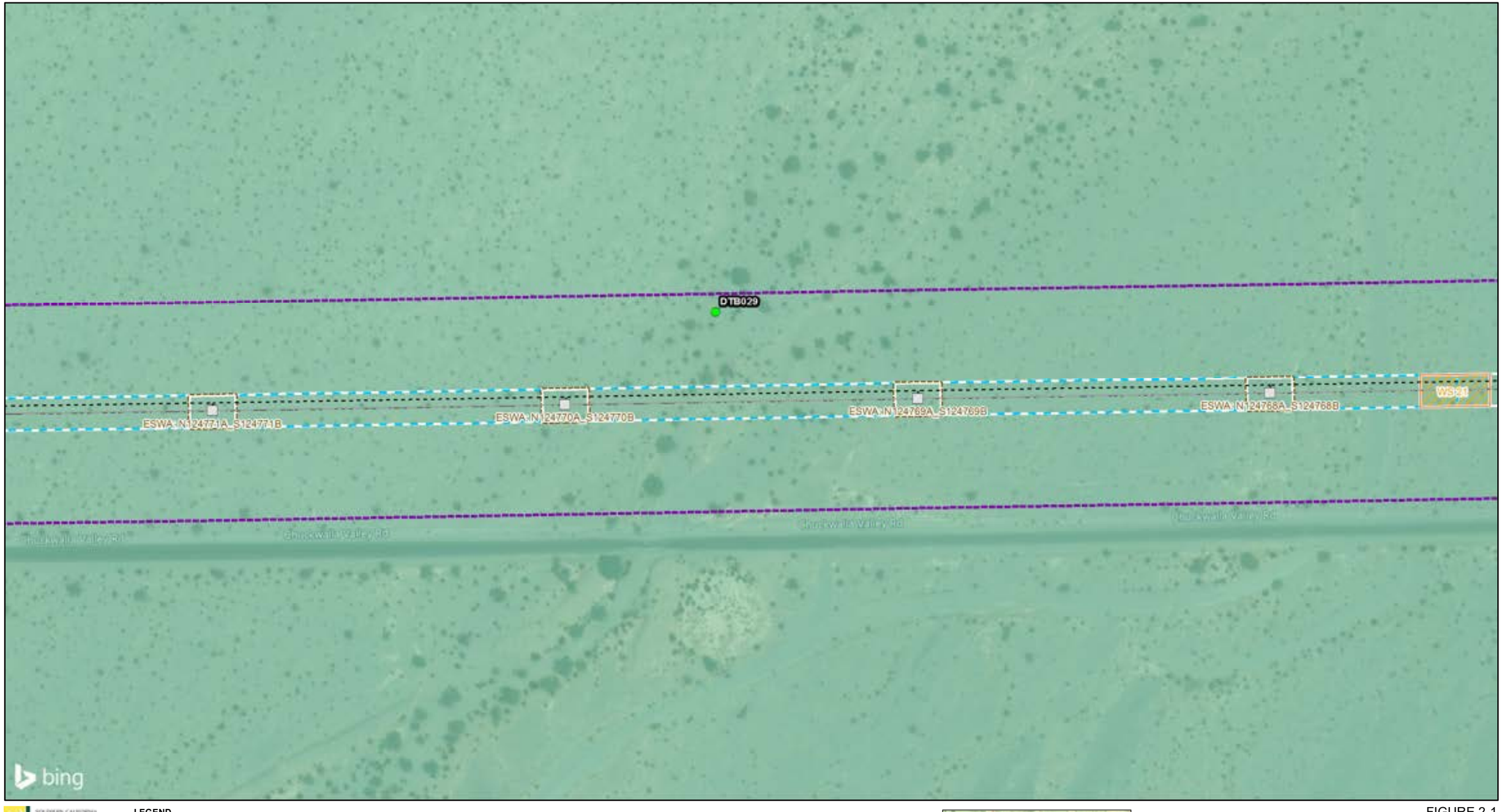

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

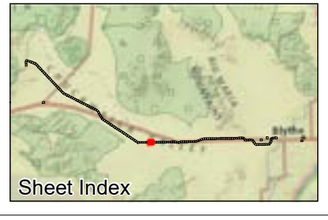

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Desert Kit Fox Burrow Complex
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

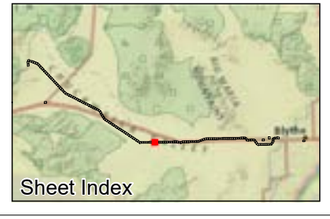

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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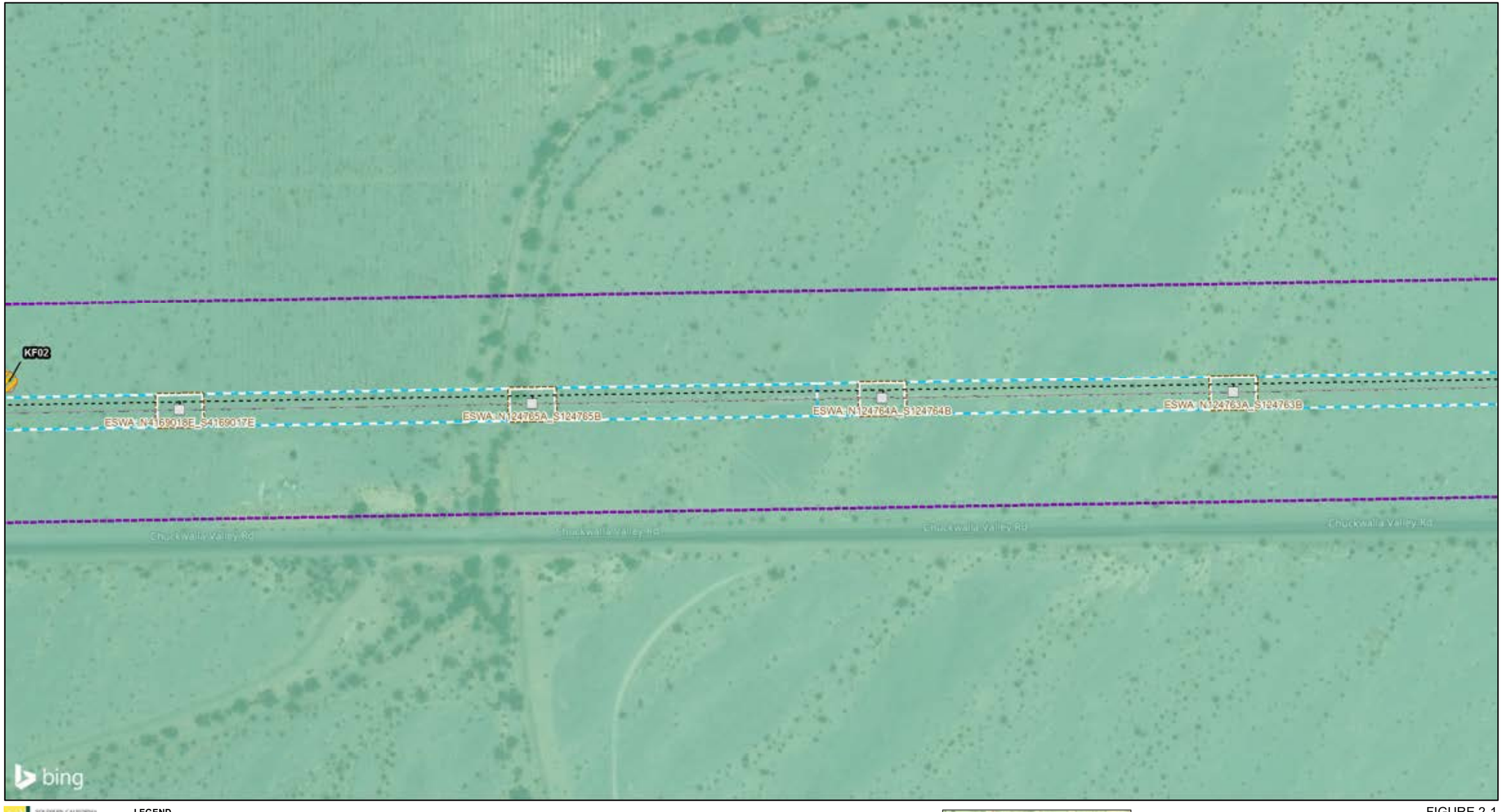

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Desert Kit Fox Burrow Complex
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

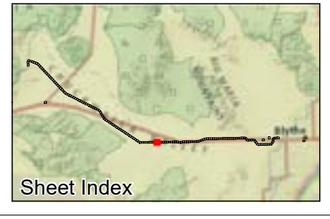

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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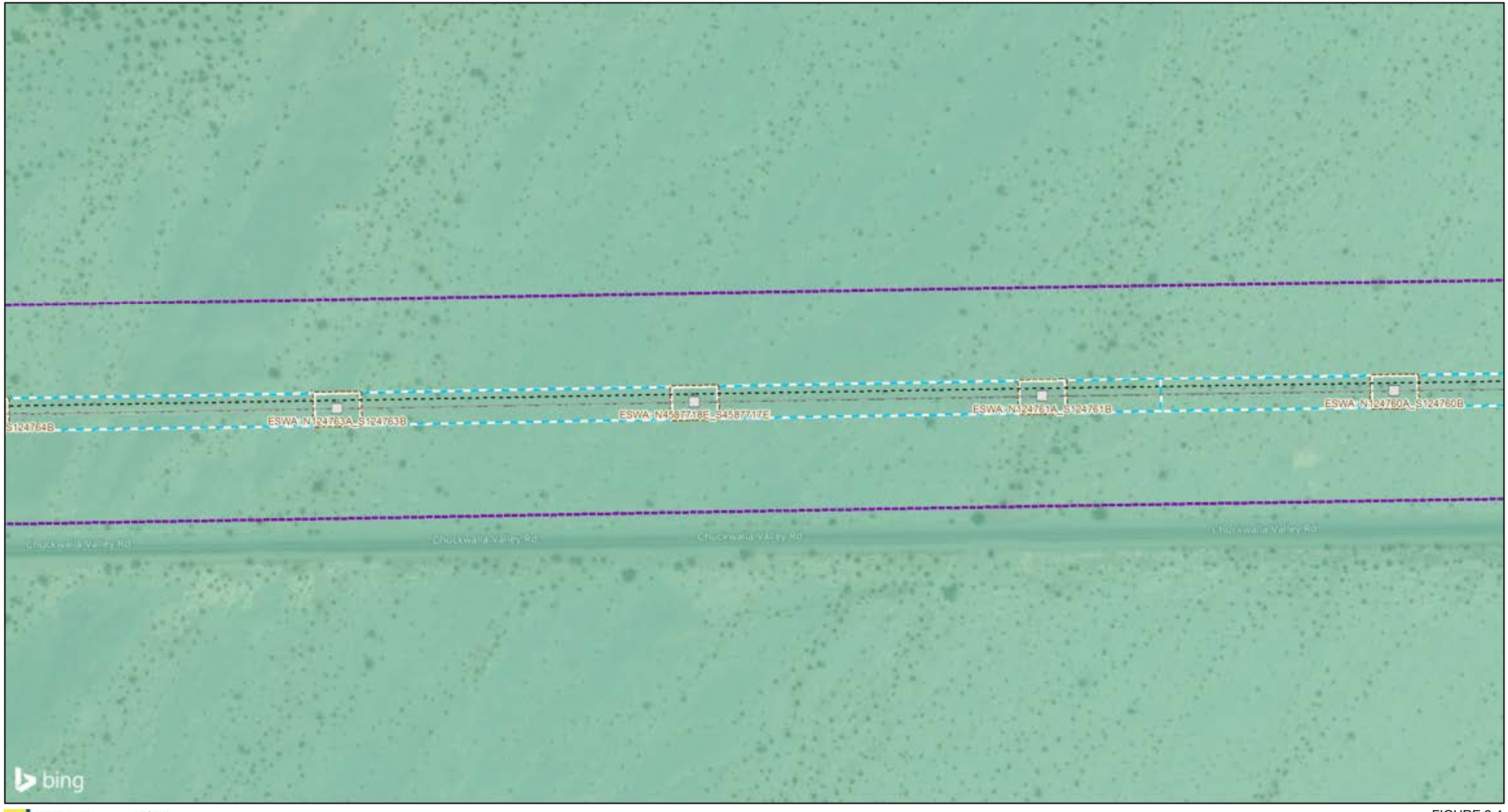

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

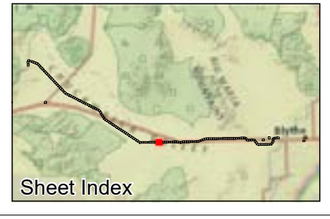

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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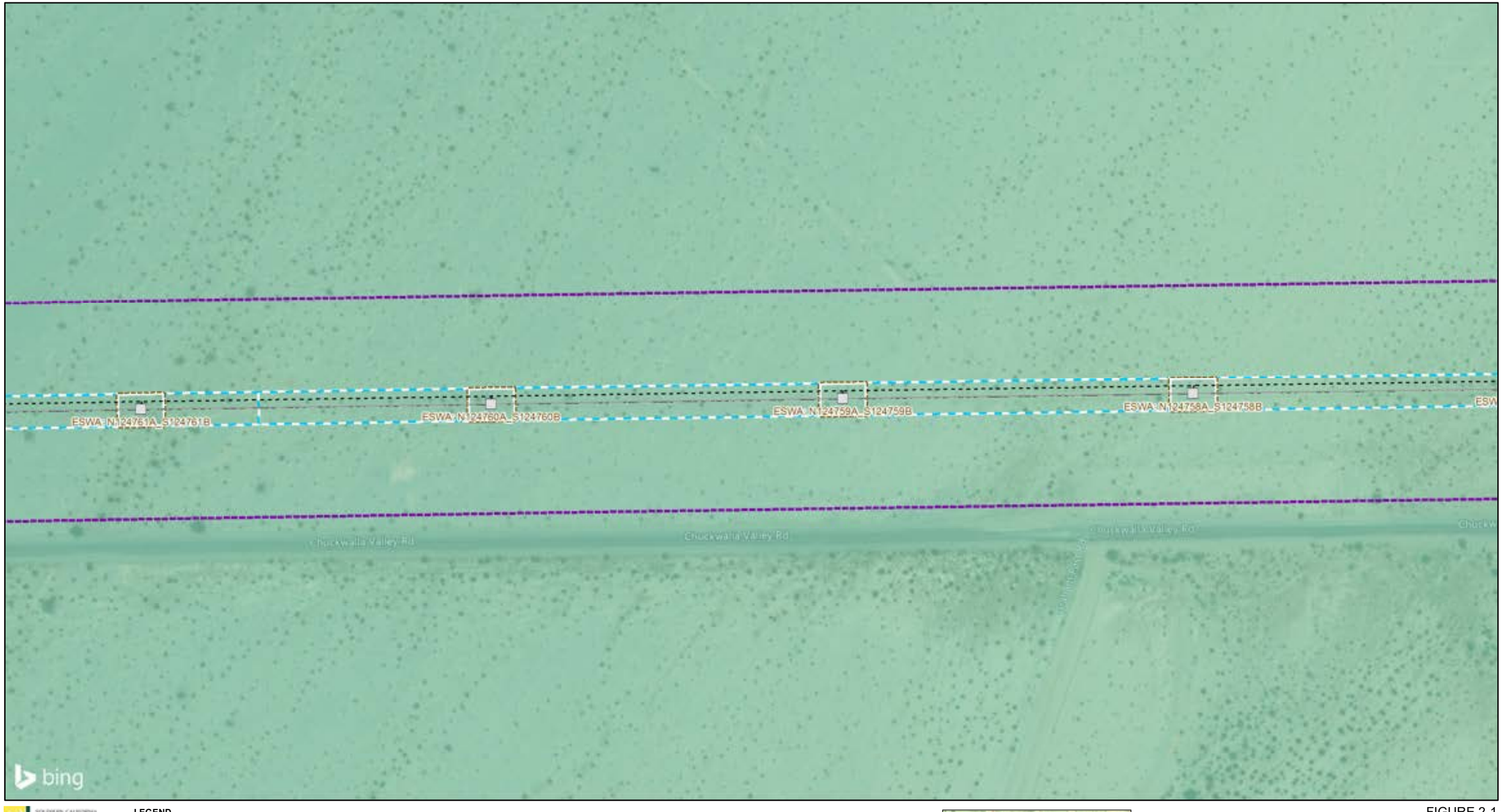

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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FEET

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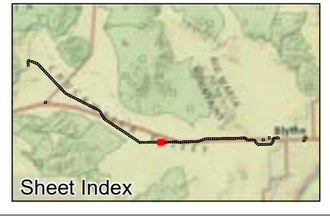

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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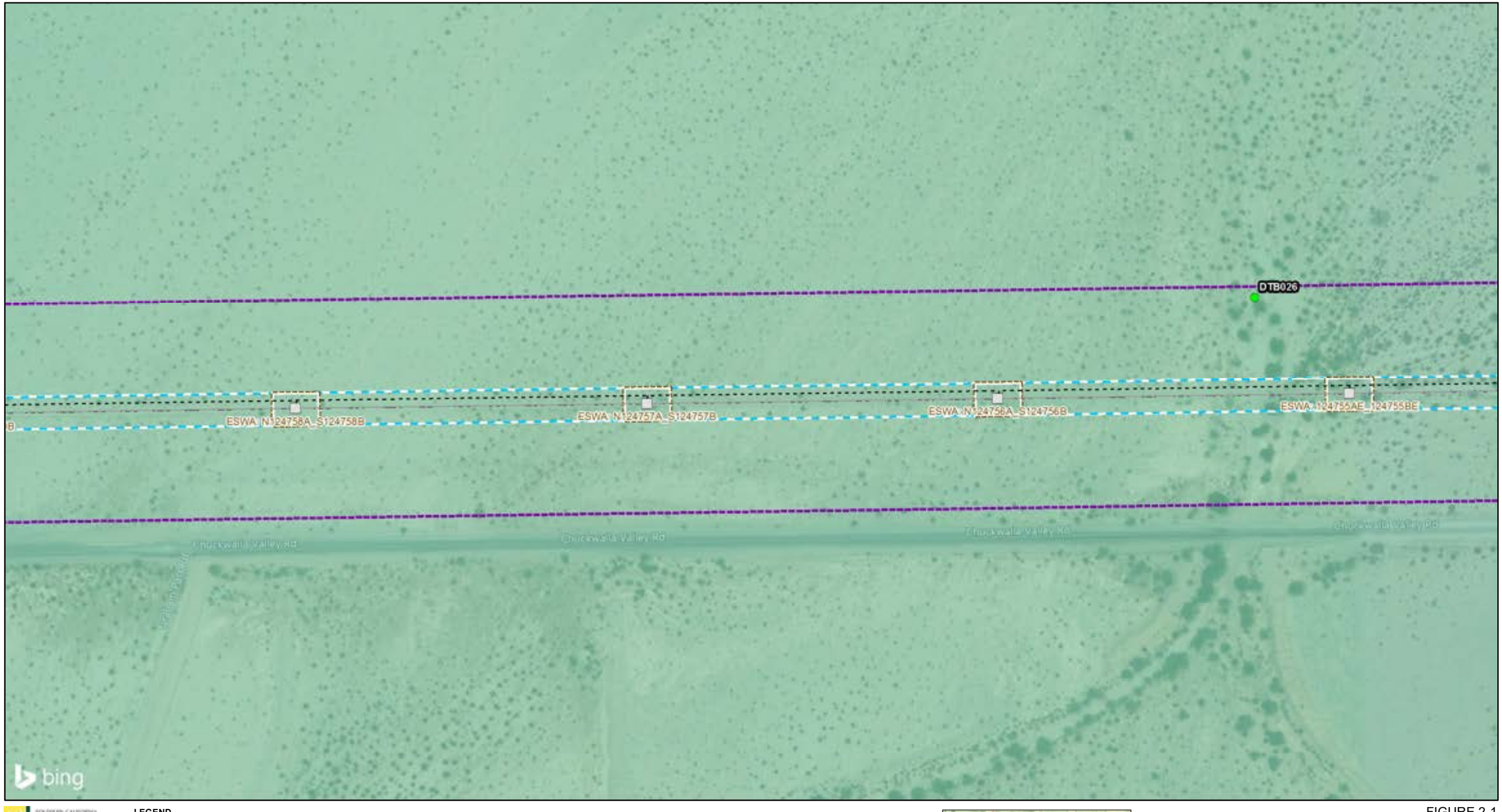

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

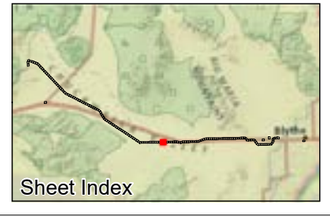

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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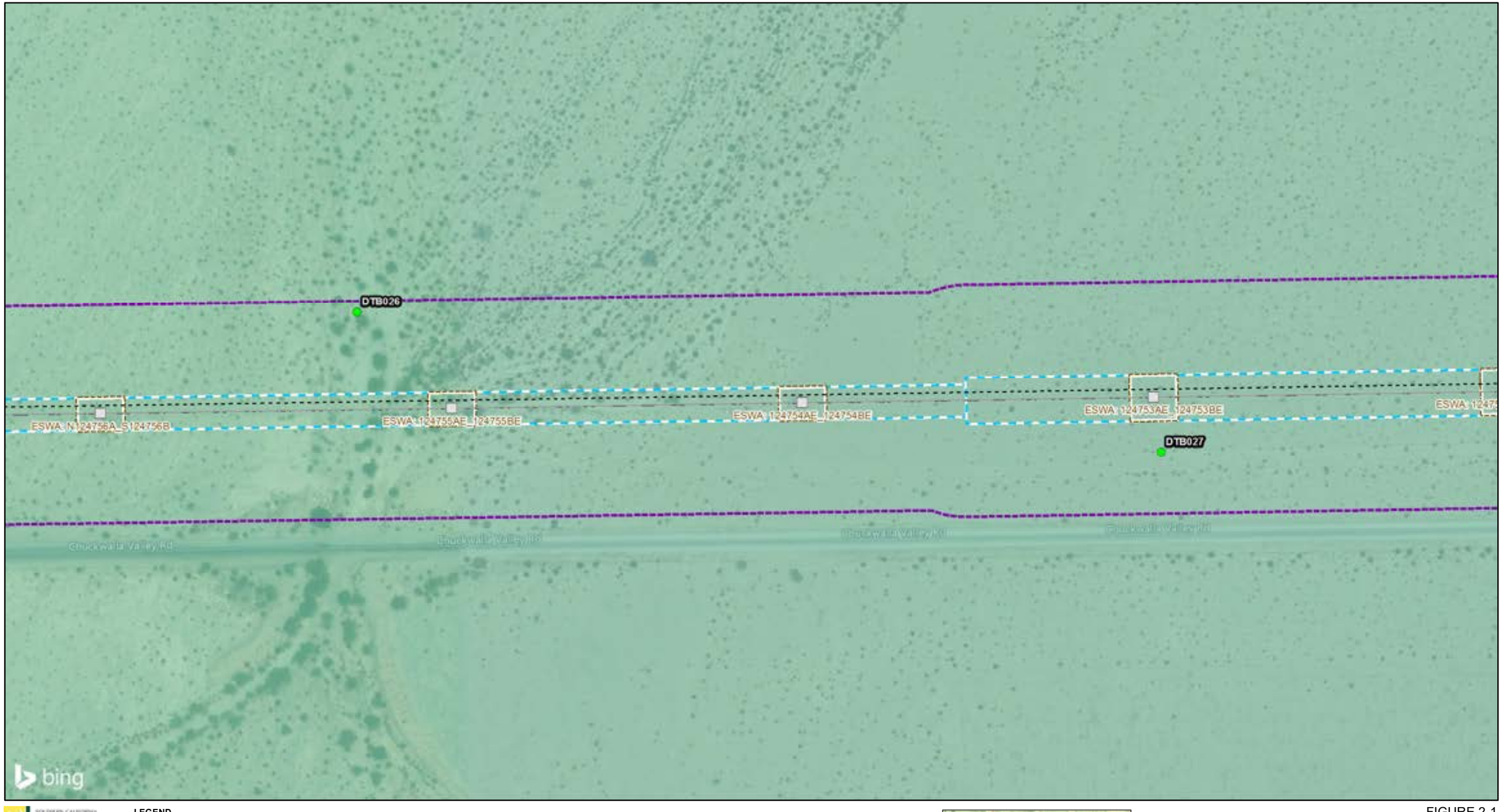

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

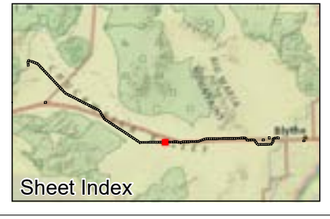

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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DTB025

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DTB027

DTB028

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LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

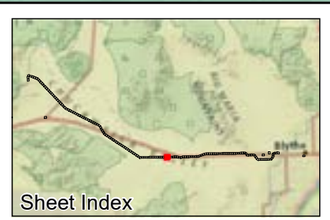

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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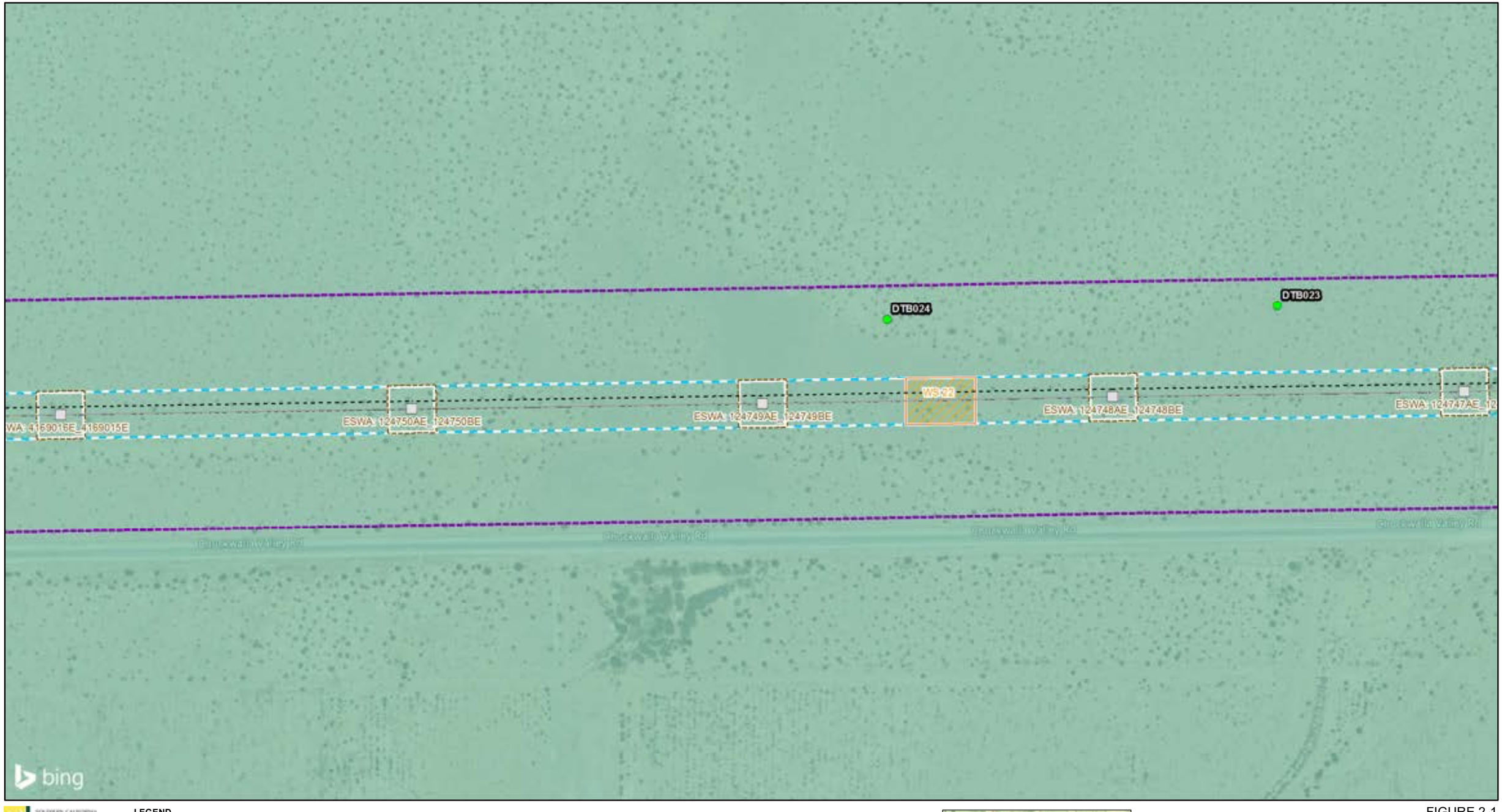

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

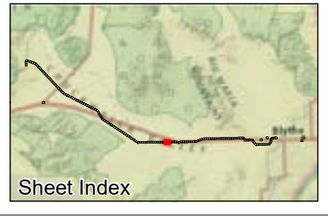

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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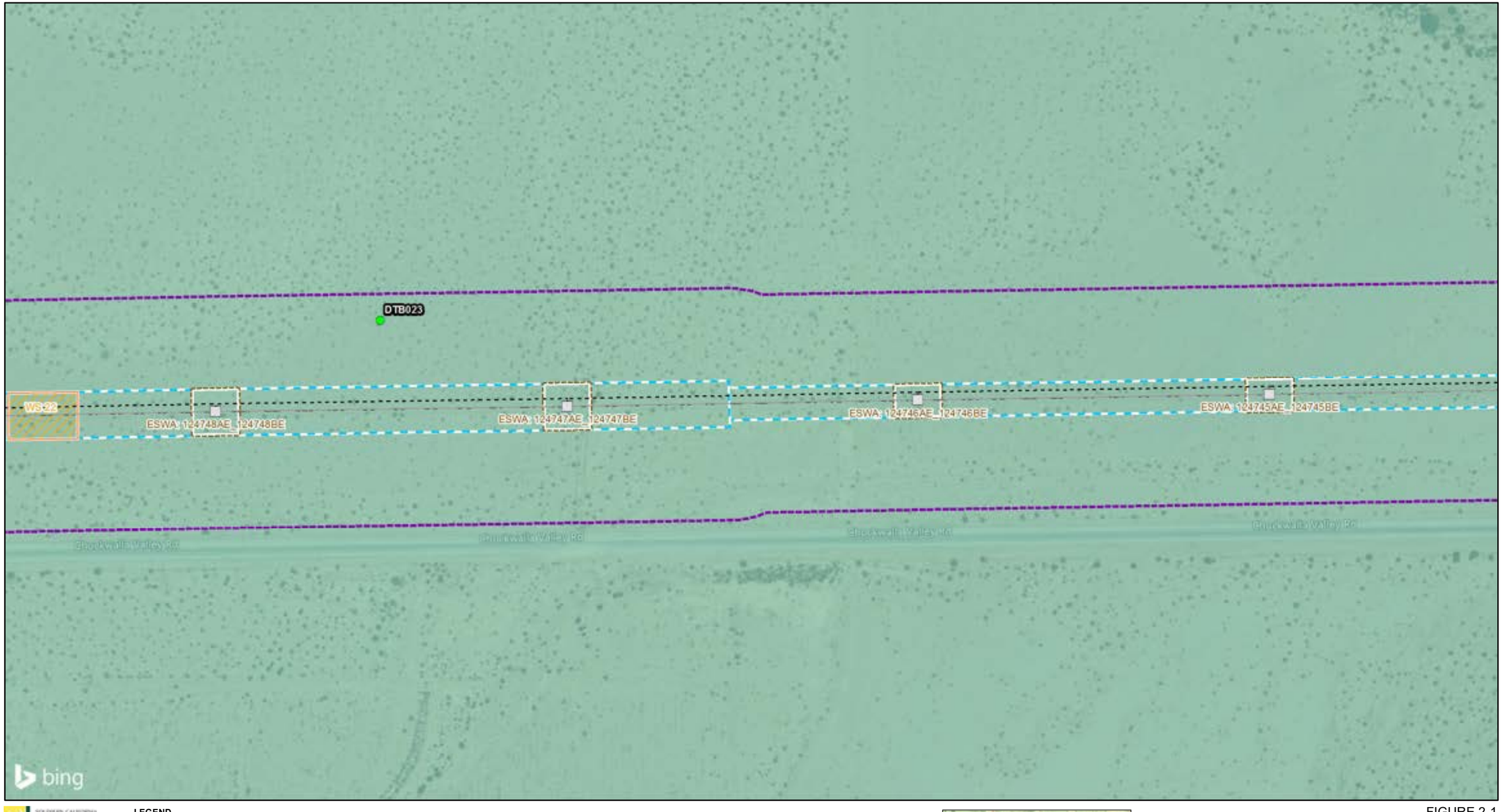

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

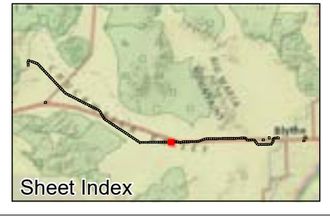

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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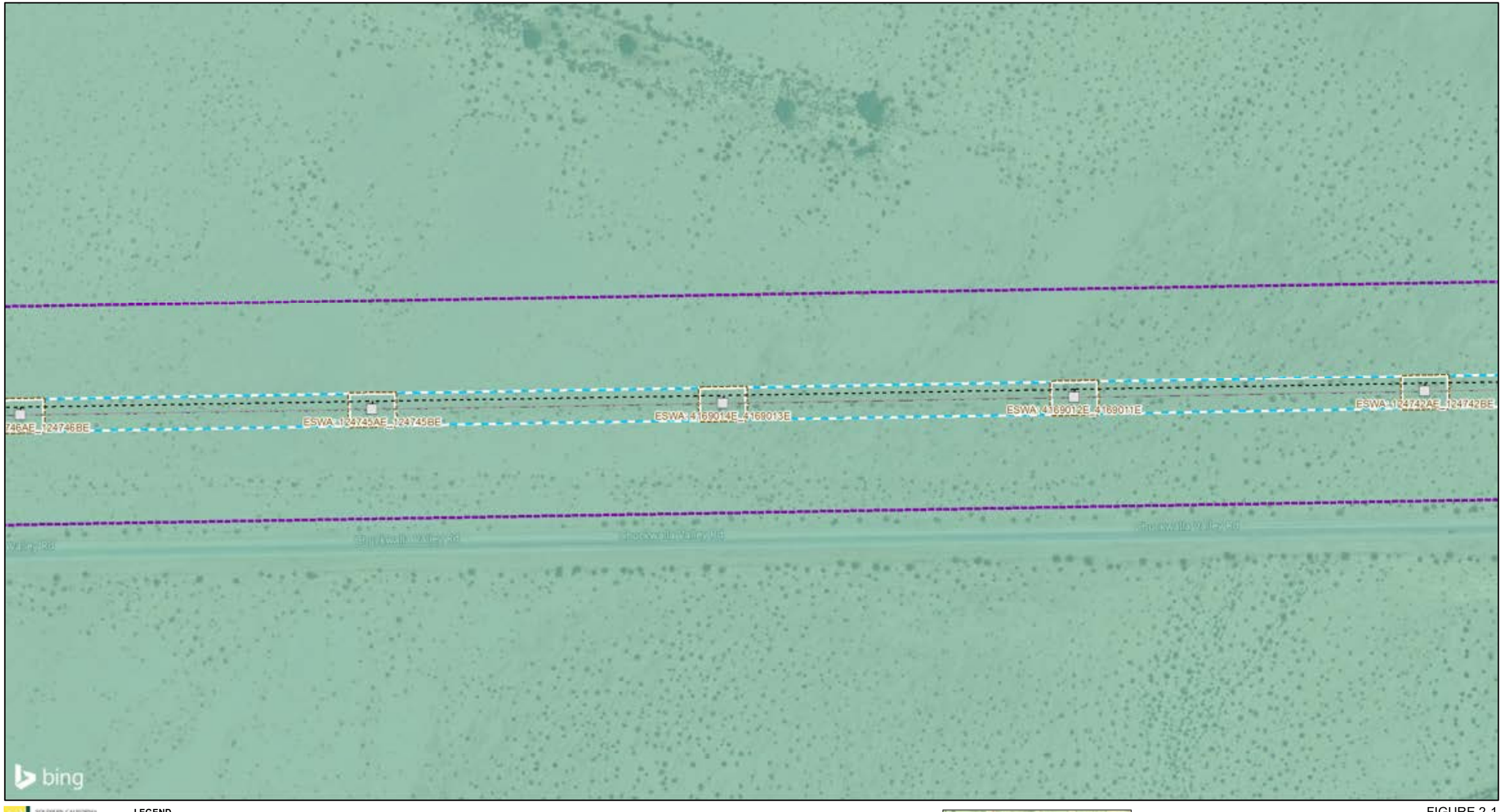

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

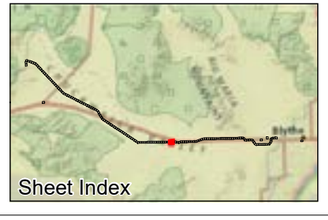

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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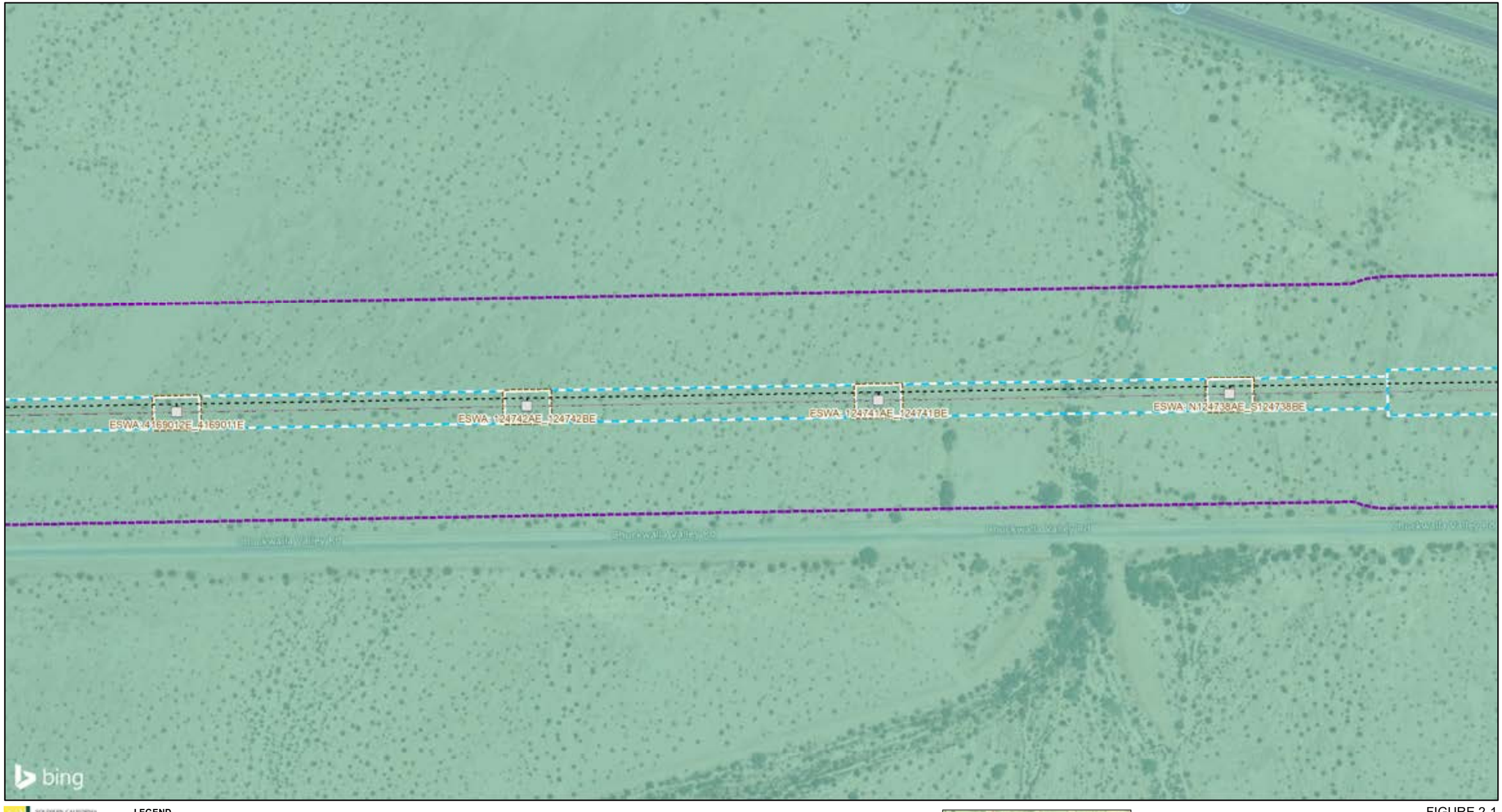

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

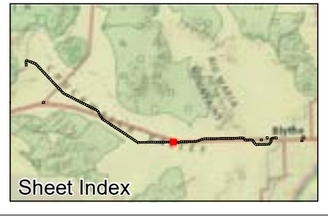

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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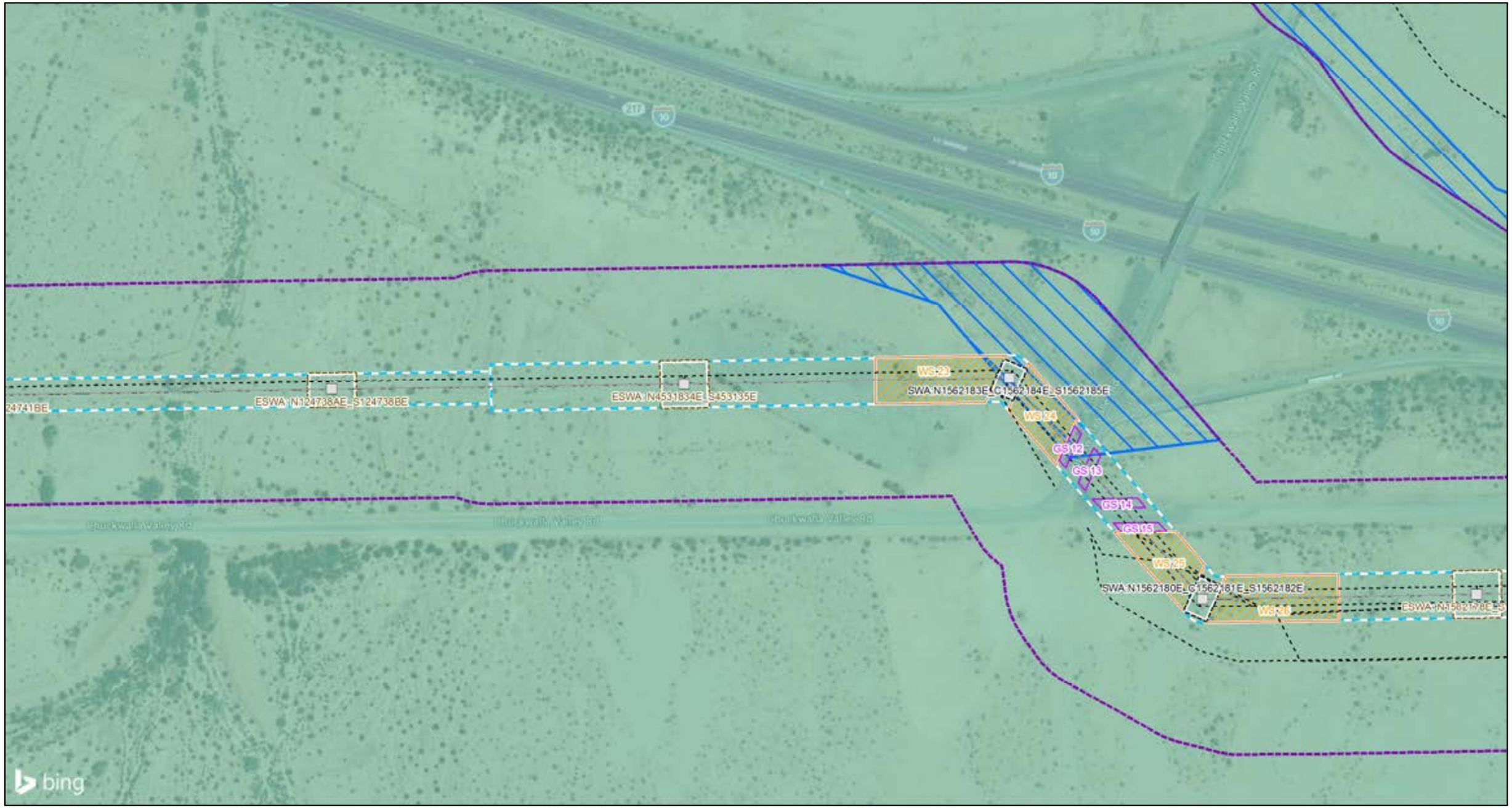

SOUTHERN CALIFORNIA EDISON
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FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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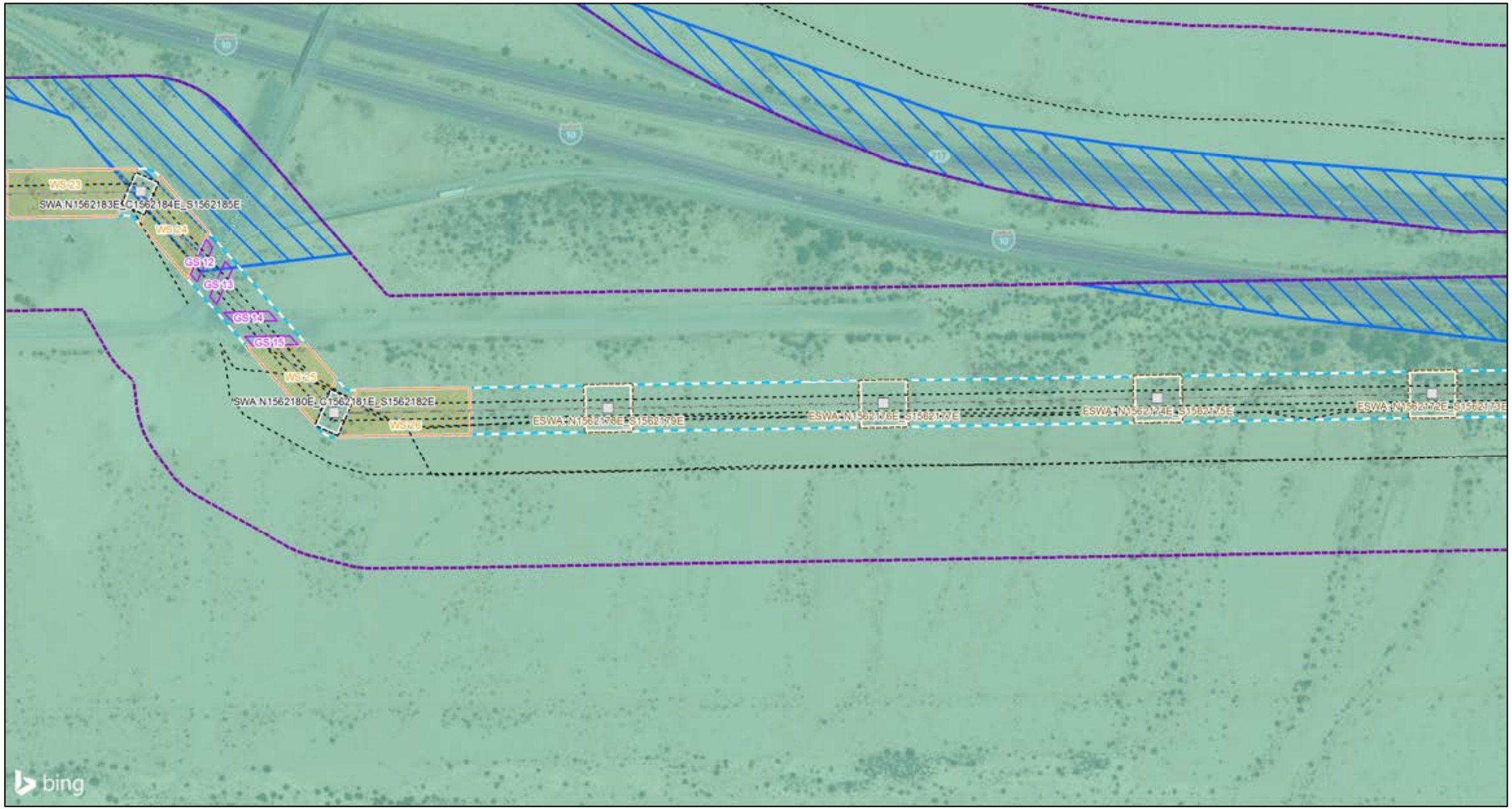
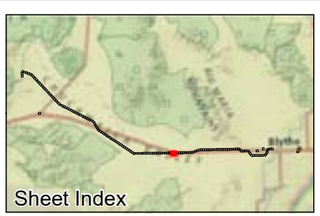


LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET



Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1
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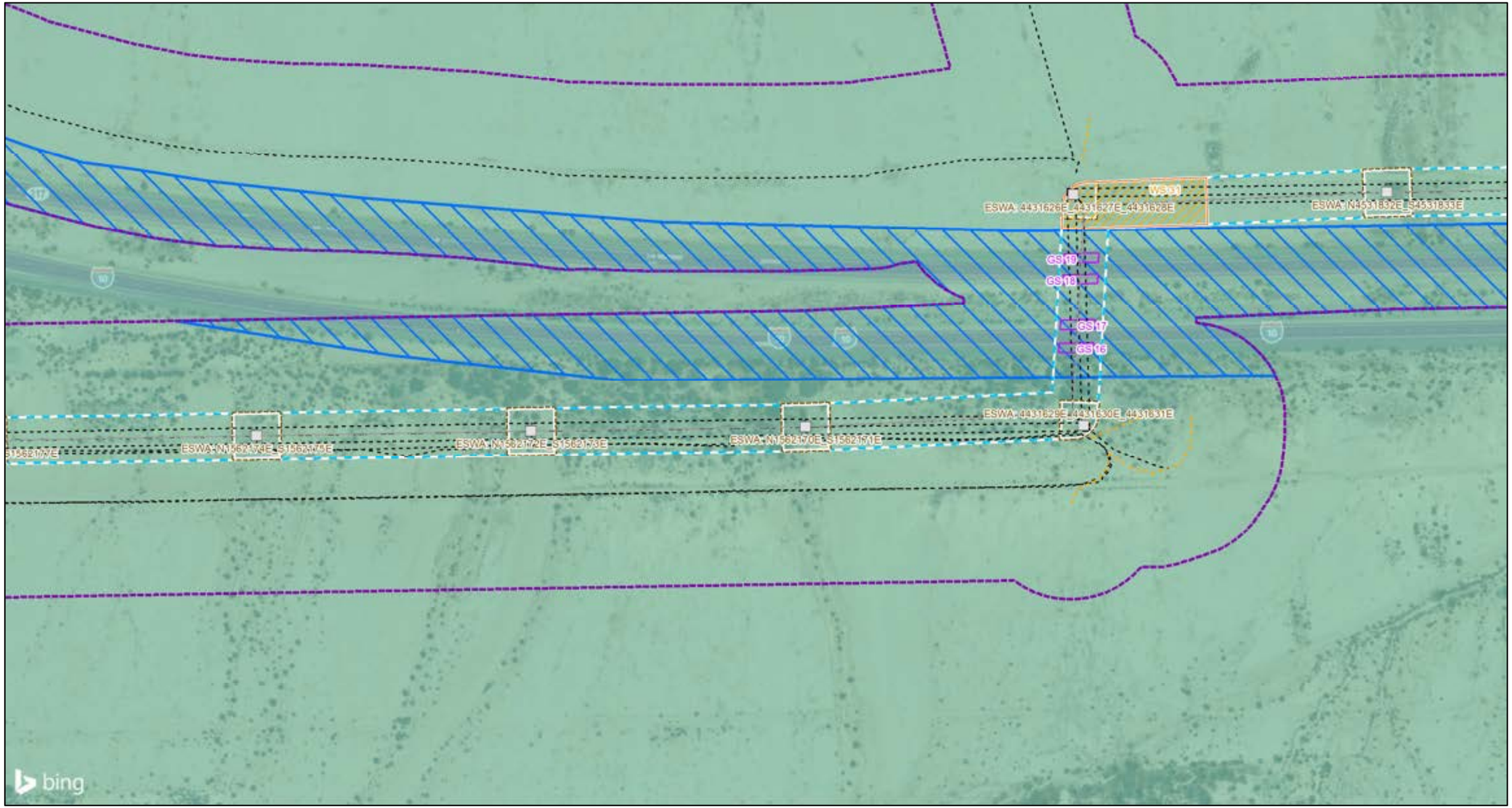
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Guard Pole
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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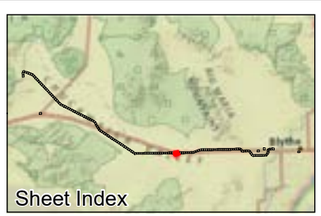
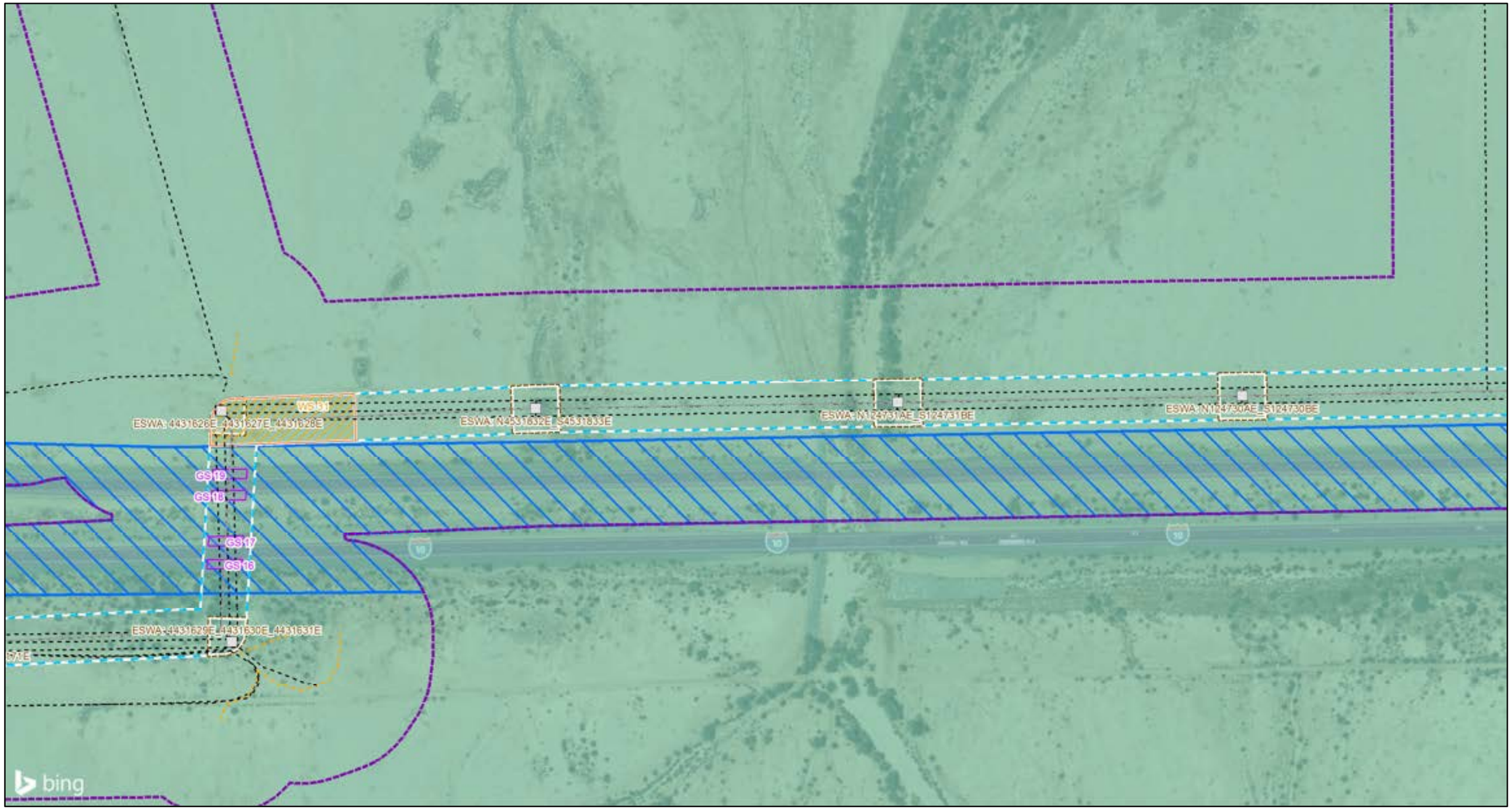


Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



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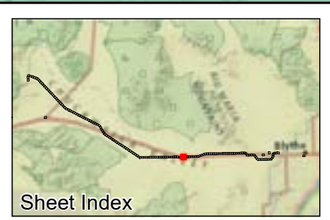
LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Guard Pole
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery



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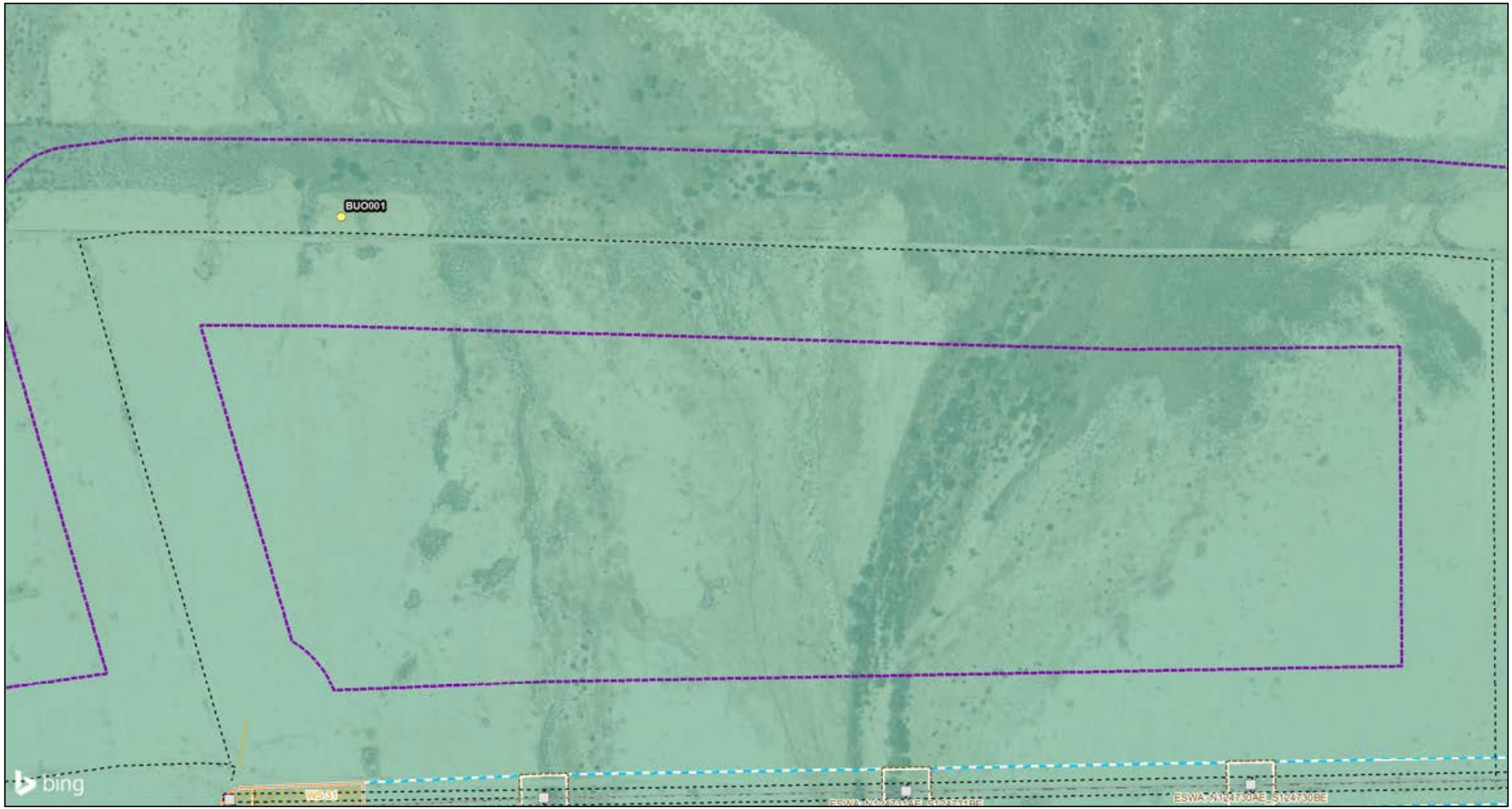
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



LEGEND

- Burrowing Owl Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- USFWS Desert Tortoise Critical Habitat
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Source: SCE, ESRI World Street Map, Bing Imagery

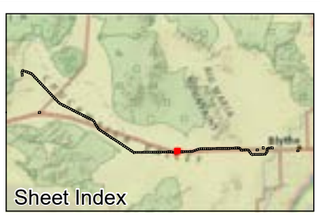

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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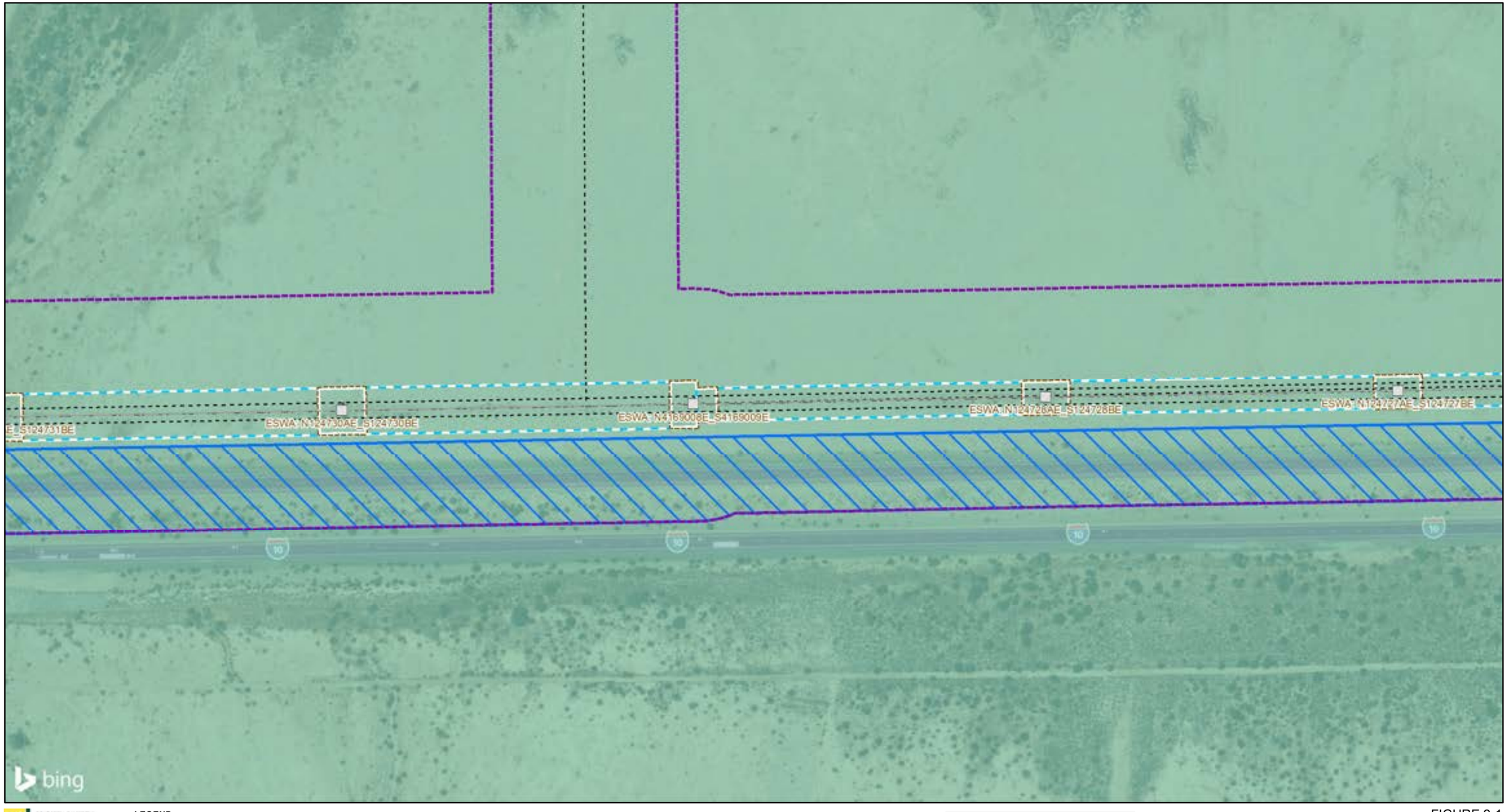

LEGEND

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- Existing Structure Work Area
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Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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LEGEND

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Source: SCE, ESRI World Street Map, Bing Imagery

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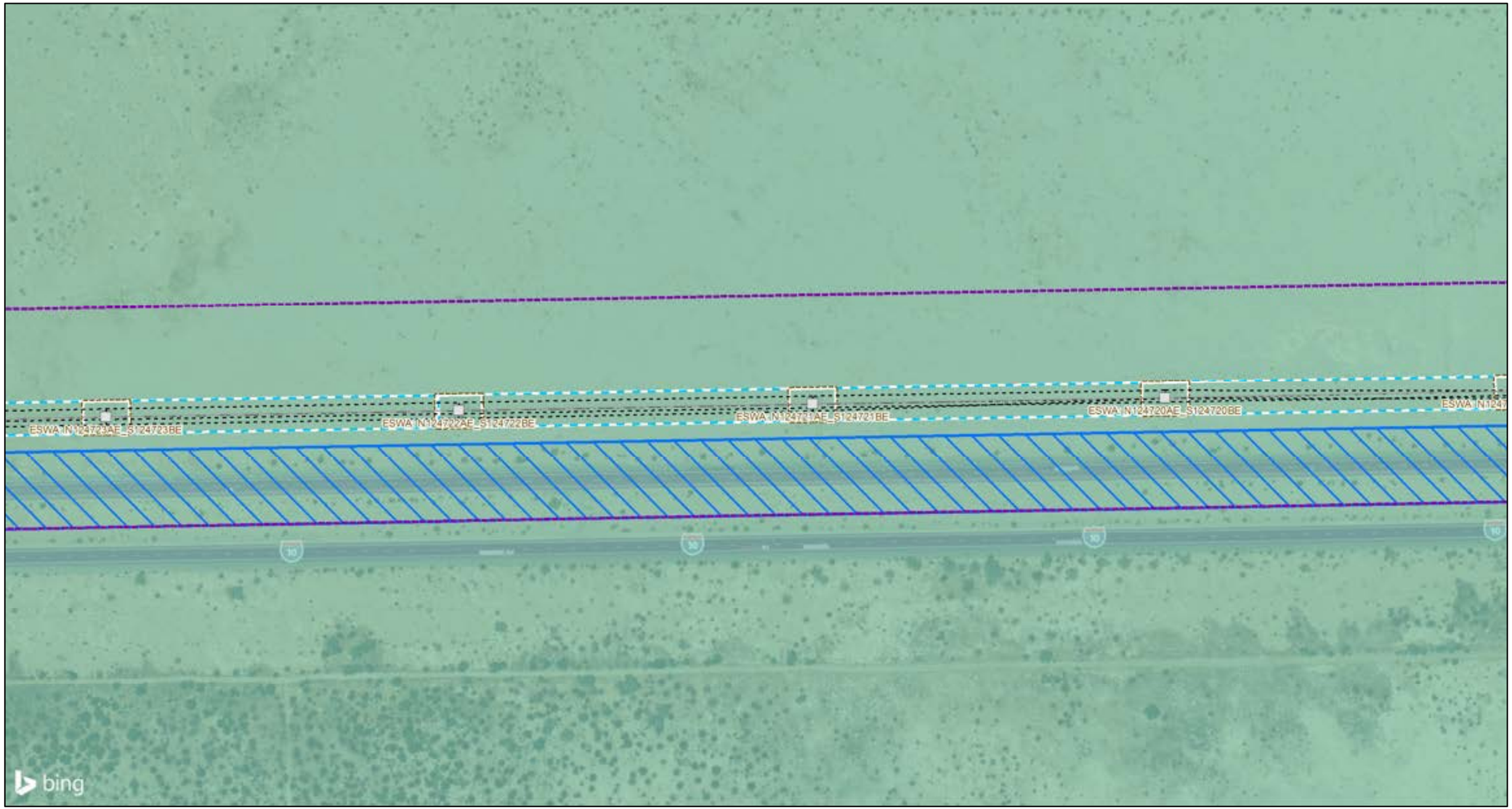

LEGEND

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Source: SCE, ESRI World Street Map, Bing Imagery

Southern California Edison
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Survey Results
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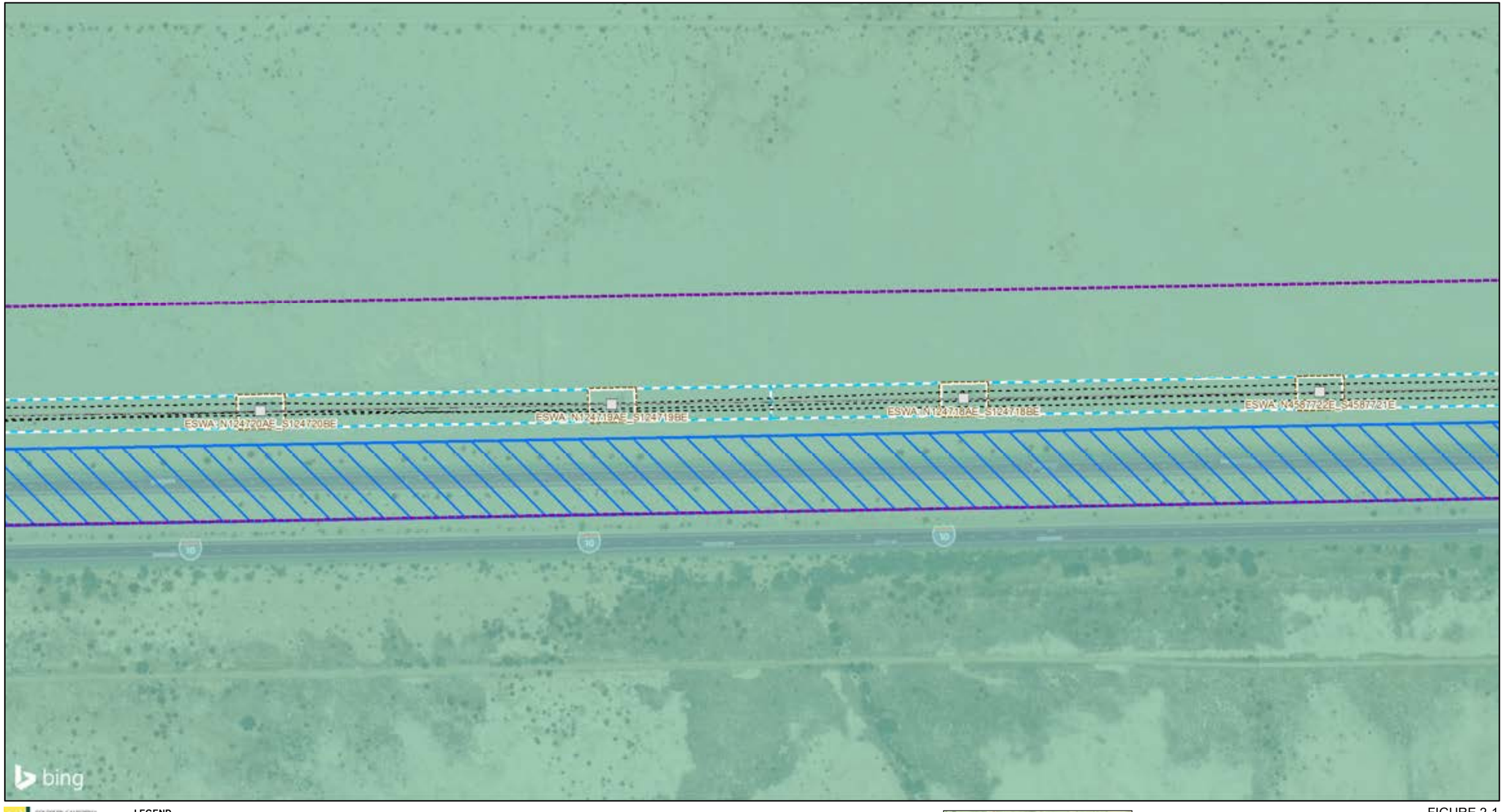

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LEGEND

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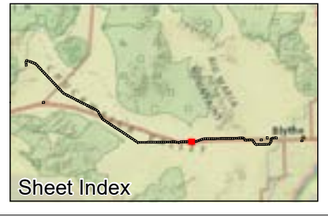

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1
Page 100 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

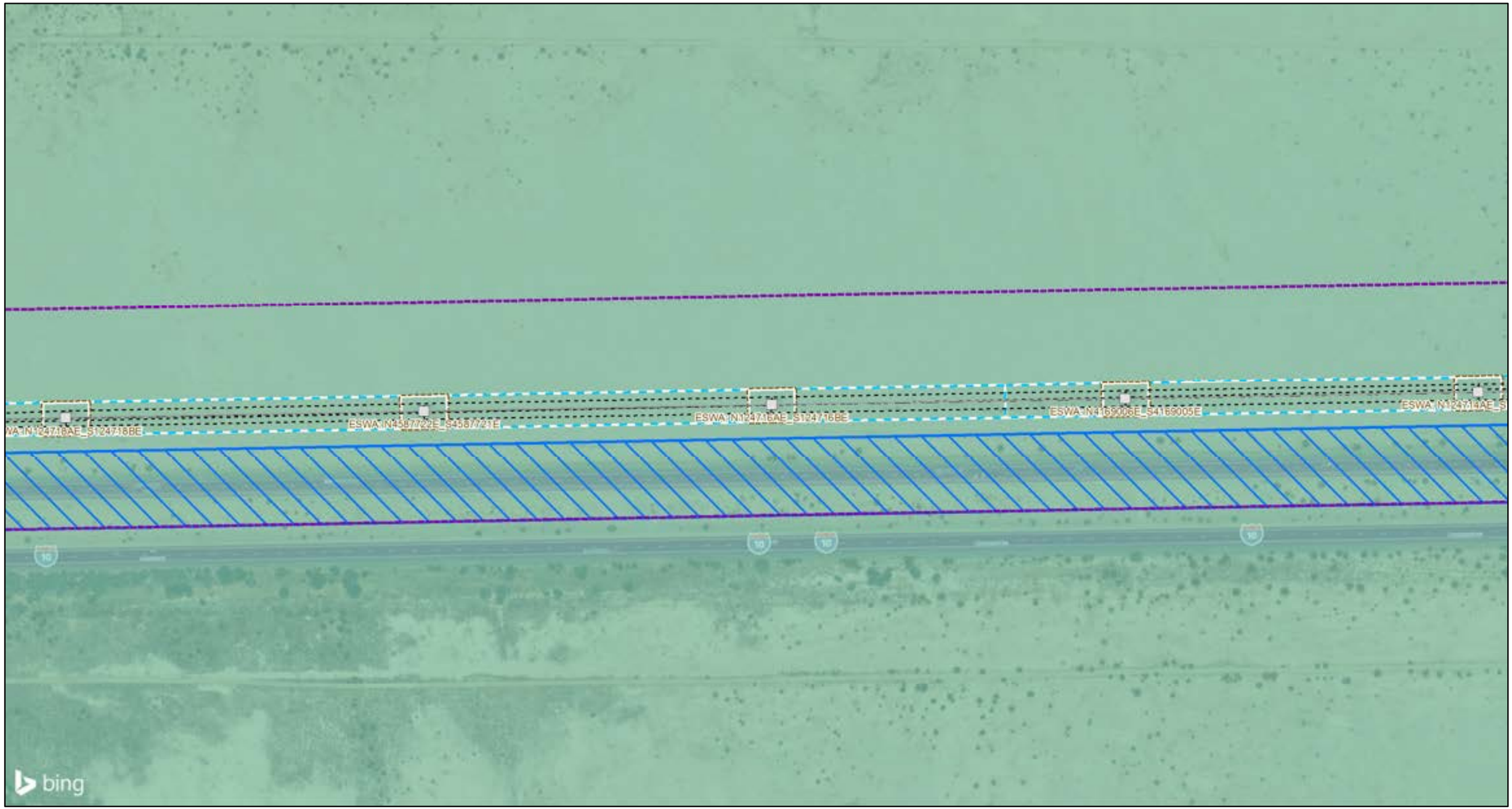

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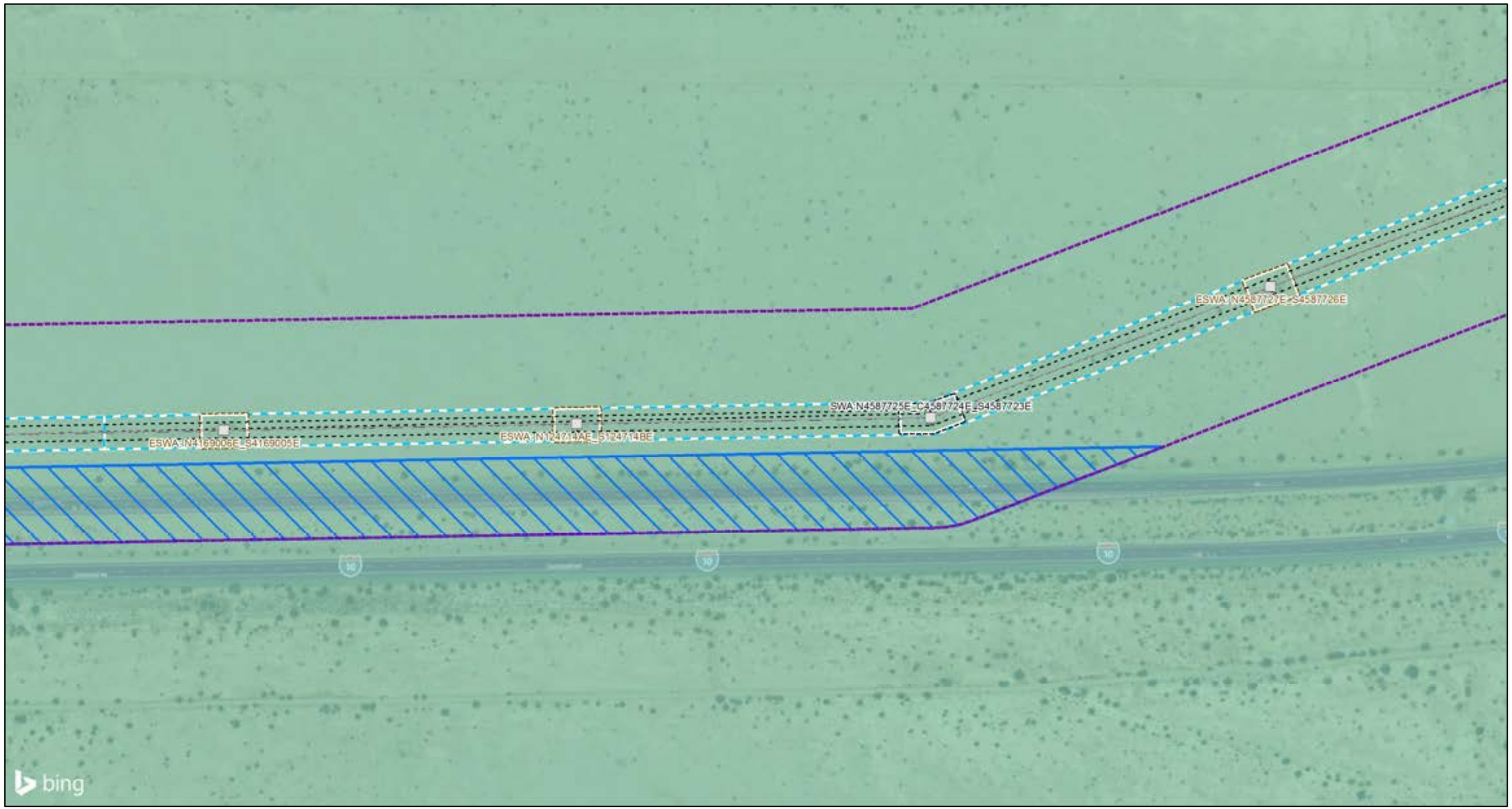
FIGURE 2-1
Page 101 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs



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LEGEND

- Existing Structure
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- Access Road
- Structure Work Area
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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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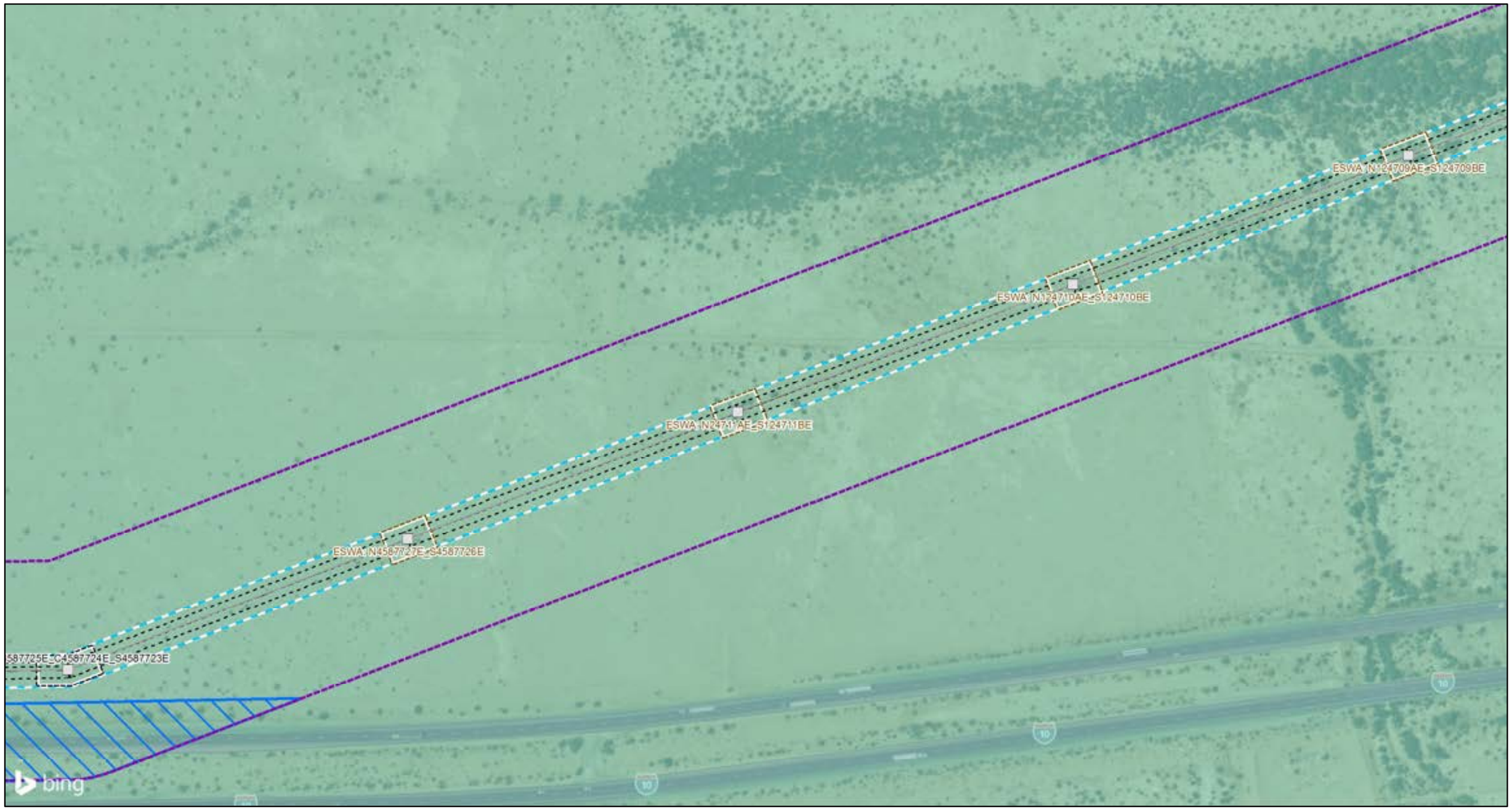

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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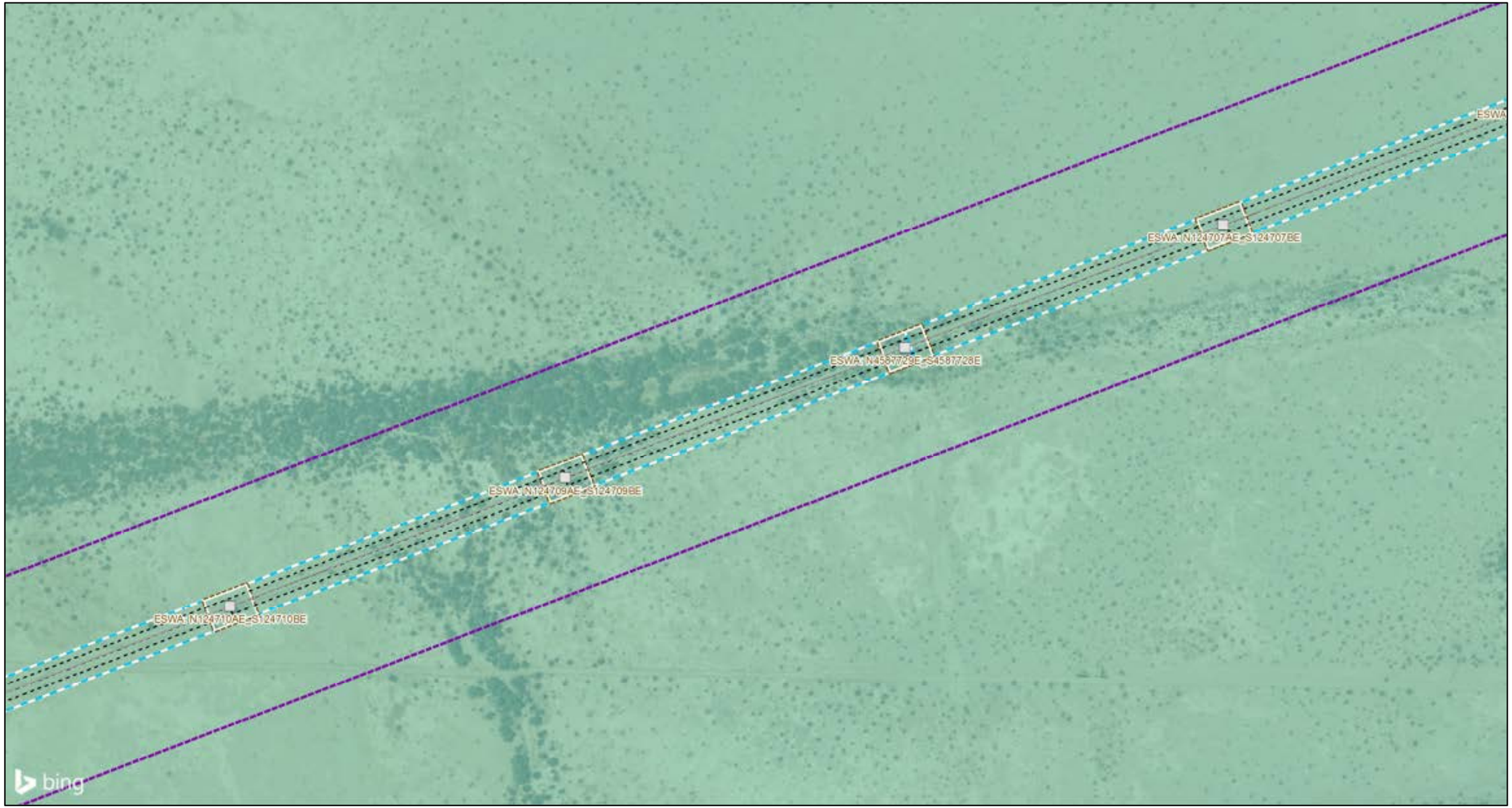

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LEGEND

- Existing Structure
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Source: SCE, ESRI World Street Map, Bing Imagery

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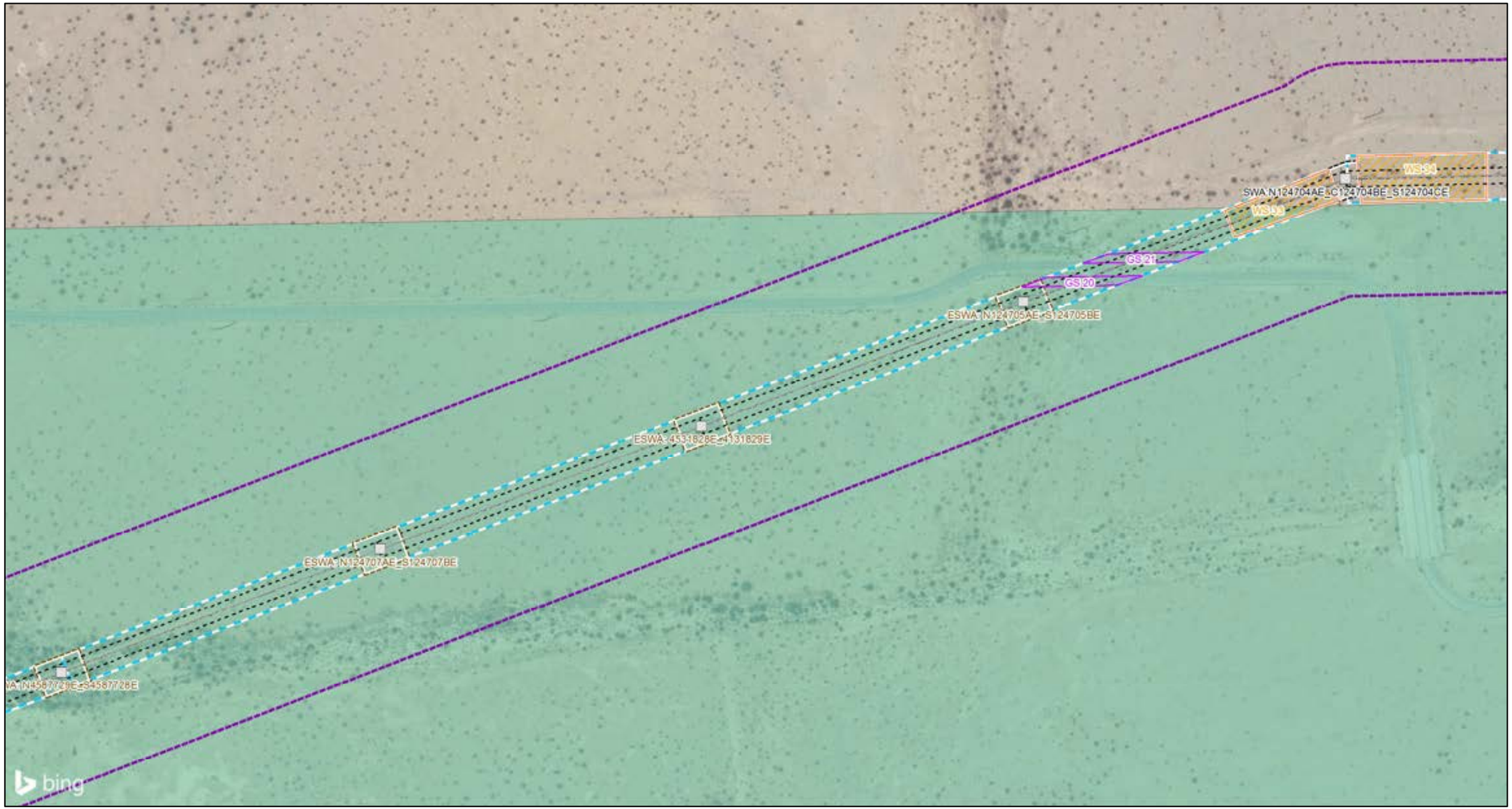
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
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- Action Area
- USFWS Desert Tortoise Critical Habitat
- County Boundary

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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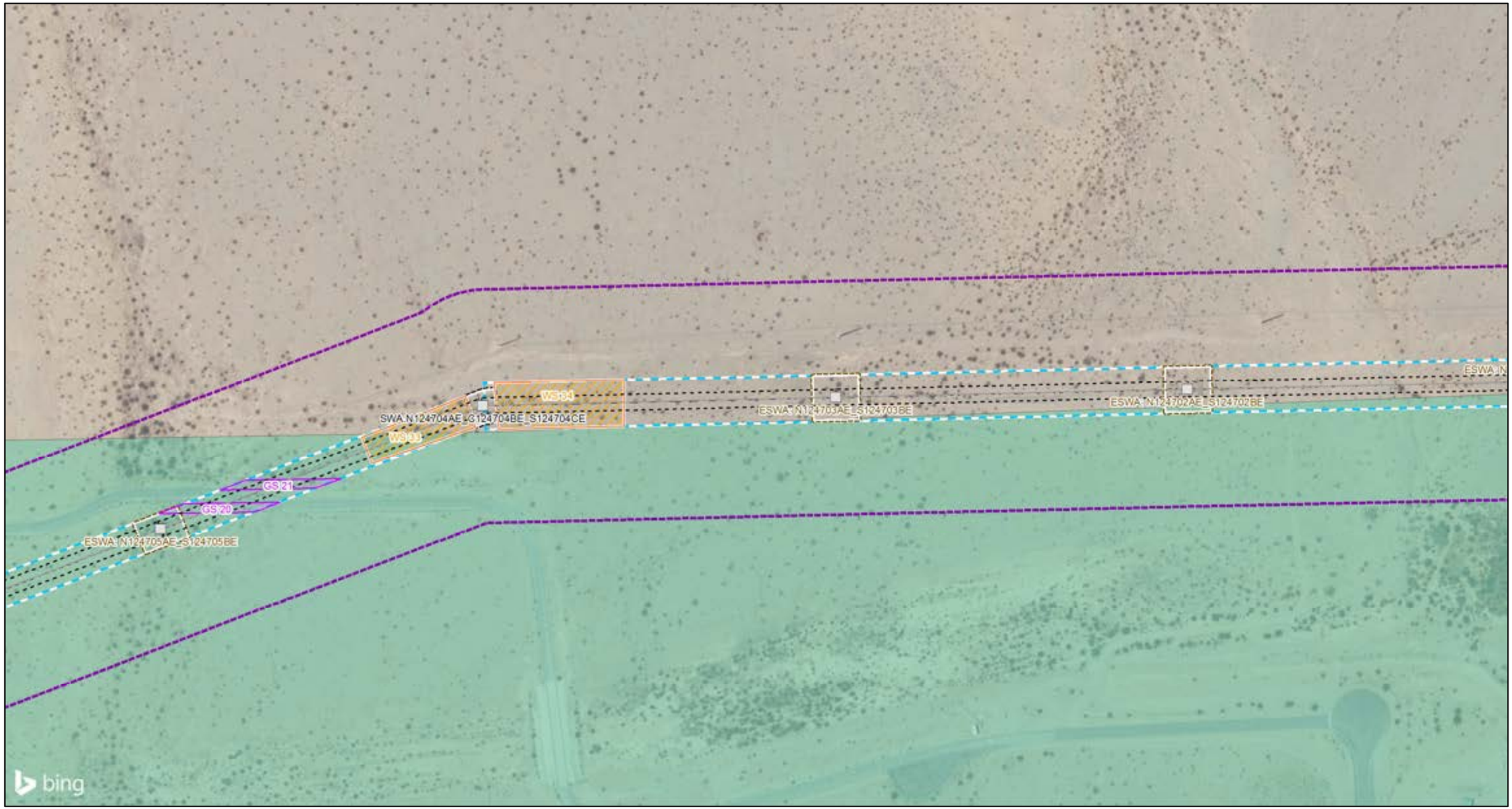

LEGEND

- Existing Structure
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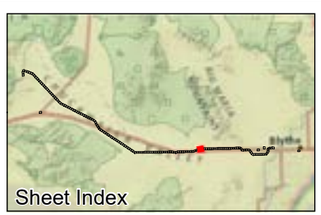

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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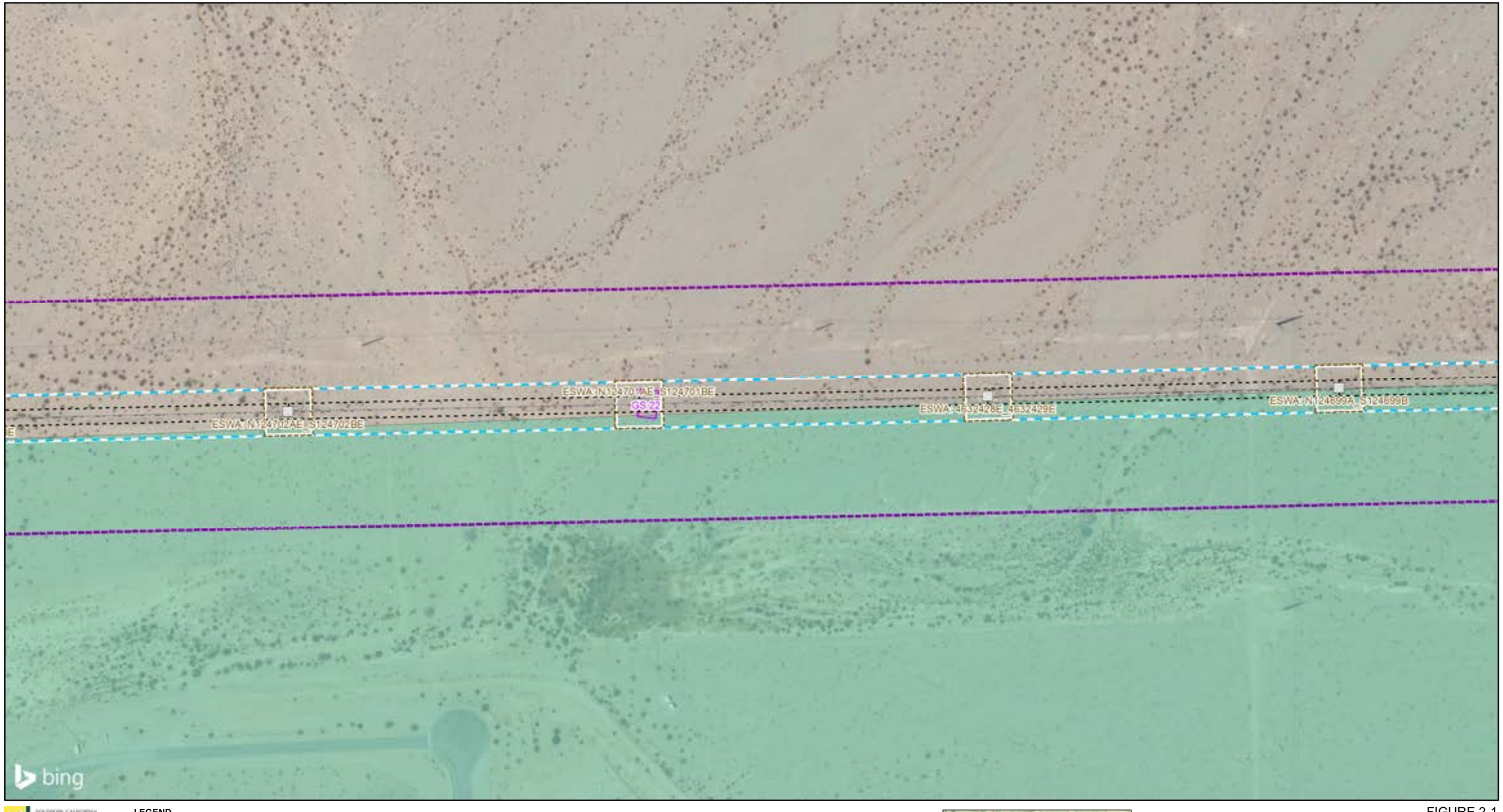

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
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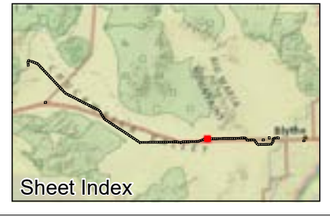

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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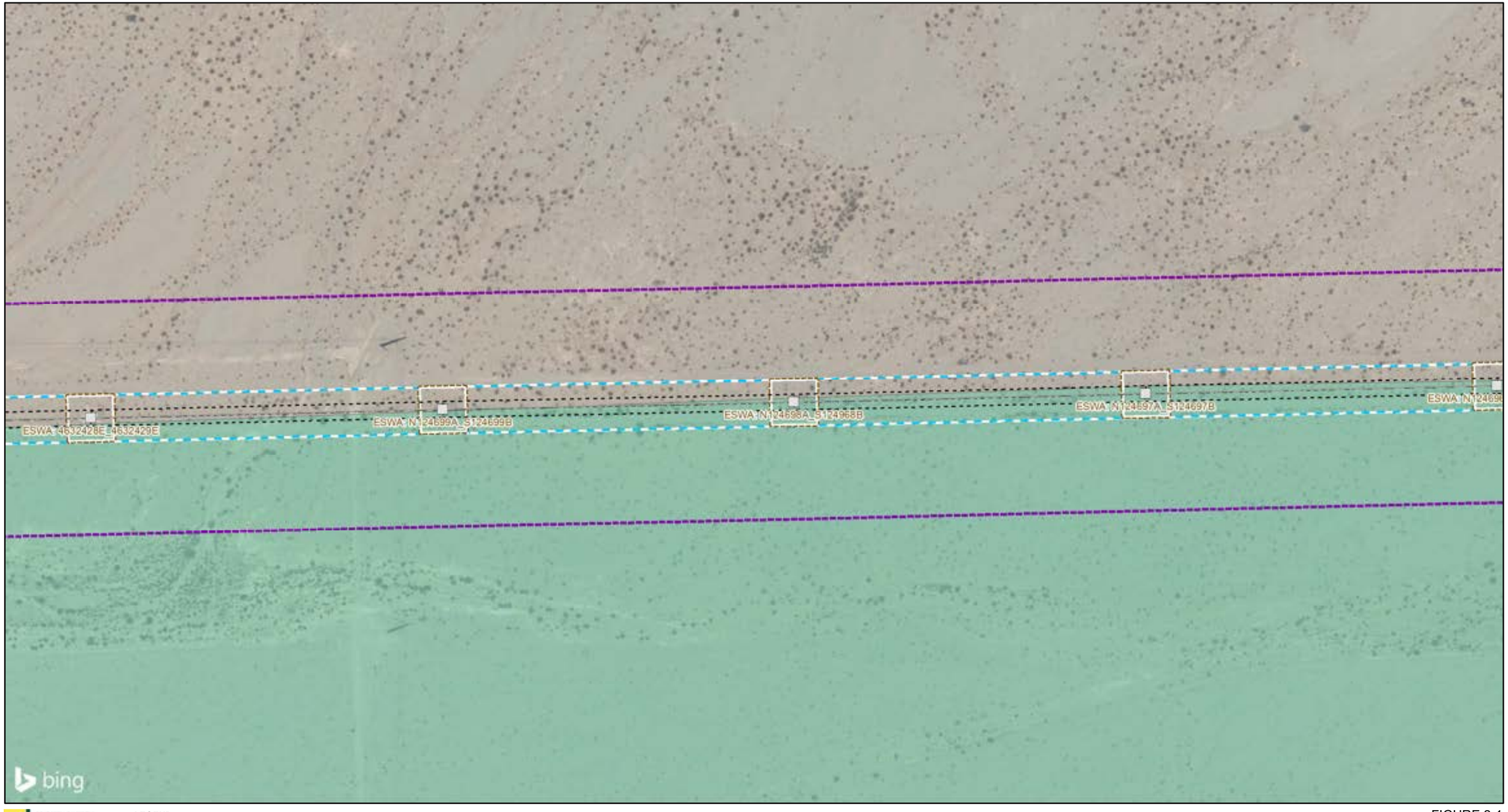

SOUTHERN CALIFORNIA EDISON

LEGEND

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Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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SOUTHERN CALIFORNIA EDISON

LEGEND

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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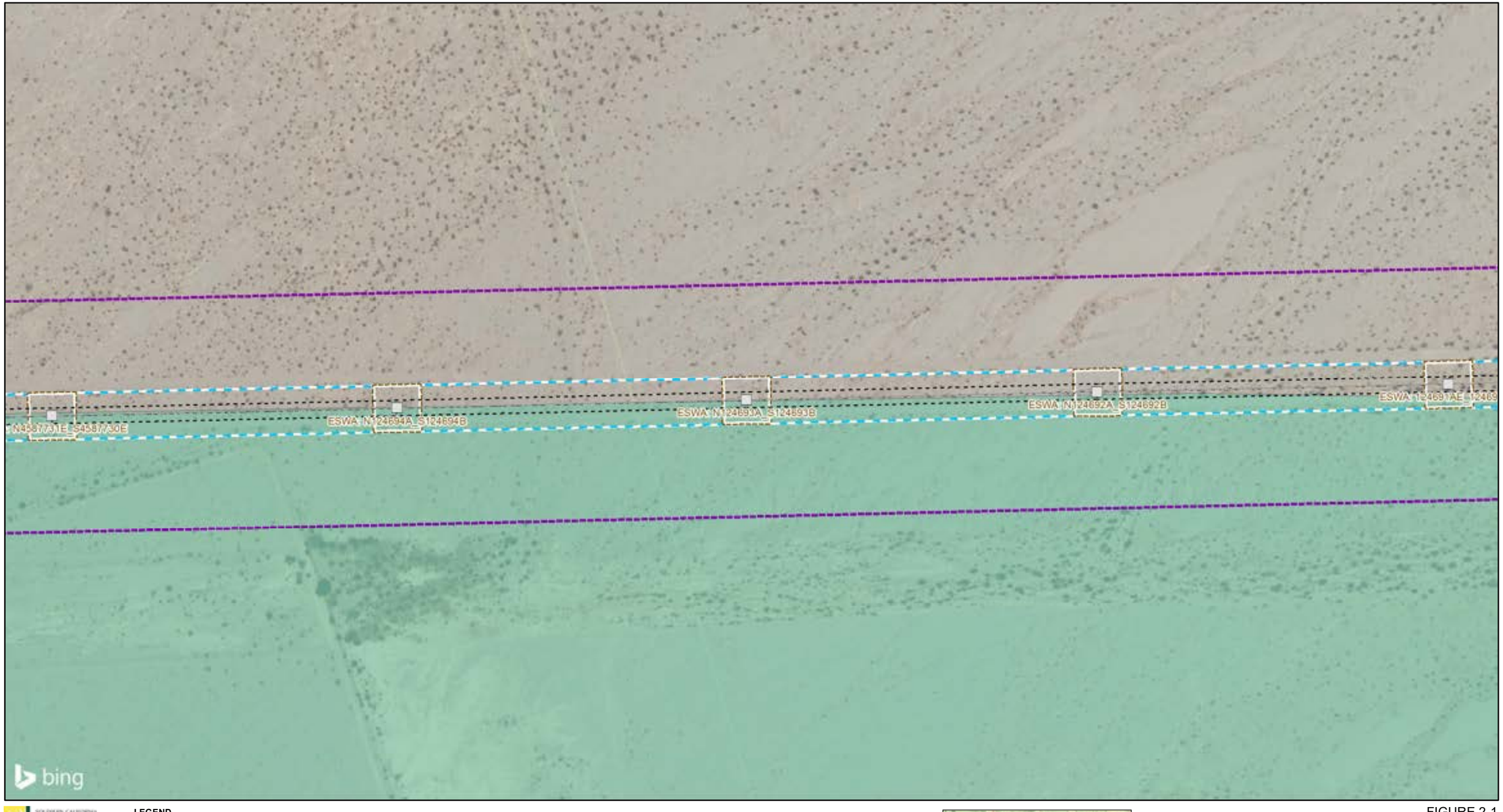

SOUTHERN CALIFORNIA EDISON

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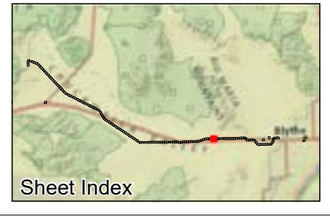

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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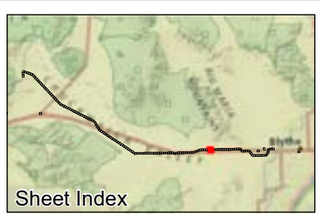

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
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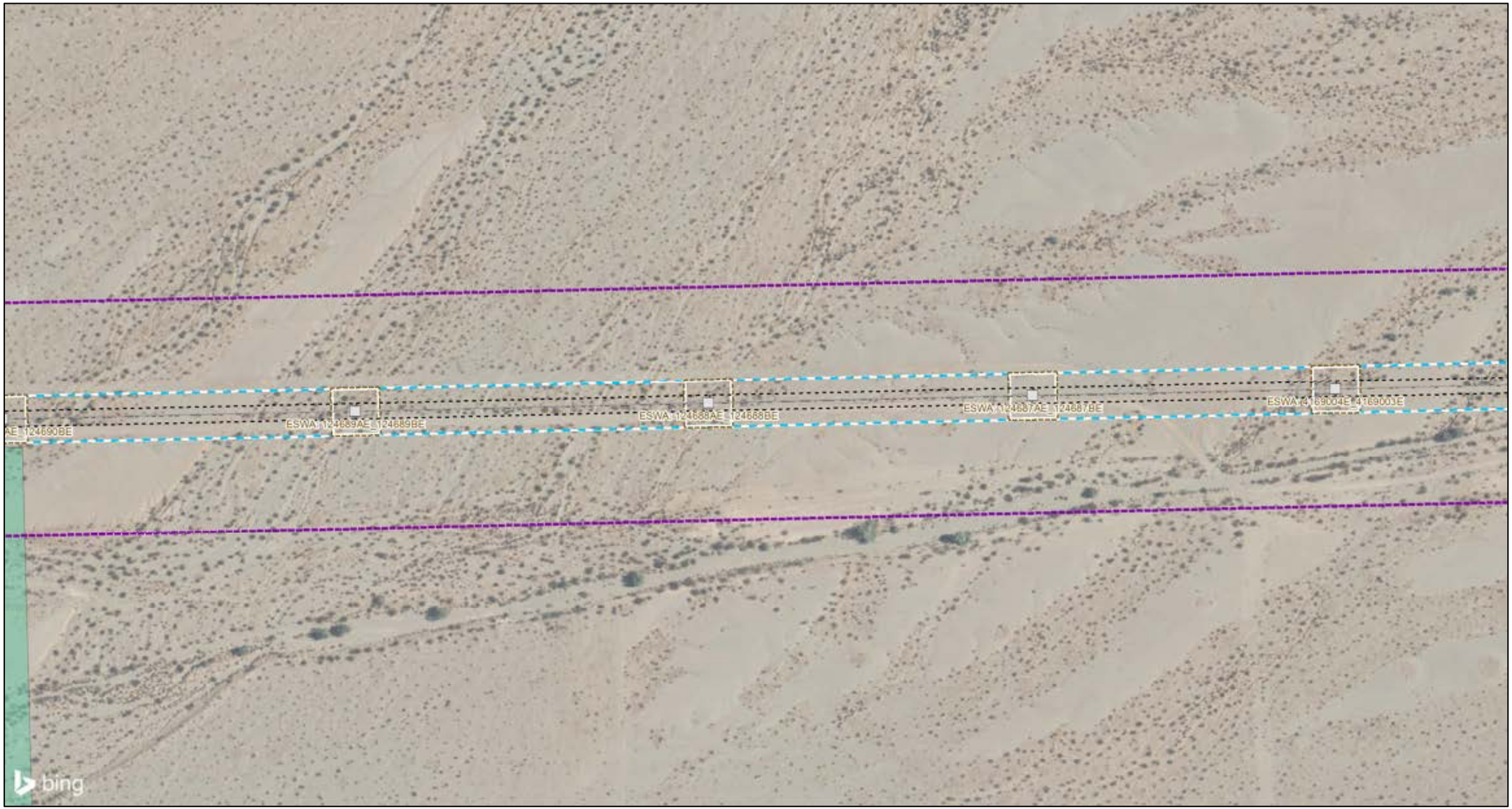

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LEGEND

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Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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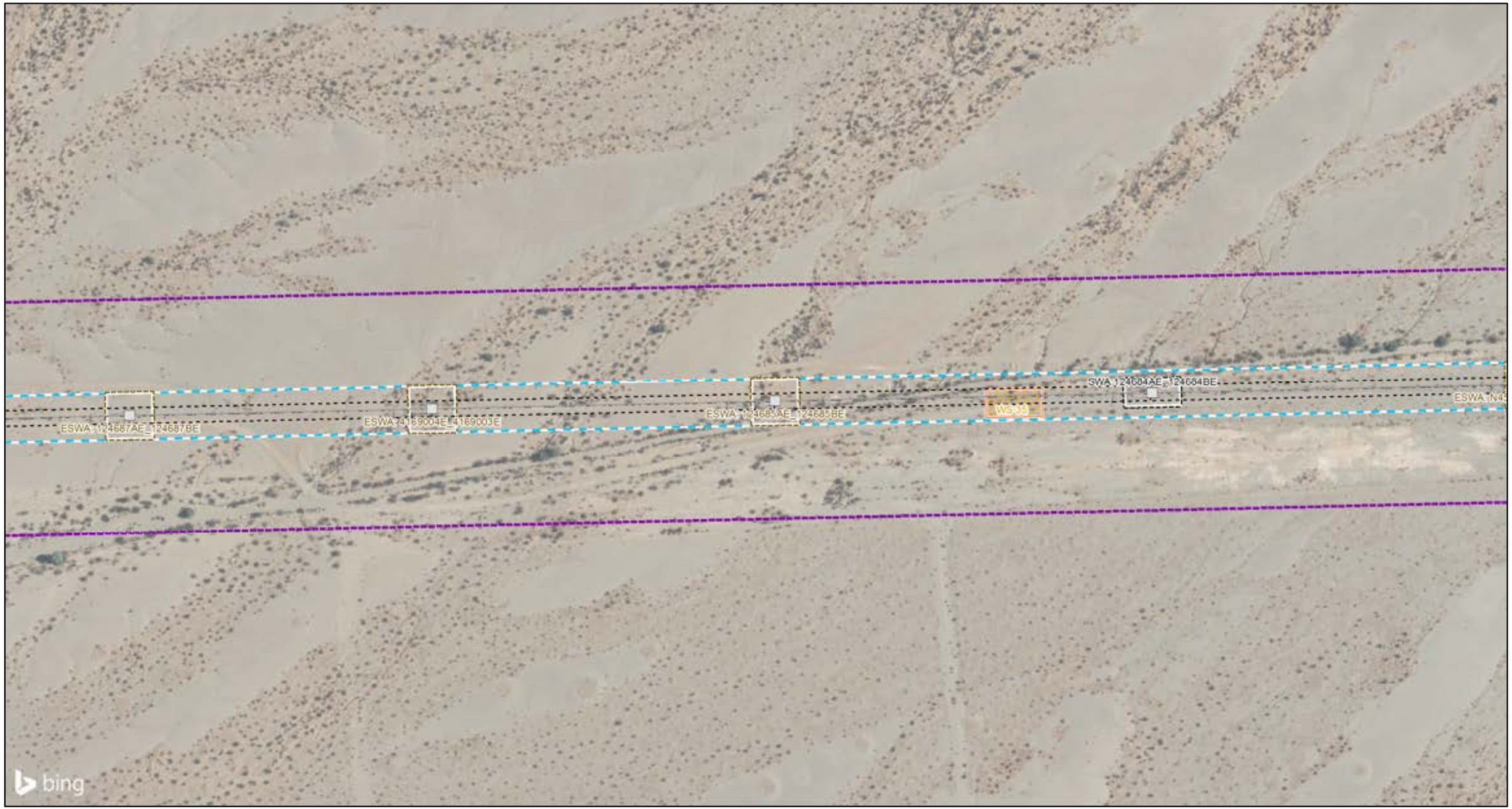

LEGEND

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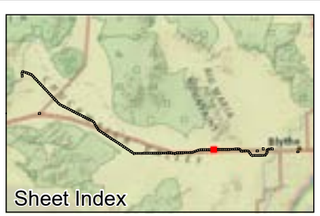

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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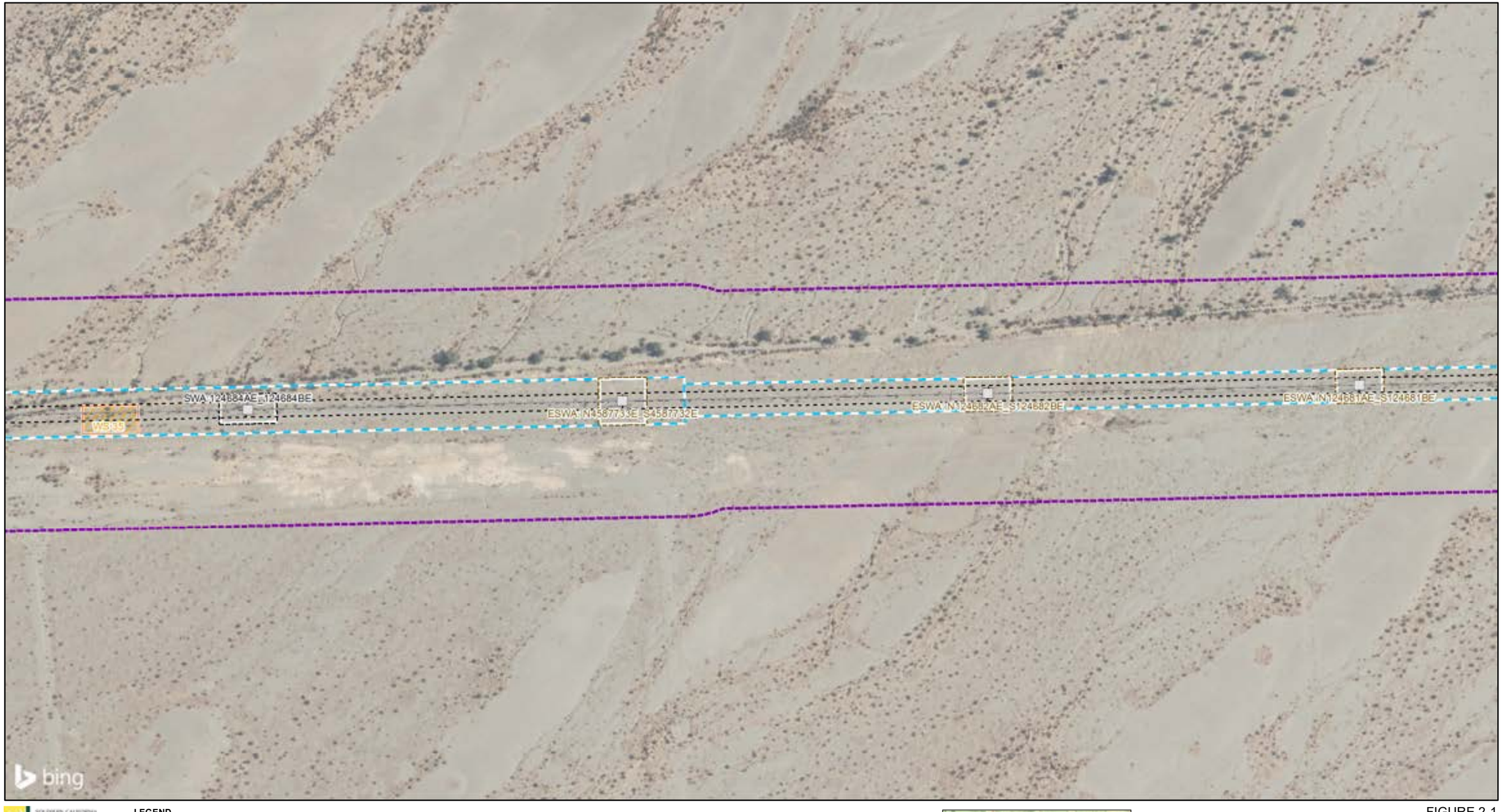

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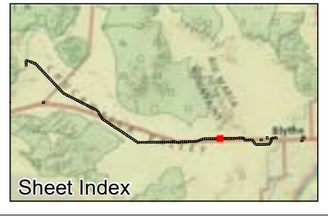

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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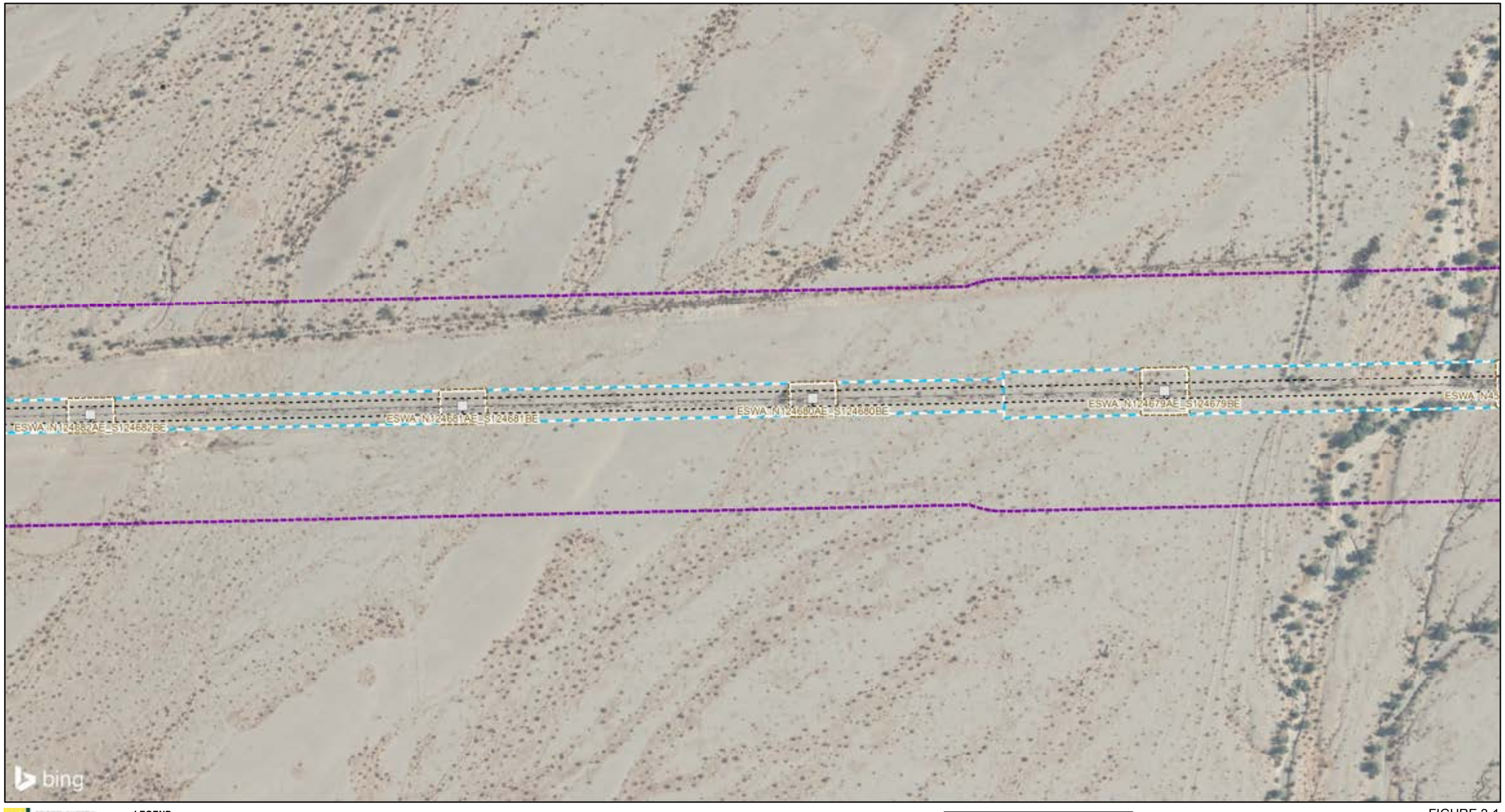

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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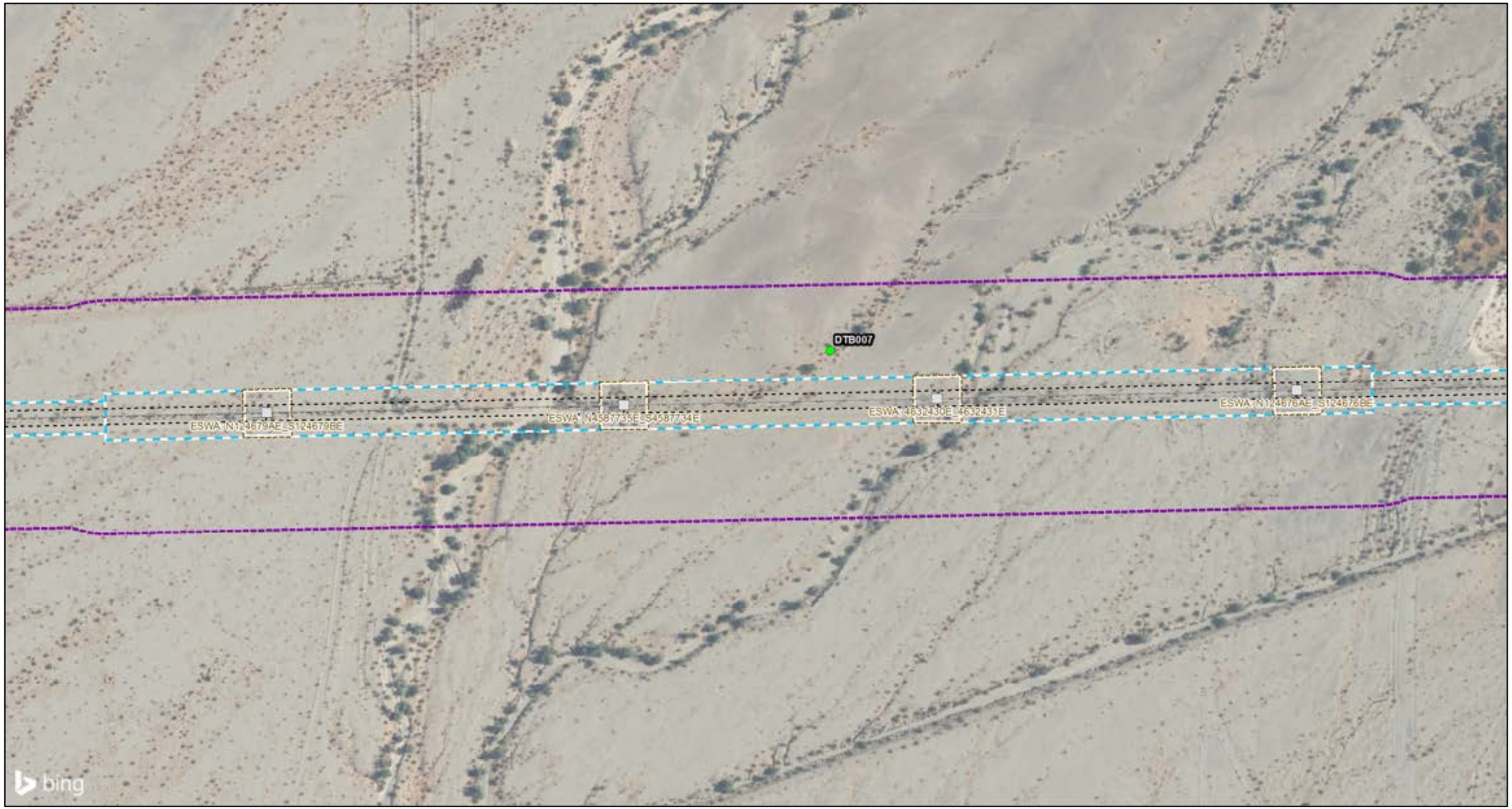

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

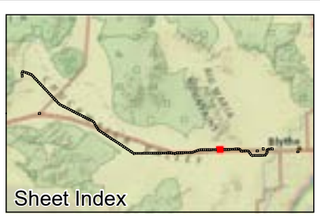

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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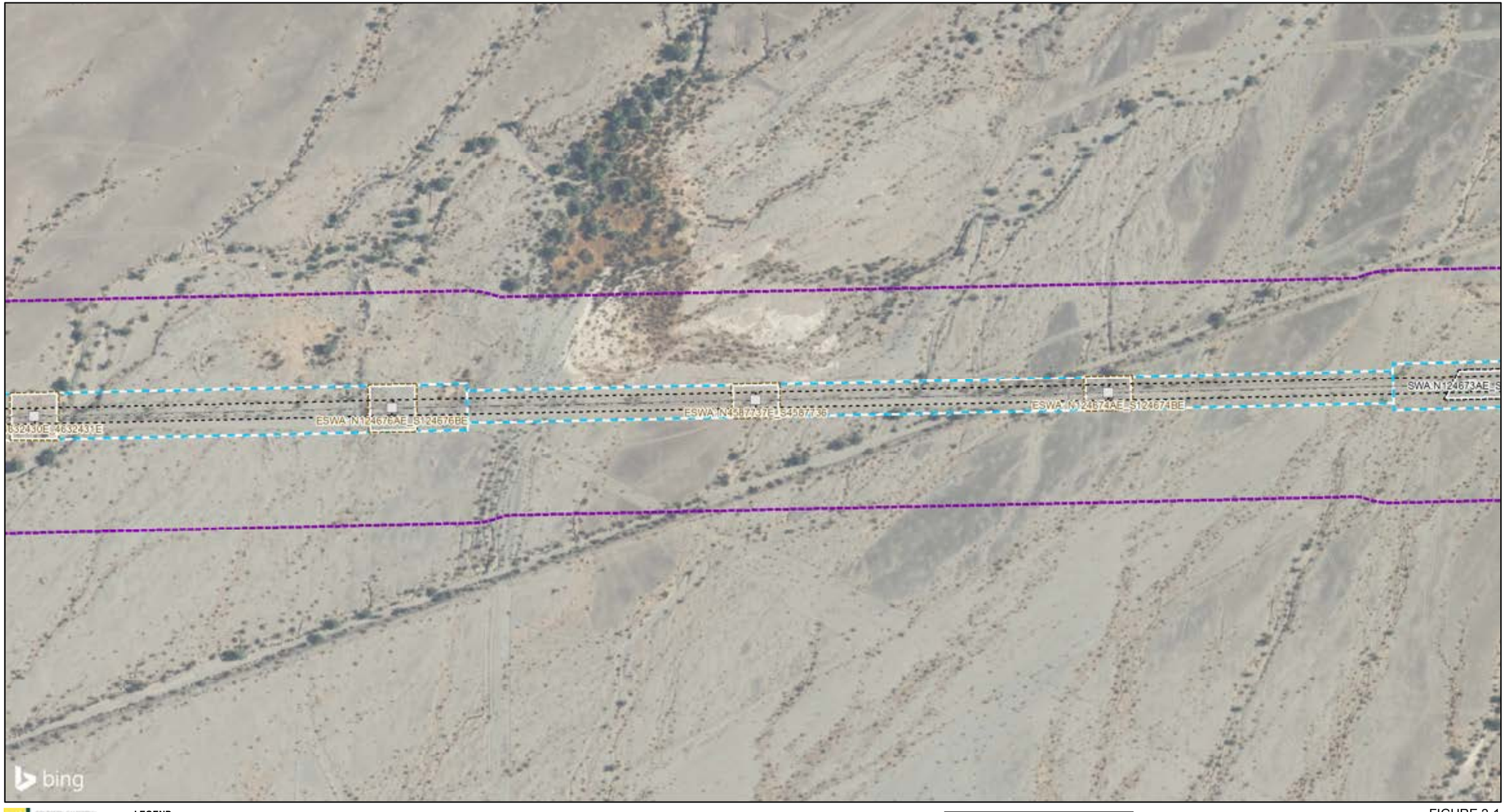

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

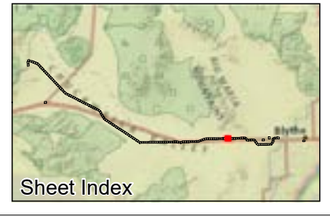

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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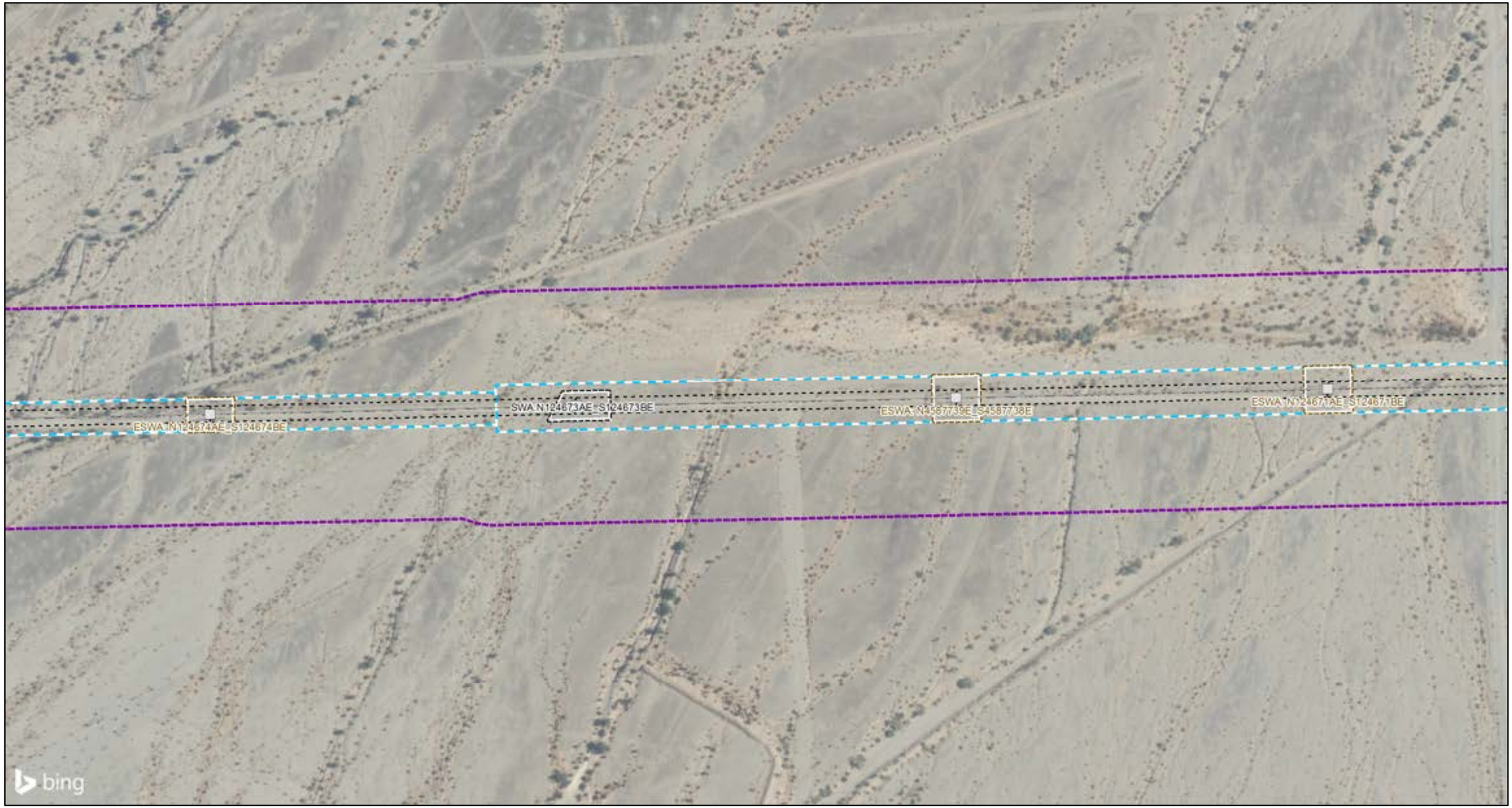

SOUTHERN CALIFORNIA EDISON
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LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

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FEET

Source: SCE, ESRI World Street Map, Bing Imagery

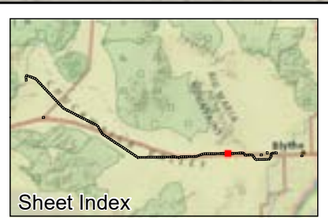

FIGURE 2-1
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Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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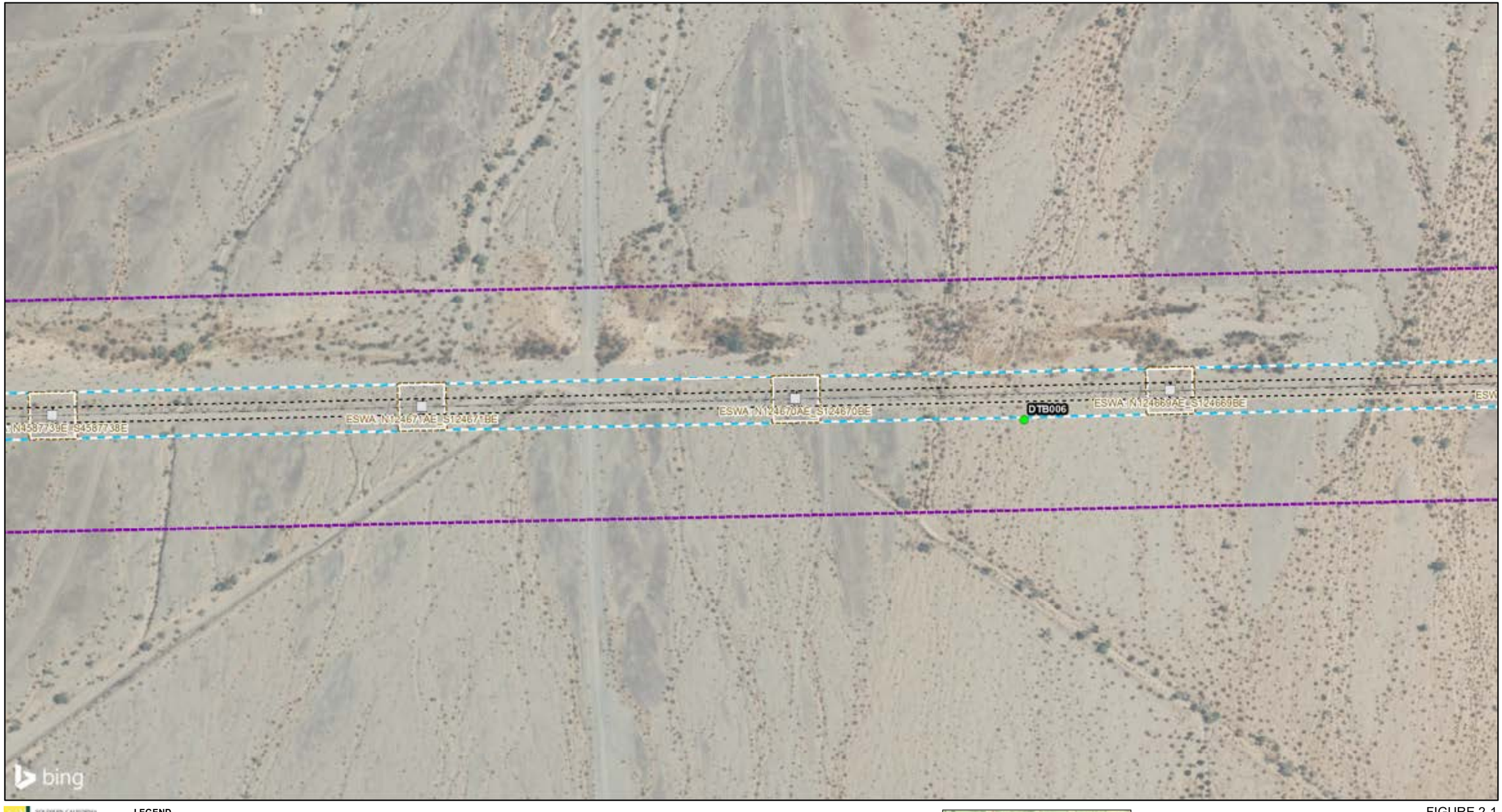

SOUTHERN CALIFORNIA EDISON

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

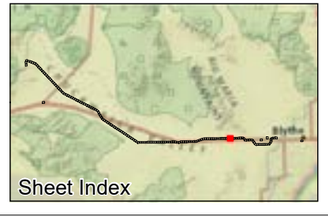

FIGURE 2-1
Page 119 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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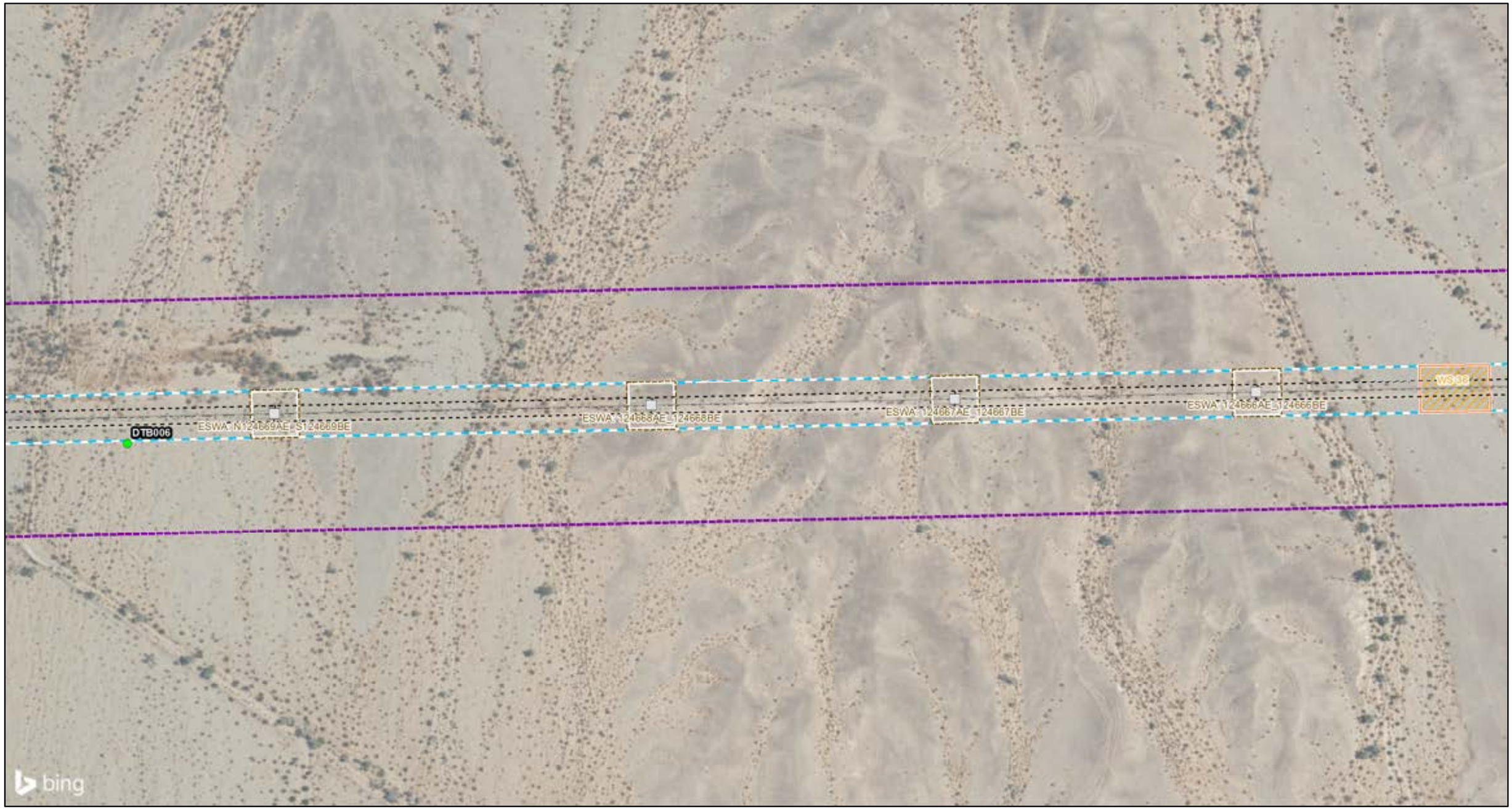

SOUTHERN CALIFORNIA EDISON
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0 100 200
FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
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LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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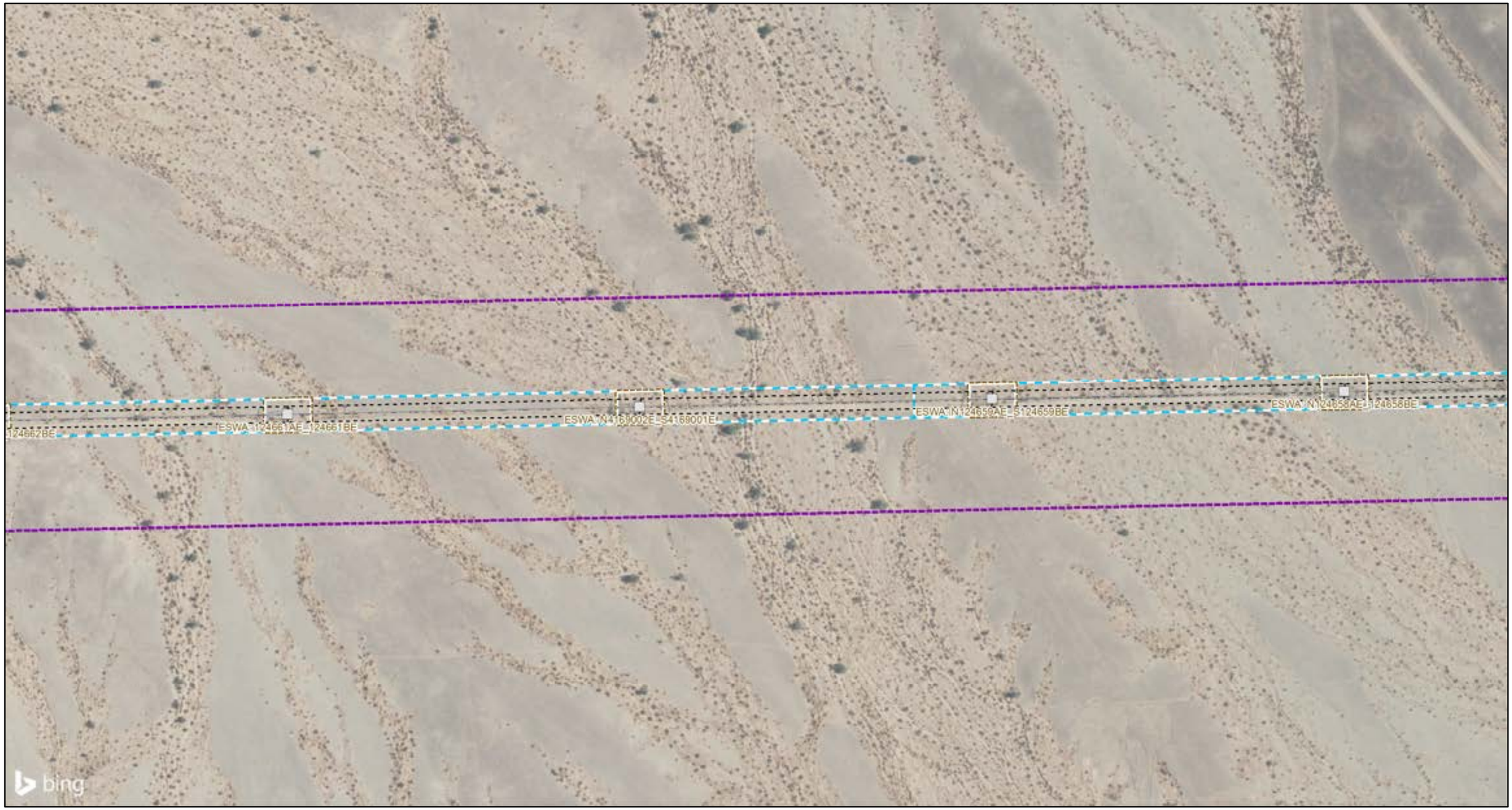
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1
Page 123 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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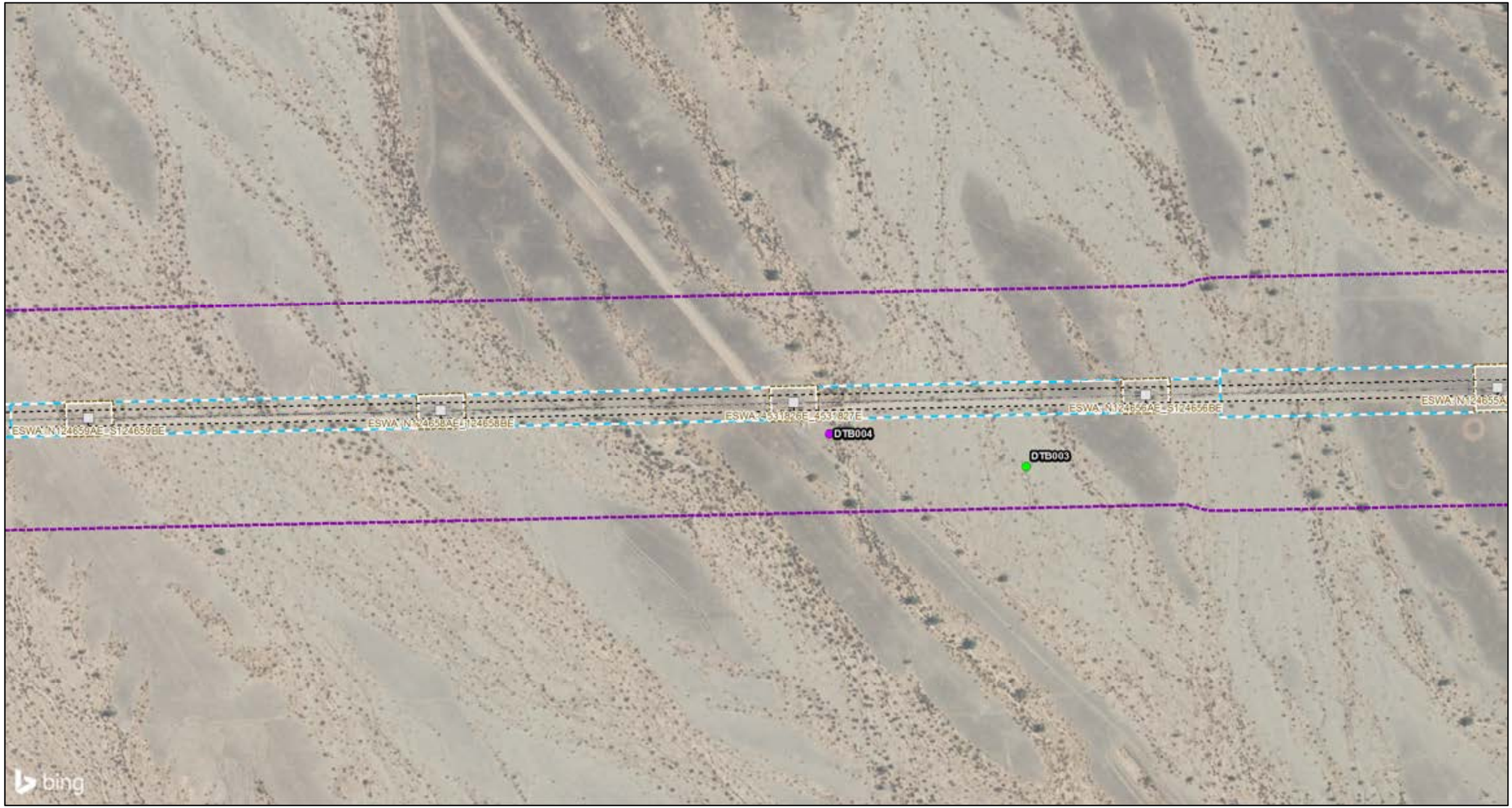

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Desert Tortoise Burrow
- Desert Tortoise Carcass
- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

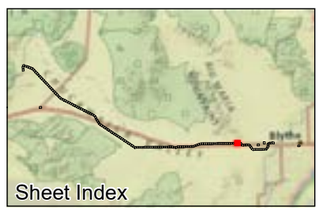

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

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FEET

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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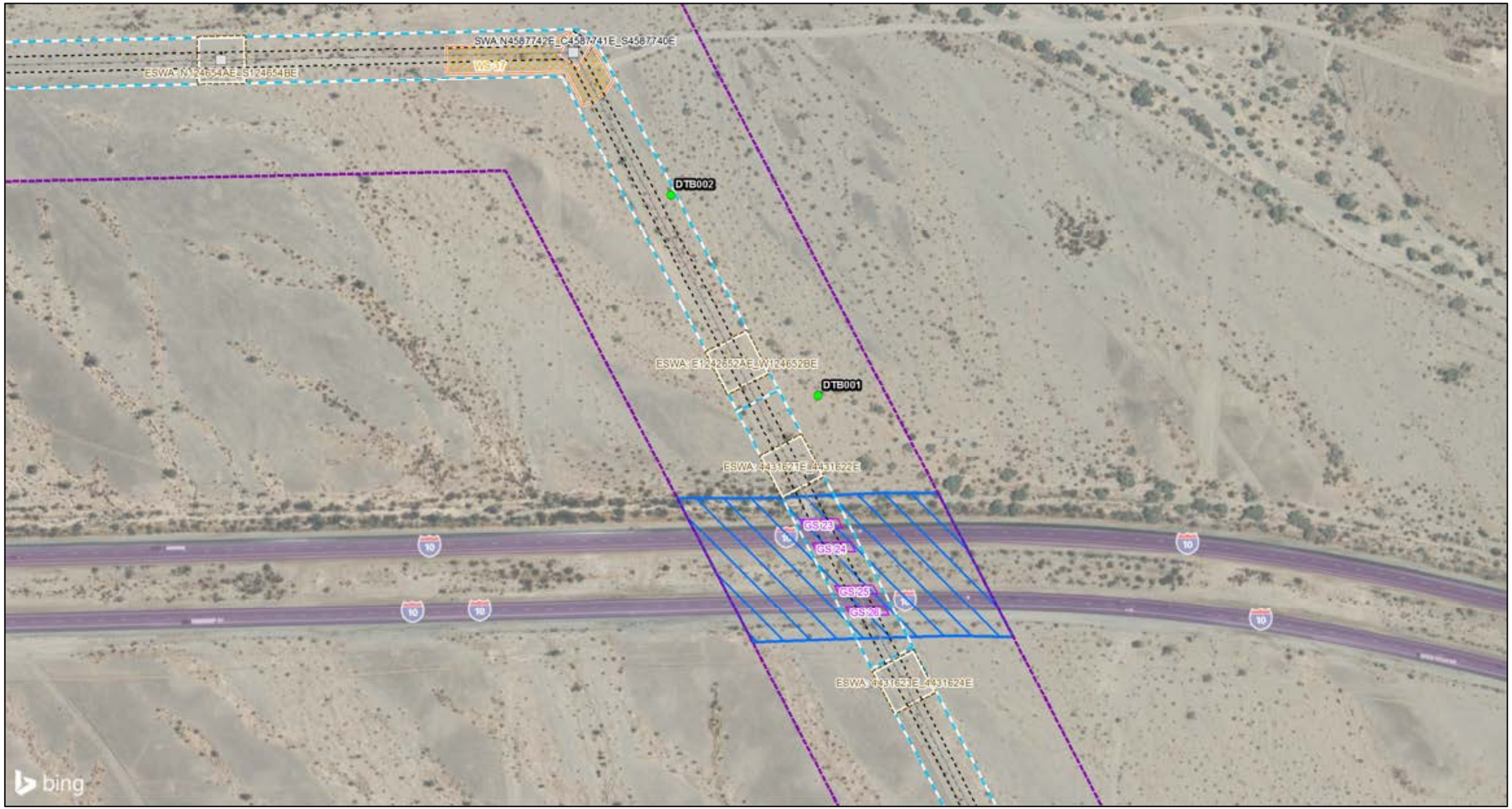

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Desert Tortoise Burrow
- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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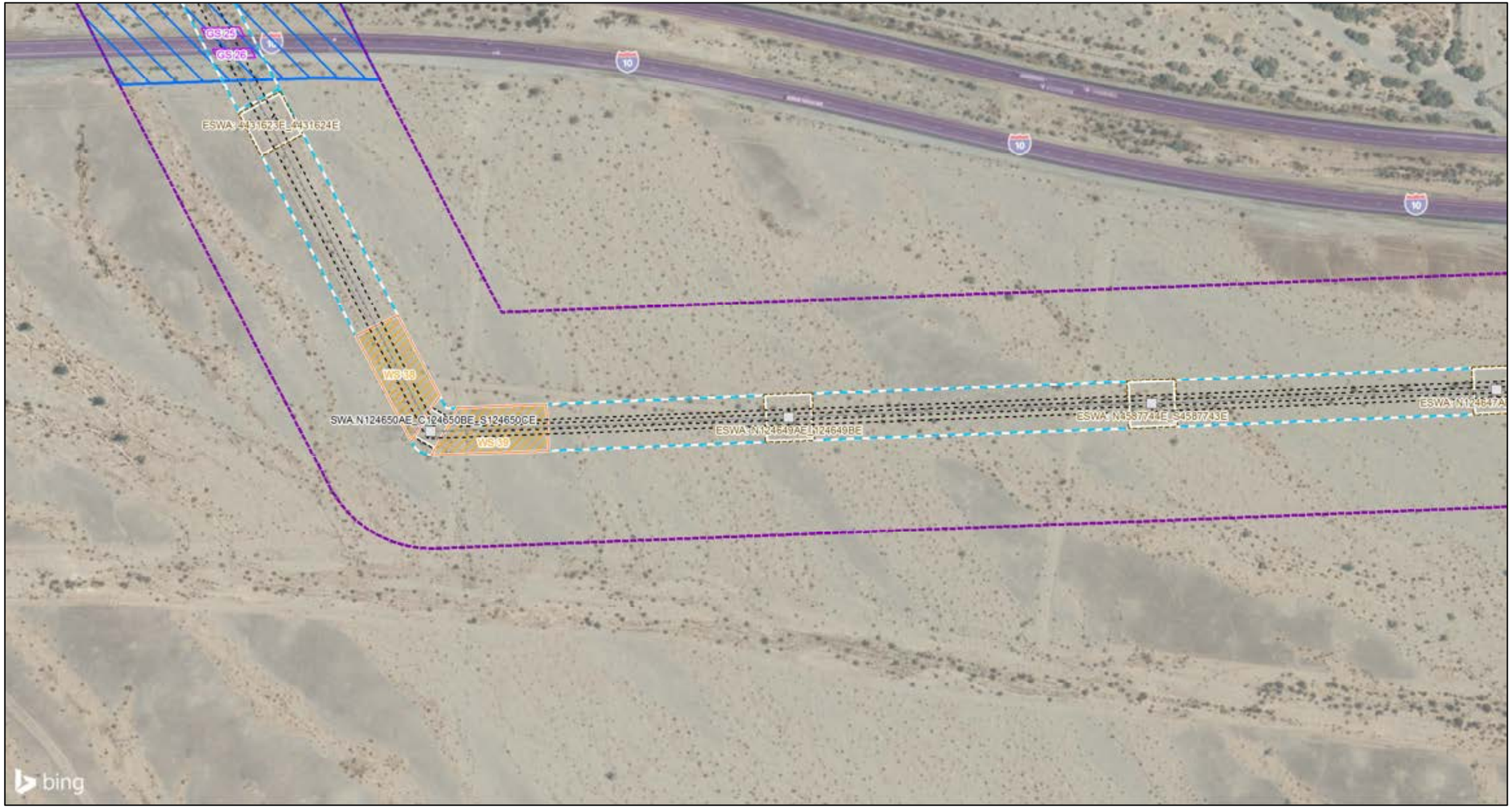
Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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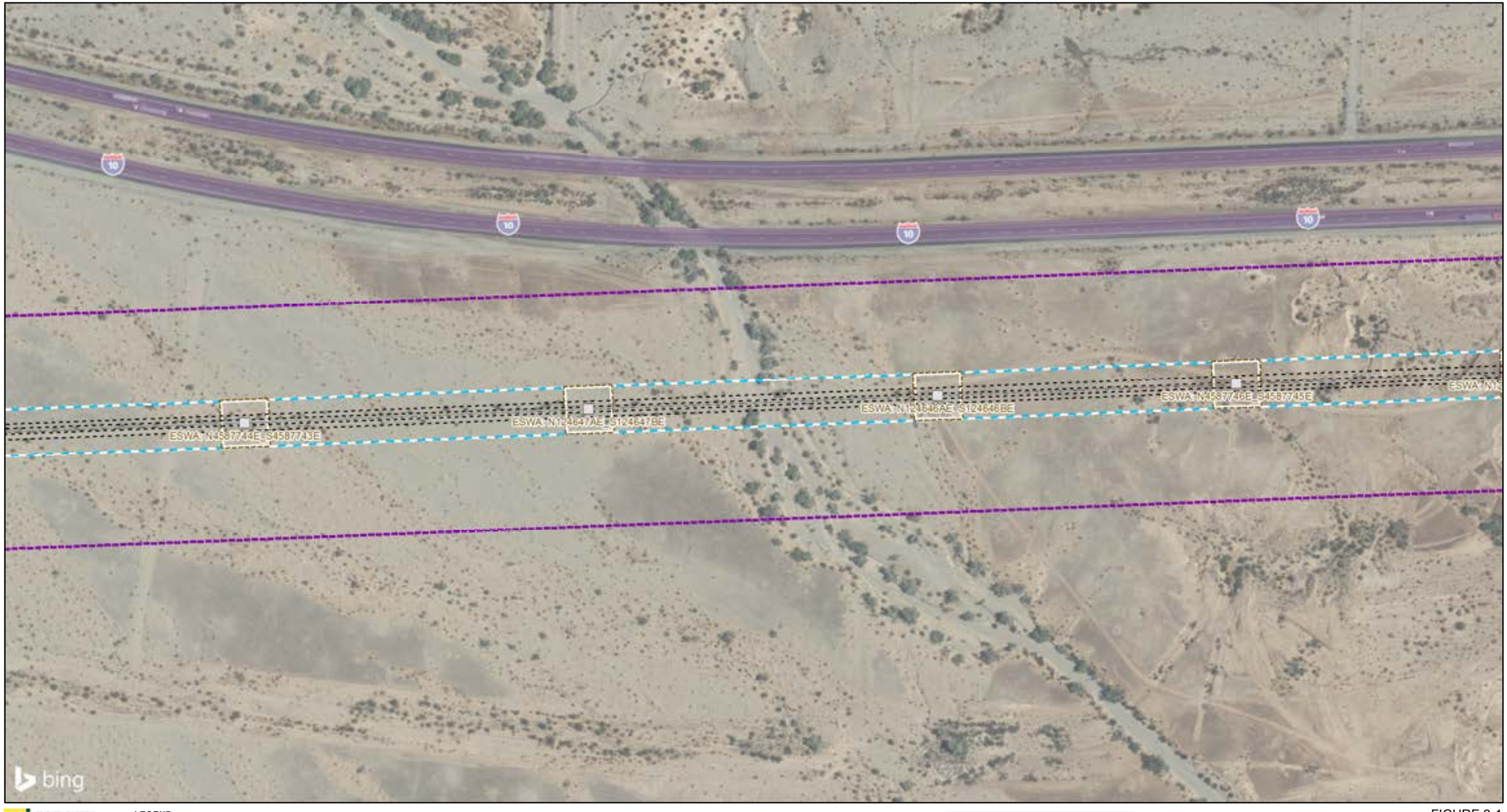
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs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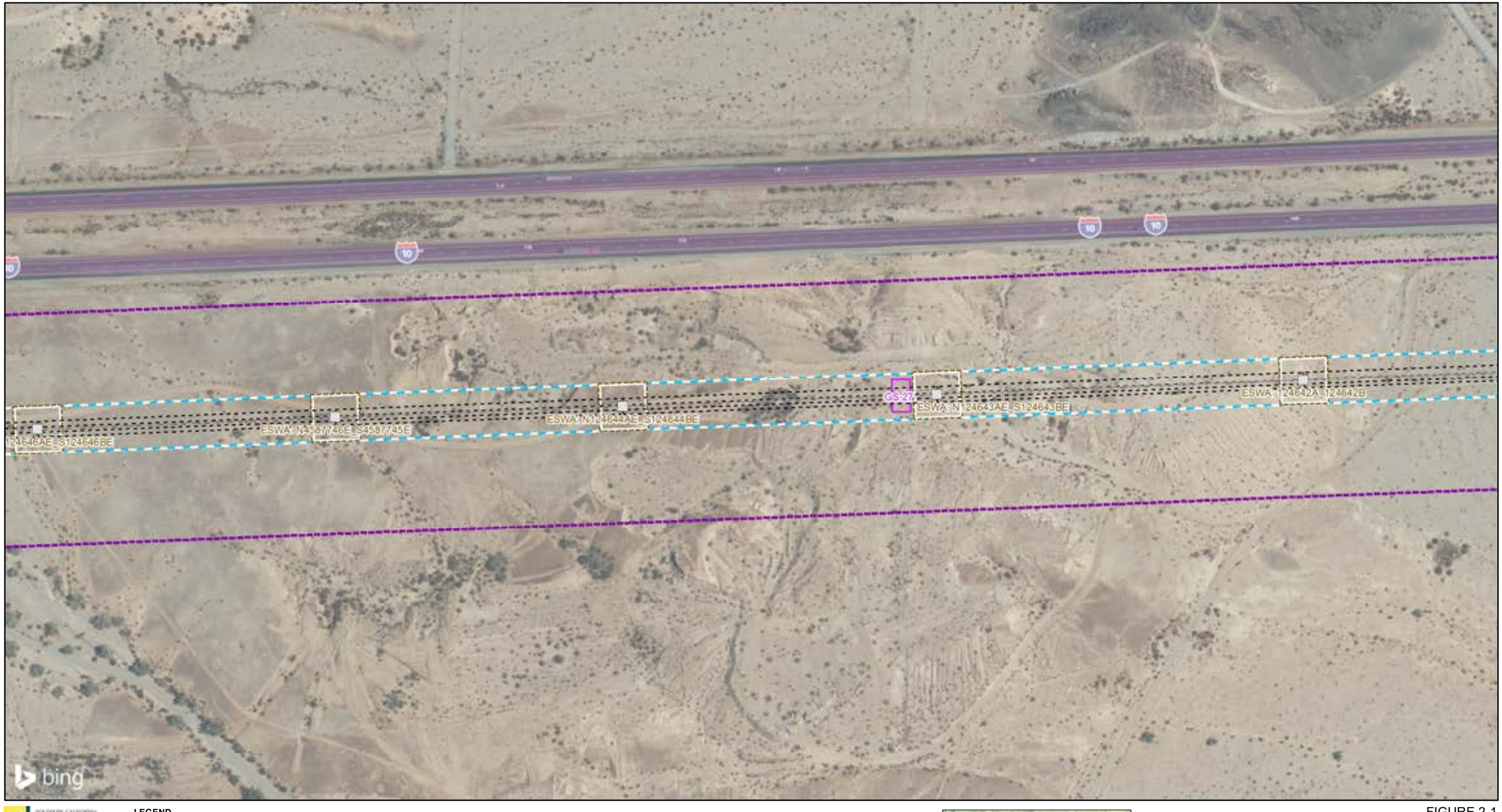

SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

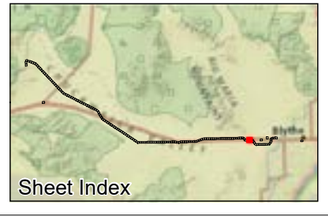

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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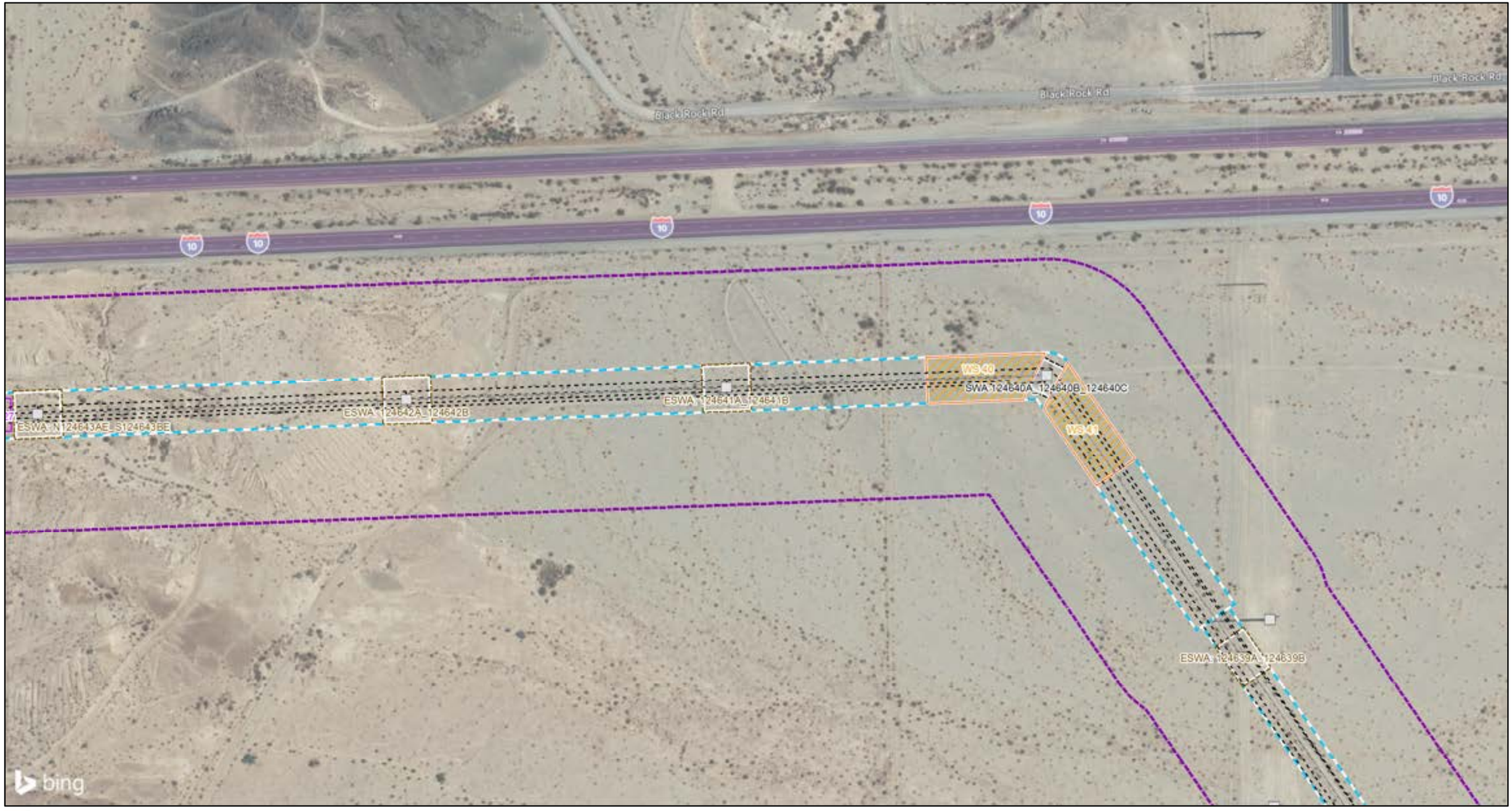

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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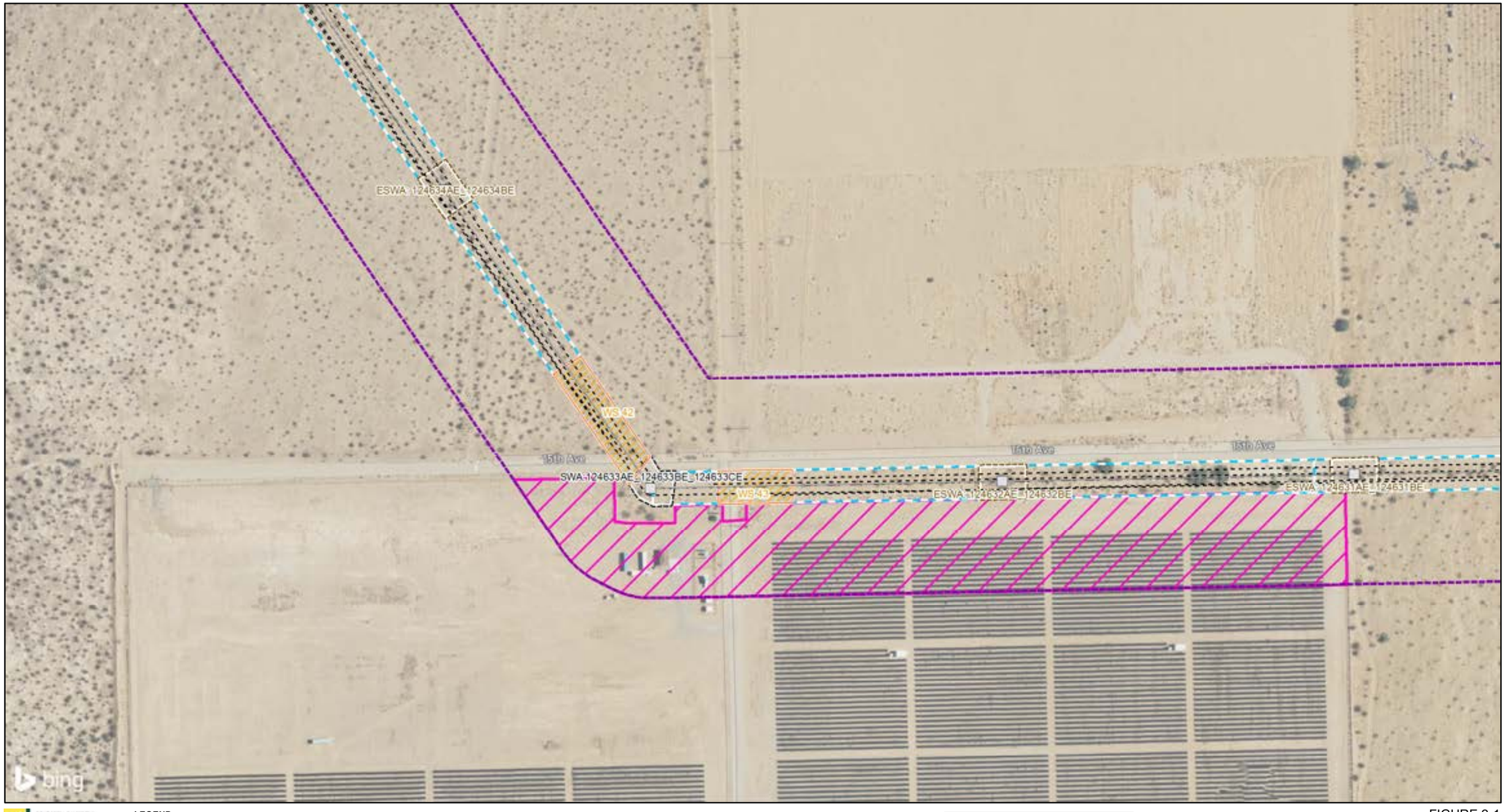

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

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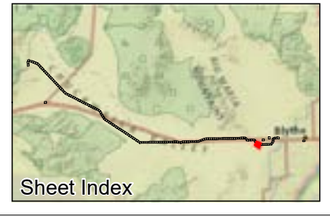

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

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15th Ave
15th Ave
15th Ave
15th Ave
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ESWA_124630AE_124630BE
ESWA_124629AE_124629BE
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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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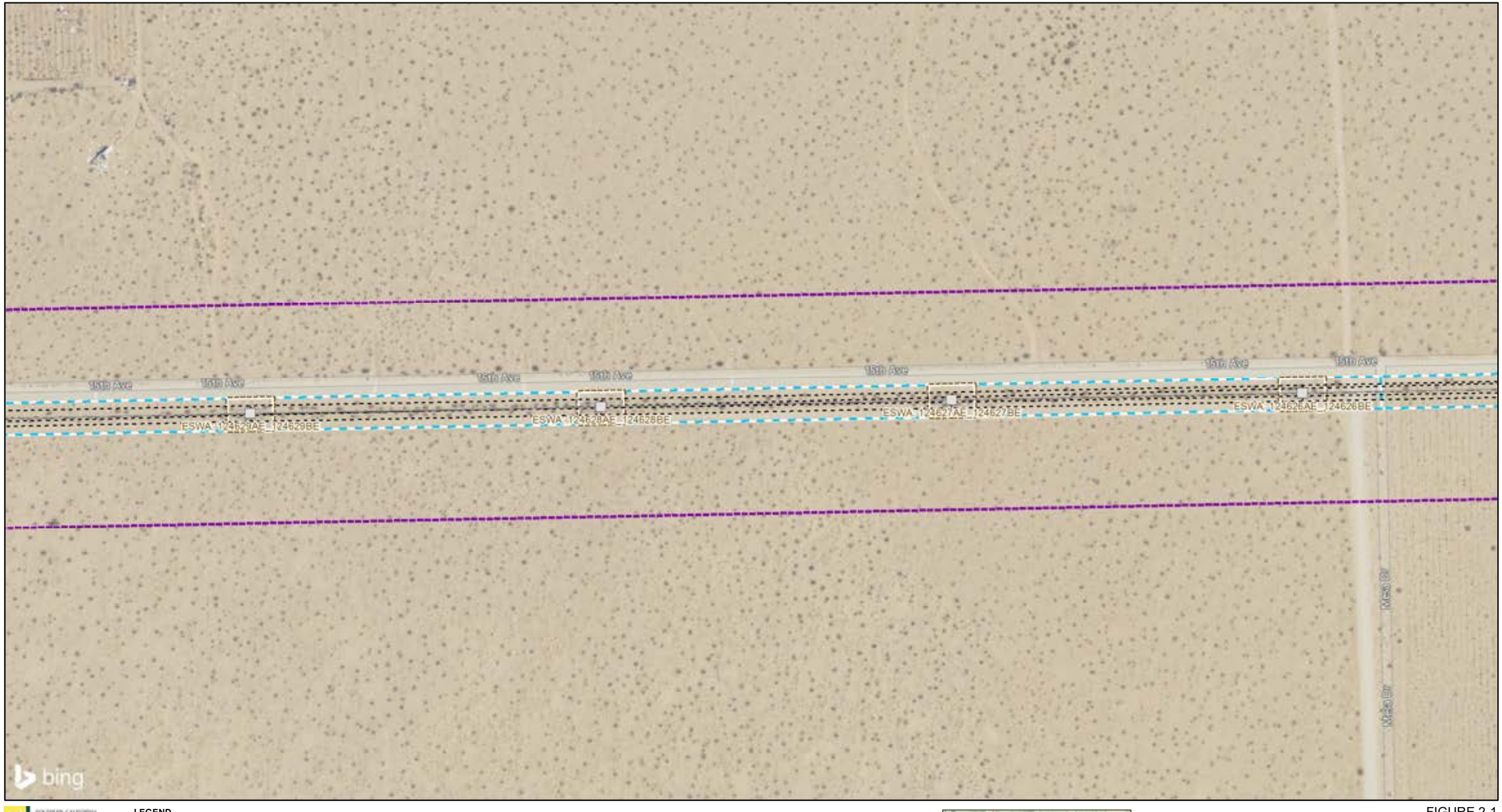

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

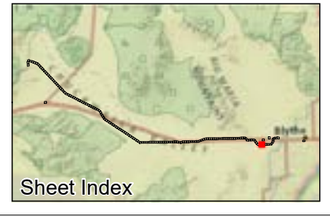

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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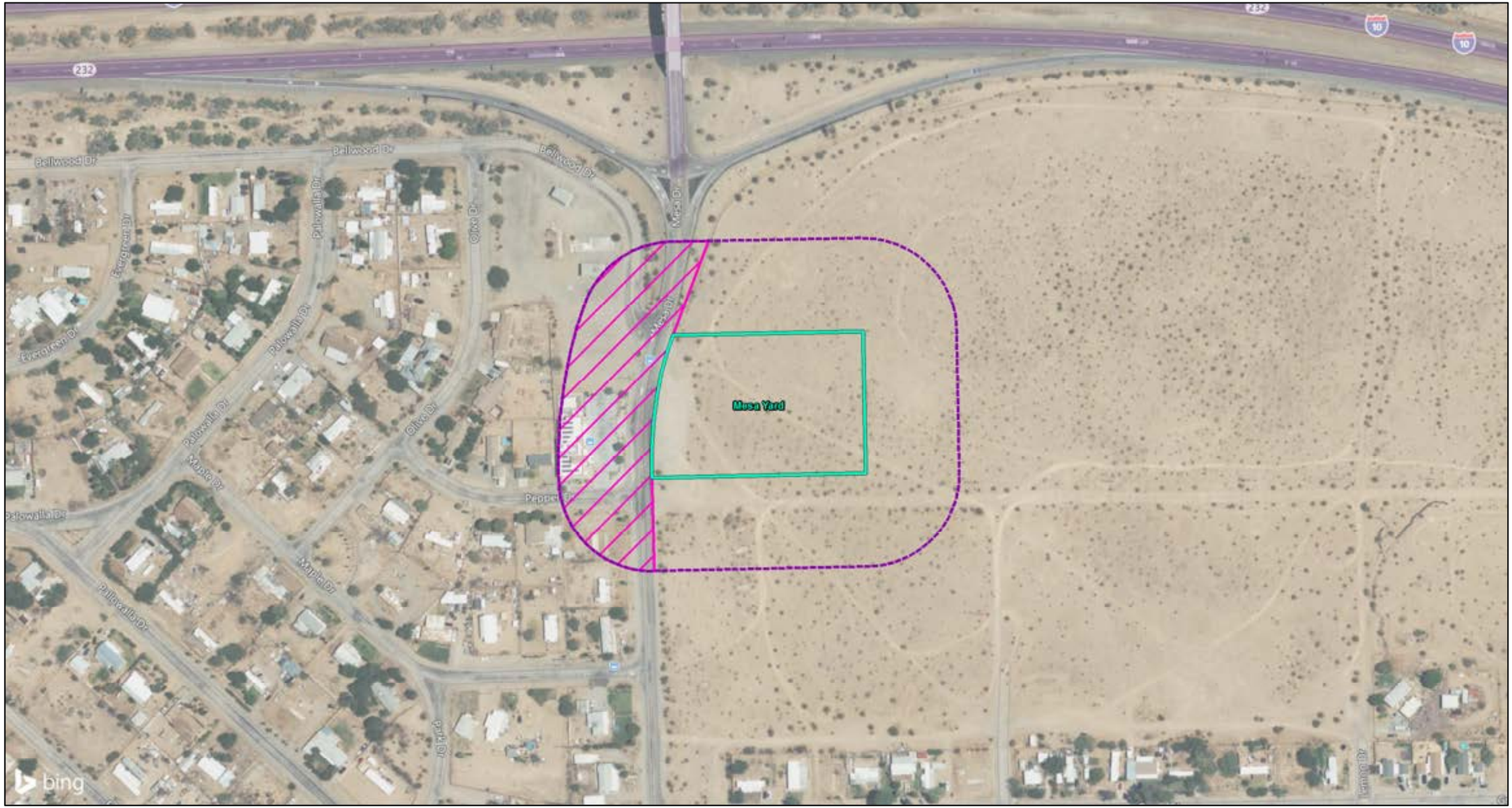

SOUTHERN CALIFORNIA EDISON
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LEGEND

- Proposed Laydown Yard
- Action Area
- Unsuitable Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

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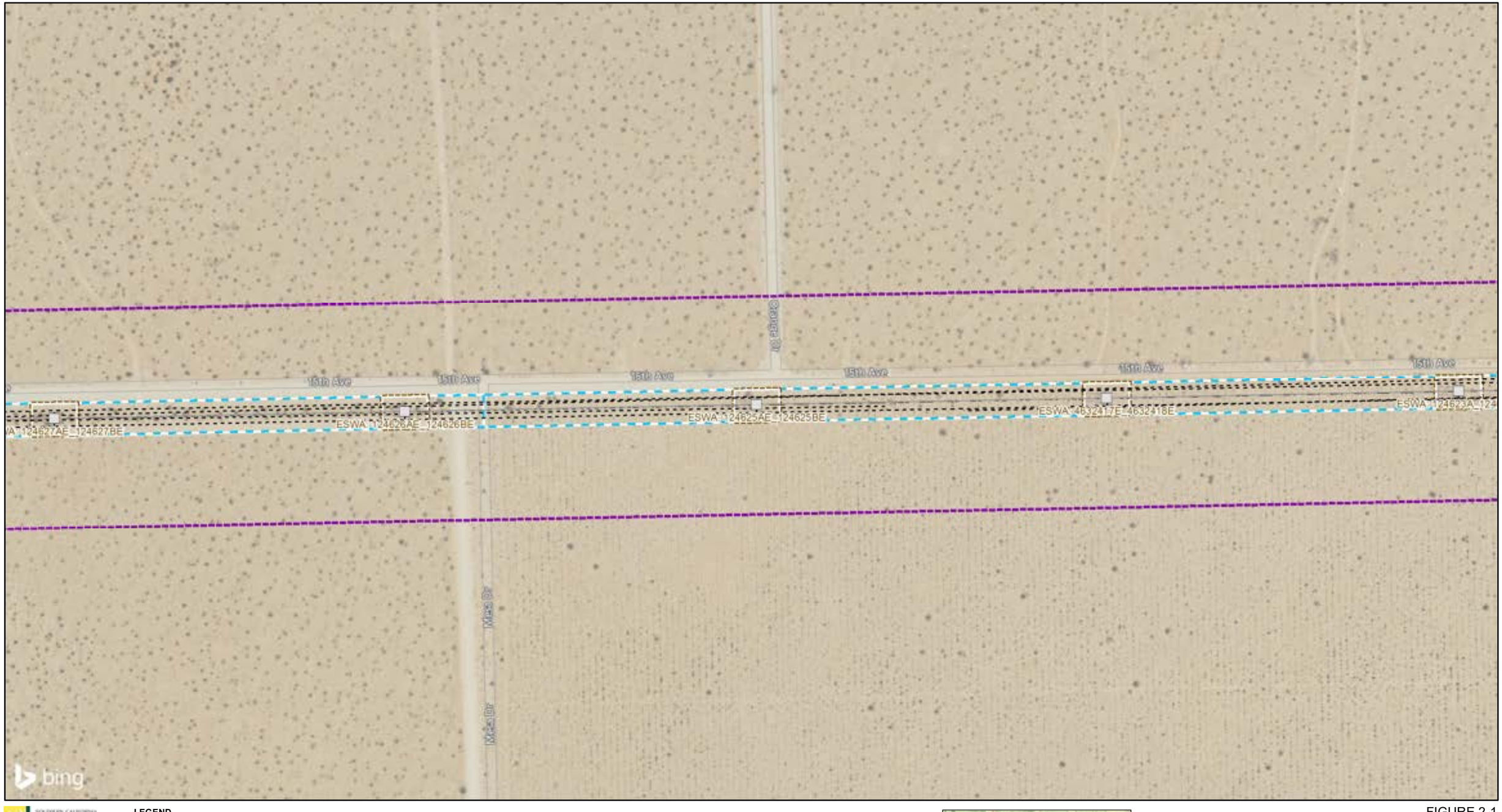


SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

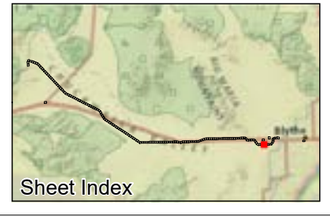
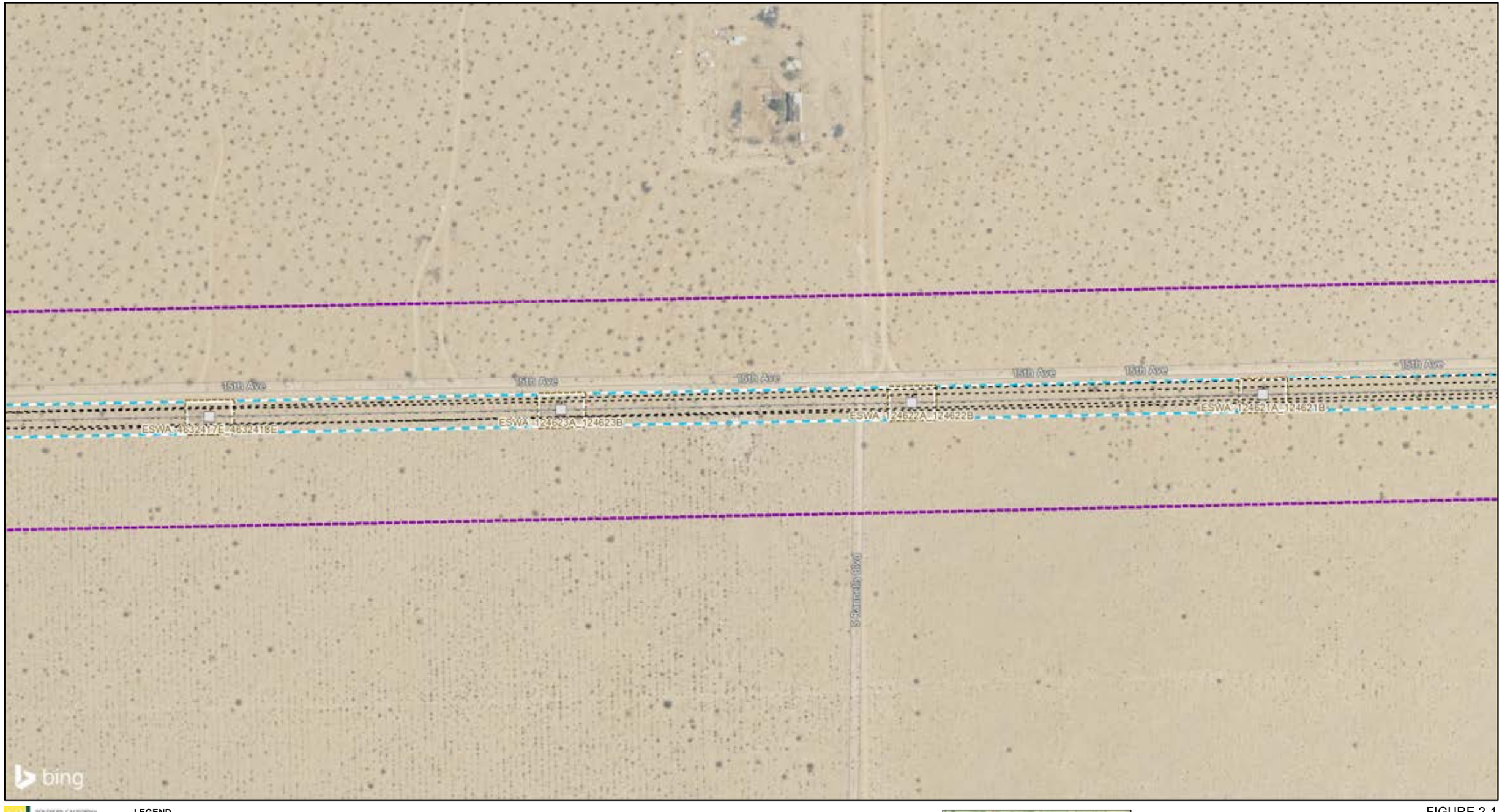


FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Jacobs



SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

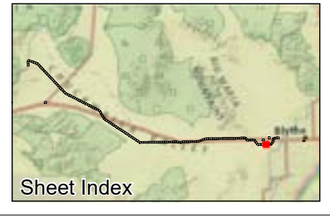


FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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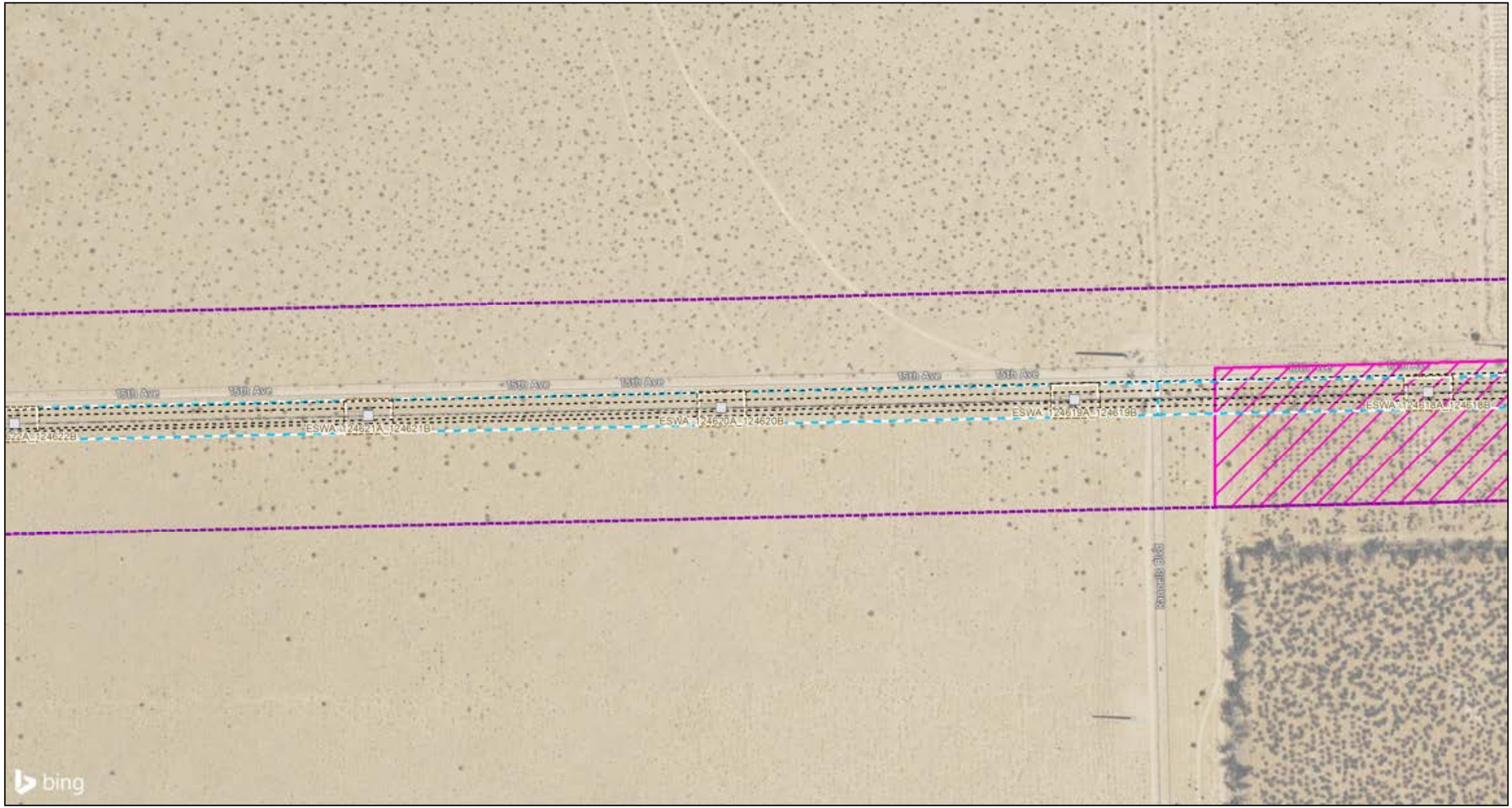

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

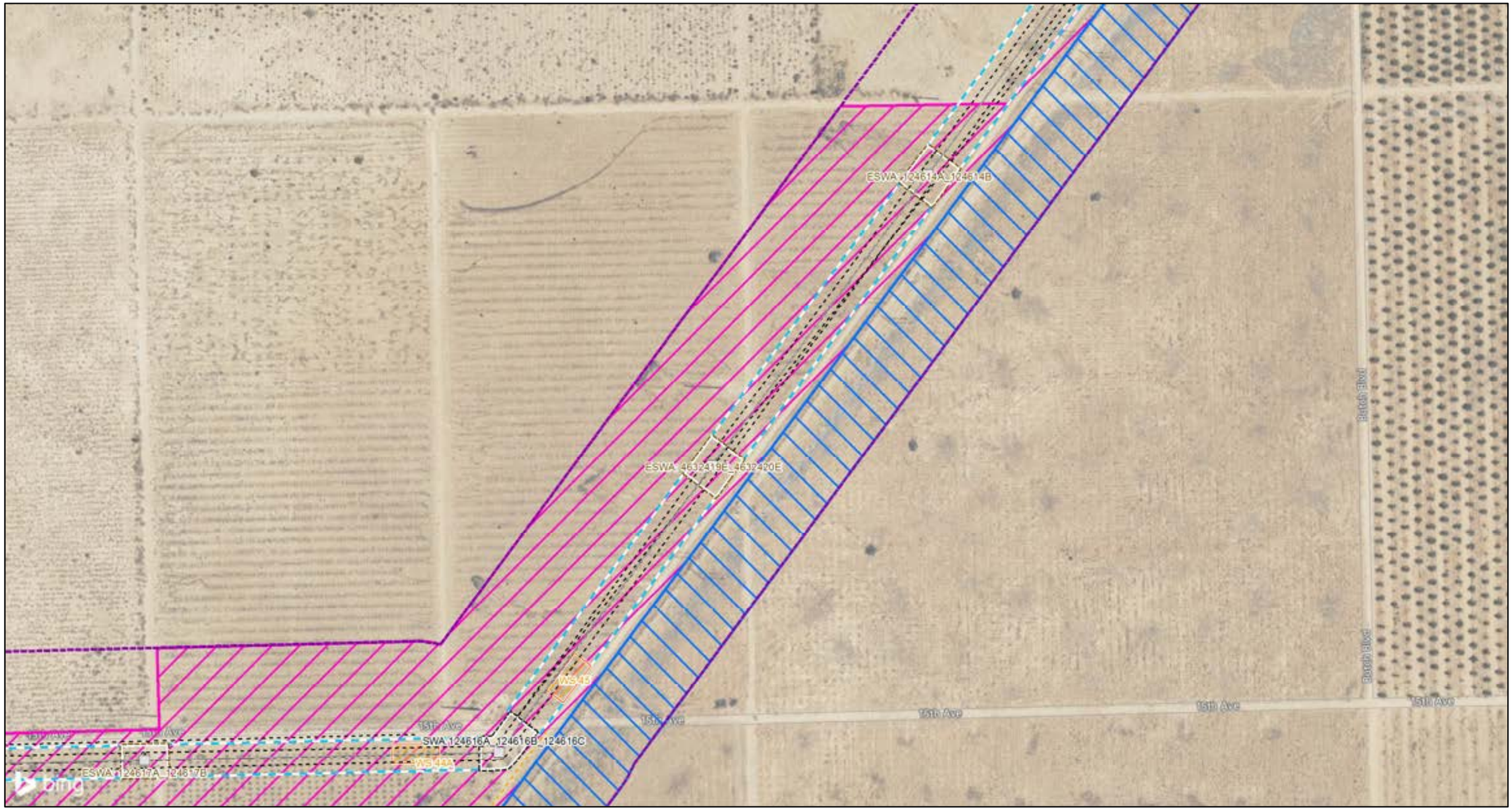
FIGURE 2-1
Page 140 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

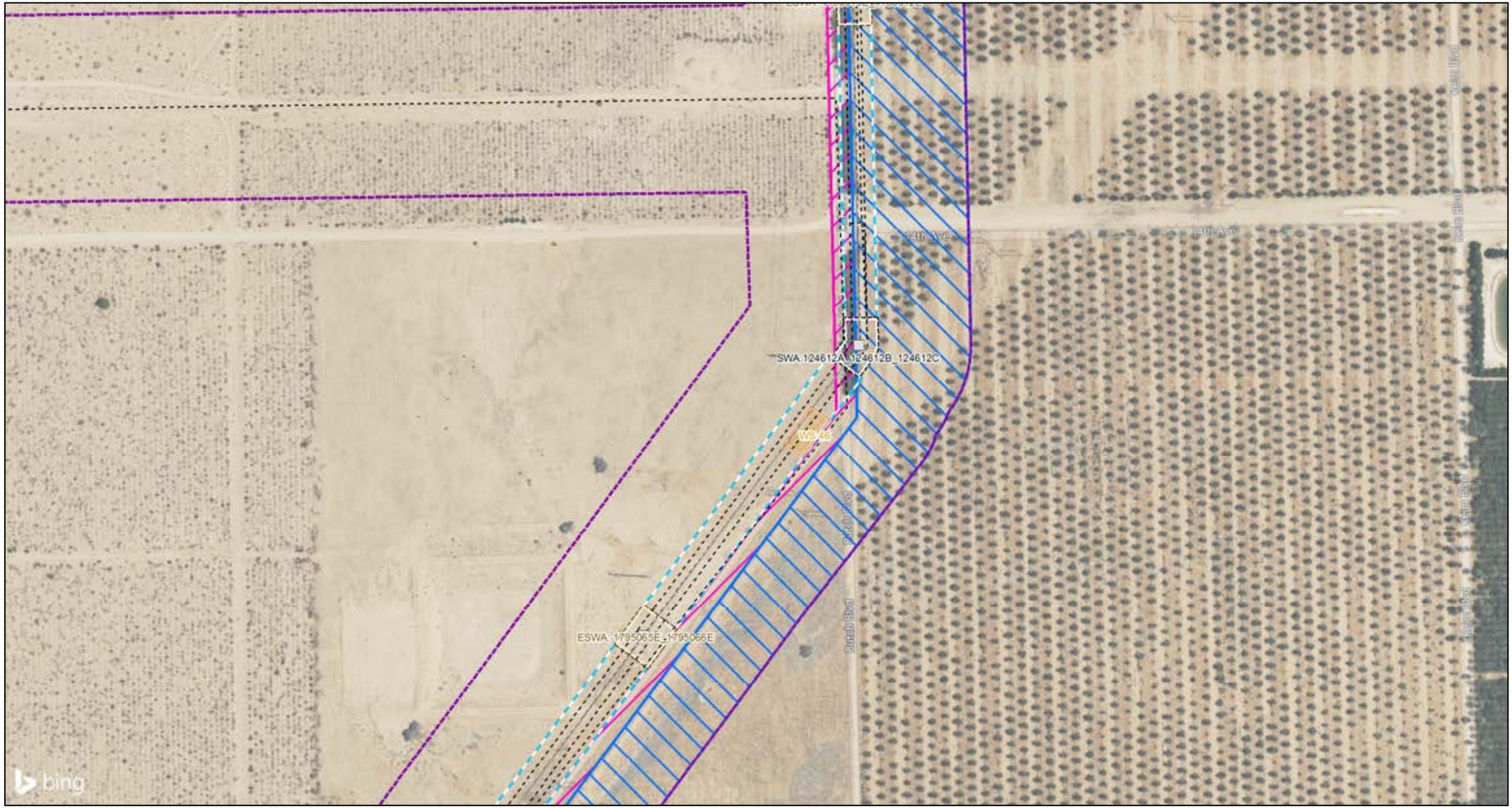
\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

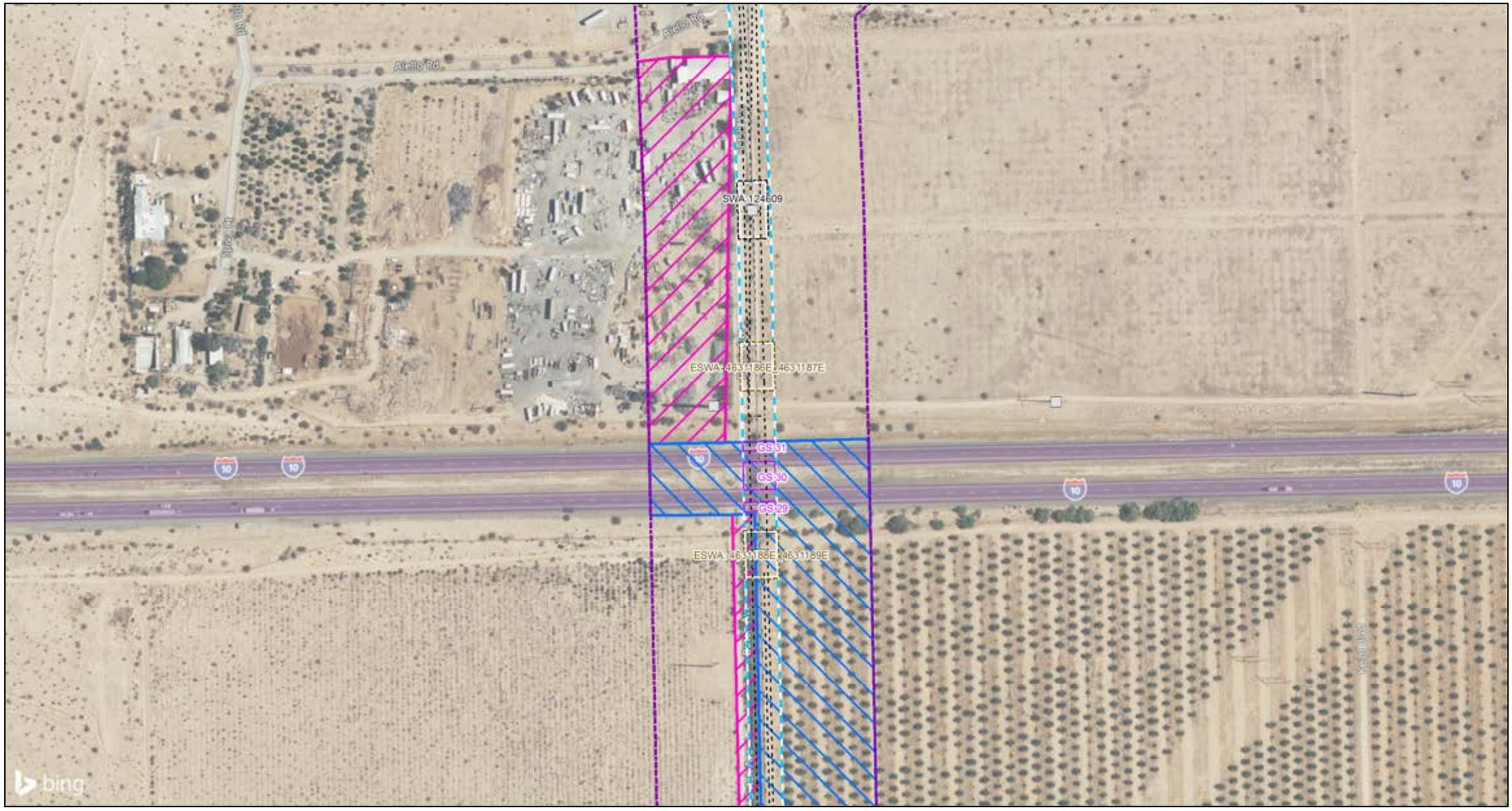
FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

Jacobs



LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

N

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

FIGURE 2-1
Page 143 of 148

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

Jacobs

LEGEND

- Proposed Laydown Yard
- Action Area
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project

Survey Results

Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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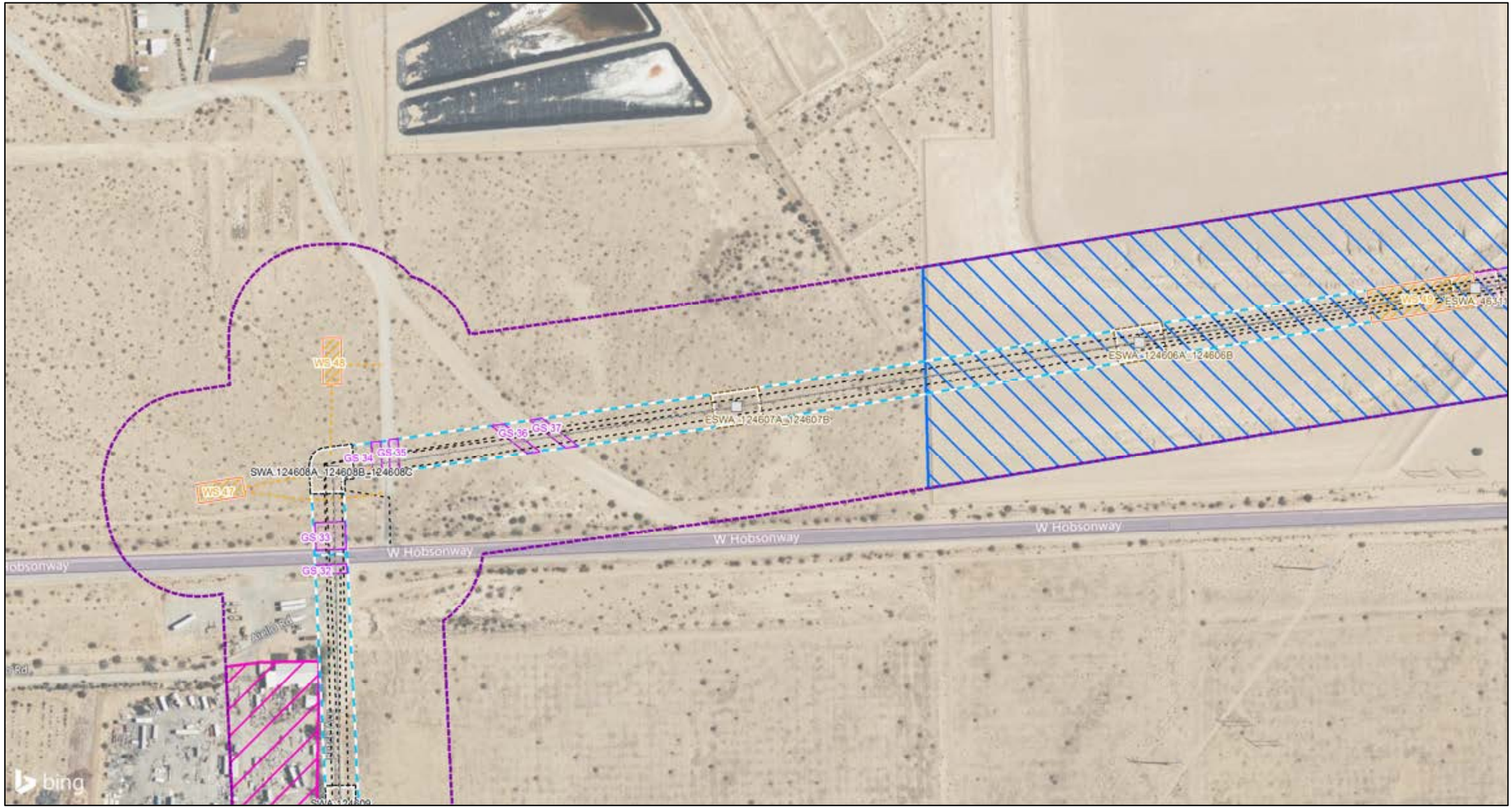

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Overland Travel
- Guard Pole
- Wire Setup
- Structure Work Area
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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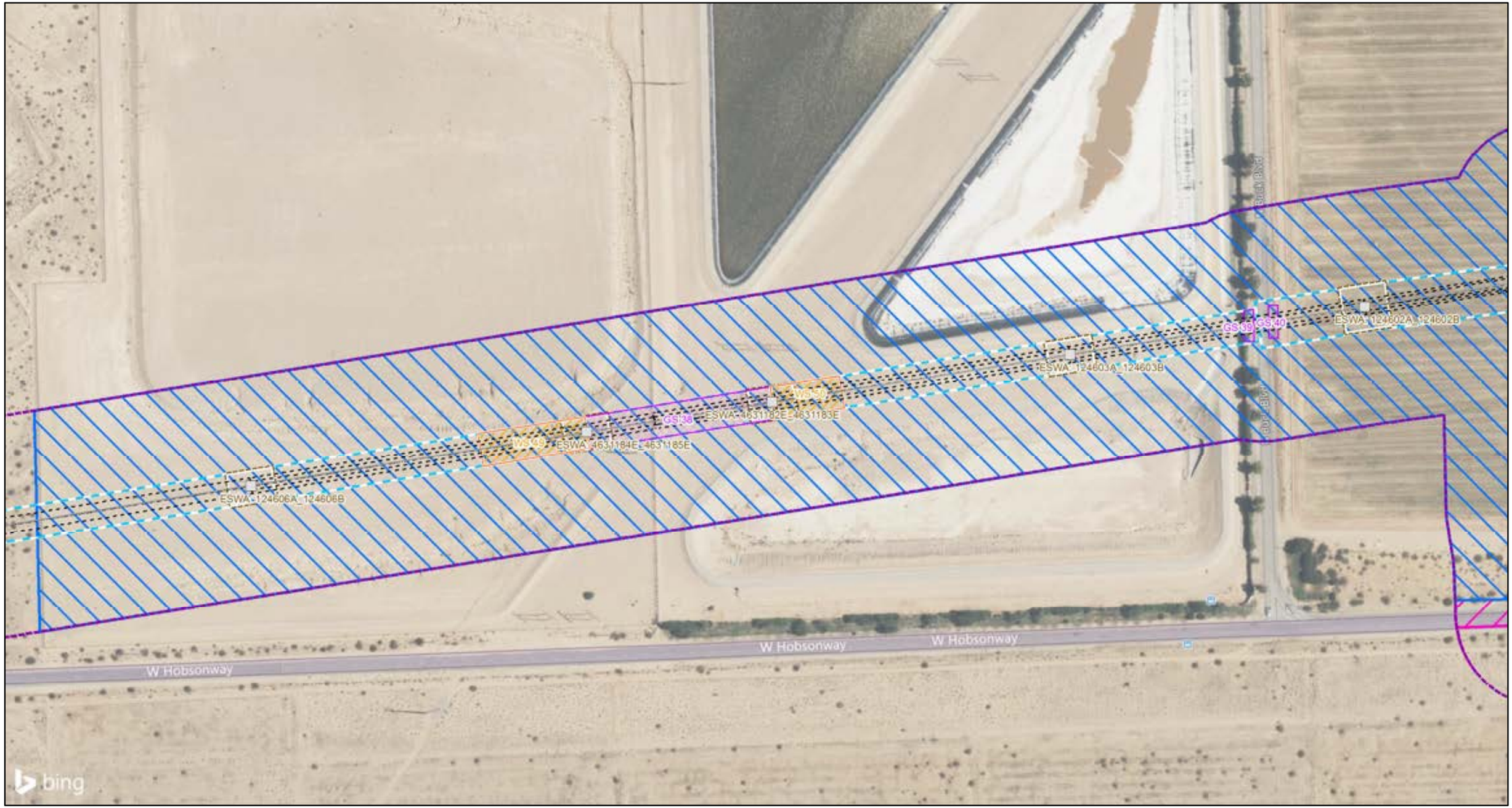

SOUTHERN CALIFORNIA EDISON

N

0 100 200
FEET

LEGEND

- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

Source: SCE, ESRI World Street Map, Bing Imagery

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FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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LEGEND

- Substation
- Existing Structure
- Existing Circuit
- Access Road
- Guard Pole
- Wire Setup
- Existing Structure Work Area
- Existing EM-B Right of Way
- Action Area
- Inaccessible Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

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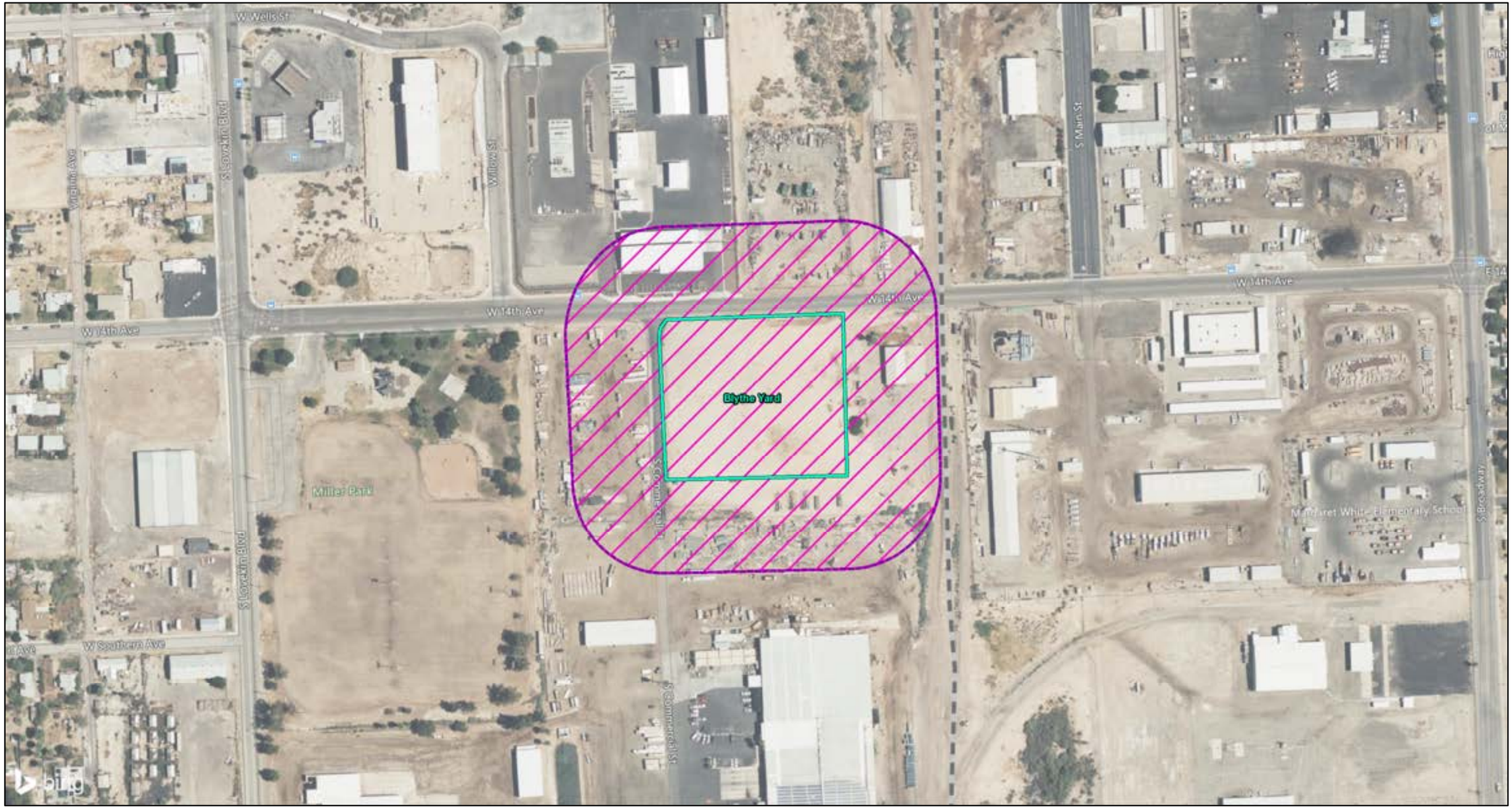

LEGEND

- Proposed Laydown Yard
- Action Area
- Unsuitable Habitat
- County Boundary

0 100 200
FEET

Source: SCE, ESRI World Street Map, Bing Imagery

FIGURE 2-1

Southern California Edison
Eagle Mountain-Blythe 161-kV Project
Survey Results
Desert Tortoise Survey

\\galt\proj\SoCalEDISON\693193\MapFiles\Plans\Desert_Tortoise_Survey\Fig2-1_EMB_SurveyResults_20210129.mxd (2/3/2021)

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Appendix A
Surveyor Names and Survey Dates

Appendix A. Surveyor Names and Survey Dates

The names and affiliations of the personnel who conducted the desert tortoise surveys in May 2017 are summarized in Table A-1.

Table A-1. May 2017 Desert Tortoise Surveys—Surveyor Names and Survey Dates

Name	Affiliation	5/1	5/2	5/3	5/4	5/5	5/6	5/8	5/9	5/10	5/11	5/12	5/13	5/15
Morgan King	Jacobs	X	X	X	X	X	X							
Chris Taylor	Jacobs	X	X	X	X	X	X	X	X	X	X	X	X	
Hannah Buckley	Jacobs	X	X	X	X	X	X	X	X	X	X	X		
Clare Kane	Jacobs	X	X	X	X	X	X							
Victoria Hilbert	Jacobs	X	X	X	X	X	X	X	X	X	X	X	X	X
Erin Whitfield	EnviroPlus Consulting, LLC (EPC)							X	X	X	X	X	X	X
Youssef Atallah	EPC							X	X	X	X	X	X	X
John Cordon	EPC							X	X	X	X	X	X	X
Crissy Slaughter	EPC							X	X	X	X	X	X	X
Mike Zerwekh	Garcia and Associates (GANDA)							X	X	X	X	X	X	
Randy Sisk	GANDA							X	X	X	X	X	X	X
Stephanie Hines	GANDA							X	X	X	X	X	X	

Appendix B
Desert Tortoise Survey Data Sheets

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: May 1 through May 15, 2017 Survey biologist(s): (Please see attached)

Site description: Eagle Mountain-Blythe 116kV alignment near Blythe, CA

County: Riverside Quad: Victory Pass, East of Victory Pass, Corn Spring, Sidewinder Well, Aztec Mines, East of Aztec Mines, Hopkins Well, Roosevelt Mine, Ripley Location: _____

Circle one: 100% coverage Area size to be surveyed: _____ Total Transect #: ____ Transect length: _____

GPS Start-point: _____ _____ Daily Start time: Approx. 0600 am
(easting, northing, elevation in meters)

GPS End-point: _____ Daily End time: Approx. 1500 pm
(easting, northing, elevation in meters)

Start Temp: (please see attached) End Temp: (please see attached)

Live Tortoises

Detection number	GPS location Easting	Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (*Yes, No or Unknown*)	Existing tag # and color, if present
1	None					
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	Please see attached			
2				
3				
4				
5				
6				
7				
8				

2010 Field Season

Transect number: N/A

Surveyors and Contact Information

Name	Email Address	Phone Number
Morgan King	morgan.king@ch2m.com	(916) 335-9141
Chris Taylor	chris.taylor@ch2m.com	(952) 607-7824
Hannah Buckley	hannah.buckley@ch2m.com	(774) 722-1240
John Cordon	john.cordon@ch2m.com	(702) 449-9164
Chrissy Slaughter	chrissy.slaughter@ch2m.com	(805) 452-2133
Erin Whitfield	erin.whitfield@ch2m.com	(661) 330-1066
Ryan Hilgris	ryan.hilgris@ch2m.com	(810) 275-5675
Mike Zerwekh	mike.zerwekh@ch2m.com	(785) 766-3173
Stephanie Hines	stephanie.hines@ch2m.com	(303) 945-9121
Victoria Kilbert	victoria.kilbert@ch2m.com	(724) 977-3628
Clare Kane	clare.kane@ch2m.com	(203) 915-1499
Randy Sisk	randy.sisk@ch2m.com	(559) 681-6810
Youssef Atallah	youssef.atallah@ch2m.com	(909) 379-4789

Daily Weather Conditions

Date	Time	Temp. (°F)	Ground Temp. (°C)	Precip.
5/1	0550	63	14.1	0
	1300	98	41.3	
5/2	0545	65	15.2	0
	1341	102	40.5	
5/3	0545	72	19.5	0
	1415	103	42.2	
5/4	0533	73	21.2	0
	1215	105	40.0	
5/5	0555	75	20.3	0
	1250	107	43.0	
5/6	0545	76	21.0	0
	1130	91	41.2	
5/8	0605	58	16.1	0
	1520	81	26.1	
5/9	0622	57	16.0	0.5
	1452	63	16.2	
5/10	0612	56	13.8	0
	1535	76	27.2	
5/11	0623	63	18.3	0
	1540	88	38.3	
5/12	0610	67	21.1	0
	1515	97	42.7	
5/13	0600	69	27.0	0
	1515	88	39.1	
5/15	0600	62	19.3	0
	1100	75	29.4	

Tortoise Sign

Detection Number	Occurrence Type	Class	Width	Height	Depth	Orientation	Date	UTM (mE)	UTM (mN)	Biologist Name
1	Burrow	Class 4	150	50	1	North	5/6/2017	705985.3739	3721238.772	Victoria Kilbert
2	Burrow	Class 4	120	88	1	South	5/6/2017	705889.2768	3721369.854	Clare Kane
3	Burrow	Class 3	150	100	0	South	5/6/2017	705057.5689	3721401.8	Hannah Buckley
4	Carcass	Class 5	n/a	n/a	1	n/a	5/6/2017	704929.1311	3721423.311	Chris Taylor
5	Burrow	Class 4	100	80	0	South	5/6/2017	703365.1087	3721419.863	Clare Kane
6	Burrow	Class 5	140	140	0	East	5/8/2017	702112.2928	3721365.369	Hannah Buckley
7	Burrow	Class 4	150	150	0	Southeast	5/8/2017	700212.5403	3721373.605	Hannah Buckley
8	Burrow	Class 5	160	80	0	South	5/9/2017	646097.9519	3742690.845	Stephanie Hines
9	Burrow	Class 5	160	50	1	East	5/9/2017	648087.9946	3740614.838	Victoria Kilbert
10	Burrow	Class 4	180	120	0	South	5/9/2017	648098.224	3740597.913	Ryan Hilgris
11	Burrow	Class 4	300	300	2	South	5/9/2017	648553.7714	3740057.959	Hannah Buckley
12	Burrow	Class 3	160	90	1	West	5/9/2017	645985.8788	3742772.348	Chris Taylor
13	Burrow	Class 4	154	88	1	West	5/9/2017	645674.6409	3742899.092	Ryan Hilgris
14	Burrow	Class 4	210	110	1	West	5/9/2017	646302.1515	3742382.219	Hannah Buckley
15	Burrow	Class 4	150	150	1	West	5/9/2017	646500.2305	3742129.076	Hannah Buckley
16	Burrow	Class 3	110	66	1	Northwest	5/9/2017	646603.481	3742033.414	Ryan Hilgris
17	Burrow	Class 4	200	110	1	Southeast	5/9/2017	647461.1016	3741125.104	Hannah Buckley
18	Burrow	Class 4	170	120	1	Northeast	5/9/2017	648274.9765	3740335.264	Hannah Buckley
19	Burrow	Class 5	225	120	1	Southeast	5/10/2017	662584.5225	3729946.694	Erin Whitfield
20	Burrow	Class 4	155	100	2	Northeast	5/10/2017	662126.5636	3730224.103	John Cordon
21	Burrow	Class 4	210	95	2	South	5/10/2017	661933.8369	3730299.348	Chris Taylor
22	Burrow	Class 5	333	150	1	Southwest	5/11/2017	665233.0896	3726946.55	Chrissy Slaughter
23	Burrow	Class 4	132	66	2	North	5/11/2017	684192.8333	3720378.816	Mike Zerwekh
24	Burrow	Class 4	132	88	2	Southwest	5/11/2017	683936.49	3720369.628	Mike Zerwekh
25	Burrow	Class 4	154	77	2	East	5/11/2017	683260.8494	3720345.828	Mike Zerwekh
26	Burrow	Class 3	154	110	2	North	5/11/2017	682408.6819	3720354.881	Chris Taylor
27	Burrow	Class 4	110	66	2	Northeast	5/11/2017	682936.9758	3720262.886	Mike Zerwekh
28	Burrow	Class 5	180	100	1	West	5/11/2017	683202.3149	3720248.433	Chris Taylor
29	Burrow	Class 4	180	90	2	East	5/12/2017	679105.9049	3720296.652	Chris Taylor
30	Burrow	Class 4	200	90	2	Northwest	5/12/2017	677687.921	3720163.692	John Cordon

Appendix C
Photograph Compendium

Appendix C. Photograph Compendium

All photographs were taken during the Eagle Mountain-Blythe 161-kV Transmission Line Rating Remediation Project desert tortoise surveys during May 1-15, 2017.

Photo 1. Mix of creosote bushes (*Larrea tridentata)* and desert pavement.

Photo 2. Artificial channel.

Photo 3. Sparse creosote bush in desert pavement.

Photo 4. Annual ragweed (*Ambrosia* sp.) and creosote bush in wash.

Photo 5. Artificial channel.

Photo 6. Major wash.

Photo 7. Creosote bush – white bursage (*ambrosia dumosa*) scrub.

Photo 8. Major wash.

Photo 9. Ruderal wetland.

Photo 10. Ruderal wetland.

Photo 11. Active agricultural lands (date orchard); not surveyed.

Photo 12. Creosote bush scrub.

Photo 13. Fallow agricultural lands (jojoba fields).

Photo 14. Cheesebush (*Ambrosia salsola*) scrub.

Photo 15. Creosote bush scrub.

Photo 16. Creosote bush – white bursage scrub.

Photo 17. Class 4 desert tortoise (*Gopherus agassizii*) burrow, aspect south.

Photo 18. Class 4 desert tortoise burrow, aspect south.

Photo 19. Class 4 desert tortoise burrow, aspect north.

Photo 20. Class 4 desert tortoise burrow, aspect north.

Photo 21. Class 4 desert tortoise burrow, aspect north.

Photo 22. Class 3 desert tortoise burrow, aspect north.

Photo 23. Class 3 desert tortoise burrow, aspect north.

Photo 24. Class 4 desert tortoise burrow, aspect north.

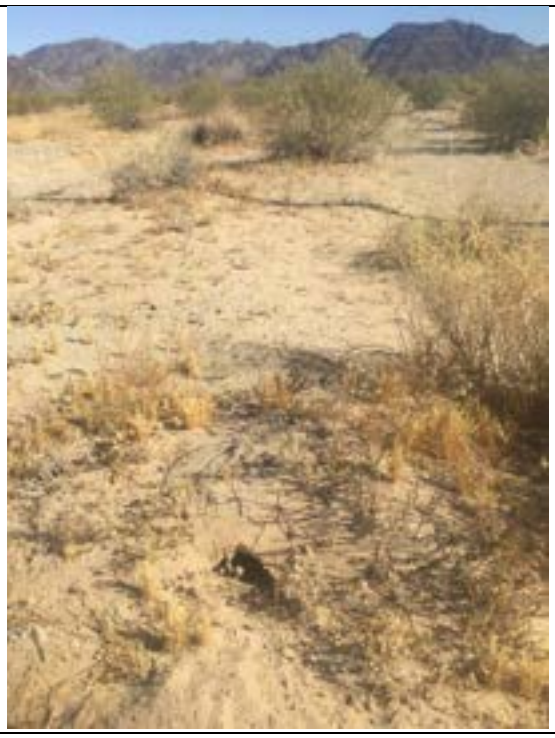

Photo 25. Class 4 desert tortoise burrow, aspect north.

Photo 26. Class 5 desert tortoise burrow, aspect west.

Photo 27. Class 5 desert tortoise burrow, aspect west.

Photo 28. Class 4 desert tortoise burrow, aspect northwest.

Photo 29. Class 4 desert tortoise burrow, aspect northwest.

Photo 30. Class 5 desert tortoise burrow, aspect north.

Photo 31. Class 5 desert tortoise burrow, aspect east.

Photo 32. Class 4 desert tortoise burrow, aspect north.

Photo 33. Class 4 desert tortoise burrow, aspect north.

Photo 34. Class 3 desert tortoise burrow, aspect east.

Photo 35. Class 3 desert tortoise burrow, aspect east.

Photo 36. Class 3 desert tortoise burrow, aspect east.

Photo 37. Class 4 desert tortoise burrow, aspect east.

Photo 38. Class 4 desert tortoise burrow, aspect east.

Photo 39. Class 4 desert tortoise burrow, aspect east.

Photo 40. Class 4 desert tortoise burrow, aspect east.

Photo 41. Class 4 desert tortoise burrow, aspect east.

Photo 42. Class 4 desert tortoise burrow, aspect east.

Photo 43. Class 3 desert tortoise burrow, aspect southeast.

Photo 44. Class 3 desert tortoise burrow, aspect southeast.

Photo 45. Class 4 desert tortoise burrow, aspect northwest.

Photo 46. Class 4 desert tortoise burrow, aspect northwest.

Photo 47. Class 4 desert tortoise burrow, aspect southwest.

Photo 48. Class 4 desert tortoise burrow, aspect southwest.

Photo 49. Class 5 desert tortoise burrow, aspect northwest.

Photo 50. Class 5 desert tortoise burrow, aspect northwest.

Photo 51. Class 4 desert tortoise burrow, aspect southwest.

Photo 52. Class 4 desert tortoise burrow, aspect southwest.

Photo 53. Class 5 desert tortoise burrow, aspect northeast.

Photo 54. Class 4 desert tortoise burrow, aspect north.

Photo 55. Class 4 desert tortoise burrow, aspect east.

Photo 56. Class 4 desert tortoise burrow, aspect south.

Photo 57. Class 4 desert tortoise burrow, aspect south.

Photo 58. Class 4 desert tortoise burrow, aspect southwest.

Photo 59. Class 4 desert tortoise burrow, aspect southwest.

Photo 60. Class 4 desert tortoise burrow, aspect southwest.

Photo 61. Class 4 desert tortoise burrow, aspect west.

Photo 62. Class 4 desert tortoise burrow, aspect west.

Photo 63. Class 3 desert tortoise burrow, aspect south.

Photo 64. Class 3 desert tortoise burrow, aspect south.

Photo 65. Class 3 desert tortoise burrow, aspect south.

Photo 66. Class 3 desert tortoise burrow, aspect south.

Photo 67. Class 4 desert tortoise burrow, aspect northwest.

Photo 68. Class 4 desert tortoise burrow, aspect northwest.

Photo 69. Class 4 desert tortoise burrow, aspect northwest.

Photo 70. Class 5 desert tortoise burrow, aspect east.

Photo 71. Class 5 desert tortoise burrow, aspect east.

Photo 72. Class 4 desert tortoise burrow, aspect west.

Photo 73. Class 4 desert tortoise burrow, aspect west.

Photo 74. Class 4 desert tortoise burrow, aspect southeast.

Photo 75. Class 4 desert tortoise burrow, aspect southeast.

Photo 76. Class 5 desert tortoise remains.

Photo 77. Active desert kit fox (*Vulpes macrotis*) complex with scat and tracks present, aspect south.

Photo 78. Desert kit fox scat, aspect south.

Photo 79. Active desert kit fox complex with scat and tracks present, aspect west.

Photo 80. Active burrowing owl (*Athene cunicularia*) burrow, aspect west.

Photo 81. Burrowing owl white wash, aspect west.

Photo 82. Active burrowing owl burrow with white wash and pellets present, aspect west.

Photo 83. Active desert kit fox complex with scat and tracks present, aspect south.

Photo 84. Desert kit fox scat, aspect west.

Photo 85. Active desert kit fox complex with scat and tracks present, aspect southeast.

Photo 86. Active desert kit fox complex with scat and tracks present, aspect southwest.

Appendix D
Incidental Survey Data

Appendix D. Incidental Survey Data

Table D-1 summarizes the incidental observations the surveyors made during the May 2017 desert tortoise surveys that pertain to species other than desert tortoise.

Table D-1. 2017 Incidental Survey Data

Common Name	Scientific Name	Easting[a]	Northing[a]	Observation Type	Observation Date	Photo Number(s)[b]	Data Point ID[c]
Points							
Desert kit fox	*Vulpes macrotis*	652237.0469	3736148.315	Active complex with scat and tracks present.	5/08/2017	77, 78, 79	KFB001
Burrowing owl	*Athene cunicularia*	687643.0621	3720760.681	Active burrow with white wash and pellets present.	5/13/2017	80, 81, 82	BUO001
Polygons							
Desert kit fox	*Vulpes macrotis*	657501.0647	3732573.317	Active complex with scat and tracks present.	5/10/2017	83, 84	HP001
Desert kit fox	*Vulpes macrotis*	679820.9116	3720270.437	Active complex with scat and tracks present.	5/12/2017	85, 86	KF02

[a] Coordinate system: North American Datum of 1983 Universal Transverse Mercator Zone 110.

[b] See Appendix C for the indicated photographs.

[c] See Figure 2-1 for locations of incidental observations as identified by the data ID

Appendix E
Wildlife Compendium

Appendix E. Wildlife Compendium

Table E-1 summarizes all wildlife species that were observed during the May 2017 surveys.

Table E-1. Wildlife Compendium

Common Name	Scientific Name	Family
Reptiles		
Western banded gecko	*Coleonyx variegatus*	Eublepharidae (geckos)
Desert iguana	*Dipsosaurus dorsalis*	Iguanidae (iguanas)
Zebra-tailed lizard	*Callisaurus draconoides*	Phrynosomatidae (Phrynosomatids)
Common side-blotch lizard	*Uta stansburiana*	Phrynosomatidae (Phrynosomatids)
Great Basin whiptail	*Aspidoscelis tigris*	Teiidae (whiptails and tegus)
Western diamondback	*Crotalus atrox*	Viperidae (vipers)
Sidewinder rattlesnake	*Crotalus cerastes*	Viperidae (vipers)
Birds		
Red-tailed hawk	*Buteo jamaicensis*	Accipitridae (hawks, kites, eagles and allies)
Lesser nighthawk	*Chordeiles acutipennis*	Caprimulgidae (nightjars)
Turkey vulture	*Cathartes aura*	Cathartidae (vultures and condors)
Eurasian collared dove	*Streptopelia decaocto*	Columbidae (pigeons and doves)
Mourning dove	*Zenaida macroura*	Columbidae (pigeons and doves)
Common raven	*Corvus corax*	Corvidae (ravens, crows, jays and allies)
White-crowned sparrow	*Zonotrichia leucophrys*	Emberizidae (American sparrows)
Black-throated sparrow	*Amphispiza bilineata*	Emberizidae (American sparrows)
American kestrel	*Falco sparverius*	Falconidae (caracaras and falcons)
American cliff swallow	*Petrochelidon pyrrhonota*	Hirundinidae (swallows and martins)
Great-tailed grackle	*Quiscalus mexicanus*	Icteridae (icterids)
Brewer’s blackbird	*Euphagus cyanocephalus*	Icteridae (icterids)
Loggerhead shrike	*Lanius ludovicianus*	Laniidae (shrikes)
Northern mockingbird	*Mimus polyglottos*	Mimidae (mimids)
Yellow-rumped warbler	*Setophaga coronata*	Parulidae (New World warblers)
Black-and-white warbler	*Mniotilta varia*	Parulidae (wood-warblers)
Wilson's warbler	*Cardellina pusilla*	Parulidae (wood-warblers)
Verdin	*Auriparus flaviceps*	Passeriformes (passerines)
Black-tailed gnatcatcher	*Polioptila melanura*	Polioptilidae (gnatcatchers)
Northern phainopepla	*Phainopepla nitens*	Ptiliogonatidae (silky-flycatchers)
European starling	*Sturnus vulgaris*	Sturnidae (starlings)
Cactus wren	*Campylorhynchus brunneicapillus*	Troglodytidae (wrens)
Say's phoebe	*Sayornis saya*	Tyrannidae (tyrant flycatchers)

Table E-1. Wildlife Compendium

Common Name	Scientific Name	Family
Western kingbird	*Tyrannus verticalis*	Tyrannidae (tyrant flycatchers)
Ash-throated flycatcher	*Myiarchus cinerascens*	Tyrannidae (tyrant flycatchers)
Warbling vireo	*Vireo gilvus*	Vireonidae (vireos)
Mammals		
Desert kit fox	*Vulpes macrotis arsipus*	Canidae (wolves and foxes)
Domestic cat	*Felis catus*	Felidae (cats)
Merriam's kangaroo rat	*Dipodomys merriami*	Heteromyidae (rats and mice)
Desert cottontail	*Sylvilagus audubonii*	Leporidae (rabbits and hares)
Black-tailed jackrabbit	*Lepus californicus*	Leporidae (rabbits and hares)
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*	Sciuridae (squirrels and chipmunks)

Appendix J

Preliminary IPaC report

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Riverside County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250

2177 Salk Avenue Suite 250
Carlsbad, CA 92008-7385

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

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Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Yuma Ridgway's Rail Rallus obsoletus yumanensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3505	Endangered

Reptiles

NAME	STATUS
Desert Tortoise Gopherus agassizii There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/4481	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Desert Tortoise Gopherus agassizii https://ecos.fws.gov/ecp/species/4481#crithab	Final

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Bald and Golden Eagle information is not available at this time

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

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What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

NOT FOR CONSULTATION

Migratory bird information is not available at this time

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

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Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA

Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

CBRA information is not available at this time

This can happen when the CBRS map service is unavailable, or for very large projects that intersect many coastal areas. Try again, or visit the CBRS map to view coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

NOT FOR CONSULTATION

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and

nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Appendix K

Special-Status Species Evaluation Tables

Special-Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status	Flowering Period	Growth Form and Habitat Requirements	Potential to Occur[1]
Amaranthus watsonii Watson's amaranth	4.3	Apr–Sep	Annual herb that occurs in Mojavean and Sonoran desert scrub. Elevations between 60 and 5,600 feet.	**Occurs:** A large number of Watson's amaranth were observed in the eastern portion of the plant survey area in 2021.
Astragalus insularis var. *harwoodii* Harwood's milk-vetch	2B.2	Jan–May	Annual herb found on sandy or gravelly soils in desert dunes and Mojavean desert scrub. Elevations between sea level and 2,330 feet.	**Occurs:** One population of this species, consisting of two plants, was observed in the plant survey area in 2017.
Astragalus nutans Providence Mountains milk-vetch	4.3	Mar–Jun (Oct)	Annual herb found on sandy or gravelly soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland, and Sonoran desert scrub. Elevations between 1,475 and 6,400 feet.	**Does not occur:** Although the species has been recorded in a quad that overlaps the project (CNPS 2022) and suitable habitat is present, no occurrences of the species are documented within 5 miles.
Astragalus sabulonum gravel milk-vetch	2B.2	Feb–Jun	Annual or perennial herb found on flats, washes, and roadsides in desert dunes, Mojavean desert scrub, Sonoran desert scrub on usually sandy and sometimes gravelly soils. Elevations between 195 and 3,050 feet.	**Does not occur:** Historical records of the species are located within two miles of the project (CDFW 2022) and suitable habitat is present. However, the records are greater than 75 years old.
Astragalus tricarinatus triple ribbed milk vetch	1B.2	Feb–May	Perennial herb found in Joshua tree woodland and Sonoran desert scrub on gravelly or sandy soils. Elevations between 1,475 and 3,900 feet.	**Does not occur:** Although the species was recorded within 2 miles of the project in 2016, the Study Area is outside its elevational range.
Calliandra eriophylla pink fairy duster	2B.3	Jan–Mar	Perennial deciduous shrub found on sandy or rocky soils in Sonoran desert scrub. Elevations between 395 and 4,920 feet.	**Unlikely:** A historical record of the species is located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the record is greater than 25 years old.
Castela emoryi Emory's crucifixion thorn	2B.2	Jun–Jul	Perennial deciduous shrub found on gravelly soils in Mojavean desert scrub, Sonoran desert scrub, and playas. Elevations between 295 and 2,380 feet.	**Occurs:** The species was observed in the plant survey area in 2021 and at several locations in the larger Study Area in 2016.
Chaenactis carphoclinia var. *peirsonii* Peirson's pincushion	1B.3	Mar–Apr	Annual herb found on sandy soils in Sonoran desert scrub. Elevations between 10 and 1,640 feet.	**Unlikely:** A historical record of the species is located within 2 miles of the project (CCH 2022) and suitable habitat is present. However, the record is greater than 25 years old.

Scientific Name Common Name	Status	Flowering Period	Growth Form and Habitat Requirements	Potential to Occur[1]
Colubrina californica Las Animas colubrina	2B.3	Apr–Jun	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. Elevations between 35 and 3,280 feet.	**Unlikely:** Historical records of the species are located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the records are greater than 25 years old.
Coryphantha alversonii foxtail cactus	4.3	Apr–Jun	Perennial stem-succulent found on sandy or rocky, usually granitic, soils in Mojavean desert scrub and Sonoran desert scrub. Elevations between 245 and 5,005 feet.	**Occurs**: The species was observed at several locations in the project plant survey area in 2017 and 2021.
Cryptantha costata ribbed cryptantha	4.3	Feb–May	Annual herb found in desert dunes and sandy soils in Mojavean desert scrub and Sonoran desert scrub. Elevations between 195 and 1,640 feet.	**Occurs:** Ten populations were observed in the plant survey area in 2017, some of which contained up to 1,000 individuals.
Cryptantha holoptera winged cryptantha	4.3	Mar–Apr	Annual herb found in Mojavean desert scrub and Sonoran desert scrub. Elevations between 330 and 5,545 feet.	**Does not occur:** Although the species has been recorded in a quad that overlaps the project (CNPS 2022) and suitable habitat is present, no mapped locations of the species are located within 5 miles of the project.
Ditaxis claryana glandular ditaxis	2B.2	Oct–Mar	Perennial herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. Elevations between sea level and 1,525 feet.	**Unlikely:** A historical record of the species is located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the record is greater than 25 years old.
Ditaxis serrata var. *californica* California ditaxis	3.2	Mar–Dec	Perennial herb found in Sonoran desert scrub. Elevations between 100 and 3,280 feet.	**Occurs:** One individual was observed in the plant survey area in 2017 and 30 individuals were observed in the plant survey area in 2021.
Eriastrum harwoodii Harwood's eriastrum	1B.2 S	Mar–Jun	Annual herb found in desert dunes. Elevations between 410 and 3,000 feet.	**Absent:** This species was not observed within the Study Area during the 2021 and 2023 surveys after reference populations were checked and showed the species was blooming.

Scientific Name Common Name	Status	Flowering Period	Growth Form and Habitat Requirements	Potential to Occur[1]
Eschscholzia androuxii Joshua Tree poppy	4.3	Feb–May (Jun)	Annual herb found on sandy, gravelly, and/or rocky soils in desert washes, flats, and slopes in Joshua tree woodland and Mojavean desert scrub. Elevations between 1,920 and 5,530 feet.	**Does Not Occur:** There are no historical records of this species within 5 miles of the project. The project is outside of this species' typical elevation range.
Euphorbia abramsiana Abram's spurge	2B.2	Sep–Nov	Annual herb found on sandy soils in Mojavean desert scrub and Sonoran desert scrub. Elevations between 15 and 4,300 feet.	**Occurs:** Numerous individuals of Abram's spurge were observed in and adjacent to the plant survey area in 2021.
Funastrum utahense Utah vine milkweed	4.2	Apr–Jun	Perennial herb found on sandy or gravelly soils in Mojavean desert scrub and Sonoran desert scrub. Elevations between 330 and 4,710 feet.	**Unlikely:** Although there are records of the species within 5 miles of the project (CCH 2022) and suitable habitat is present, the species has not been documented within 2miles of the project.
Hymenoxys odorata bitter hymenoxys	2B.1	Feb–Nov	Annual herb found in sandy areas in riparian scrub and Sonoran desert scrub. Elevations between 150 and 490 feet.	**Unlikely:** A historical record of the species is located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the record is greater than 25 years old.
Imperata brevifolia California satintail	2B.1	Sep–May	Perennial rhizomatous herb found in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and mesic riparian scrub. Elevations between sea level and 3,985 feet.	**Does not occur:** The species has been recorded in quads within 5 miles of the project (CNPS 2022) and suitable habitat is present. However, no mapped locations of the species are within 5 miles of the project.
Jaffueliobryum wrightii Wright's jaffueliobryum moss	2B.3	–	Moss found in dry openings and rock crevices on carbonate substrates in alpine dwarf scrub, Mojavean desert scrub, and pinyon and juniper woodland. Elevations between 525 and 8,200 feet.	**Does not occur:** The species has been recorded in a quad within 5 miles of the project (CNPS 2022) and suitable habitat is present. However, no mapped locations of the species are within 5 miles of the project.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	2B.2	May–Jul	Perennial deciduous shrub found in riparian woodland and Sonoran desert scrub. Elevations between 490 and 1,675 feet.	**Absent:** This species was not observed within the Study Area during 2023 surveys after reference populations were checked and showed the species was blooming.

Scientific Name Common Name	Status	Flowering Period	Growth Form and Habitat Requirements	Potential to Occur[1]
Lycium torreyi Torrey's box thorn	4.2	(Jan-Feb), Mar–Jun, (Sep-Nov)	Perennial shrub found on sandy or rocky soils in washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub. Elevations between 165 and 4,005 feet.	**Does not occur:** Historical records of the species are located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the records are greater than 75 years old.
Panicum hirticaule ssp. *hirticaule* roughstalk witch grass	2B.1	Aug–Dec	Annual herb found in sandy or silty depressions in desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub. Elevations between 150 and 4,315 feet.	**Occurs:** Numerous individuals of the species were observed in and adjacent to the plant survey area in 2021.
Penstemon pseudospectabilis ssp. *pseudospectabilis* desert beardtongue	2B.2	Jan–May	Perennial herb found most often in sandy washes, and sometimes in rocky washes in Mojavean desert scrub and Sonoran desert scrub. Elevations between 260 and 6,350 feet.	**Unlikely:** Historical records of the species are located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the records are greater than 25 years old.
Proboscidea althaeifolia desert unicorn plant	4.3	May–Sep	Perennial herb found on gently sloping sandy flats and washes and sometimes roadsides in Sonoran desert scrub. 280–3,280 feet.	**Occurs:** Numerous individuals of the species were observed in and adjacent to the plant survey area in 2017.
Tetracoccus hallii Hall's tetracoccus	4.3	Jan–May	Perennial deciduous shrub found in Mojavean desert scrub and Sonoran desert scrub. Elevations between 100 and 3,935 feet.	**Unlikely:** Although there are records of the species within 5 miles of the project (CCH 2022) and suitable habitat is present, the species has not been documented within 2 miles of the project.
Teucrium cubense ssp. *depressum* dwarf germander	2B.2	Mar–May	Annual herb found on desert dunes and playa margins in Sonoran desert scrub. Elevations between 150 and 1,310 feet.	**Unlikely:** Historical records of the species are located within 2 miles of the project (CDFW 2022) and suitable habitat is present. However, the records are greater than 25 years old.
Wislizenia refracta ssp. *palmeri* Palmer's jackass clover	2B.2	Jan–Dec	Perennial deciduous shrub found in chenopod scrub, desert dunes, Sonoran desert scrub, and Sonoran thorn woodland. Elevations between sea level and 985 feet.	**Unlikely:** Although there are records of the species within 5 miles of the project (CCH 2022) and suitable habitat is present, the species has not been documented within 2 miles of the project.

Scientific Name Common Name	Status	Flowering Period	Growth Form and Habitat Requirements	Potential to Occur[1]
Yucca brevifolia western Joshua tree	Candidate Threatened	Apr–May	Joshua tree woodland, montane chaparral, pinyon and juniper woodland, Sonoran and Mojavean desert scrub. Elevations between 2,560 and 7,218 feet.	**Does Not Occur:** There are no historical records of this species within 5 miles of the project. The project is outside of this species' typical elevation range.

CRPR (CNPS California Rare Plant Rank)

1B = Rare, threatened, or endangered in California and elsewhere

2B = Rare, threatened, or endangered in California, but more common elsewhere

3 = Need more information (Review List)

4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/ high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% of occurrences threatened/ moderate degree and immediacy of threat)

.3 = Not very endangered in California (<20% of occurrences threatened/ low degree and immediacy of threat)

Status (Federal)

S = BLM Sensitive Species

[1] **Definitions Regarding Potential for Occurrence**

Occurs	The species and/or positive sign was observed on-site during site visit or field survey.
Absent	The species and/or positive sign were not observed during focused survey(s) and it is reasonable to assume it would have been observed if present. Surveys were conducted during the appropriate blooming/activity period (and, for plants, the species was observed at a reference population).
Likely	All site features indicate this species is very likely present and should be expected. Criteria include: ▪ Project site within geographic range; ▪ Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and ▪ Distance to historical record(s) less than 25 years old is less than 1 mile for fish, 2 miles for plants, and 5 miles for mammals, birds, and herptiles.
Unlikely	Species could occur given the presence of habitat, but local records of the species are not known or are greater than 25 years old.
Does Not Occur	The species would not occur because the project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absence based on historical records.

Special-Status Animal Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential to Occur[1]
Fish			
Xyrauchen texanus razorback sucker	FE SE FP	Found in the Colorado River bordering California. Adapted for swimming in swift currents but also need quiet waters. Spawns in areas of sand/gravel/rocks in shallow water.	**Does Not Occur:** No aquatic habitat is present in the Study Area. There are historical records of the species in the Colorado River (CDFW 2022), but it has not been observed within five miles of the project or in the past 25 years.
Amphibians			
Scaphiopus couchii Couch's spadefoot	SSC S	Found in temporary desert rainpools that last at least seven days, with water temperatures greater than 15 °C (59 °F) and with close subterranean refuge sites. Requires loose, sandy well-drained soils within grassland/prairies, creosote and mesquite shrublands, and desert washes. An insect food base, especially termites, must be available.	**Likely:** The species has been documented within five miles of the project in the past 25 years. Suitable habitat is present. The species was not observed during project surveys and no suitable habitat occurs in the work areas.
Reptiles			
Gopherus agassizii desert tortoise	FT ST	Widely distributed in the Mojave, Sonoran, and Colorado Deserts from below sea level to 2,200 m (7,220 ft). Most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat except those on the most precipitous slopes.	**Occurs:** Habitat is present and the species was observed in the project Study Area. One Class 5 carcass, four Class 3 burrows, 19 Class 4 burrows, and six Class 5 burrows were observed in the Study Area during protocol desert tortoise surveys in 2017.
Uma scoparia Mojave fringe-toed lizard	SSC S	Fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub, and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet.	**Occurs:** Habitat is present and the species was observed in the project Study Area in 2010 and 2011 (CDFW 2022).
Birds			
Athene cunicularia burrowing owl	SSC S	A yearlong resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Formerly common in appropriate habitats throughout the state, excluding the humid northwest coastal forests and high mountains.	**Occurs**: One active burrowing owl burrow was observed in the project Study Area during protocol desert tortoise surveys in 2017. Nesting, migration, and wintering habitat is present.
Buteo swainsoni Swainson's hawk	ST S	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Does Not Occur:** No historical records of the species are located within five miles of the project (CDFW 2022). Migration habitat is present, but the project is outside of the species' typical nesting range. The species was not observed during project surveys.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential to Occur[1]
Charadrius montanus mountain plover	SSC S	Winter resident from September through March. Southern California range includes Imperial Valley, plowed fields of Los Angeles and western San Bernardino counties, and along the central Colorado River valley. Uses open grasslands, plowed fields with little vegetation, and open sagebrush areas.	**Unlikely:** There is a historical record of the species within five miles of the project, but the record is more than 25 years old (CDFW 2022). Migration and wintering habitat is present, but the project is outside of the species' typical nesting range. The species was not observed during project surveys.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT SE S	An uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Densely foliaged, deciduous trees and shrubs, especially willows, required for roosting and nesting sites.	**Does Not Occur:** There are historical records of the species along the Colorado River but none within five miles of the project (CDFW 2022). No riparian habitat is present in the Study Area. The species was not observed during project surveys.
Empidonax traillii extimus southwestern willow flycatcher	FE SE	Breeding range in southwestern United States. Nests in relatively dense riparian vegetation where surface water is present or soil moisture is high enough to maintain the appropriate vegetation characteristics.	**Does Not Occur:** There are historical records of the species along the Colorado River but none within five miles of the project (CDFW 2022). No riparian habitat is present in the Study Area. The species was not observed during project surveys.
Falco mexicanus prairie falcon	WL	Uncommon permanent resident that ranges from southeastern deserts, northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada. Distributed from annual grasslands to alpine meadows, but associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. Usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area.	**Likely:** Numerous observations of the species have been reported in the past 25 years within five miles of the project (eBird 2022). Nesting habitat is not present within 500 feet of the Study Areas, but is present within one mile. The species was not observed during project surveys.
Icteria virens yellow-breasted chat	SSC	An uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada. Found up to about 1,450 m (4,800 ft) in valley foothill riparian, and up to 2,050 m (6,500 ft) east of the Sierra Nevada in desert riparian habitats. Requires riparian thickets of willow and other brushy tangles near watercourses for nest cover.	**Does Not Occur:** There are historical records of the species along the Colorado River but none within five miles of the project (CDFW 2022). Potentially suitable migration habitat is present in the Study Area but nesting habitat is not present. The species was not observed during project surveys.
Lanius ludovicianus loggerhead shrike (nesting)	SSC	A common resident and winter visitor in lowlands and foothills throughout California. Nests in densely-foliaged shrubs or trees.	**Occurs**: One individual was observed during the 2016 wildlife surveys. Nesting habitat is present.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential to Occur[1]
Melanerpes uropygialis Gila woodpecker	SE S	In California, inhabits cottonwoods and other desert riparian trees, shade trees, and date palms. Cavity nester in riparian trees or saguaro cactus.	**Does Not Occur:** Historical records of the species are located within five miles of the project (CDFW 2022) but are greater than 75 years old. Suitable habitat is not present. The species was not observed during project surveys.
Micrathene whitneyi elf owl	SE S	In California, nesting area limited to cottonwood-willow and mesquite riparian zone along the Colorado River. Nest in deserted woodpecker holes, often in larger trees which offer insulation from high daytime temperatures.	**Does Not Occur:** A historical occurrence of the species is located within five miles of the project, but suitable riparian habitat is not present in the Study Area. The species was not observed during project surveys.
Piranga rubra summer tanager (nesting)	SSC	Summer resident of desert riparian habitat along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian habitat for nesting and foraging; prefers older, dense stands along streams.	**Does Not Occur:** There are historical records of the species along the Colorado River but none within five miles of the project (CDFW 2022). Potentially suitable migration habitat is present in the Study Area but nesting habitat is not present. The species was not observed during project surveys.
Polioptila melanura black-tailed gnatcatcher	WL	Primarily inhabits wooded desert wash habitats. Also occurs in desert scrub habitat, especially in winter. Nests in desert washes containing mesquite, paloverde, ironwood, or acacia. Absent from areas where salt cedar introduced.	**Occurs**: Three individuals were observed during 2016 wildlife surveys. Nesting habitat is present in the Study Area.
Pyrocephalus rubinus vermilion flycatcher	SSC	During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas. Nests in cottonwood, willow, mesquite, and other large desert riparian trees.	**Unlikely:** There is a historical record of the species within five miles of the project, but the record is more than 25 years old (CDFW 2022). Potentially suitable migration habitat is present in the Study Area but nesting habitat is not present. The species was not observed during project surveys.
Rallus obsoletus yumanensis Yuma Ridgeway's rail (Yuma clapper rail)	FE ST FP	Nests in freshwater marshes along the Colorado River and along the south and east ends of the Salton Sea. Prefers stands of cattails and tules dissected by narrow channels of flowing water.	**Does Not Occur:** There are historical records of the species along the Colorado River but none within five miles of the project (CDFW 2022). No beach or marsh habitat suitable for nesting is present in the Study Area. The species was not observed during project surveys.
Setophaga petechia sonorana Sonoran yellow warbler (nesting)	SSC	Summer resident of Colorado River Valley, in riparian deciduous habitat. Below 600 ft. elevation. Inhabits cottonwoods and willows, particularly the crown foliage; nests in understory, usually 2–16 ft above ground.	**Does Not Occur:** There are historical records of the species along the Colorado River but none within five miles of the project (CDFW 2022). No riparian habitat is present in the Study Area. The species was not observed during project surveys.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential to Occur[1]
Toxostoma bendirei Bendire's thrasher	SSC S	Migratory; local spring/summer resident in flat areas of desert succulent shrub, Joshua tree habitats in Mojave Desert. Nests in cholla, yucca, paloverde, thorny shrub, or small tree, usually 0.5–20 ft above ground.	**Likely:** The species has been documented within five miles of the project in the past 25 years (CDFW 2022). Nesting habitat is present in the Study Area. The species was not observed during project surveys.
Toxostoma crissale Crissal thrasher	SSC S	Resident of southeastern deserts in desert riparian and desert wash habitats. Nests in dense vegetation along streams/washes; mesquite, screwbean mesquite, ironwood, catclaw, acacia, arrowweed, willow.	**Likely:** The species has been reported in the past 25 years within five miles of the project (CDFW 2022). Nesting habitat is present. The species was not observed during project surveys.
Toxostoma lecontei LeConte's thrasher	SSC S	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually two to eight ft. above ground.	**Likely:** The species has been reported in the past 25 years within five miles of the project (CDFW 2022). Nesting habitat is present. The species was not observed during project surveys.
Mammals			
Antrozous pallidus pallid bat	SSC S	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and open buildings. A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests.	**Does Not Occur:** There is a historical record of the species within five miles of the project, but the record is more than 75 years old (CDFW 2022). Habitats for migration, foraging, and night roosts are present in the Study Area and marginal day roost habitat is present. The species was not observed during project surveys.
Lasiurus xanthinus western yellow bat	SSC	Uncommon in California, known only in Los Angeles and San Bernardino counties south to the Mexican border. This species has been recorded below 600 m (2,000 ft) in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Breeding biology is not well understood. Roosts in trees, including palm trees.	**Unlikely:** There is a historical record of the species within five miles of the project, but the record is more than 25 years old (CDFW 2022). Suitable foraging habitat is present in the Study Area. The species was not observed during project surveys.
Macrotus californicus California leaf-nosed bat	SSC S	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with mines or caves for roosting.	**Likely:** The species has been reported in the past 25 years within five miles of the project (CDFW 2022). Habitats for migration, foraging, and night roosts are present in the Study Area, but no day roost habitat is present. The species was not observed during project surveys.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential to Occur[1]
Myotis occultus Arizona myotis	SSC	Lowlands of the Colorado River and adjacent desert mountain ranges. Roosts in tree hollows, rock crevices, and under bridges.	**Does Not Occur:** There is a historical record of the species within five miles of the project, but the record is more than 75 years old (CDFW 2022). Habitats for migration, foraging, and day and night roosts are present in the Study Area. The species was not observed during project surveys.
Myotis velifer cave myotis	SSC S	Lowlands of the Colorado River and adjacent mountain ranges. Roosts in caves or mines.	**Likely:** The species has been reported in the past 25 years within five miles of the project (CDFW 2022). Habitats for migration, foraging, and night roosts are present in the Study Area, but no day roost habitat is present. The species was not observed during project surveys.
Myotis thysanodes fringed myotis	S	In a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	**Unlikely:** There are no historical records of the species in the region within three miles of the project or in the past 75 years. Habitat for migration, foraging, and night roosts was present, and marginal day roost habitat was present. The species was not observed.
Myotis yumanensis yuma myotis	S	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	**Unlikely:** There are no historical records of the species in the region within three miles of the project or in the past 75 years. Habitat for migration, foraging, and night roosts were present and marginal day roost habitat present. The species was not observed.
Neotoma albigula venusta Colorado Valley woodrat	NECO	Low-lying desert areas in southeastern California. Closely associated with beaver-tail cactus and mesquite. Intolerant of cold temperatures. Eats mainly succulent plants. Distribution influenced by abundance of nest building material.	**Unlikely:** There are no historical records of the species in the region within three miles of the project or in the past 75 years. Habitat was present, but the species was not observed.
Nyctinomops femorosaccus pocketed free-tailed bat	SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Roosts in rocky areas with high cliffs.	**Does Not Occur:** No occurrences of the species have been documented within five miles of the project. Habitats for migration, foraging, and night roosts are present in the Study Area but no day roost habitat is present. The species was not observed during project surveys.
Ovis canadensis nelson desert bighorn sheep	FP S	Widely distributed from the White Mountains in Mono County to the Chocolate Mountains in Imperial County. Open, rocky, steep areas with available water and herbaceous forage.	**Unlikely:** There is a historical record of the species within five miles of the project, but the record is more than 25 years old (CDFW 2022). Suitable habitat is present in the Study Area. The species was not observed during project surveys.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential to Occur[1]
Sigmodon arizonae plenus Colorado River cotton rat	SSC	Colorado River floodplain from the Nevada border to about Bard, California. Distribution is spotty. Isolated sections of alluvial bottom along the Colorado River in areas supporting sedges, rushes, and other marsh plants.	**Does Not Occur:** No occurrences of the species have been documented within five miles of the project. No habitat is present in the Study Area. The species was not observed during project surveys.
Taxidea taxus American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Likely:** The species has been reported in the past 25 years within five miles of the project (CDFW 2022). Suitable habitat is present in the Study Area. The species was not observed during project surveys.
Vulpes macrotis arsipus desert kit fox	CPF	Open, level desert areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance.	**Occurs**: Two active desert kit fox burrow complexes were observed during protocol desert tortoise surveys in 2017.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
SE = State Endangered
ST = State Threatened
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List
CPF = California Protected Furbearer

[1] **Definitions Regarding Potential for Occurrence**

Occurs	The species and/or positive sign was observed on-site during site visit or field survey.
Absent	The species and/or positive sign were not observed during focused survey(s) and it is reasonable to assume it would have been observed if present. Surveys were conducted during the appropriate blooming/activity period (and, for plants, the species was observed at a reference population).
Likely	All site features indicate this species is very likely present and should be expected. Criteria include: • Project site within geographic range; • Suitable habitat present (e.g., soils, vegetation communities, elevation, roost sites, leaf litter/debris, water, host plants, etc.); and • Distance to historical record(s) less than 25 years old is less than one mile for fish, two miles for plants, and five miles for mammals, birds, and herptiles.
Unlikely	Species could occur given the presence of habitat, but local records of the species are not known or are greater than 25 years old.
Does Not Occur	The species would not occur because the project site is outside known or current geographic/elevation range, lacks habitat or suitable conditions, and/or there is reasonable certainty to assume absence based on historical records.

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