

# Environmental Assessment

EA Number: DOI BLM-CA-060-0012-0051

Title/Project Type: Genesis Solar Energy Project Gen Tie ROW Modifications

Applicant/Proponent: Genesis Solar, LLC

Locations of Proposed Action: Riverside County, south of I-10 approximately 31 miles east of the community of Desert Center and 17 miles west of the City of Blythe

Project Acreage: 1,807 Acres (original project)

USGS Topographic Map: Ford Dry Lake and McCoy Spring

# TABLE OF CONTENTS

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## Genesis Solar Energy Project – ROW Modifications Environmental Assessment

	<u>Page</u>
<b>1. Introduction</b> .....	1-1
1.1 Background and Relationship to GSEP Final EIS.....	1-1
1.2 Purpose and Need.....	1-4
<b>2. Description of the Proposed Action and Alternatives</b> .....	2-1
2.1 Proposed Action.....	2-1
2.1.1 Modifications due to the Relocation of the CRS.....	2-1
2.1.2 Modifications due to the Relocation of the SoCal Gas Reducer Valve Tie in Location.....	2-3
2.1.3 Changes Due to Implementation of the Large Generator Interconnect Agreement.....	2-4
2.1.4 Changes Related to the ATC Permits Issued by MDAQMD .....	2-5
2.1.5 Changes Related to a Temporary Need for Power during Commissioning.....	2-6
2.2 No Action Alternative.....	2-6
<b>3. Affected Environment and Environmental Effects</b> .....	3-1
3.1 Introduction.....	3-1
3.2 Air Quality.....	3-5
3.3 Biological Resources.....	3-9
3.4 Cultural Resources.....	3-12
3.5 Cumulative Impacts.....	3-19

<b>4. Persons/Agencies Consulted and List of Preparers .....</b>	<b>4-1</b>
4.1 Freedom of Information Act Consideration .....	4-1
4.2 Persons/Agencies Consulted.....	4-1
4.3 Native American Consultation.....	4-1
4.4 List of Preparers.....	4-2

<b>5. References .....</b>	<b>5-1</b>
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**Tables**

Table 1 Acres of Temporary and Permanent Disturbance for Linear Facilities .....	3-2
Table 2 Resource Areas Eliminated from Analysis .....	3-3
Table 3 Comparison of Total Commissioning Emissions to MDAQMD Offset Threshold ....	3-7
Table 4 Short-Term CAAQS Modeling Results .....	3-8
Table 5 Short-Term NAAQS Modeling Results .....	3-8
Table 6 Newly Recorded Cultural Resources within the GSEP ROW Modifications.....	3-14

**Figures**

Figure 1 Original GSEP Layout	
Figure 2 Original and Proposed GSEP ROW	
Figure 3 Options A and B View 1	
Figure 4 Options A and B View 2	
Figure 5 Options A and B View 3	
Figure 6 Special-Status Species Observations and Land Cover View 1	
Figure 7 Special-Status Species Observations and Land Cover View 2	

**Appendices**

Appendix A: Biological Survey Report	
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# SECTION 1

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## Introduction

### 1.1 Background and Relationship to GSEP Final EIS

This Environmental Assessment (EA) has been prepared pursuant to the Council on Environmental Quality (CEQ) Regulations For Implementing The Procedural Provisions Of The National Environmental Policy Act (NEPA) implementing regulations (40 CFR 1500-1508), and the Bureau of Land Management NEPA Handbook (BLM Handbook H-1790-1).

This EA discusses proposed modifications to the Genesis Solar Energy Project (GSEP), as well as the air quality, biological resources, and cultural resources impacts that are expected to occur as a result of the proposed modifications. Additionally, the EA demonstrates that the proposed modifications are based upon new information that does not change or undermine the assumptions, rationale, findings, the August 2010 Final Decision for the GSEP Plan Amendment/Final Environmental Impact Statement (PA/EIS) (BLM, 2010a). As such, this EA is 'tiered' (40 CFR 1508.28) to the PA/FEIS document for the GSEP. The following list summarizes milestone dates leading up to this EA:

- **August 2009 – Application Submitted:** Genesis Solar, LLC (Genesis Solar) a wholly owned subsidiary of NextEra Energy Resources, LLC, submitted an Application for Certification (AFC) to the California Energy Commission (CEC) for the GSEP.
- **November 2009 – Notice of Intent:** The Notice of Intent was published in the *Federal Register* (Volume 74, No. 224) on November 23, 2009.
- **December 2009 – Scoping Meeting:** On December 11, 2009, BLM held its primary Scoping Meeting at the University of California-Riverside, Palm Desert Campus.
- **January 2010 – Scoping Report:** A draft scoping report was released for public review and comment in January 2010.
- **April through July 2010 – SA/DEIS:** The CEC and the BLM distributed the joint Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) for public and agency review and comment between April 9, 2010 and July 8, 2010 (BLM/CEC, 2010).
- **August 2010 – PA/FEIS:** The BLM and the CEC prepared separate final documents for compliance with NEPA and CEQA, respectively. Specifically, the BLM prepared the PA/FEIS for the GSEP. The SA/DEIS was the primary reference used in preparing the FEIS. The SA/DEIS is incorporated by reference in the FEIS.

- **September 2010 – GSEP Certified:** The CEC certified the GSEP in its Final Decision dated September 29, 2010, Docket Number 09-AFC-8 (Final Decision or License).
- **November 2010 – ROW Grant:** In addition to the CEC’s Final Decision, the GSEP received its Right-of-Way (ROW) Grant from BLM in November 2010. BLM prepared and published a Record of Decision (ROD) regarding the Proposed Action (Agency Preferred Alternative) (BLM, 2010b). The publication of the ROD in the Federal Register is the final step required of the BLM to meet the requirements of NEPA for the GSEP.
- **January 2011 – NTP Phase I:** A Notice to Proceed (NTP) to construct Phase I from both the CEC and BLM was received in January 2011.
- **September 2011 – NTP Phase II:** Genesis Solar received its Final NTP from the CEC and BLM for construction of the remainder of the GSEP in September 2011. In addition to the construction of the solar facility itself, the activities that will occur given this final NTP include construction of: a gas pipeline, the Approved Generation Tie Line (approved gen-tie line) from the GSEP Plant Site to the Colorado River Substation (CRS), and access/spur roads along the approved gen-tie line.
- **August 2012 – Request to Amend CEC Decision:** Pursuant to a request by NextEra Energy Resources LLC, the CEC amended the GSEP project based on changes to the approved gen-tie line route, natural gas line routes, the addition of an electric ring bus near the Colorado River Substation, and modifications to the air quality permits issued by the Mojave Desert Air Quality Management District (MDAQMD).

The GSEP is licensed as a nominally rated 250-megawatt (MW) solar thermal power generating facility located in Riverside County, California, between the community of Desert Center and the City of Blythe. The GSEP is located on land managed by the BLM. The Project disturbance area, which includes both permanent and temporary disturbance, will be approximately 1,819.5 acres, and includes approximately 1,727 acres for the Plant Site and approximately 70 acres for the Linear Facilities. The Plant Site includes the solar arrays, power blocks, power generating equipment, support facilities, and evaporation ponds. The Linear Facilities include an approved gen-tie line and an access road, natural gas pipeline, and a main access road connecting the GSEP Plant Site to the Wiley’s Well Interchange off of I-10. Figure 1 depicts the original GSEP layout.

Since the time of the issuance of the ROW Grant in November of 2010, several changes have occurred that would require modifications to the project. Unforeseen factors contributed to the need for project modifications. These four factors include:

1. Relocation of the CRS
2. Relocation of SoCal Gas Tie-In
3. Implementation of the Large Generator Interconnect Agreement
4. Changes related to the air quality permits

These changes physically begin just to the northwest of the Wiley’s Well Interchange and extend to the CRS. The remainder of the linear corridor, from just northwest of the Wiley’s Well

Interchange up to the GSEP plant site, will remain the same as described in the BLM ROW grant for CACA 048880. The proposed modifications to the CRS location and approved gen-tie line routes are the result of changed circumstances outside of the control of the Applicant since the time of the CEC's Final Decision and the BLM's ROW Grant. These factors primarily include (and are further detailed below in Section 1.2):

- Relocation of the CRS by Southern California Edison (SCE)
- Relocation of the SoCal Gas Meter Station

As a result of the above-mentioned changes, the BLM has determined that an EA is required to determine the potential environmental and social consequences that would be created by the following changes to the licensed GSEP:

- modifications to the existing approved gen-tie line route;
- modifications to the natural gas line route;
- the addition of a ring bus near the CRS; and
- use of temporary on-site generators prior to interconnection to the CRS.

Section 2.0 of this EA includes a discussion of the Proposed Action and Alternatives. Section 3.0 describes the Proposed Action's impacts on air quality, biological resources, and cultural resources, as well as the mitigation measures that will be implemented to reduce the Project's impacts. Section 4.0 provides an overview of the tribes, individuals, organizations, and agencies consulted to prepare this EA.

## **Fish and Wildlife Consultation**

Biological surveys for the proposed modifications were conducted in accordance with U.S. Fish and Wildlife Service (FWS) protocols (1992) and surveys for burrowing owls were conducted in accordance with California Burrowing Owl Consortium Guidelines (CBOC, 1993). Although FWS released revised desert tortoise survey guidance in 2010, to be consistent with protocols used on previous Project surveys biologists followed the 1992 guidance. The current FWS timing requirement for spring surveys is April 1 to May 31; however, the FWS Carlsbad field office, with agreement from the BLM and California Department of Fish and Game (CDFG), authorized tortoise surveys to commence on March 15, 2012 based on recent, local weather conditions and data identifying that tortoises were active in the Project vicinity.

The proposed modifications are not located within a Habitat Management Plan (HMP), Area of Critical Environmental Concern (ACEC), or Desert Wildlife Management Area (DWMA). The proposed modifications are not located within Desert Tortoise Critical Habitat.

## Cultural Resources Review

On August 16, 2011, between March 3 and 6, 2012, and between July 25 and 28, 2012, comprehensive cultural resource surveys were conducted for the proposed GSEP ROW modification area.

On August 16, 2011, Project archaeologists conducted a Class III survey of a 5-acre area near the CRS (AECOM, 2011). Between March 3 and March 6, 2012, Project archaeologists conducted a Class III survey of the Option B gen-tie line alignment, plus a 50-foot buffer (AECOM, 2012,).

Subsequently, in response to recent discoveries in the vicinity of the project, and because of recent weather conditions involving the ongoing active aeolian transportation of soils, the BLM requested that portions of the GSEP project area be re-surveyed to confirm current conditions. The area designated for this additional survey consisted of the following areas:

1. Options A & B gen-tie line Right-of-Way (ROW) north of the Colorado substation – 100-180 foot wide corridor, approximately 1,400 feet (0.27 miles) long;
2. Option A gen-tie line ROW – 100-200 foot wide corridor approximately 14,120 feet (2.67 miles) long including the existing BTL structures to be replaced, towers 115 and 116, measuring 150 feet by 100 feet each;
3. Option B gen-tie line ROW – 55-130 foot wide corridor approximately 14,350 (2.72 miles) feet long; and
4. Seven pull sites (Nos. 8, 9, 10, 11, 13, 14, 15) – 100 feet by 300 feet each (approximately 6 acres total including the pull sites, or portions thereof, located within the rights-of-way).

Between July 25 and July 28, 2012, Project archaeologists conducted a Class III survey of these areas (ESA, 2012). Additional field visits by Project and BLM archaeologists were conducted on September 17, 2012, in order to further delineate the boundaries of three of the known cultural resources within the project area.

## 1.2 Purpose and Need

Since the time of the BLM's ROW Grant and the CEC's Final Decision, several infrastructure changes have occurred that are outside of the Applicant's control and made it impossible for the certified GSEP to tie into the grid. As a result, these unforeseen factors created a need for project modifications, which include changes to the existing linear route and the addition of a few pieces of equipment related to the project interconnection to the CRS. The purpose of the Proposed Action is to modify the project so that the GSEP can connect to a natural gas source tie into the CRS and deliver energy to the grid with the least possible impacts to the environment.

Below are detailed descriptions of the unforeseen factors that created the need for modifications to the GSEP.

## **Relocation of the Colorado River Substation**

Following the issuance of the CEC's Final Decision and the BLM's ROW Grant, Southern California Edison (SCE) changed the location of the CRS. On April 29, 2011 the California Public Utilities Commission staff released the Final Supplemental Environmental Impact Report (FSEIR) in which it recommended that the originally proposed location of the CRS should not be approved (CPUC, 2011). Instead the FSEIR identified two alternatives that are environmentally superior to the original CRS location. In June, 2011 a decision was made to choose the southern alternative. A Record of Decision for the Devers-Palo Verde No. 2 Transmission Line Project confirmed that project will be connecting into the new southern location of the CRS. The new location of the CRS is assumed to be permanent at this time and is being proposed and finalized for other projects in the area.

This unforeseen change has impacted the original configuration of the project. First, SCE has extended the commercial operation date for the CRS to August 2013 which is approximately eight months later than originally requested by the GSEP. Second, with the CRS in a position to the south of the approved gen-tie line facilities, the approved gen-tie line route approaching the substation will need to be modified. A description of the required modifications to the approved gen-tie line is included in Section 2.1.1.

## **Relocation of the SoCal Gas Tie-In**

Recent discussions with Southern California Gas Company (SoCal Gas) have resulted in a change to the point of interconnect where the GSEP will need to tie into the SoCal Gas natural gas pipeline. Because the GSEP will not be a major industrial user of natural gas, SoCal Gas is requiring GSEP to tie into a Reducer Valve Station for their low pressure line located to the south of Interstate-10 (I-10) and east of Wiley's Well Road instead of a metering station located within the current GSEP ROW (north of I-10 and west of Wiley's Well Road). SoCal Gas will construct, own, and operate the pipeline from the reducer station to the metering station within the GSEP ROW north of I-10. This amendment identifies two possible routes to connect the Reducer Valve Station to the GSEP gas meter. The details of the gas line route options are described in Section 2.1.2.

## **Implementation of the Large Generation Interconnection**

### **Agreement**

The Large Generation Interconnection Agreement (LGIA) was executed in August 2011, after the ROW Grant was issued. The interconnection agreement is between NextEra, SCE, and California Independent System Operator Corporation (CAISO). The interconnection agreement specifies

the metering and protection equipment that will need to be installed outside of the boundaries of the CRS. This agreement necessitated the need for a ring bus, which will be located just to the north of the CRS. Section 2.1.3 further describes the details of the ring bus.

## **Changes Related to Issuance of the MDAQMD ATC Permits**

The Air Quality mitigation measures contained in the GSEP Record of Decision were based on the Final Determination of Compliance (FDOC) issued by the MDAQMD on July 20, 2010. On November 4, 2011, the MDAQMD issued a set of nine Authority to Construct (ATC) permits for the GSEP. All of the permit conditions in the ATC permits were the same as the conditions contained in the FDOC. However, the new ATC permits contained more detailed equipment descriptions than had been in the FDOC. Furthermore, the new MDAQMD ATC permits did not include permits for cooling towers. On February 13, 2012, Genesis Solar filed an Application for Modification of these ATC permits to provide updated equipment description and emissions information based on the equipment actually purchased for the GSEP.

These changes were unforeseen until the project final engineering and equipment procurement was in process. Section 2.1.4 explains the modifications that will be necessary as a result of these permit changes.

## **DOE Purpose and Need for the Genesis Project**

Title XVII of the Energy Policy Act of 2005 (EPAct), P.L. 109-58 as amended by section 406 of the American Recovery and Reinvestment Act of 2009, P.L. 111-5 (the “Recovery Act”), established a Federal loan guarantee program for eligible energy projects that employ innovative technologies. Title XVII authorizes the Secretary of Energy to make loan guarantees for various types of projects, including those that “avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.” Section 406 of the Recovery Act added section 1705 to address the economic conditions of the nation, in part, through renewable energy and transmission projects that commence construction no later than September 30, 2011. The primary purposes of the Recovery Act are job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and state and local fiscal stabilization. The purpose and need for DOE action would be to continue to comply with its mandate and regulatory responsibilities associated with selected projects (e.g., Genesis Solar Energy Project (GSEP)) that met the goals of EPAct and the Recovery Act.

Pursuant to provisions of section 1705, on October 7, 2009, DOE competitively solicited applications for a requirement titled, “Commercial Technology Renewable Energy Generation Projects Under the Financial Institution Partnership Program.” In response to that solicitation, the Applicant submitted an application to DOE on June 4, 2010, for a Federal loan guarantee for

the GSEP. DOE authorized the Federal loan guarantee for the GSEP in August 2010, after completing a detailed financial, technical, and legal evaluation of the project, and finalizing the terms and conditions of the Federal loan guarantee pursuant to its procedures set out at 10 CFR Part 609. DOE is a cooperating agency on this EA pursuant to a Memorandum of Agreement between DOE and BLM signed in January 2010, and would use this EA to meet its NEPA requirements.

## SECTION 2

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# Description of the Proposed Action and Alternatives

## 2.1 Proposed Action

As described in Section 1.2, the Proposed Action is a direct result of the changed circumstances outside of the control of Genesis Solar since the time of the CEC's Final Decision and the BLM's ROW Grant (Genesis Solar, 2012). The four unforeseen factors that were discussed in Section 1, created the need for several modifications to the GSEP, which include:

- a modification to the existing approved gen-tie line route;
- a modification to the natural gas line route;
- an addition of a ring bus near the CRS; and
- modifications to the air quality permits issued by MDAQMD.

These modifications are described in greater detail below. The Proposed Action includes two gen-tie line alignment options, the Option A gen-tie line and the Option B gen-tie line, to connect the GSEP plant site to the relocated CRS and two options for routing the natural gas pipeline from the reducer valve location to the project site, also referred to as the Option A gen-tie line and the Option B gen-tie line.

### 2.1.1 Modifications due to the Relocation of the CRS

As a result of that change in location of the CRS, two options for routing the gen-tie line from the project site to the new location of the CRS were evaluated. The first option (the Option A gen-tie line) is primarily located within the existing ROW with a few minor deviations required to accommodate crossing of existing transmission facilities as well as a segment to interconnect with the CRS (see Figures 2, 3, 4, and 5). The second option (the Option B gen-tie line) would be constructed within primarily new ROW before joining the existing ROW along the Blythe Energy Transmission Line (BETL) ROW before interconnecting with the CRS (see Figures 2, 3, 4, and 5). Each of these options is discussed in detail below.

#### Option A Gen-tie Line

This option is the permitted approved gen-tie line route currently in the ROW Grant; however, changes are needed to the ROW to allow the gen-tie line to cross the SCE Eagle Mountain 160 kilovolt (kV) line and tie into the BETL. Figure 3 shows the modifications to the ROW necessary

to cross the Eagle-Mountain line. SCE requires that non-SCE transmission lines cross their system lines at a 90 degree angle (i.e., perpendicular). The presently-approved ROW does not provide sufficient room to facilitate that crossing. The approved gen-tie line route in this area reflects a due-east path from the GSEP Plant Site until the Option A gen-tie line would angle north at 20 degrees before turning south to cross over the Eagle Mountain line at a 90 degree angle. Two new turning structures will be required to cross the Eagle Mountain line at a perpendicular angle. The Option A gen-tie line will then continue south within the approved ROW.

Figure 4 shows the location of the Option A gen-tie line entering the ROW of the BETL. One turning structure will be needed immediately north of the Desert Southwest ROW to span the future line and connect into BETL. A new pole will need to be added west of BETL pole number 116 to facilitate the connection of the Option A gen-tie line to BETL. Because BETL Poles 116 and 115 are currently single circuit, both poles will need to be exchanged for double circuit poles. BETL Poles 114 through 88 are already double circuit and the Option A gen-tie line will continue on these structures without any additional pole replacements. The Option A gen-tie line will exit BETL at Pole 88 as described below.

### **Option B Gen-tie Line**

From the Plant Site, as the Option B gen-tie line approaches the Eagle Mountain line, the Option B gen-tie line will parallel the Eagle Mountain 161 kV line and continue north and east of the Wiley's Well rest area. A self-supporting steel turning structure (130 feet high) will be needed to turn the Option B gen-tie line due south and cross over the Eagle Mountain line between Eagle Mountain pole numbers 124699 and 124700. The Option B gen-tie line will then travel due south for 7,900 feet before crossing the future Desert Southwest line at a perpendicular angle. A new turning structure (130 feet high) approximately 30 feet northeast of BETL pole number 114 will be needed to facilitate connecting the Option B gen-tie line to BETL Pole 113 which is double circuited and ready to accept the GSEP circuit. Similar to the Option A gen-tie line, the Option B gen-tie line will also exit BETL at Pole 88 as described above.

### **Approved Gen-tie Line Route Common to Both Option A and B Gen-tie Line**

Under the current project approvals, the approved gen-tie line route from the GSEP plant site to the point of interconnect assumed that the CRS was located in a position to the north of the approved gen-tie line. As such, during planning, the portion of the approved gen-tie line that is co-located on the BETL structures was configured to have the circuits hung on the north side, allowing easy access to separate from the BETL and with the addition of new poles, enter the substation. Since that time, the CRS planned location has been moved to the south of the BETL.

With the move to the south, the gen-tie line will now need to cross over the 230 kV BETL at the point due north of the substation. To do so, the GSEP circuit will transition off the BETL structures at Pole 88. A new pole will need to be placed approximately 50 feet north of BETL Pole 87. A large turning structure of concrete, wood or steel will then be placed to the north of

BETL between poles 87 and 86 (approximately 100 feet from Pole 86). This double circuit pole will be approximately 130 feet high and will allow for a perpendicular crossing over the existing BETL. A crossing agreement has been established between Genesis Solar and LS Power, the current owners of the BETL.

SCE has constructed a new distribution power line from north of I-10 south to the CRS to serve distribution power needs at CRS. Genesis Solar will need to run a short tap to that distribution line from the west to serve the ring bus. Up to six wooden distribution poles would be installed to accommodate this tap line. The ring bus is discussed further under Section 2.1.3.

## **2.1.2 Modifications due to the Relocation of the SoCal Gas Reducer Valve Tie in Location**

SoCal Gas is the natural gas service provider in the project area. The company recently determined that the GSEP must receive its requisite gas supply via a tap at a reducer valve station located to the southeast of the Wiley's Well Road I-10 exit interchange. As a result of that change in location, two options for routing the natural gas pipeline from the reducer valve location to the project site were evaluated. The first option (Option A gas line) would be constructed by heading west from the reducer valve station to the existing ROW that was permitted in the ROW Grant. The second option (Option B gas line) would be constructed by heading east from the reducer valve station to parallel a newly proposed transmission route (see Figure 3). As gas pipeline options were evaluated, the possibility of an alternative gen-tie line route was also evaluated due in part to the gas pipeline, but also due to the engineering of crossing existing transmission lines and tying into the BETL and CRS. Each of these options is discussed in detail below.

### **Option A Gas Line**

SoCal Gas will need to construct the pipeline from the reducer valve station located approximately 570 feet southeast of the I-10 Wiley's Well interchange. The pipeline will have a diameter of 6 inches and will be buried 3 feet below the soil surface. This pipeline will travel 350 feet on private land owned by a subsidiary of Genesis Solar's parent company, to the west, crossing under Wiley's Well Road before entering the approved GSEP ROW. The pipeline will travel to the northern side of the approved gen-tie line ROW and parallel existing pipelines in the area. The pipeline will follow the approved gen-tie line ROW turning north, proceed under I-10 and remain on the east side of the approved gen-tie line ROW until reaching the GSEP gas metering station 1,700 feet north of I-10 in the approved GSEP ROW. SoCal Gas will own the gas-line and ROW from the reducer valve to the metering station. The gas-line will be owned by Genesis Solar from the metering station into the GSEP Plant Site. This gas line from the metering station into the Plant Site was previously approved in the ROW Grant.

## Option B Gas Line

As in the Option A gas line, SoCal Gas will also construct the pipeline from the reducer valve station located approximately 570 feet southeast of the I-10 Wiley's Well interchange. However, for this option, SoCal Gas will construct the pipeline on private land heading east from the reducer valve station. The pipeline will travel for approximately 700 feet on private land before entering BLM property. The pipeline will travel 950 feet on BLM land before turning north to coincide with the newly proposed route for the gen-tie line (the Option B gen-tie line). The pipeline will be routed north, under I-10, approximately 1,000 feet east of the Wiley's Well rest area in the proposed Option B gen-tie line corridor. The pipeline will continue north crossing under the Eagle Mountain transmission line before turning west. It will then parallel both the Eagle Mountain line and the proposed Option B gen-tie line until reaching the metering station within the approved GSEP ROW. As in the Option A gas line, the pipeline will have a diameter of 6 inches and will be buried 3 feet below the soil surface.

### 2.1.3 Changes Due to Implementation of the Large Generator Interconnect Agreement

As described in Section 1.2, the implementation of the LGIA created the need for the development of a ring bus to be located outside of the CRS physical area. The purpose of the ring bus is two-fold: it will contain metering and protection equipment required under the LGIA and it will provide backfeed power to facilitate plant commissioning activities that are necessary due to the delay in the CRS construction schedule.

The electrical metering equipment required to measure the output of GSEP will include instrument transformers, megawatt hours-meters, data acquisition equipment, transducers, remote terminal units (RTU), communications equipment, phone lines, and fiber optics. As per the Genesis Power Purchase Agreement, delivered energy from the project shall be measured at the CAISO revenue meter at the CRS. Since permitting was completed, SCE has completed design work of the CRS which does not allow room for metering or allow for customer-owned facilities inside of the SCE substation. Genesis Solar has signed a LGIA which allows for metering just outside of the SCE substation in a ring bus/switchyard which is the closest practical point to meet the Power Purchase Agreement requirements.

After crossing the BETL, the GSEP double-circuited 230 kV line will run approximately 1,600 feet to the GSEP ring bus (see Figure 5). This stretch includes two new double-circuited 230 kV poles and a ring bus/switchyard structure north of the CRS. Inside the ring bus will be a new three-breaker 230 kV switchyard (i.e., no voltage transformation) located 100 feet north of the northern CRS perimeter wall (pursuant to SCE offset requirements) and aligned (east-to-west) to facilitate a connection to CRS 230 kV Bay 7 while minimizing any impediments to future transmission line connections to other CRS 230 kV Bays.

The ring bus/switchyard will also serve to accommodate the various breakers, switches, line protection scheme, RTUs and telecommunication paths for the Special Protection Scheme

required under the LGIA. The ring bus will support the full interconnection requirements necessitated by the LGIA and will allow GSEP to operate continually, without interruption, as other phases of the interconnection facilities and network upgrades are completed.

In addition to the metering and protection requirements, the ring bus/switchyard will facilitate the delivery of the requisite temporary 230 kV backfeed power to GSEP from the existing BETL. The source of the backfeed power will be a tap off of the BETL. This tap runs from BETL structure 86 and short poles (three poles up to 80 feet high). The tap will then run south via the newly proposed GSEP structures to the ring bus/switchyard.

The ring bus connection to the GSEP requires the installation of approximately 1,100 feet of 230 kV transmission line from the ring bus to the existing GSEP/BETL Joint Use (i.e., Double Circuit) Structures. The ring bus/switchyard will measure 260 feet long and 180 feet wide and occupy 46,800 square feet. The total permanent disturbance for the ring bus/switchyard will be approximately 1.58 acres.

## **2.1.4 Changes Related to the ATC Permits Issued by MDAQMD**

As stated in Section 1.2, the MDAQMD issued a set of nine ATC permits for the GSEP in November 2011, after the ROW Grant was issued. The new ATC permits contained more detailed equipment descriptions than had been in the FDOC. Furthermore, the new MDAQMD ATC permits did not include permits for cooling towers. An Application for Modification of these ATC permits was submitted to MDAQMD to provide updated equipment description and emissions information based on the equipment actually purchased for the GSEP.

There were also slight changes to the emissions from some of the engines based on actual manufacturer specifications for the engines selected for the project. In some cases, it was necessary for Genesis Solar to provide additional clarifications regarding the selected equipment and to seek modification to the ATC permits.

Additionally, the project originally proposed two very large wet, mechanical draft cooling towers, one for each of the two power units. These towers cooled the circulating water used to condense the steam from the steam turbines. These towers have been replaced with Air Cooled Condensers that do not require water. However, it was determined during the final design of the facilities that two very small package type cooling systems will be needed to remove heat from the Closed Cooling Water Systems. By way of comparison, the cooling system proposed in the FEIS was a Wet Surface Air Cooler that would utilize 202 acre-ft/yr; whereas the currently proposed package type cooling system would require 1.54 acre-ft/yr (or 0.77 acre-ft/yr for each unit individually). Therefore, the cooling system currently proposed would require significantly less water than the system proposed in the FEIS.

## **2.1.5 Changes Related to a Temporary Need for Power during Commissioning**

The source of the backfeed power coming from the BETL requires an agreement between Genesis Solar as the applicant, LS Power as the transmission line owner, and SCE as the service provider. Because this arrangement is dependent on the cooperation of two third party entities, and therefore out of Genesis Solar's immediate control, Genesis Solar is including an alternate means to obtain power for plant commissioning through the use of portable generators.

The use of portable, temporary generators will provide an alternate source for supplying the necessary power for commissioning activities if the CRS is not yet available. These activities will begin in the first quarter of 2013 and will initially require about 0.5 MW of power. The load requirements will slowly ramp up through the following months peaking at the beginning of July up to approximately 9.5 MWs if no back-feed power is available. The GSEP has access to portable diesel and natural gas fired generators ranging in size from 250 kW up to 1.5 MW each. These generators meet the California Air Resources Board requirements for Portable Equipment Registration Program. A mix of engine fuel types and sizes is expected based on the varied load requirements throughout the commissioning period, the availability of engines and fuels, and emissions considerations.

These generators will be used to supply electrical loads for startup and commissioning activities. Power needs during this period will include the water treatment plant, Heat Transfer Fluid (HTF) freeze protection pumps, and overflow return pumps. Commissioning activities may include dewatering, HTF pump commissioning, and steam blows. Commissioning activities will occur Monday through Saturday on a 10 to 12 hour work schedule. However, as is common during plant commissioning activities, a need for overnight work may be necessary so fractional loads may be required for longer periods and may include Sundays. Power at a lower load will also be needed at night to maintain freeze protection and other limited activities. The generators will be located in the power block area closest to the loads requiring power. The use of portable generators will be discontinued when a back-feed source and associated downstream switchgear becomes available.

## **2.2 No Action Alternative**

Under the No Action Alternative the proposed GSEP modifications would not be implemented and, as a result, the GSEP would not be able to feed the solar energy generated at the solar plant site to the grid. Additionally, the No Action Alternative would not fulfill any of the Proposed Action's needs or objectives.

## **SECTION 3**

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# **Affected Environment and Environmental Effects**

### **3.1 Introduction**

The original approved gen-tie line route, the Option A gen-tie line route, and the Option B gen-tie line route are all very similar in terms of environmental impacts and acreage disturbance. Table 1 shows a comparison of the three routes. The Option B gen-tie line has slightly higher impact area due to the need for additional poles (approximately 5 more than the original route) and a slightly longer route for the gas line. The gas line disturbance is calculated as a temporary disturbance since the gas line will be buried and the surface will be revegetated.

BLM has determined that the direct and indirect impacts of the current Proposed Action to air quality, biological resources, and cultural resources warrant further analysis to supplement the existing GSEP August 2010 – PA/FEIS. The direct and indirect impacts for each of these resource areas are disclosed in this section of the EA. All other resource areas have been eliminated from this analysis. The rationale for the elimination of a resource area from this analysis is provided in Table 2 below.

**TABLE 1  
ACRES OF TEMPORARY AND PERMANENT DISTURBANCE FOR LINEAR FACILITIES**

	Originally Permitted Linear Disturbance			Option A Gen-tie Line Disturbance			Option B Gen-tie Line Disturbance		
	Dimensions (feet)	Quantity	Acres	Dimensions (feet)	Quantity	Acres	Dimensions (feet)	Quantity	Acres
<b>Temporary Disturbance</b>									
<b>Transmission line</b>									
Construction Laydown/Assembly Areas	100 x 100	1	0.46	200 x 200	2	1.83	200 x 200	2	1.83
Conductor Pulling Area	50 x 140	25	4.02	50 x 140	25	4.02	50 x 140	25	4.02
Crossing Structures	100 x 100	4	1.84						
Pole Pad Construction Area	50 x 50	60	2.91	100 x 100	67	15.38	100 x 100	69	15.84
Pole Pad Construction Area (at CRS)	50 x 50	6	0.057			_(1)			_(1)
Distribution Line (GSEP Plant Site to Wiley's Well Rest Stop)			_(2)			_(2)			_(2)
Distribution Line Poles (Ring Bus to Switchyard)			NA	20 x 20	6	0.05	20 x 20	6	0.05
<b>Gas Line</b>									
Construction ROW	50 x 6 miles	1	36.36	50 x 0.8 miles <sup>(3)</sup>	1	4.84	50 x 1.6 miles <sup>(3)</sup>	1	9.70
<b>Roads</b>									
Site Access Road	20 x 6.5 miles <sup>(4)</sup>	1	15.76	20 x 5.3 miles <sup>(5)</sup>	1	12.92	20 x 5.3 miles <sup>(5)</sup>	1	12.92
<b>Total Temporary Disturbance</b>			61.92 <sup>(6)</sup>			39.04			44.36
<b>Permanent Disturbance</b>									
<b>Transmission line</b>									
Transmission Pole Pads	6 x 6	60	0.05	6 x 6	67	0.05	6 x 6	69	0.06
Transmission Pole Pads (at CRS)	6 x 6	6	0.0008			_(7)			_(7)
Spur Roads to Poles	70 x 14	60	1.90	40 x 12 <sup>(8)</sup>	67	1.29	40 x 12 <sup>(8)</sup>	69	1.33
Ring Bus/Switchyard			NA	260 x 180	1	1.58	260 x 180	1	1.58
<b>Roads</b>									
Site Access Road	30 x 6.5 miles <sup>(4)</sup>	1	23.64	30 x 5.3 miles	1	19.38	30 x 5.3 miles	1	19.38
Gen-tie line Access Road				12 x 1.9 miles <sup>(9)</sup>	1	2.76	12 x 2.4 miles <sup>(9)</sup>	1	3.50
<b>Total Permanent Disturbance</b>			25.59			25.06			25.85
<b>Total All Linear Disturbance</b>			87.51			64.10			70.21

Notes:

- Included in the Pole Pad construction area
- Accounted for within the Site Access Road Temporary Disturbance calculation
- Gas line disturbance measured from new SoCal Gas Meter to the gas reducer valve station on the east side of Wiley's Well Road
- Original measurement included both Site Access and Approved Gen-tie line Access roads
- Measured from SE corner of the GSEP plant site to the entrance of the access road just to the west of the Wiley's Well Rest Stop
- 61.41 is total temporary disturbance listed in the FEIS, although the numbers add up to 61.92
- Included in the Transmission Pole Pad area
- Average Spur Road will be no more than 40 foot in length and 12 feet in width
- Measured from new So Cal Gas Meter to the CRS, and deducting the east/west length of the Blythe Transmission Line which is already disturbed and accounted for

**TABLE 2**  
**RESOURCE AREAS ELIMINATED FROM ANALYSIS**

<b>Resource Area</b>	<b>Rational for Elimination from Analysis</b>
Environmental Justice	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.05 Environmental Justice and 4.05 Impacts on Environmental Justice</p>
Geology and Soils Resources	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.15 Soils Resources and 4.14 Impacts on Soils Resources</p>
Greenhouse Gas Emissions and Global Climate Change	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.03 Global Climate Change and 4.03 Impacts to Global Climate Change</p>
Hazards and Hazardous Materials	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.12 Public Health and Safety and 4.11 Impacts on Public Health and Safety</p>
Lands and Realty	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.06 Lands and Realty and 4.06 Impacts on Lands and Realty</p>
Livestock Grazing	<p>This resource area would not be affected by the current Proposed Action.</p> <p>Refer to PA/FEIS section 3.7 Livestock Grazing</p>
Mineral Resources	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.08 Mineral Resources and 4.07 Impacts on Mineral Resources</p>

Resource Area	Rational for Elimination from Analysis
Multiple Use Classes	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.09 Multiple Use Classes and 4.08 Impacts on Multiple Use Classes</p>
Noise	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.10 Noise and 4.09 Impacts on Noise</p>
Paleontological Resources	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.11 Paleontological Resources and 4.10 Impacts on Paleontological Resources</p>
Recreation	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.13 Recreation and 4.12 Impacts on Recreation</p>
Social Economics	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.14 Social Economics and 4.13 Social and Economic Impacts</p>
Special Designations	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.16 Special Designations and 4.15 Impacts on Special Designations</p>
Wilderness Areas	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.16 Special Designations and 4.15 Impacts on Special Designations</p>

Resource Area	Rational for Elimination from Analysis
Transportation and Public Access (off-Highway Vehicles)	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.17 Transportation and Public Access-OHV and 4.16 Impacts on Transportation and Public Access-Off-Highway Vehicle Resources</p>
Visual Resources	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.19 Visual Resources and 4.18 Impacts on Visual Resources</p>
Water Resources	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.20 Water Resources 4.19 Impacts on Water Resources</p>
Wild Horse and Burros	<p>This resource area would not be affected by the current Proposed Action.</p> <p>Refer to PA/FEIS section 3.21 Wild Horse and Burros</p>
Wildland and Fire Ecology	<p>The direct and indirect impacts of the current Proposed Action would be substantially unchanged in this resource area from those identified in the existing GSEP August 2010 – PA/FEIS.</p> <p>Refer to PA/FEIS sections 3.22 Wildland and Fire Ecology and 4.20 Impacts on Wildland and Fire Ecology</p>

## 3.2 Air Quality

### Affected Environment

The environmental baseline for the GSEP is provided in Section 3.2 Air Quality of the GSEP PA/FEIS. That information is incorporated into this EA by reference. The section describes the air quality conditions for criteria pollutants in the project area and the federal and state ambient air quality standards in the Mojave Desert Air Basin (MDAB), which is where the project is located. The MDAB is under the jurisdiction of the MDAQMD. The state and federal air quality standards are listed in Table 3.2-1 of the GSEP PA/FEIS. Table 3.2-2 of the GSEP PA/FEIS

summarized the project area's attainment status for various applicable state and federal standards. The project area is located within the Riverside County portion of the MDAB, which is designated as non-attainment for the state ozone and PM<sub>10</sub> standards. The Riverside County portion of the MDAB is designated as either attainment or unclassified for all federal criteria pollutant ambient air quality standards and the state CO, NO<sub>2</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub> standards.

Table 3.2-3 of the GSEP PA/FEIS presented the ambient air quality monitoring data between 2004 through 2009 for ozone, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>2</sub>, and SO<sub>2</sub> at the most representative monitoring stations for each pollutant along with the most restrictive applicable standards for each pollutant. Ozone data was taken from the Blythe-445 West Murphy Street monitoring station, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, and CO data were taken from the Palm Springs Fire Station monitoring station, and SO<sub>2</sub> data was taken from the Victorville-14306 Park Avenue monitoring station.

## **Environmental Impacts and Mitigation Measures**

### **Option A Gen-tie Line**

According to the air quality analysis prepared by Tetra Tech EC, Inc. for the ROW modifications, it was determined that the proposed changes to the approved gen-tie line under the Option A gen-tie line would not result in air quality impacts that are different than those associated with the original approved gen-tie line location (Tetra Tech EC, Inc., 2012). In addition, while the project had originally proposed Wet Surface Air Coolers to remove heat from the power units, these coolers have now been replaced with two small package type cooling systems to help remove heat from the Closed Cooling Water Systems. Due to the significant reduction in size of the two smaller cooling systems, the air quality impacts from the wet cooling towers that were originally proposed would also be reduced.

As discussed previously, SCE has changed the location of the proposed CRS. This relocation of the CRS and the LGIA require differences in the approved gen-tie line configuration and results in a delay of the online date for the CRS of approximately eight months. Additionally, due to uncertainty in the ability of Genesis Solar to reach an agreement for back-feed power from the BTEL, Genesis Solar is currently proposing an alternate means to obtain power for plant commissioning through the use of portable generators. The use of portable, temporary generators will provide an alternate source for supplying the necessary power for commissioning activities of the first of the two power generation Units if the CRS is not yet available. These activities will begin in the first quarter of 2013 and will initially require about 0.5 MW of power. The commissioning period is projected to last about 7 months (up to 31 weeks). The load requirements will slowly ramp up through the following months peaking at the beginning of July up to approximately 9.5 MWs if no back-feed power is available. These generators will be used to supply electrical loads for startup and commissioning activities. Power needs during this period will include the water treatment plant, HTF freeze protection pumps, overflow return pumps and solar collectors. Commissioning activities will include dewatering, HTF pump commissioning, and steam blows. A mix of engine fuel types and sizes is expected to be used based on the varied load requirements throughout the commissioning

period, the availability of engines and fuels, and emissions considerations. It is expected that three engine types would be used: 500 kW diesel fired engines; 1,500 kW diesel fired engines; and 1,300 kW natural gas fired engines.

With regards to compliance with air quality regulations, the emissions generated during the commissioning period by these portable, temporary generators, has been analyzed as follows: 1) the total emissions during the commissioning period for comparison to potentially applicable offset thresholds, and 2) a dispersion modeling analysis to assess the impacts with respect to National and California ambient air quality standards (NAAQS and CAAQS). The total estimated commissioning emissions are shown below in Table 3.

**TABLE 3  
COMPARISON OF TOTAL COMMISSIONING EMISSIONS TO MDAQMD OFFSET THRESHOLD**

Pollutants	Total Commissioning Emissions (tons)	Auxiliary Boiler Operating Emissions (tons per year) <sup>a</sup>	Total Emissions (tons)	Offset Threshold (tons per year)	Exceed Offset Threshold?
NO <sub>x</sub>	24.6	0.2	24.8	25	No
ROC	3.5	0.04	3.5	25	No
CO	19.8	0.3	20.1	100	No
SO <sub>x</sub>	0.03	0.004	0.04	25	No
PM <sub>10</sub>	1.0	0.1	1.1	15	No
PM <sub>2.5</sub> <sup>b</sup>	0.98	0.1	1.1	15	No

<sup>a</sup> Since one auxiliary boiler may be operating during commissioning of the Unit, annual operational emissions associated with the auxiliary boiler have been calculated and included as part of the total commissioning emissions.

<sup>b</sup> PM<sub>2.5</sub> emissions were derived from the PM<sub>10</sub> emissions based on PM<sub>2.5</sub> fractions provided by the California Air Resources Board's California Emission Inventory Data and Reporting System (CEIDARS) database.

SOURCE: AECOM, Genesis Solar Energy Project, Summary of Commissioning Emission Calculations and Modeling Results, April 25, 2012.

As shown in Table 3, the estimated emissions during commissioning, including operation of the boiler, would not exceed the MDAQMD offset thresholds.

Furthermore, Table 4 and Table 5 below presents the results of the dispersion modeling that was performed to evaluate the ambient air quality impacts associated with the peak emissions scenario during the commissioning period against the CAAQS and NAAQS, respectively. The peak emissions that were modeled include those from the portable generators used for commissioning, operational emissions from one auxiliary boiler, and emissions from the construction of one of the project's two solar electric generating facilities (i.e., Unit 1 and Unit 2).

**TABLE 4  
SHORT-TERM CAAQS MODELING RESULTS ( $\mu\text{G}/\text{M}^3$ )**

Pollutants	Averaging Period	Maximum Concentration	Ambient Background	Total Concentration	CAAQS	Percent of CAAQS
NO <sub>2</sub>	1-hour	237.7	77.5	315.2	339	93.0%
CO	1-hour	639.6	2,300.0	2,940.0	23,000	12.8%
	8-hour	102.8	770.5	873.3	10,000	8.7%
SO <sub>2</sub>	1-hour	1.2	136.2	137.4	655	21.0%
	24-hour	0.07	18.3	18.4	105	17.5%
PM <sub>10</sub>	24-hour	2.1	96.0	98.1	50	196.2%

NOTE: There is no a SO<sub>2</sub> 3-hour or PM<sub>2.5</sub> 24-hour CAAQS.

SOURCE: AECOM, Genesis Solar Energy Project, Summary of Commissioning Emission Calculations and Modeling Results, April 25, 2012.

**TABLE 5  
SHORT-TERM NAAQS MODELING RESULTS ( $\mu\text{G}/\text{M}^3$ )**

Pollutants	Averaging Period	Modeled Project Concentration*	Ambient Background	Total Concentration	NAAQS	Percent of CAAQS
NO <sub>2</sub>	1-hour	107.3	77.5	184.8	188	98.3%
CO	1-hour	592.8	2,300.0	2,893.0	40,000	7.2%
	8-hour	85.7	770.5	856.2	10,000	8.6%
SO <sub>2</sub>	1-hour	0.4	136.2	136.6	196	69.5%
	3-hour	0.4	136.2	136.6	1,300	10.5%
	24-hour	0.06	18.3	18.4	365	5.2%
PM <sub>10</sub>	24-hour	1.5	96.0	97.53	150	65.0%
PM <sub>2.5</sub>	24-hour	1.7	41.9	43.6	35	124.5%

\* All values are in the form of their respective standard: high-2<sup>nd</sup>-high for CO, 3- and 24- hour SO<sub>2</sub>, high-6<sup>th</sup> high over 5 years for PM<sub>10</sub>, high-1<sup>st</sup>-high averaged over 5 years for PM<sub>2.5</sub>, and the 98<sup>th</sup> for 99<sup>th</sup> percentile of the 5-year average daily maximum for 1-hour NO<sub>2</sub> and SO<sub>2</sub>, respectively.

SOURCE: AECOM, Genesis Solar Energy Project, Summary of Commissioning Emission Calculations and Modeling Results, April 25, 2012.

As shown in Tables 4 and 5, all gaseous criteria pollutants are expected to be below the applicable NAAQS and CAAQS. While CO and SO<sub>2</sub> are well below the applicable standards, NO<sub>2</sub> is close to (but still below) both the NAAQS and CAAQS 1-hour standards. The results for the 24-hour PM<sub>10</sub> CAAQS and PM<sub>2.5</sub> NAAQS both exceed their respective standards. However, in both cases this is because the ambient background already exceeds the standard. In the case of the 24-hour PM<sub>10</sub> CAAQS, impacts caused by all sources during commissioning are only 2.1  $\mu\text{g}/\text{m}^3$ , or just 4% of the standard. For the PM<sub>2.5</sub> NAAQS, the impacts from all sources during commissioning are only 1.7  $\text{mg}/\text{m}^3$ , or just under 5% of the standard.

Overall, the Project's commissioning impacts are well below the peak construction impacts during the grading phase. As concluded in the GSEP Final Staff Assessment, with the implementation of the required mitigation measures during construction, the proposed GSEP would not create new exceedances or contribute to existing exceedances for any of the modeled air pollutants. Since the commissioning phase PM<sub>10</sub> and PM<sub>2.5</sub> impacts are substantially less than the construction grading phase, no exceedances for any of the modeled air pollutants would occur.

Furthermore, as discussed previously, the project is located in the Riverside County portion of the MDAB that is designated as either attainment or unclassified for all federal criteria pollutant ambient air quality standards. Thus, as the Project is not located in an area that is classified as nonattainment for any federal criteria pollutant ambient air quality standards, a General Conformity Rule applicability analysis is not required.

### **Option B Gen-tie Line**

The only air quality impacts under the Option B gen-tie line that would be different than the impacts occurring under the Option A gen-tie line would be related to construction of the gen-tie line and gas line. For example, total disturbance under Option A is 103.1 acres and Option B is 114.6 acres, compared to 149.4 acres of disturbance analyzed in the FEIS (see Table 1). As such, the proposed changes to the Option B gen-tie line would not result in air quality impacts that are materially different than those associated with Option A and would be substantially less than the original approved gen-tie line location, and the emissions generated from the use of portable generators during the commissioning period would not exceed the MDAQMD offset thresholds or result in exceedances for any of the modeled air pollutants.

### **No Action**

No air quality impacts would occur under the No Action alternative because the ROW would not be modified and no transmission interconnection lines, gas lines, or any other infrastructure would be built to tie the solar plant to the grid.

### **Mitigation Measures**

Mitigation measures as required by the Project's CEC Final Decision and BLM ROW Grant would be applied, as applicable.

## **3.3 Biological Resources**

### **Affected Environment**

The environmental setting of the ROW modifications area is similar to the setting described in previously prepared documents. The following documents describe (and depicts) the environmental setting of the ROW modifications area:

- Chapter 3.18 “Vegetation Resources” of the GSEP PA/FEIS provides an assessment of natural and special-status vegetation and plant communities supported in the project area, including the general area of the relocated CRS and approved gen-tie line;
- Chapter 3.23 “Wildlife Resources” provides an assessment of wildlife resources, including special-status wildlife occurring in the project area, including the general area of the relocated CRS and approved gen-tie line;
- The environmental baseline for the GSEP, including the general area of the relocated CRS and approved gen-tie line, is described in Section VI-A “Biological Resources” of the GSEP Final Decision, Docket Number 09-AFC-8;
- The Revised Staff Assessment (RSA or Exhibit 400) and Revised Staff Assessment Supplement (SSA or Exhibit 403) describes the vegetation and wildlife that occur within the plant site and along linear facilities. (Ex. 400, pp. C.2-14 to C.2-62.), which are similar as the relocated CRS and gas tie-in;
- Biological Resources Table 1 of the GSEP Final Decision, Docket Number 09-AFC-8 (Table 1) lists all special-status species evaluated during the analysis that are known to occur or could potentially occur in the GSEP area and vicinity. Species identified in Table 1 were also evaluation for the relocated CRS and gas tie-in.

Special-status species listed in Table 1 of the GSEP Final Decision that were detected or considered likely to occur based on known occurrences in the vicinity and suitable habitat present within the ROW modifications area are discussed in more detail below.

On March 15 and 16, 2012 , comprehensive biological resource surveys were conducted for the segments of the proposed gen-tie line and gas pipeline alternative routes that were not previously surveyed (see the surveyed area in Figure 6 and Figure 7 and refer to the full biological survey report in Appendix A).

Two biologists conducted surveys according to U.S. Fish and Wildlife Service (USFWS) desert tortoise protocols (FWS 2009), including buffer surveys at 100-500 feet from the ROW boundary. USFWS, California Department of Fish and Game (CDFG), and BLM agreed that conducting surveys starting March 15 was acceptable. Biologists surveyed for all special-status wildlife and plant species concurrently. The full biological report is included as Attachment A.

No federally or state-listed wildlife species were observed during 2012 surveys focused on the Option B gen-tie line; however, biologists observed three desert tortoise (*Gopherus agassizii*) permineralized shell fragments (estimated between 3,000 – 5,000 years old), seven Mojave fringe toed lizard individuals (*Uma scoparia*, California Species of Special Concern [SSC]), one inactive burrowing owl burrow (*Athene cunicularia*, SSC), and two inactive desert kit fox (*Vulpus macrotis*, CDFG protected furbearer) natal dens. All species observed and their locations were similar to findings of previous observations throughout the overall project site, as noted in the *Biological Resources Technical Report for the Genesis Solar Energy Project* (Tetra Tech Inc. and Karl 2009) and *Fall 2009 and Spring 2010 Biological Resources Technical Report* (Tetra Tech Inc. and Karl 2010).

The vegetation communities and habitats present within the Option B gen-tie line are consistent with those previously documented on the existing project ROW. No federally or state-listed plant species were observed during 2012 surveys; however, germination of annual plants was poor to non-existent due to low rainfall amounts during the 2011/2012 rain season. Although germination was negligible, the proximity of the new route plus the similarity of the vegetation communities and habitats with those surveyed in 2009 and 2010 indicate that no new special-status plant species would likely be found on the new route alternatives.

## **Environmental Impacts and Mitigation Measures**

Option A and Option B would result in less ground disturbance than the gen-tie and gas line facilities of the GSEP approved by the existing ROW grant. Therefore, less habitat overall would be affected by Option A or Option B. In addition, biological impacts from Option A and Option B would be offset by impacts avoided from not constructing those portions of the GSEP approved by the existing ROW grant. Therefore, the proposed ROW modifications would not increase biological impacts.

### **CRS Relocation**

Much of the area north of the new CRS location has been previously surveyed, including the areas covered by the proposed GSEP ROW modification. However, a segment of the proposed ROW was re-surveyed in 2012 from where the proposed GSEP circuit splits off of the BETL at pole 88 to the next proposed pole location, approximately 50 feet north of pole 87.

The area surrounding the north side of the new CRS location, south of the BETL, is characterized as stabilized and partially stabilized sand dune habitat for Mojave fringe toed lizards. The ring bus/switchyard is located within the dune area; however, it is on the very fringe of the dunes and is marginal dune habitat. Figure 7 shows the boundary area of the sand dune habitat in relation to the ring bus and the CRS.

The ring bus area is 1.58 acres in size and will be fenced with chain link fencing. In general, sand transport will not be impeded through the ring bus area. The small footprint, combined with the facility being located on the edge of the sand corridor, results in a negligible impact to the sand transport corridor.

### **Option A Gen-tie Line**

The areas where the Option A gen-tie line deviates from the GSEP ROW have been extensively surveyed and were not resurveyed again in 2012. Past biological surveys concluded that there are no sensitive biological species where the proposed ROW modification crosses the existing Eagle Mountain Line at a perpendicular angle (shown on Figure 6).

Additionally, the Option A gen-tie line will require a ROW extension to the south of the east/west portion of the SoCal Gas easement to assure an adequate distance between the

Option A gen-tie line and the gas line. No new biological impacts would occur from this slight modification and request for additional ROW.

### **Option B Gen-tie Line**

A substantial portion of the Option B gen-tie line, which traverses BLM land, was not included in the original ROW or previously surveyed; therefore, the Option B gen-tie line corridor was extensively surveyed in 2012. The biological conditions along the Option B gen-tie line corridor were found to be generally the same as the conditions on the Option A gen-tie line corridor. No sensitive species identified within the Option B gen-tie line corridor.

### **No Action**

No biological impacts would occur under the No Action alternative because the ROW would not be modified and no transmission interconnection lines, gas lines, or any other infrastructure would be built to tie the solar plant to the grid.

### **Mitigation Measures**

Mitigation measures as required by the ROW Grant would be applied to the alternate linear facilities route, as applicable. This includes, but is not limited to, protection measures during construction and operations and maintenance for desert tortoise, nesting birds, and other special-status species, minimization of habitat loss or degradation, and compensation for both sand dune habitat (3:1) and desert habitat (1:1).

## **3.4 Cultural Resources**

### **Affected Environment**

#### **The Area of Potential Effects**

The regulations for implementing Section 106 of the National Historic Preservation Act (NHPA) define the Area of Potential Effects (APE) as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16(d)). For purposes of complying with Section 106, the APE for the GSEP project has been defined in the Programmatic Agreement (PA) prepared for the GSEP project; as used herein, the term “APE” is consistent with this definition.

#### **Setting**

Chapter 3.4 “Cultural Resources” of the GSEP PA/FEIS provides an assessment of cultural resources in the project area. With the exception of the newly identified resources described below, the prehistoric, ethnographic, historic, and archaeological settings for the proposed GSEP

ROW modification are virtually identical to the settings described in the GSEP PA/FEIS; therefore, that information is incorporated by reference into this EA.

Many cultural resources surveys have been conducted in the area over the last few years by Genesis Solar, by other developers, and by utility companies. Most of these surveys have been associated with the Devers-Palo Verde 2 (DPV2), BETL, GSEP, and McCoy Solar Energy Project (MSEP).

On August 16, 2011, between March 3 and 6, 2012, and between July 25 and 28, 2012, comprehensive cultural resource surveys were conducted for the proposed GSEP ROW modification area portion of the APE.

On August 16, 2011, Project archaeologists conducted a Class III survey of a 5-acre area near the CRS (AECOM, 2011). Between March 3 and March 6, 2012, Project archaeologists conducted a Class III survey of the Option B gen-tie line alignment, plus a 50-foot buffer, as required by the CEC (AECOM, 2012). Following the guidelines in Section 8110 of the BLM Manual Identifying and Evaluating Cultural Resources (BLM, 2004), all Class III surveys consisted of an intensive pedestrian survey designed to identify all cultural properties identifiable from surface and exposed profile indications.

Subsequently, in response to recent discoveries in the vicinity of the project, and because of recent weather conditions involving the ongoing active aeolian transportation of soils, the BLM requested that portions of the GSEP project area be re-surveyed to confirm conditions. The area designated for this additional survey consisted of the following areas:

1. Options A & B Right-of-Way (ROW) north of the Colorado substation – 100-180 foot wide corridor, approximately 1,400 feet (0.27 miles) long;
2. Option A gen-tie line ROW – 100-200 foot wide corridor approximately 14,120 feet (2.67 miles) long including the existing BTL structures to be replaced, towers 115 and 116, measuring 150 feet by 100 feet each;
3. Option B gen-tie line ROW – 55-130 foot wide corridor approximately 14,350 (2.72 miles) feet long; and
4. Seven pull sites (Nos. 8, 9, 10, 11, 13, 14, 15) – 100 feet by 300 feet each (approximately 6 acres total including the pull sites, or portions thereof, located within the rights-of-way).

Between July 25 and July 28, 2012, Project archaeologists conducted a Class III survey of these areas (ESA, 2012). Following the guidelines in Section 8110 of the BLM Manual Identifying and Evaluating Cultural Resources (BLM, 2004), the Class III survey was an intensive pedestrian survey designed to identify all cultural properties identifiable from surface and exposed profile indications within the proposed GSEP ROW modification portion of the APE and the CEC-required 50-foot buffer. Additional field visits by Project and BLM archaeologists were

conducted on September 11 and 17, 2012, in order to further delineate the boundaries of three of the known cultural resources.

## Cultural Resources identified within the GSEP ROW Modifications

As a result of the 2012 cultural resources surveys of the GSEP ROW modifications areas, 19 archaeological sites and seven archaeological isolates were identified within the proposed GSEP ROW modification portion of the APE. These are summarized in Table 5 below. New resources were assigned temporary designations at the time they were recorded; permanent site numbers have not yet been assigned. Seven additional resources, prehistoric site GEN-JW-P-001 and isolated artifacts GEN-JW-ISO-1003 through GEN-JW-ISO-1008, were recorded during the March 2012 Class III survey; however, these resource were later determined to be outside of the APE and will not be affected by the Project.

Isolated finds are *a priori* considered ineligible for inclusion on the National Register of Historic Places (NRHP) and/or California Register of Historical Resources (CRHR), unless the artifact itself is of exceptional significance. Therefore, because they are not of exceptional significance, the seven isolated finds recorded within or adjacent to the Option B gen-tie line corridor are considered ineligible for listing in the NRHP.

Two of the archaeological sites (CA-RIV-9088 and CA-RIV-9090) have been determined ineligible for listing in the NRHP by BLM and SHPO. NRHP determinations of eligibility have not yet been made for the remaining 17 archaeological sites that might be affected by the GSEP ROW modifications. These determinations will be made in accordance with the Programmatic Agreement (PA) developed for the GSEP by the BLM in consultation with the California State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation, Indian Tribes and other interested parties. Until NRHP eligibility determinations are made, the cultural resources potentially affected by the GSEP ROW modifications will be assumed to be eligible for the purpose of assessing effects.

**TABLE 6  
RECORDED CULTURAL RESOURCES WITHIN THE GSEP ROW MODIFICATIONS**

Resource	Resource Type	Description	Project Component	Comments
CA-RIV-9009 (P-33-17319)	Archaeological Site	Historic refuse scatter consisting of cans and a glass jar.	Option A/B: Colorado Substation	Resource remains as previously recorded; No impacts noted, substation approx. 500 m to south. Assumed eligible for NRHP.
CA-RIV-9258 (P-33-18012)	Archaeological Site	Historic refuse scatter containing artifacts related to military training.	Option A Gen-tie Line	Resource remains as previously recorded; no impacts other than intrusion of modern refuse. Assumed eligible for NRHP.

Resource	Resource Type	Description	Project Component	Comments
CA-RIV-9088 (P-33-13598)	Archaeological Site	Historic refuse scatter containing artifacts related to military training.	Option A Gen-tie Line	Past disturbances include Towers 115 and 116 located within site boundaries; guard shack near site. Site was determined not eligible for NRHP by BLM and SHPO.
CA-RIV-9090 (P-33-13599)	Archaeological Site	Prehistoric artifact scatter	Option A Gen-tie Line	Some previously recorded artifacts not located; Past disturbances include guard shack located near site. Site was determined not eligible for NRHP by BLM and SHPO.
P-33-13655	Archaeological Site	Historic refuse scatter and foundation.	Option B Gen-tie Line	Relocated within survey area. Assumed eligible for NRHP.
P-33-14146	Archaeological Site	Historic refuse scatter containing artifacts related to military training; artifacts widely scattered throughout site.	Option A/B Gen-tie Line	Previous disturbances include the paving of dirt road that runs through southern portion of site. Assumed eligible for NRHP.
P-33-17326	Archaeological Site	Historic refuse scatter concentrated within eight loci distributed along a one-half mile long area; site contains artifacts related to military training.	Option B Gen-tie Line	Site was not relocated during July 2012 survey. Assumed eligible for NRHP.
GEN-JW-P-003	Archaeological Site	Prehistoric lithic scatter.	Option B Gen-tie Line	Site was not relocated within APE during July 2012 survey. Assumed eligible for NRHP.
GEN-JW-M-002	Archaeological Site	Multicomponent site. Desert Training Center (DTC) emplacement feature and debris scatter, and four widely dispersed prehistoric flakes	Option B Gen-tie Line	Prehistoric component not relocated within APE during July 2012 survey. Assumed eligible for NRHP.

Resource	Resource Type	Description	Project Component	Comments
GEN-JW-M-004	Archaeological Site	Multicomponent site. DTC Emplacement feature and debris scatter; prehistoric ceramic scatter with two body fragments and one base fragment.	Option B Gen-tie Line	Assumed eligible for NRHP.
GEN-S-1-P	Archaeological Site	Prehistoric ceramic scatter.	Option B Gen-tie Line	Site likely remains of a pot drop. Assumed eligible for NRHP.
GEN-S-3-H	Archaeological Site	Historic artifact scatter consisting of cans and a mess knife.	Option A/B Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-S-7-H	Archaeological Site	Historic refuse scatter consisting of cans and glass	Option B Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-S-8-H	Archaeological Site	Historic refuse scatter consisting of cans and glass	Option B Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-S-9-H	Archaeological Site	Historic refuse scatter consisting primarily of cans and glass with multiple artifact concentrations	Option A Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-S-10-H	Archaeological Site	Historic refuse scatter consisting of cans and glass; widely dispersed throughout an extensive area.	Option A Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-S-11-H	Archaeological Site	Historic refuse scatter consisting of cans and glass.	Option A Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-MT-001-H	Archaeological Site	Historic refuse scatter	Option B Gen-tie Line	Assumed eligible for NRHP.
GEN-MT-002-H	Archaeological Site	Historic refuse scatter	Option B Gen-tie Line	Likely associated with military training exercises. Assumed eligible for NRHP.
GEN-JW-ISO-1001	Isolate	2 historic-era food cans	Option B Gen-tie Line	Not eligible for NRHP

Resource	Resource Type	Description	Project Component	Comments
GEN-JW-ISO-1002	Isolate	2 historic-era evaporated milk cans	Option B Gen-tie Line	Not eligible for NRHP
GEN-MT-ISO-101	Isolate	Sun-colored amethyst glass fragment	Option B Gen-tie Line	Not eligible for NRHP
GEN-MT-ISO-102	Isolate	Sun-colored amethyst glass fragment	Option B Gen-tie Line	Not eligible for NRHP
GEN-MT-ISO-103	Isolate	Hole-in-top fruit can	Option B Gen-tie Line	Not eligible for NRHP
GEN-MT-ISO-104	Isolate	1-quart oil can	Option B Gen-tie Line	Not eligible for NRHP
GEN-MT-ISO-105	Isolate	5-gallon fuel can	Option B Gen-tie Line	Not eligible for NRHP

## Environmental Impacts and Mitigation Measures

### CRS Relocation

One potentially significant cultural resource, a historic-era archaeological site, is located within the GSEP ROW Modification near the CRS. This site is similar to the type of historic-era archaeological sites previously analyzed in the EIS for the GSEP Project. Until NRHP eligibility determinations are made, this resource will be assumed to be eligible for the purpose of assessing effects. Direct impacts to the resource will be avoided through project design and through the delineation of an Environmentally Sensitive Area (ESA) around the resource, per the approved Historic Properties Treatment Plan (HPTP) prepared for the Project. Indirect impacts to the resource, which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility, may occur. In addition, given the high sensitivity of the area for buried archaeological resources, additional resources yet to be discovered during construction, located within the full extent of the GSEP's surface and below-grade impacts within the ROW modification, could be adversely affected through inadvertent disturbance or destruction of the resources during ground-disturbing activity.

### Option A Gen-tie Line

Six potentially significant cultural resources, which consist of six historic-era archaeological sites, have been recorded where the proposed Option A gen-tie line deviates from the approved GSEP

ROW. Two of these resource are located within both the Option A gen-tie line and Option B gen-tie line corridors. The resources located within Option A Gen-tie Line are similar to the type of historic-era archaeological sites previously analyzed in the EIS for the GSEP Project. Two additional archaeological sites (CA-RIV-9088 and CA-RIV-9090) have been determined ineligible for listing in the NRHP by BLM and SHPO. Until NRHP eligibility determinations are made, the other six resources will be assumed to be eligible for the purpose of assessing effects. Direct impacts to the resources will be avoided through project design and through the delineation of ESAs around the resource, per the approved HPTP prepared for the Project. Indirect impacts to archaeological resources, which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility, may occur. In addition, given the high sensitivity of the area for buried archaeological resources, additional resources yet to be discovered during construction, located within the full extent of the GSEP's surface and below-grade impacts within the ROW modification, could be adversely affected through inadvertent disturbance or destruction of the resources during ground-disturbing activity.

### **Option B Gen-tie Line**

Twelve potentially significant cultural resources, which consist of eight historic-era archaeological sites, two prehistoric archaeological sites, and two multicomponent archaeological sites, were identified where the proposed Option B gen-tie line deviates from the approved GSEP ROW. Two of these resources are located within both the Option A gen-tie line and Option B gen-tie line corridors. The resources located within Option B Gen-tie Line are similar to the type of historic-era, prehistoric, and multicomponent archaeological sites previously analyzed in the EIS for the GSEP Project. Until NRHP eligibility determinations are made, these resources will be assumed to be eligible for the purpose of assessing effects. Direct impacts to the resource will be avoided through project design and through the delineation of ESAs around the resource, per the approved HPTP prepared for the Project. Indirect impacts to archaeological resources, which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility, may occur. In addition, given the high sensitivity of the area for buried archaeological resources, additional resources yet to be discovered during construction, located within the full extent of the GSEP's surface and below-grade impacts within the ROW modification, could be adversely affected through inadvertent disturbance or destruction of the resources during ground-disturbing activity.

### **No Action**

No impacts to cultural resources would occur under the No Action alternative because the ROW would not be modified and no transmission interconnection lines, gas lines, or any other infrastructure would be built to tie the solar plant to the grid.

## Mitigation Measures

Direct impacts to known resources will be avoided through project design and through the delineation of ESAs around the resource, per the approved HPTP prepared for the Project. Indirect impacts to archaeological resources would be resolved through compliance with the terms of the BLM's approved PA and HPTP under Section 106 of NHPA, and mitigation measures as required by the project's CEC Final Decision, the PA/FEIS, and the BLM ROW Grant. The approved PA and HPTP governs the conclusion of the identification and evaluation of historic properties (eligible for the NRHP), as well as the resolution of any adverse effects that may result from the proposed or alternative actions. Adverse effects that the proposed GSEP ROW modifications may have on yet-to-be-discovered cultural resources will be resolved through compliance with the terms of the BLM's approved PA and HPTP.

Mitigation measures as required by the project's CEC Final Decision, the PA/FEIS, and the BLM ROW Grant would be applied to the GSEP ROW modifications, as applicable. This includes, but is not limited to, retention of qualified cultural resources specialists; implementation of the approved HPTP; implementation of a Worker Environmental Awareness Program; monitoring by qualified cultural resources personnel and Native American monitors during Project construction; avoidance or treatment of historic properties; and adherence to the NAGPRA Plan of Action prepared for the GSEP project.

## 3.5 Cumulative Impacts

The GSEP PA/FEIS analyzed the cumulative impact of the construction, operation and maintenance, closure and decommissioning of the GSEP, taking into account the effects in common with other past, present, and reasonably foreseeable future actions. The cumulative effects analysis highlights past actions that are closely-related either in time or space (i.e., temporally or in geographic proximity) to the Proposed Action, present actions that are ongoing at the same time this PA/EIS was being prepared; and reasonably foreseeable future actions, including those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

There are a large number of renewable energy and other projects proposed throughout the California desert that were identified as potentially contributing to cumulative environmental impacts. Those cumulative projects are discussed in detail in Section 4.1.4, Cumulative Scenario Approach of the GSEP PA/FEIS. Therefore, that information is incorporated by reference into this EA.

Since the time the BLM published the Record of Decision for the GSEP, the Solar Energy Development Draft Programmatic EIS (Draft PEIS) has been prepared by the U.S. Department of Energy, Energy Efficiency and Renewable Energy Program, and the BLM (the Agencies) in order to assess environmental impacts associated with the development and implementation of agency-specific programs that would facilitate environmentally responsible utility-scale solar energy development in six western states (Arizona, California, Colorado, New Mexico, Nevada, and Utah). The Draft PEIS contains two levels of analyses (DOE/BLM, 2010). First, it

evaluates the environmental impacts of utility-scale solar energy technologies considered to be viable for deployment over the next 20 years, and the potential effects of the agencies establishing new solar energy development programs or guidance. Second, it provides in-depth environmental analyses of the BLM's 24 proposed solar energy zones (SEZs) to inform decisions about whether to identify those locations as areas in which the BLM would prioritize utility-scale solar energy development. Both BLM action alternatives include a SEZ component. Section 9.4.22 "Cumulative Impacts" of Chapter 9.4 "Riverside East" of Volume 3, Parts 1 and 2 "Chapter 9: California Proposed Energy Zones" contains a current list of projects proposed throughout the California desert that were identified as potentially contributing to cumulative environmental impacts. Therefore, that information is incorporated by reference into this EA.

The ROW modifications proposed for the GSEP are minor and inconsequential from a cumulative impact standpoint when compared to the scope of renewable energy and other projects previously analyzed or are currently being analyzed within the project area in the GSEP PA/FEIS and the Solar Energy Development PEIS. Any contribution to cumulative impacts from Option A and Option B would be offset by impacts avoided from not constructing those portions of the GSEP approved by the existing ROW grant but proposed to be replaced by Option A or Option B. Therefore, the proposed ROW modifications would not additionally contribute to cumulative impacts.

## **SECTION 4**

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### **Persons/Agencies Consulted/List of Preparers**

#### **4.1 Freedom of Information Act Consideration**

Public comments submitted for this EA, including names and street addresses of respondents, will be available for public review at the Palm Springs-South Coast Field Office during regular business hours (8:00 a.m. to 4:30 p.m.), Monday through Friday, except holidays. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

#### **4.2 Persons/Agencies Consulted**

U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office

#### **4.3 Native American Consultation**

Concurring Parties

Agua Caliente Band of Cahuilla Indians

Augustine Band of Mission Indians

Cabazon Band of Mission Indians

Chemehuevi Indian Tribe

Cocopah Indian Tribe

Colorado River Indian Tribes

Fort Mojave Indian Tribe

Fort Yuma Quechan Tribe

Morongo Band of Mission Indians  
Ramona Band of Mission Indians  
San Manuel Band of Mission Indians  
Soboba Band of Luiseno Indians  
Torres-Martinez Desert Cahuilla Indians  
Twenty-Nine Palms Band of Mission Indians  
California Unions for Reliable Energy

## **4.4 List of Preparers**

George Kline, BLM Archaeologist  
Mark Massar, BLM Wildlife Biologist  
Holly Roberts, Assistant Field Manager  
Greg Ainsworth, ESA  
Vanessa Arent, ESA  
Poonam Boparai, ESA  
Madeleine Bray, ESA  
Chris Knopp, ESA  
Robert Prohaska, ESA  
Gregg Simmons, ESA  
Terrance Wong, ESA

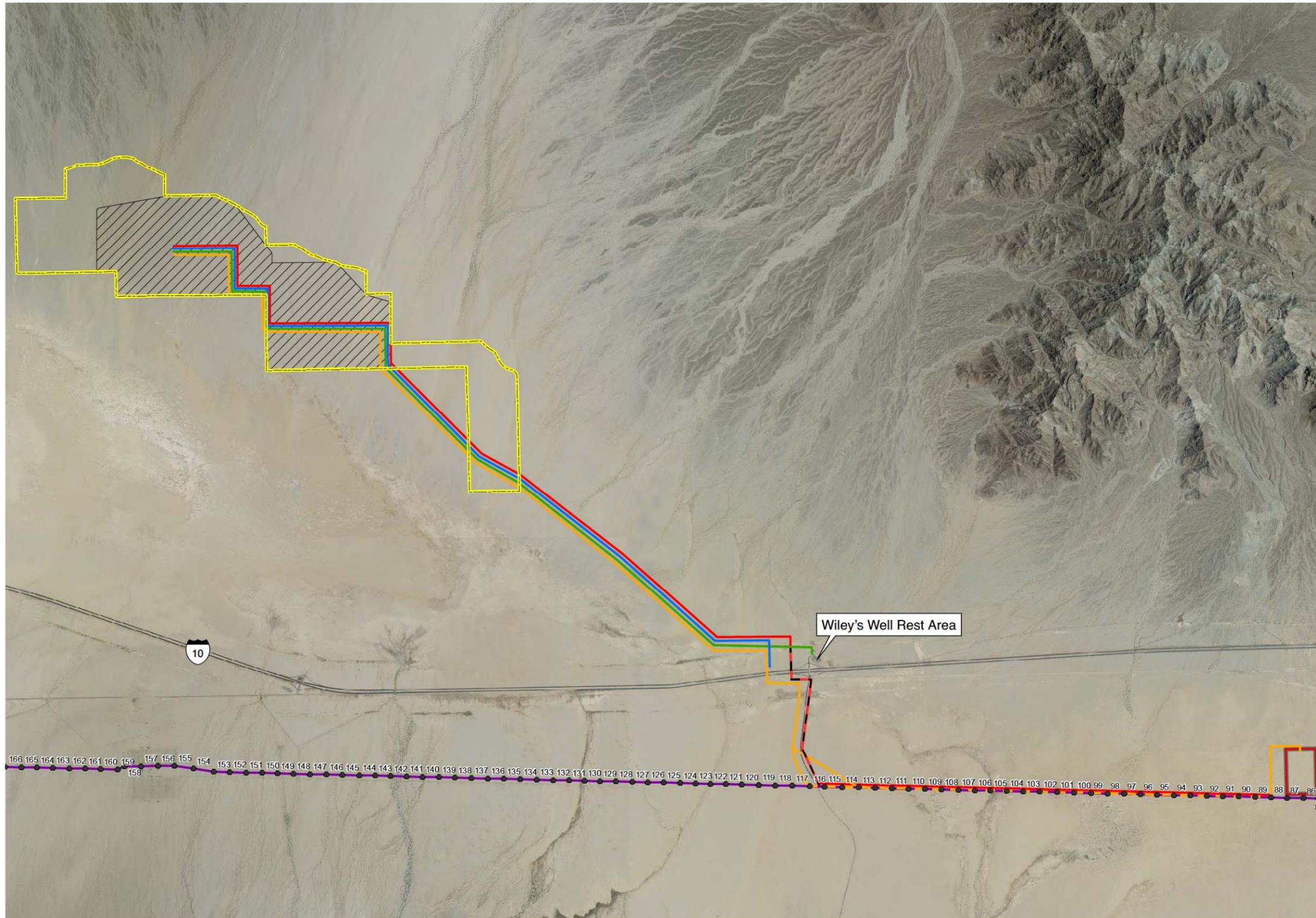
# SECTION 5

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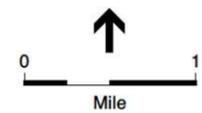
## References

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- USFWS 1992. U.S. Fish and Wildlife Service. Field survey protocol for any non-federal action that may occur within the range of the desert tortoise.

## Figures



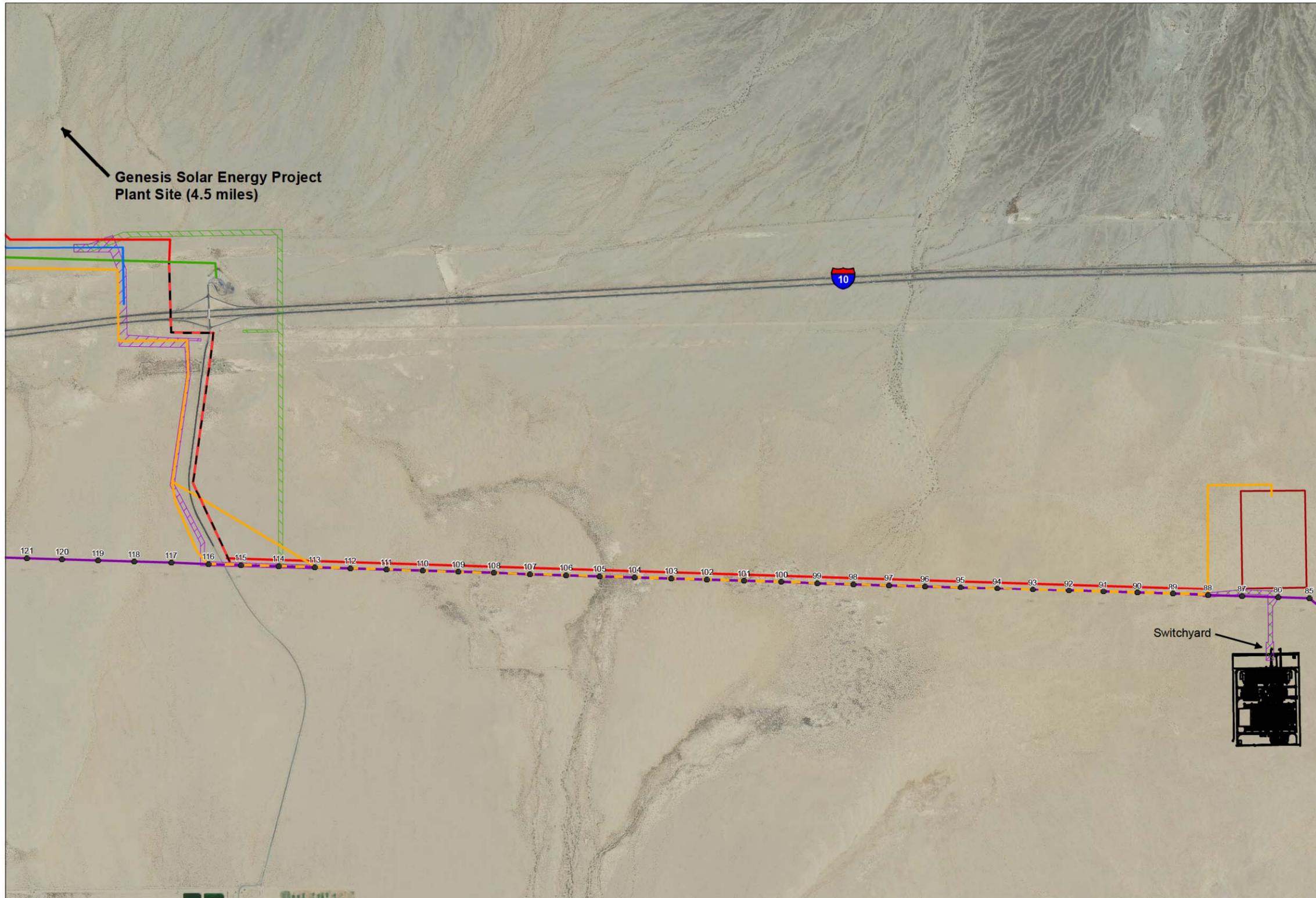
- Blythe Energy Project Transmission Line
- Blythe Energy Project Transmission Line Structure
- Transmission Interconnect
- Genesis Transmission Interconnect on Existing BETL Poles
- Gas Line
- Access Road
- Distribution Line/Redundant Communication Line
- Redundant Communication Line in Existing ROW
- Project Requested ROW
- Genesis Plant Site
- Previously Proposed Colorado River Substation (SCE)



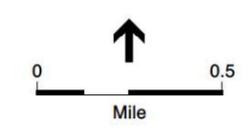
SOURCE: Tetra Tech, ESRI, USDA, Riverside County, A. Karl & Assoc.; 2012.

Genesis Solar Energy Project . 120191

**Figure 1**  
Original GSEP Layout

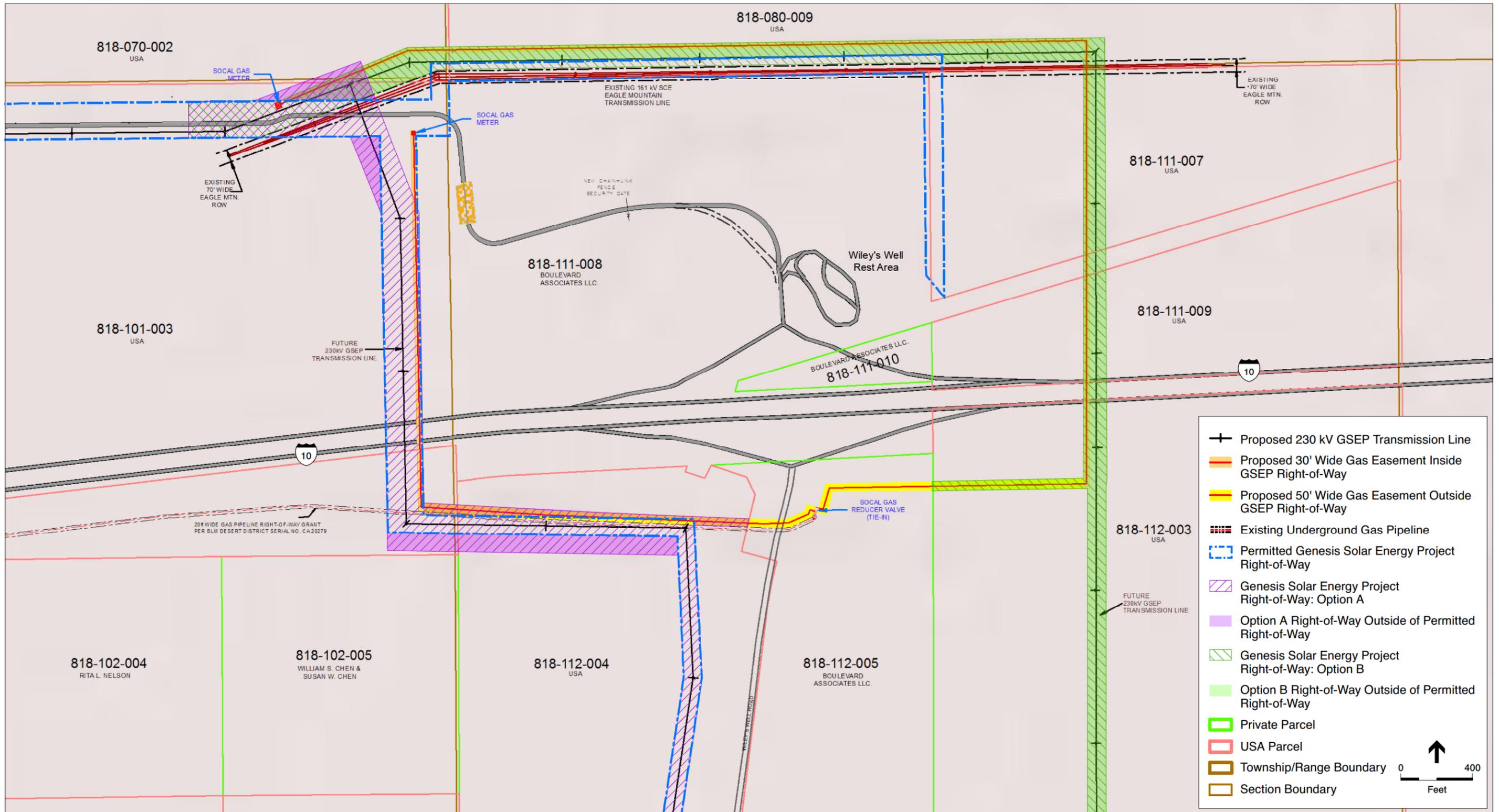


- Blythe Energy Project Transmission Line
- Blythe Energy Project Transmission Line Structure
- Original Proposed GSEP Layout**
- Transmission Interconnect
- Genesis Transmission Interconnect on Existing BETL Poles
- Gas Line
- Access Road
- Distribution Line/Redundant Communication Line
- Redundant Communication Line in Existing ROW
- Former Colorado River Substation
- Current Proposed GSEP Layout**
- ▨ GSEP ROW - Option A
- ▧ GSEP ROW - Option B
- Current Colorado River Substation (SCE)



SOURCE: USDA, Riverside County, A. Karl & Assoc., ESRI, Tetra Tech, 2012.

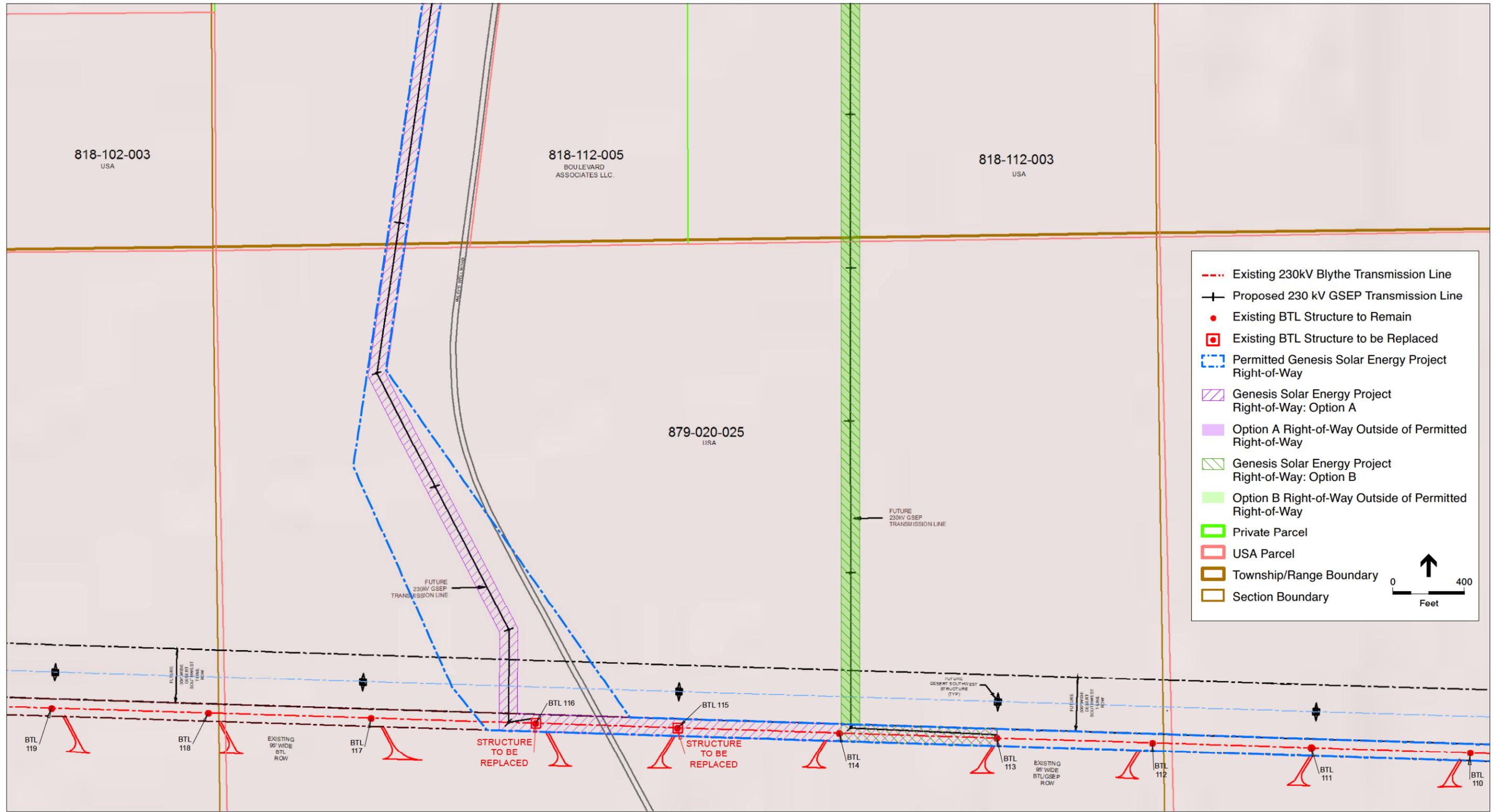
Genesis Solar Energy Project . 120191  
**Figure 2**  
 Original and Proposed GSEP ROW



SOURCE: ESRI, Holt Group, Tetra Tech, 2012.

Genesis Solar Energy Project . 120191

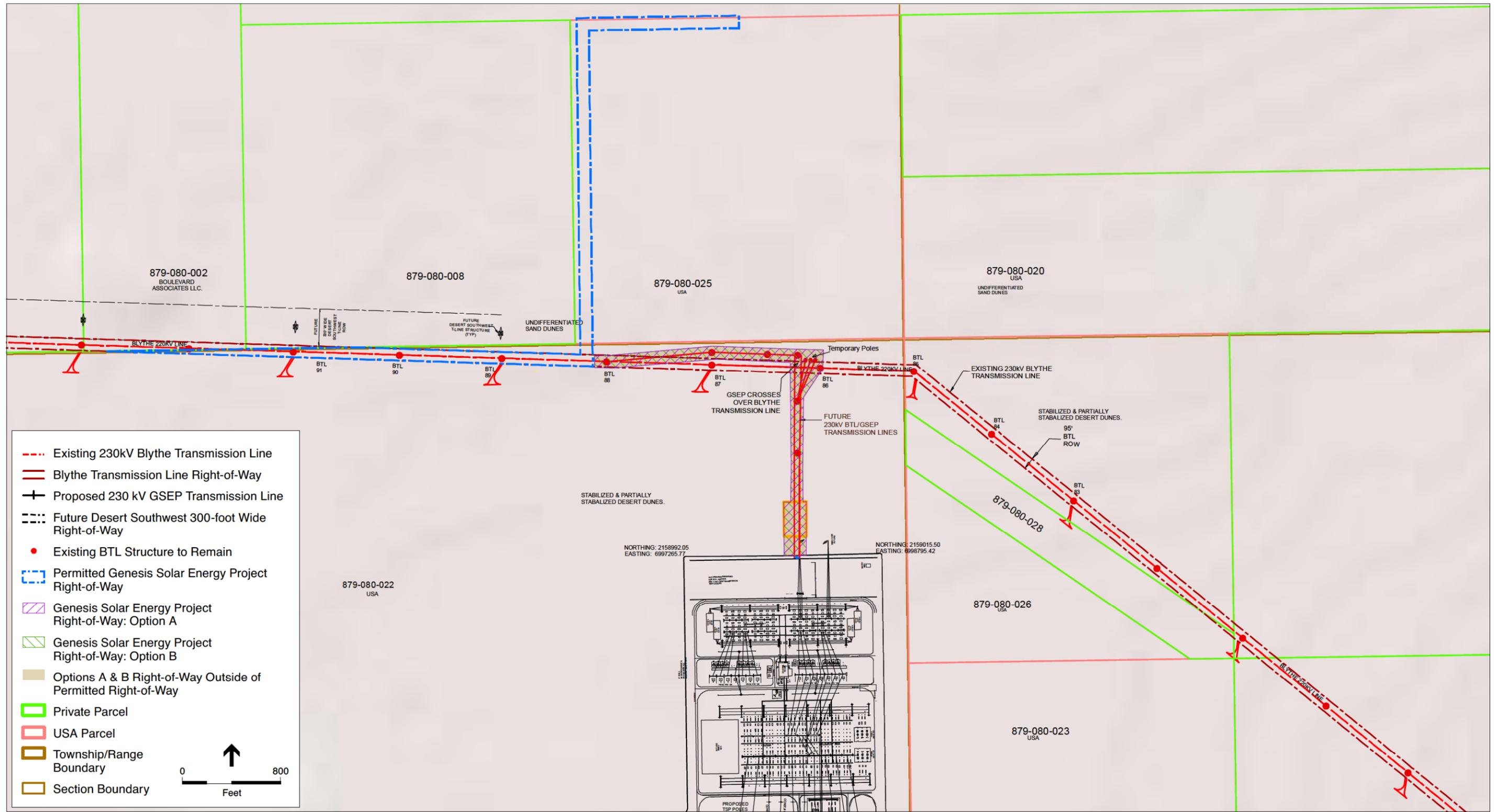
**Figure 3**  
Options A & B View 1

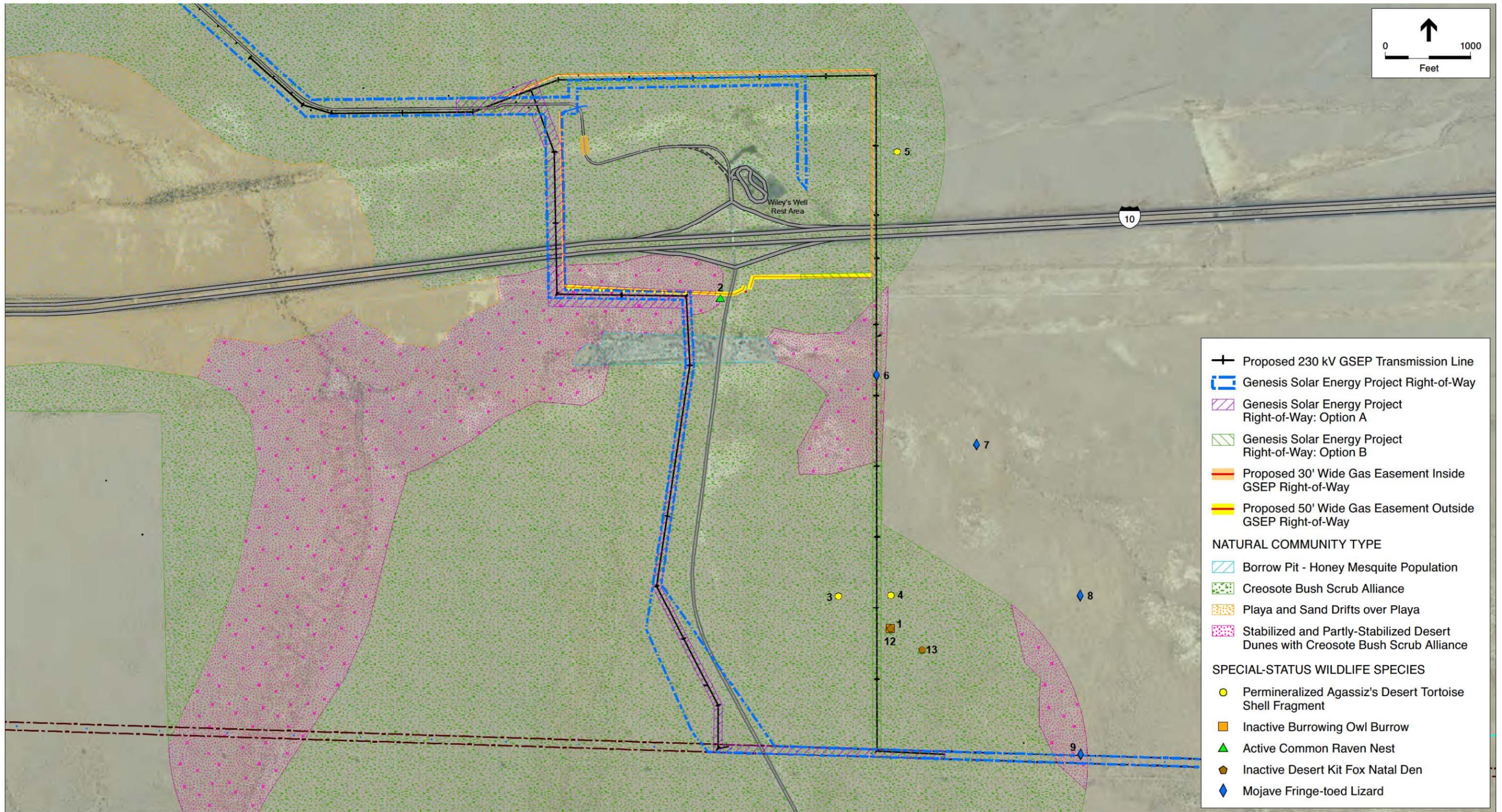


SOURCE: ESRI, Holt Group, Tetra Tech, 2012.

Genesis Solar Energy Project . 120191

**Figure 4**  
Options A & B View 2

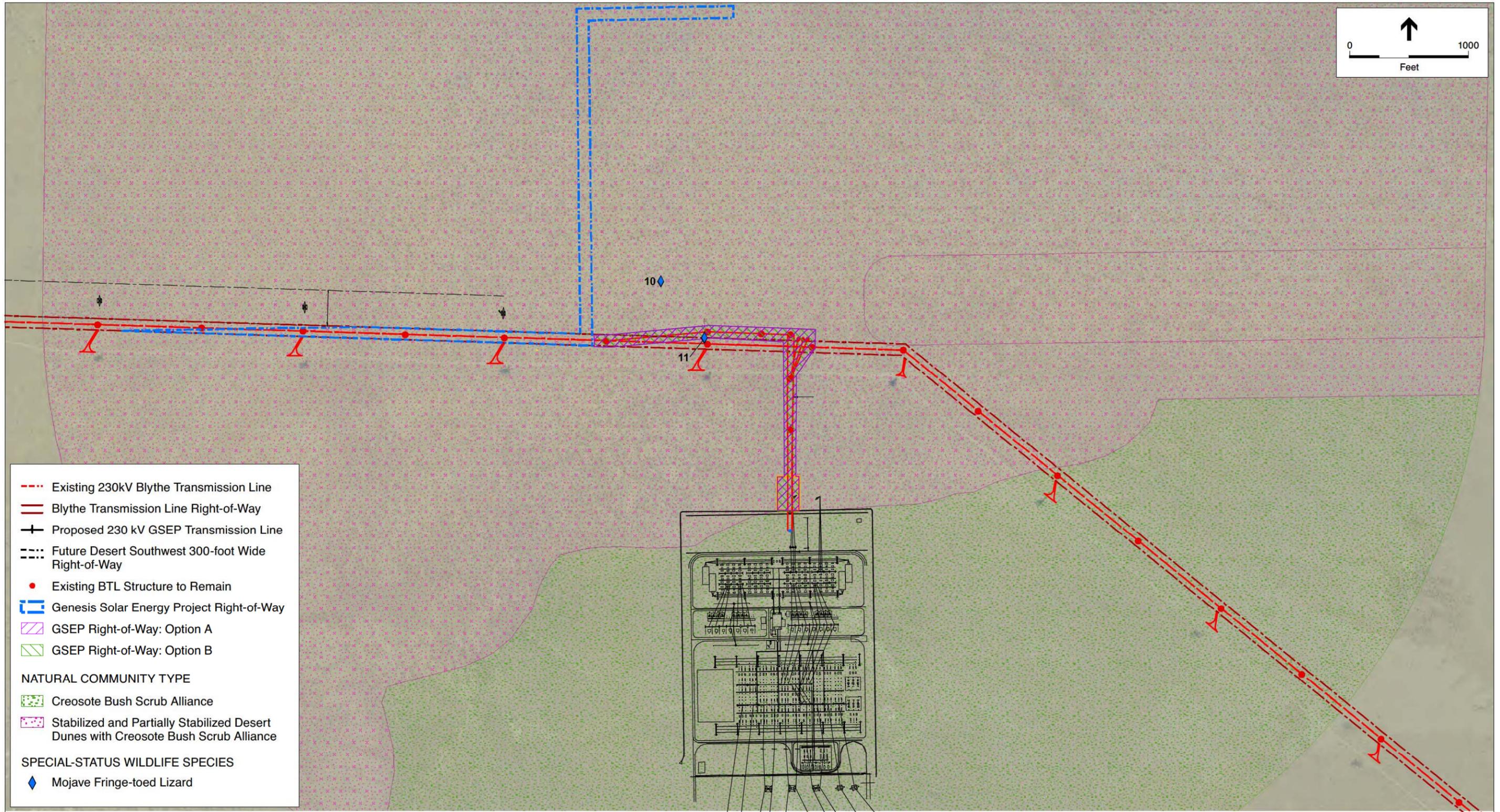




SOURCE: ESRI, Holt Group, Tetra Tech, 2012.

Genesis Solar Energy Project . 120191

**Figure 6**  
Special-Status Species Observations  
and Land Cover View 1



SOURCE: ESRI, Holt Group, Tetra Tech, 2012.

Genesis Solar Energy Project . 120191  
**Figure 7**  
 Special-Status Species Observations  
 and Land Cover View 2

## **Appendix A – Biological Survey Report**



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**TECHNICAL MEMORANDUM**

FROM: Emily Mix (Tetra Tech Inc.) and Dr. Alice Karl

DATE: March 29, 2012

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SUBJECT: **Genesis Solar Energy Project Biological Resources Surveys of an Alternate Linear Facilities Route**

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On March 15 and 16, 2012, biologists Dr. Alice Karl and Ms. Emily Mix conducted comprehensive biological resource surveys of an alternate generation-tie line (gen-tie) and gas pipeline (collectively referred to as the linear facilities) route for the Genesis Solar Energy Project (Project). The purpose of the surveys was to identify the presence or potential for presence of special-status species and vegetation communities along the alternative route. This technical memo describes the methods and results from the 2012 surveys and supplements the *Genesis Solar Energy Project Biological Resources Technical Report* (Tetra Tech and Karl 2009) and *Fall 2009 and Spring 2010 Genesis Solar Energy Project Biological Resources Technical Report* (Tetra Tech and Karl 2010).

Methods

Dr. Karl and Ms. Mix conducted surveys using identical methods used for the Project in 2009 and 2010 (Tetra Tech and Karl 2009 and 2010). In summary, this included surveying for Agassizi's desert tortoise (*Gopherus agassizii*) in accordance with US Fish and Wildlife Service (FWS) protocols (1992) and burrowing owls in accordance with California Burrowing Owl Consortium Guidelines (CBOC 1993). Although FWS released revised desert tortoise survey guidance in 2010, to be consistent with protocols used on previous Project surveys, biologists followed the 1992 guidance. The current FWS timing requirement for spring surveys is April 1 to May 31; however, the FWS Carlsbad field office, with agreement from the Bureau of Land Management (BLM) and California Department of Fish and Game (CDFG), authorized tortoise surveys to commence on March 15, 2012 based on recent, local weather conditions and data identifying that tortoises were active in the Project vicinity (T. Keeler Baird, pers. comm. March 13, 2012). Based on the warm weather the previous month, March would also be appropriate for surveying for plant species.

Surveys of the alternate route were conducted in areas not previously surveyed for biological resources (Figures 1A and 1B) or permitted. Biologists surveyed a 50 foot-wide-corridor (gas pipeline route only), 100 foot-wide corridor (gen-tie only), or 130-foot-wide corridor (gen-tie plus pipeline) along the proposed linear right-of-way (ROW) at

100% coverage (30-foot wide transects) plus a single, 30-foot-wide buffer transect at 100, 200, 300, 400, 500<sup>1</sup>, 1,200, and 2,400 feet from the survey corridor boundary. The survey corridor was slightly wider than the proposed ROW. Using a handheld global positioning system (GPS) unit, biologists recorded and mapped all tortoise sign (e.g., scat, burrows, tortoises, tracks, carcasses), all sightings of known tortoise predators (e.g., common raven, coyote), and other site features that could assist in the analysis of tortoise population impacts.

Concurrently with desert tortoise surveys, biologists conducted surveys for all special-status species (individuals and sign) that potentially occur within the Project, including plants, Mojave fringe-toed lizard (*Uma scoparia*), burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis*) and several other species (see Table 1 in Tetra Tech and Karl 2009). Habitat was sought for species that are only seasonally active (e.g., Couch's spadefoot [*Scaphiopus couchii*]). Plant species regulated by the California Desert Native Plants Act - which include trees, cacti, ocotillo (*Fouquieria splendens*), yucca, and fan palms (*Washingtonia filifera*) – were counted where they occurred in the survey corridor. All special-status species observations and their sign were recorded and mapped using a handheld GPS unit.

## Results

The vegetation communities and land cover present within the surveyed area were consistent with those observed on the existing Project ROW (Figure 2A and 2B, see Tetra Tech and Karl 2009, 2010). The entire surveyed route was Creosote Bush (*Larrea tridentata*) Scrub Alliance, with creosote bush the predominant shrub. Intermittent low sand dunes and sand sheets, a BLM sensitive vegetation community, is present on most of the surveyed route south of Interstate 10. Big galleta grass (*Pleuraphis rigida*) is intermittently common to absent in the loose-sandy areas. Creosote bush – big galleta grass associations are generally considered rare by the CDFG (CDFG Natural Diversity Data Base 2010). However, the Project route would represent a poor-quality occurrence of this community because (1) galleta grass is only intermittent and not a dominant shrub, and (2) Sahara mustard (*Brassica tournefortii*), an invasive exotic annual, is abundant throughout most of the dunes and sand sheets.

No special-status plants were observed; however, germination of annuals was negligible along the route due to limited Winter 2011-2012 precipitation. Although germination was negligible, the proximity of the new route plus the similarity of the vegetation communities and habitats with those surveyed in 2009 and 2010 indicate that no new special-status plant species would be likely to be found on the new route alternatives, with the potential exception of Abram's spurge (*Chamaesyce abramsiana*). Species found on the earlier surveys in these habitat types, and likely to grow on the new alternative in years with adequate germination, would include Harwood's phlox (*Eriastrum harwoodii*), Harwood's milkvetch (*Astragalus insularis harwoodii*), and ribbed cryptantha (*Cryptantha costata*); Abram's spurge may be present in some of the swales near Interstate 10.

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<sup>1</sup> The 1992 FWS protocols place a Zone of Influence (ZOI) transect at 600 feet; however, in Spring 2009 the desert tortoise ZOI transect was moved to 500 feet with permission from the CEC, BLM, FWS, and CDFG to meet the California Burrowing Owl Consortium (CBOC) (1993) and CDFG (1995) burrowing owl survey requirement for a buffer transect at 500 feet. Spring 2012 survey methods were kept consistent with Spring 2009 methods.

CDNPA species in the survey route included a single silver cholla (*Opuntia echinocarpa*). It was approximately 500 feet outside of the ROW, south of I-10.

No state- or federally listed wildlife species were observed during 2012 surveys. Biologists found three permineralized desert tortoise (state- and federally listed Threatened) shell fragments off the Project route. Due to the complete lack of sign indicating use by desert tortoises of the Project route or the adjacent habitat, presence of tortoises on the new route is not supported.

Biologists also detected two California Species of Special Concern: Mojave fringe-toed lizard (11 individuals) and burrowing owl (inactive burrow) (Table 1, Figures 2A and 2B). Two inactive desert kit fox (CDFG protected furbearer) natal dens were also observed. Of the special-status species observed, six Mojave fringe-toed lizards were within the proposed linear ROW and all others were detected outside of the ROW on buffer surveys.

One pair of nesting common ravens (*Corvus corax*) was observed adjacent to the survey route in a communications tower. Native birds, including ravens, and their nests are protected by the federal Migratory Bird Treaty Act and CDFG Code Sections 3503 (all native birds) and 3503.5 (raptors).

### Conclusion

The results of the 2012 surveys of the alternate linear facilities route are consistent with results of previous Project surveys (see Tetra Tech and Karl 2009, 2010). No new vegetation communities or special-status species were detected along the alternate linear facilities route for which Project impacts have not previously been identified and analyzed in the California Energy Commission (CEC) and BLM permitting process.

### Recommendations

Mitigation measures as required by the Project's CEC Final Decision and BLM ROW Grant should be applied to the alternate linear facilities route, as applicable. This includes, but is not limited to, protection measures during construction and operations maintenance for desert tortoise, nesting birds, and other special-status species, minimization of habitat loss or degradation, and compensation for both sand dune habitat (3:1) and desert habitat (1:1).

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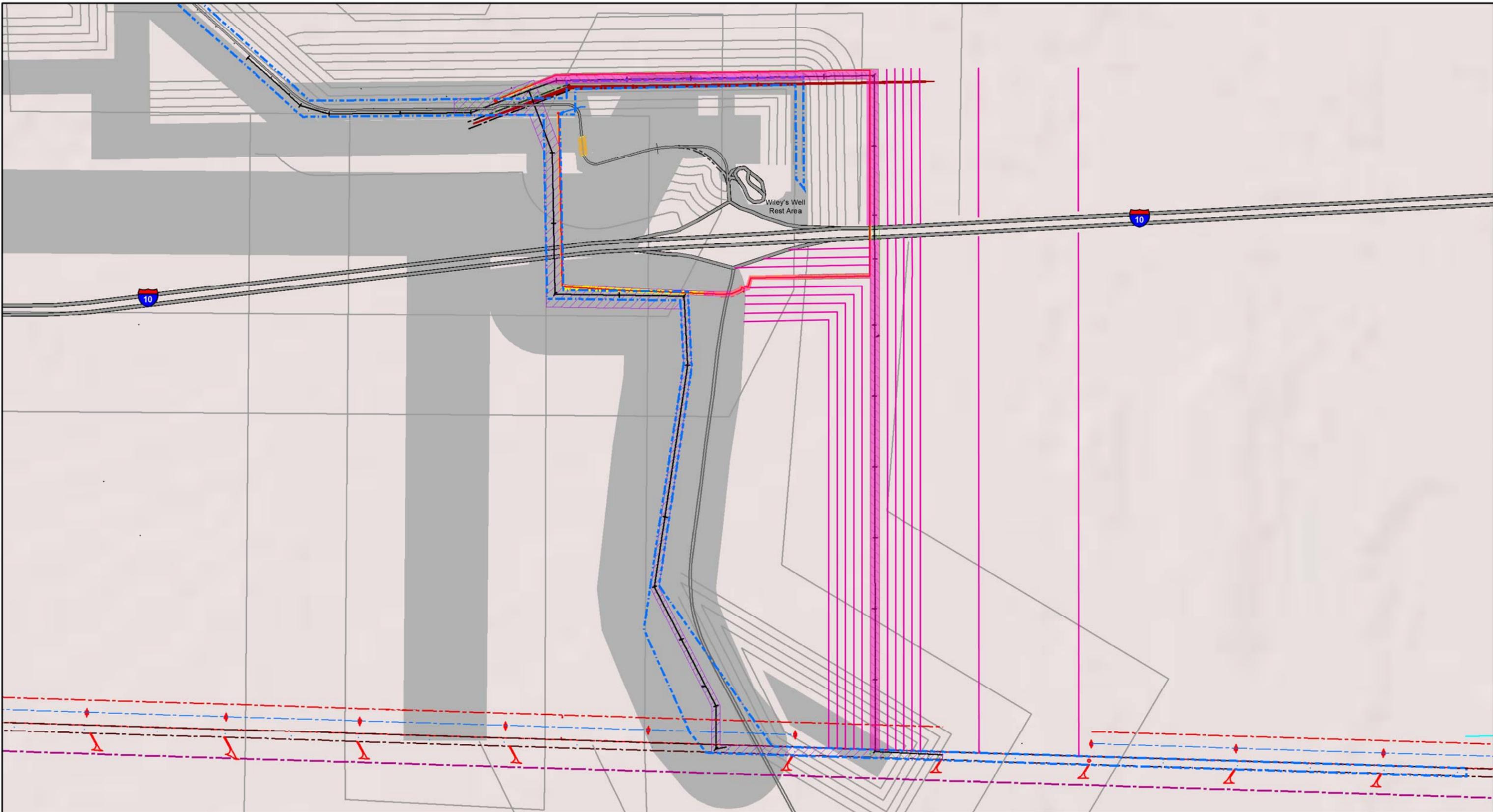
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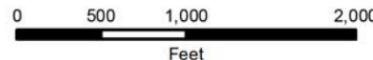
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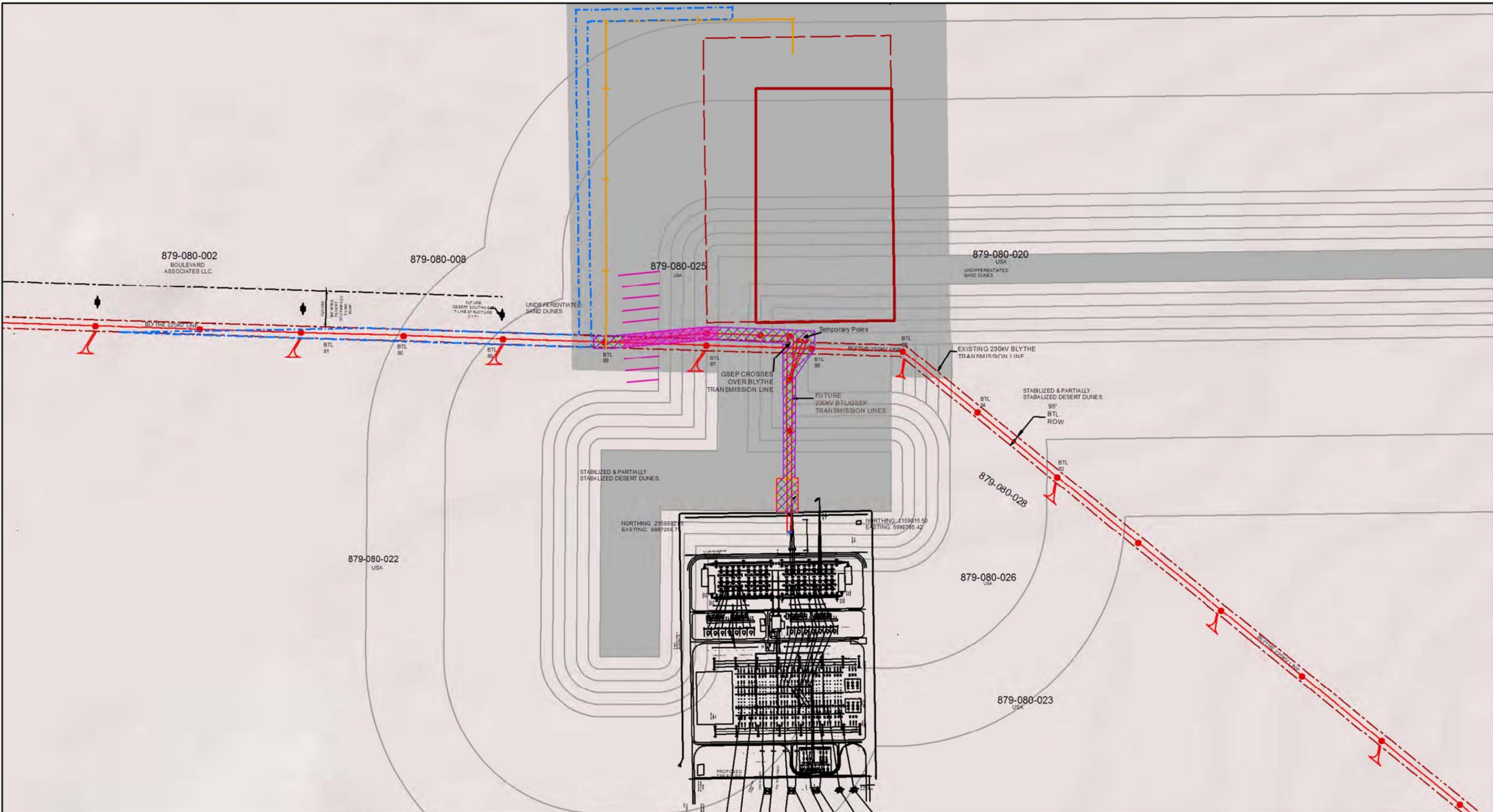
**Table 1. Spring 2012 Special-status Species Observations**

Number on Figure 2A and 2B	UTM (NAD 83)		Species	Common Name	Sign Type	Number of Sign	Age/Activity Status	Comments
	Easting	Northing						
1	695273	3719231	<i>Athene cucularia</i>	burrowing owl	burrow	1	inactive	One entrance at kit fox natal den with whitewash and pellets which appeared old.
2	694641	3720436	<i>Corvus corax</i>	common raven	nest	1	active	Two birds observed carrying nesting material to a nest in a communications tower south of I-10 along Wiley's Well Road
3	695082	3719349	<i>Gopherus agassizii</i>	Agassiz's desert tortoise	shell fragment	1	>>4	3 cm
4	695274	3719354	<i>Gopherus agassizii</i>	Agassiz's desert tortoise	shell fragment	1	>>4	5 cm
5	695286	3720976	<i>Gopherus agassizii</i>	Agassiz's desert tortoise	shell fragment	1	>>4	3 cm
6	695216	3720158	<i>Uma scoparia</i>	Mojave fringe-toed lizard	Individuals	3	-	Over 300 m area
7	695585	3719908	<i>Uma scoparia</i>	Mojave fringe-toed lizard	Individuals	2	adult and subadult	
8	695969	3719359	<i>Uma scoparia</i>	Mojave fringe-toed lizard	Individual	1	adult	Active
9	695974	3718778	<i>Uma scoparia</i>	Mojave fringe-toed lizard	Individual	1	adult	Active
10	702275	3718763	<i>Uma scoparia</i>	Mojave fringe-toed lizard	individual	1	adult	
11	702388	3718619	<i>Uma scoparia</i>	Mojave fringe-toed lizard	individual	3	adult and subadult	
12	695273	3719231	<i>Vulpes macrotis</i>	desert kit fox	natal den	1	inactive	Many entrances, most collapsed. One entrance has many scat > 1 yr old.
13	695391	3719155	<i>Vulpes macrotis</i>	desert kit fox	natal den	1	inactive	Old, collapsed, completely caved in



<b>Legend</b>		  Feet	<b>GENESIS SOLAR ENERGY PROJECT</b> <b>RIVERSIDE COUNTY, CA</b>  <b>FIGURE 1A</b> <b>DESERT TORTOISE SURVEY COVERAGE</b>  
 Proposed 230 kV GSEP Transmission Line  Genesis Solar Energy Project Right-of-Way  Genesis Solar Energy Project Right-of-Way - Option A  Genesis Solar Energy Project Right-of-Way - Option B  Existing Underground Gas Pipeline	 Proposed 30' Wide Gas Easement Inside GSEP Right-of-Way  Proposed 50' Wide Gas Easement Outside GSEP Right-of-Way  Previous 100% Survey Coverage and ZOI Transects  2012 100% Survey Coverage  2012 Buffer Transects		

Coordinate System: NAD83 California State Plane VI (ft)  
Sources: ESRI, Holt Group, Tetra Tech



- Legend**
- Existing 230kV Blythe Transmission Line
  - Blythe Transmission Line Right-of-Way
  - Proposed 230 kV GSEP Transmission Line
  - - - Future Desert Southwest 300-foot Wide Right-of-Way
  - Existing BTL Structure to Remain

- Genesis Solar Energy Project Right-of-Way
- GSEP Right-of-Way - Option A
- GSEP Right-of-Way - Option B
- Permitted 500kV CRS
- Proposed 230kV CRS Expansion Area
- 400 m and 600 m Buffer Transects

- Previous 100% Survey Coverage and ZOI Transects
- 2012 100% Survey Coverage
- 2012 Buffer Transects

N

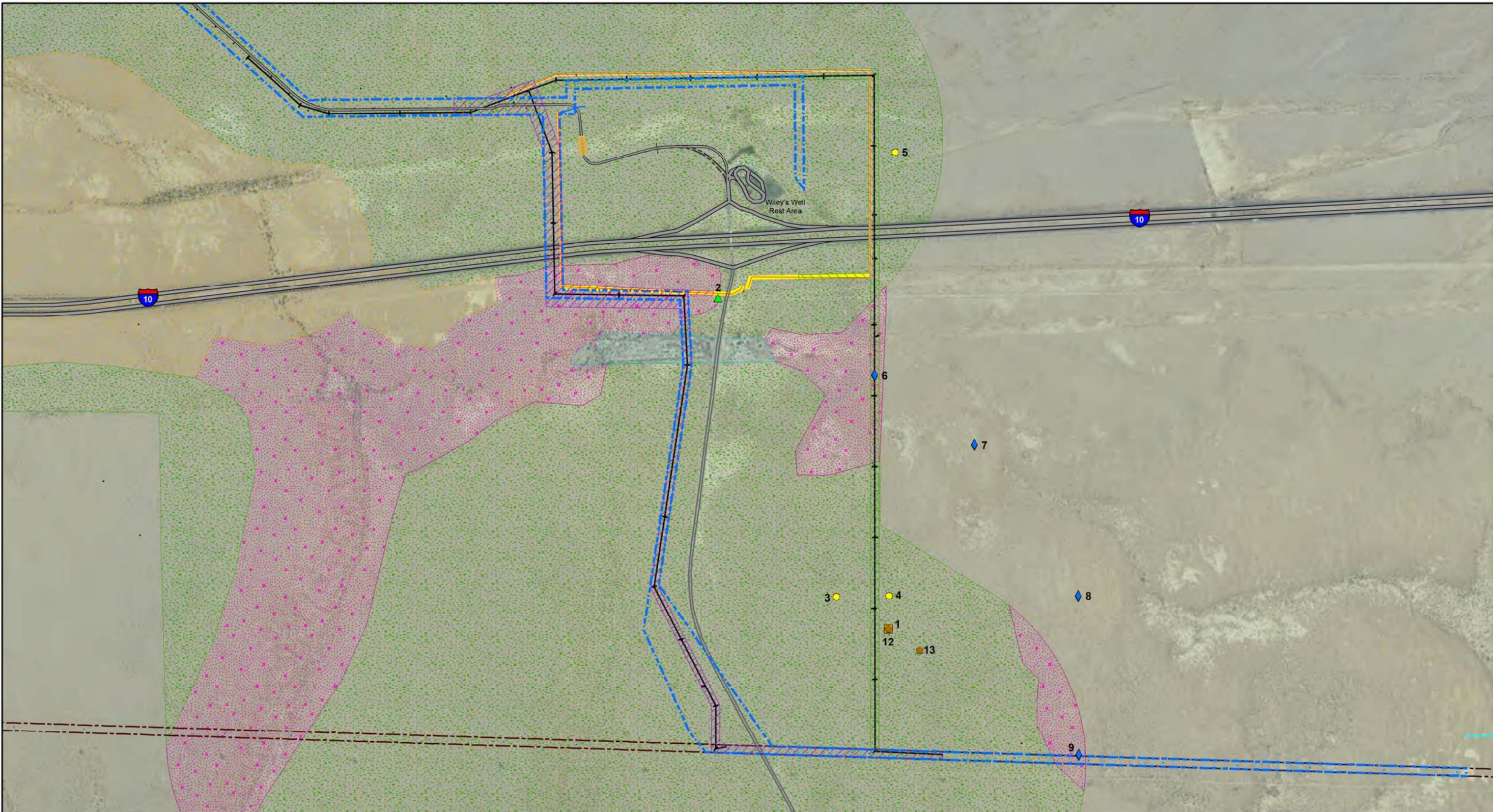
0 250 500 1,000  
Feet

Coordinate System: NAD83 California State Plane VI (ft)  
Sources: ESRI, Holt Group, Tetra Tech

**GENESIS SOLAR ENERGY PROJECT  
RIVERSIDE COUNTY, CA**

**FIGURE 1B  
DESERT TORTOISE SURVEY COVERAGE**

TETRA TECH INC.

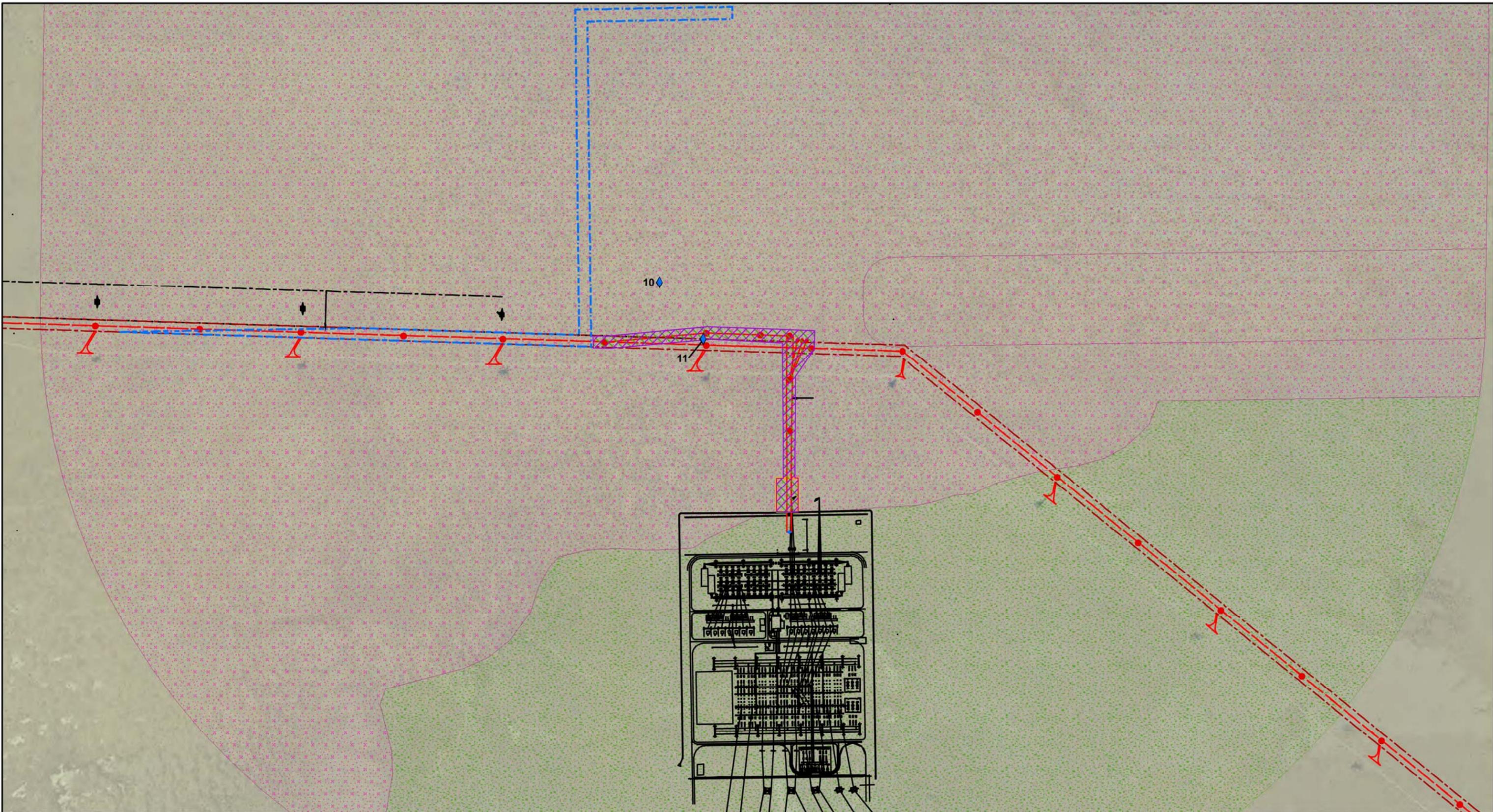


<b>Legend</b> + Proposed 230 kV GSEP Transmission Line Genesis Solar Energy Project Right-of-Way Genesis Solar Energy Project Right-of-Way - Option A Genesis Solar Energy Project Right-of-Way - Option B Proposed 30' Wide Gas Easement Inside GSEP Right-of-Way		Proposed 50' Wide Gas Easement Outside GSEP Right-of-Way <b>Natural Community Type</b> Borrow Pit - Honey Mesquite Population Creosote Bush Scrub Alliance Playa and Sand Drifts over Playa Stabilized and Partly-Stabilized Desert Dunes with Creosote Bush Scrub Alliance		<b>Special-Status Wildlife Species</b> Permineralized Agassiz's Desert Tortoise Shell Fragment Inactive Burrowing Owl Burrow Active Common Raven Nest Inactive Desert Kit Fox Natal Den Mojave Fringe-toed Lizard		<div style="text-align: center;">  N   0 500 1,000 2,000            Feet         </div> <p>Coordinate System: NAD83 California State Plane VI (ft) Sources: ESRI, Holt Group, Tetra Tech</p>	
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**GENESIS SOLAR ENERGY PROJECT**  
**RIVERSIDE COUNTY, CA**  
**FIGURE 2A**  
**SPECIAL-STATUS SPECIES OBSERVATIONS**  
**AND LAND COVER**



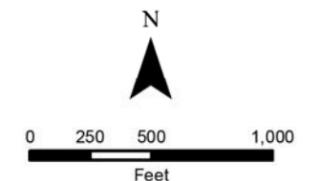
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- Legend**
- Existing 230kV Blythe Transmission Line
  - == Blythe Transmission Line Right-of-Way
  - + Proposed 230 kV GSEP Transmission Line
  - Future Desert Southwest 300-foot Wide Right-of-Way
  - Existing BTL Structure to Remain

- Genesis Solar Energy Project Right-of-Way
  - GSEP Right-of-Way - Option A
  - GSEP Right-of-Way - Option B
- Natural Community Type**
- Creosote Bush Scrub Alliance
  - Stabilized and Partially Stabilized Desert Dunes with Creosote Bush Scrub Alliance

- Special-Status Wildlife Species**
- ◆ Mojave fringe-toed lizard



Coordinate System: NAD83 California State Plane VI (ft)  
Sources: ESRI, Holt Group, Tetra Tech

**GENESIS SOLAR ENERGY PROJECT  
RIVERSIDE COUNTY, CA**

**FIGURE 2B  
SPECIAL-STATUS SPECIES OBSERVATIONS  
AND LAND COVER**

