



TETRA TECH EC, INC.

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California Energy Commission  
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1516 9<sup>th</sup> St.  
Sacramento, CA 95814

**Genesis Solar Energy Project - Docket Number 09-AFC-8**

Docket Clerk:

Included with this letter is one hard copy and one electronic copy of the **2009 Winter Avian Point Count and Burrowing Owl Survey Results** for the Genesis Solar Energy Project.

Sincerely,

A handwritten signature in cursive script that reads "Emily Festger".

Emily Festger  
(For Tricia Bernhardt, Project Manager/Tetra Tech EC)

cc: Mike Monasmith /CEC Project Manager



**2009 Winter  
Avian Point Count and  
Burrowing Owl Surveys Report**

**Genesis Solar Energy Project  
Riverside County, CA**

Prepared By:



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Prepared For:

**Genesis Solar, LLC**

**April 2010**

## EXECUTIVE SUMMARY

Genesis Solar, LLC (Genesis Solar), a Delaware, limited liability company and wholly owned subsidiary of NextEra Energy Resources, LLC is proposing to develop a 250-megawatt (MW) solar electric generating plant on land managed by the Bureau of Land Management (BLM) in the desert of eastern Riverside County, California (Figure 1). Genesis Solar has applied for a 4,640-acre Right-of-Way (ROW) grant from the BLM for development of the Genesis Solar Energy Project (Project). Once constructed, the Project would permanently occupy approximately 1,768 acres within this area (Plant Site), plus approximately 84 acres for Linear Facilities. The total permanent Project footprint would be 1,852 acres (collectively referred to as the Project Area). To determine vegetation communities, habitat, and species presence, comprehensive biological resource surveys were conducted of the entire requested ROW and linear facilities routes in Spring 2009 (Tetra Tech and Karl 2009). To assess the winter avian population within the Project Area and vicinity, winter avian point count surveys and winter burrowing owl surveys were conducted in December 2009.

The winter surveys were conducted in accordance with BLM and other recommended protocols. Per the California Burrowing Owl Consortium Guidelines, a winter burrowing owl survey was conducted because no burrowing owls were observed during spring Phase III surveys. This survey identified an active burrowing owl burrow, as well as multiple burrowing owl signs (whitewash and pellets). In accordance with BLM protocols, winter avian point count surveys were also conducted. These winter avian point count surveys identified 274 birds, consisting of 10 avian species. The horned lark and sage sparrow were the most commonly detected bird species.

### Special Status Species

No federally or state-listed wildlife species were observed during winter surveys; however, 3 California species of special concern were observed, including the burrowing owl, loggerhead shrike, and northern harrier.

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## 1.0 INTRODUCTION

Genesis Solar, LLC (Genesis Solar), a Delaware, limited liability company and wholly owned subsidiary of NextEra Energy Resources, LLC is proposing to develop a 250-megawatt (MW) solar electric generating plant on land managed by the Bureau of Land Management (BLM) in the desert of eastern Riverside County, California (Figure 1). Genesis Solar has applied for a 4,640-acre Right-of-Way (ROW) grant from the BLM for development of the Genesis Solar Energy Project (Project). Once constructed, the Project would permanently occupy approximately 1,768 acres within this area (Plant Site), plus approximately 84 acres for Linear Facilities. The total permanent Project footprint would be 1,852 acres (collectively referred to as the Project Area). The following terms will be used throughout this report:

- “Project Area” or “Project” is the 1,852 acre footprint of all Project components which includes the Plant Site and Linear Facilities.
- “Plant Site” is the 1,768 acre area that includes the solar arrays, power blocks, and power generating equipment, support facilities, and evaporation ponds.
- “Linear Facilities” includes the access road, transmission line, and natural gas and water pipelines and covers 84 acres.
- “Project Right-of-Way” (ROW) is the 4,640-acre area included in the right of way grant requested from the BLM.
- “Survey Area” means the area that was surveyed in Winter 2009 and includes the avian point count locations and burrowing owl observation areas.
- “Project Vicinity” is intended to be a general term to describe the broader, surrounding area.

In order to comply with federal, state, and local laws, the current condition of natural resources within the Project Area must be evaluated. In addition, as part of evaluating the Project's potential effects on species persistence and/or recovery, the presence of federally listed, state-listed, and other special status plants and animals must be identified, and their distribution and approximate abundance determined. To meet these objectives, comprehensive surveys for biological resources were conducted of the 4,640-acre ROW and proposed Linear Facilities during Spring 2009 (see Tetra Tech and Karl 2009). These Spring 2009 surveys included, but were not limited to, a Phase I, II, and III burrowing owl survey (California Burrowing Owl Consortium [CBOC] 1993), as well as avian point count surveys (BLM 2009, revised via email on March 24, 2009 by C. Otahal, pers. comm. to R. Romero, Tetra Tech EC, Inc.). As no burrowing owls (*Athene cunicularia*) were observed during the breeding season Phase III surveys, a winter Phase III burrowing owl survey was conducted, as recommended under the CBOC Guidelines (CBOC 1993). In addition, a winter season avian point count survey was required as part of the BLM's Avian Point Count Protocols (BLM 2009). This report describes the methods and results of these additional winter surveys, and will tier to the original 2009 Biological Resources Technical Report (Tetra Tech and Karl 2009).

## 2.0 PROJECT SETTING

### 2.1 Project Location

The Project is located in eastern Riverside County, California between the communities of Blythe and Desert Center on lands managed by the BLM (Figure 1). Blythe is located approximately 25 miles east of the Project and Desert Center is located approximately 27 miles west of the Project. The Project and Project Vicinity is located in an undeveloped area of the

Colorado Desert and is predominantly owned and managed by the BLM. Surrounding features include the McCoy Mountains to the east, the Palen Mountains (including the Palen/McCoy Wilderness Area) to the north, and Ford Dry Lake, a dry lakebed, to the south. I-10 is located approximately three miles south of the Plant Site. The Chuckwalla Mountains and Little Chuckwalla Mountains Wilderness Areas are also located farther south-southwest. The Ironwood and Chuckwalla State Prisons (adjacent to each other) are located approximately nine miles south of the Plant Site. The Project is graphically depicted on two U.S. Geological Survey 7.5 Minute Topographic Maps (Ford Dry Lake and McCoy Spring). The Project is located in Township 6S Range 18E and Township 6S Range 19E, San Bernardino Base and Meridian.

## 2.2 Project Description

The Project would consist of the Plant Site and Linear Facilities. A transmission line, access road, and natural gas and water pipelines will be co-located in one linear corridor to serve the Plant Site (Figure 2). The Plant Site would contain the solar arrays and associated Project facilities such as: a substation, an administration building, operation and maintenance facilities, and evaporation ponds. The Linear Facilities would originate within the Plant Site and exit to the south and would be approximately 6.5 miles long. The generation tie-line would extend an additional mile (1), cross Interstate 10 (I-10), and tie into the Blythe Energy Project Transmission Line. The generation tie-line would use the existing pole structures of the BEPTL to interconnect with the proposed Colorado River Substation to the east.

## 2.3 Environmental Setting

The Project is located in the Colorado region of the Sonoran Desert. This region is sparsely vegetated and characterized by broad valleys interspersed with mountain ranges and dry lakes. Summer temperatures routinely reach above 100°F (June through September) and annual average precipitation in the Blythe, California, area is less than 4 inches. On average, August receives the most rainfall, although rainfall is also received in the winter months of December, January, and February (Western Regional Climate Center 2008).

The Project lies near the toe of alluvial fans emanating from the Palen Mountains to the north and the McCoy Mountains to the east. The eastern portion of the Project is underlain by a broad, valley-axial drainage that extends southward between these mountains and drains to the Ford Dry Lake located about one mile south of the Project. The Project is relatively flat and generally slopes from north to south with elevations of approximately 370 to 400 feet above mean sea level (MSL).

The Project is sited in an area characterized by sheet flow hydrology. Shallow channels (runnels), which are typically one yard or less wide and one to few inches deep, form a network of ephemeral drainages across the Project that rarely flow and often fail to provide through-flow to larger drainages. Occasional, well-defined washes are present along the southern portion of the surveyed linear facility route north of I-10. There are no springs, seeps, wetlands, streams, or impoundments within the Project Area or vicinity.

The Project Area is currently undisturbed, although the area has been used for sheep grazing and OHV recreation in the past. The former BLM Ford Off-Highway Vehicle area was southwest of the Project. Ford Dry Lake was formerly open to the public for OHV use, but has since been closed. There appear to be few anthropogenic disturbances. There is little evidence of OHV traffic on the Project site. Access to the Project facility is poor and limited to 4-wheel-drive tracks located on the western end of the Project Area.

### 2.3.1 Vegetation Communities

Two main vegetation communities are found within the Project Area: Sonoran Creosote Bush Scrub and Stabilized and Partially Stabilized Sand Dunes (see Holland 1986). The characteristics of the two communities found within the Project Area are described below. Chenopod Scrub, Desert Dry Wash Woodland, and Playa communities are present within the Project Vicinity, but not on the Project Area. Vegetation the Project Area and Vicinity are illustrated in Figure 3.

#### Sonoran Creosote Bush Scrub

The Sonoran Creosote Bush Scrub community on the Project Area has relatively low shrub cover, approximately 10 to 15 percent, and varies in response to hydrology and slope. Small drainages are more densely populated by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), cheesebush (*Hymenoclea salsola*), and white rhatany (*Krameria grayii*) than immediately adjacent areas. Big galleta grass (*Pleuraphis* [= *Hilaria*] *rigida*) is also common in some areas within these drainages. Ironwood (*Olneya tesota*) and palo verde (*Cercidium floridum*) are scattered in the occasional well-defined washes and west of the Project Area in areas of heavy sheet flow. Common under story species include plantain (*Plantago ovata*), pebble pincushion flower (*Chaenactis carphoclinia*), forget-me-not (*Cryptantha* spp.), desert sunflower (*Geraea canescens*), peppergrass (*Lepidium lasiocarpum*), and stiff-haired lotus (*Lotus strigosus*).

Within the Project Area where Sonoran Creosote Bush Scrub occurs, soils are generally soft sandy-loams and loamy-sands, with scattered to 90 percent cover of fine gravel. Broad patches of well-developed, large-gravel desert pavement characterize the area west of the Project Area and are scattered (and less well-developed) throughout the central portion of the Project Area. Where Ford Dry Lake nears the junction of the southeastern portion of the Project Area and the linear facility routes (north of I-10), soils are much finer than elsewhere in the Project Area. Also in this area, sand is patchily and shallowly deposited over the surface and there are many small sinks.

#### Stabilized and Partially Stabilized Sand Dunes

A heterogeneous mixture of Stabilized and Partially Stabilized Sand Dunes overlaps a portion of the Plant Site and the Linear Facilities (Figure 6). There are also sandy areas present south of I-10 that overlap the surveyed linear route. These areas contain low dune formations of fine sand that contain widely spaced perennial shrubs. Dominant shrubs include creosote bush, white bursage, and galleta grass. Several sand-associated and other annuals are also abundant (e.g., sand verbena [*Abronia villosa*], birdcage primrose [*Oenothera deltooides*], desert marigold [*Baileya pauciradiata*], and narrow-leaved forget-me-not [*Cryptantha angustifolia*]). Although there are no coarse particles in the substrate of the dunes, the areas between the dunes that contain more shrubs may be partially stabilized by a light gravel layer.

Shrub cover decreases from 10 to 15 percent in the Sonoran Creosote Bush Scrub communities to 2 to 5 percent in the Stabilized and Partially Stabilized Sand Dunes. The shrub cover continues to decrease closer to Ford Dry Lake (playa). Between the Stabilized and Partially Stabilized Sand Dunes and Ford Dry Lake, there is a transition zone where there are intermittent sand drifts over the outer edges of the playa. Edges of the ROW, as well as portions of the linear facility route, overlap these areas where the sand layer is shallow and deposited over sinks.

### 3.0 WINTER FIELD SURVEY METHODS

The following survey methods were reviewed and agreed to by the CEC, BLM, USFWS, and CDFG prior to Spring 2009 surveys. The sections below describe the field methods used during the surveys. Examples of survey data sheets are in Appendix A.

#### 3.1 Burrowing Owl

Burrowing owl surveys were conducted in accordance with CBOC (2003) Guidelines. CBOC Guidelines include three survey phases, each following the previous based on the latter's results:

- Phase I: Habitat Assessment – This “first step in the survey process is to assess the presence of burrowing owl habitat on the project site including a 150-meter (approx. 500 ft.) buffer zone around the project boundary...”

“The Phase II burrow survey is required if burrowing owl habitat occurs on the site. If burrowing owl habitat is not present on the project site and buffer zone, the Phase II burrow survey is not necessary.”

- Phase II: Burrow Survey – “A survey for burrows and owls should be conducted by walking through suitable habitat over the entire project site and in areas within 150 meters (approximately 500 ft.) of the project impact zone. This 150-meter buffer zone is included to account for adjacent burrows and foraging habitat outside the project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the project area.”
- Phase III: Owl Presence – “If the project site contains burrows that could be used by burrowing owls, then...surveys in the breeding season are required to describe if, when, and how the site is used by burrowing owls. If no owls are observed using the site during the breeding season, a winter survey is required.” The survey methodology requires four site visits, each on a separate day. Birds are observed from two hours before sunset to one hour after sunset, or from one hour before sunrise to two hours after sunrise. The four visits are initially conducted during the nesting season, February 1 to August 31, although it is preferable to survey at the height of the breeding season, between April 15 and July 15. If no owls are observed during the nesting season, then “winter surveys should be conducted between December 1 and January 31...(to) count and map all owl sightings, occupied burrows, and burrows with owl sign.”

To assess the presence of burrowing owls within the Project Area, a Phase 1 Habitat Assessment was completed in December 2007 during the reconnaissance survey. Because burrowing owls were detected during the Phase I survey, a Phase II Burrow Survey was conducted to locate burrows and owls within the survey area. Subsequently, because the survey area contained burrows, breeding-season Phase III Owl Presence surveys were conducted during Spring 2009 (see Tetra Tech and Karl 2009). As no direct observations of burrowing owls were made during the breeding season Phase III surveys, a winter Phase III burrowing owl survey was conducted.

Winter Phase III surveys were conducted on four visits by two biologists on December 3, 4, and 5, 2009. Surveys were conducted from one hour before sunrise to two hours after sunrise and from two hours before sunset to one hour after sunset. Winter Phase III survey locations were chosen using the locations of owl sightings and active burrows identified during Phase I and II surveys. Biologists surveyed these burrow locations identified in Figure 4, as well as the general area around these locations. Techniques included watching burrows with binoculars from

approximately 200 feet, examining burrows for recent use, and walking the areas surrounding burrows to search for owls. In addition, any observations of burrowing owls or signs of owls (e.g., burrows, whitewash, and pellets) that were detected while surveyors walked to and from survey locations were recorded, as well as during general driving surveys in the area. Weather conditions were recorded at the start and end of each survey session.

### 3.2 Avian Point Count Surveys

Use of the Project Area by wintering birds was determined via avian point count surveys that were conducted according to a protocol set forth by the BLM dated March 9, 2009, and revised via email on March 24, 2009 (Otahal C., pers. comm. to R. Romero, Tetra Tech, EC, Inc. 2009). Point count surveys were conducted on November 10-13, 16-19, 22-30 and December 1-3, 2009<sup>1</sup>. One point count transect was located in each square mile of the ROW for a total of seven transects (Figure 5). Specific transect locations were chosen based on habitat characteristics where the highest density of avian species was likely to occur (e.g., drainages and areas with higher concentrations of vegetation). Each transect consisted of eight point count locations spaced 820 feet (250 meters) apart with a 328 feet (100 meters) survey radius. Each transect was surveyed one day a week for four, consecutive weeks<sup>1</sup>. Point counts were conducted for 10 minutes each and between 0500 and approximately 1100. Specific survey start times ranged from 0648 to 0820, with survey end times ranging from 0850 to 0942.

## 4.0 SURVEY RESULTS

No federally listed wildlife species were found during winter surveys; however, three California species of special concern were observed: burrowing owl, loggerhead shrike (*Lanius ludovicianus*), and northern harrier (*Circus cyaneus*).

### 4.1 Burrowing Owl

One occupied burrow was observed during the winter surveys (Table 1, Figure 4). An owl, possibly the same bird, was seen at this burrow on two separate occasions. A different burrow contained fresh pellets and whitewash at the burrow entrance. In addition, burrowing owl sign (whitewash and pellets) was observed at several other locations throughout the survey area. Habitat for this species exists within the entire Project Area.

The survey results are similar to those recorded during Spring 2009 Phase II and breeding-season Phase III surveys. During Spring 2009 Phase II surveys, two live burrowing owls were observed; no live burrowing owls were observed during breeding-season Phase III surveys (Tetra Tech and Karl 2009). However, the two birds that were observed during spring Phase II surveys were not detected in the same location as the two birds that were observed during the winter Phase III surveys (detections during spring were made at UTM 683072/3728533 and 675109/3727560). Additionally, the two birds observed during spring Phase II surveys were located outside of the Project Area, whereas the two bird observations during winter surveys were located within the Project Area (specifically, within the Plant Site).

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<sup>1</sup> L. LaPré, BLM District Wildlife Biologist, 25 November 2009 e-mail to A. Karl permitted surveys to be completed at six days instead of seven days for two sessions.

**Table 1. Winter 2009 Burrowing Owl Observations**

Date	Time	Burrow Location (UTM NAD 83)	Observation Point*	Type of Observation	Behavior of Owl	Biologist
12/4/2009	1542	687284/ 3726229	G44-1	burrowing owl (1)	Flushed from an area 40m south of burrow; landed about 100m away from burrow.	A. Schaub & J. Mohlmann
12/5/2009	0630	687284/ 3726229	G44-1	burrowing owl (1)	Flushed from burrow entrance, and flew south (out of view after 200m)	A. Schaub & J. Mohlmann
12/3/2009	1555	677834/ 3727415	G9	whitewash	N/A	J. Mohlmann
12/3/2009	1627	682814/ 3728638	G16-2	whitewash and pellet	N/A	A. Schaub & J. Mohlmann
12/4/2009	0740	682730/ 3728969	G16-1	whitewash	N/A	A. Schaub
12/4/2009	1603	687061/ 3726268	G44B	whitewash	N/A	A. Schaub
12/4/2009	1650	687347/ 3726217	G44-2	whitewash	N/A	A. Schaub

\* Observation points are shown in Figure 4.

## 4.2 Avian Point Count Surveys and Incidental Observations

A total of 274 birds, consisting of only 10 species, was recorded during the winter avian point count surveys (Tables 2 and 3). The most commonly detected birds were the horned lark (*Eremophila alpestris*), which made up 59.5 percent of all birds observed, and the sage sparrow (*Amphispiza belli*), 31.4 percent of the observations. Each remaining species comprised less than 2.0 percent of the total number of birds observed. Sixteen species were observed incidentally (i.e., flying outside of the 100 meter survey radius during point counts or observed while walking to the survey location); of these 16 species, seven were unique to the incidental surveys and were not detected during the point count surveys (Table 4).

Two California species of special concern were observed during these surveys; the loggerhead shrike and the northern harrier (also note that the burrowing owl is a California species of special concern, as discussed in section 4.0). The California species of special concern designation for the loggerhead shrike and the northern harrier only applies to breeding populations. Breeding and nesting activity was not observed for either of these species during these surveys.

### Loggerhead Shrike

Three loggerhead shrikes were observed during the winter point count surveys. Each observation consisted of a single bird along transects B, C, and G (Table 3). The loggerhead shrike was also detected during as an incidental observation (Table 4). The loggerhead shrike is a year-round resident in this portion of its range (Zeiner et al. 1988-1990). The Project Area is considered suitable loggerhead shrike habitat because of the open and relatively low shrub vegetation that also contains taller structures used for nesting and prey surveillance.

### Northern Harrier

One male northern harrier was detected as an incidental observation (Table 4). The northern harrier is a winter occupant in this area (Zeiner et al. 1988-1990). Suitable habitat consists of open areas dominated by herbaceous cover, including deserts, coastal dunes, pasturelands/grasslands, estuaries, and salt- and freshwater marshes; therefore, the entire Project Area is considered wintering habitat for the northern harrier.

**Table 2. Avian Species Observed during Winter 2009 Point Count Surveys at the Genesis Solar Energy Project**

Species Grouping	Overall Rank <sup>1</sup>	Number of Birds	Number of Observations	Mean Use # birds per 10 min. (90% confidence interval)	Frequency % of surveys detected	Percent Composition	
						Group	Overall
<b>Songbirds</b>							
horned lark	1	163	36	0.73 (0.28-1.18)	13.8	59.5%	59.5%
sage sparrow	2	86	40	0.38 (0.25-0.51)	17.0	31.4%	31.4%
house finch	3	5	4	0.02 (0.00-0.04)	1.8	1.8%	1.8%
yellow-rumped warbler	3	4	3	0.02 (0.00-0.04)	1.3	1.5%	1.5%
rock wren	3	4	4	0.02 (0.00-0.04)	1.3	1.5%	1.5%
verdin	6	3	3	0.01 (0.00-0.02)	1.3	1.1%	1.1%
Say's phoebe	6	3	3	0.01 (0.00-0.02)	1.3	1.1%	1.1%
loggerhead shrike	6	3	3	0.01 (0.00-0.02)	1.3	1.1%	1.1%
common raven	6	2	2	0.01 (0.00-0.02)	0.9	0.7%	0.7%
black-tailed gnatcatcher	10	1	1	0.00 (0.00-0.01)	0.4	0.4%	0.4%
<b>Group Total</b>		<b>274</b>	<b>99</b>	<b>1.22 (0.74-1.70)</b>			<b>100.0%</b>
<b>Grand Total</b>		<b>274</b>	<b>99</b>	<b>1.22 (0.74-1.71)</b>			

<sup>1</sup> A ranking of 1 indicates highest mean use

**Table 3. Avian Species Observed by Transect during Winter 2009 Point Count Surveys at the Genesis Solar Energy Project**

Species	Number of Birds	Number of Obs.	Transects						
			A	B	C	D	E	F	G
horned lark	163	36	4	134	8	4	5	5	3
sage sparrow	86	40	10	19	10	7	2	22	16
house finch	5	4	2	0	0	0	0	0	3
yellow-rumped warbler	4	3	0	0	0	2	0	1	1
rock wren	4	4	0	1	0	0	0	3	0
verdin	3	3	1	0	0	0	0	1	1
Say's phoebe	3	3	2	0	0	0	0	0	1
loggerhead shrike	3	3	0	1	1	0	0	0	1
common raven	2	2	0	0	1	0	0	0	1
black-tailed gnatcatcher	1	1	0	0	0	0	1	0	0
<b>Grand Total</b>	<b>274</b>	<b>99</b>	<b>19</b>	<b>155</b>	<b>20</b>	<b>13</b>	<b>8</b>	<b>32</b>	<b>27</b>

**Table 4. Incidental Detections\* of Birds during Winter 2009 Point Count Surveys at the Genesis Solar Energy Project**

Species
American kestrel
black-tailed gnatcatcher
black-throated sparrow
cactus wren
common raven
greater roadrunner
house finch
horned lark
loggerhead shrike
northern harrier
prairie falcon
rock wren
red-tailed hawk
sage sparrow
Say's phoebe
yellow-rumped warbler

\* Includes birds detected during point count surveys outside 100m radius

The number of birds detected during these winter surveys is less than those detected during Spring 2009 surveys (a total of 274 birds detected during winter compared to 336 during spring). Six species were observed during the Winter 2009 point count surveys that were not observed during the Spring 2009 point count surveys, including the house finch (*Carpodacus mexicanus*), sage sparrow, Say's phoebe (*Sayornis saya*), rock wren (*Salpinctes obsoletus*), verdin (*Auriparus flaviceps*), and yellow-rumped warbler (*Dendroica coronata*). Eleven species were detected during the Spring 2009 surveys that were not detected during the winter surveys, including the cliff swallow (*Petrochelidon pyrrhonota*), northern rough-winged swallow (*Stelgidopteryx serripennis*), tree swallow (*Tachycineta bicolor*), Brewer's sparrow (*Spizella breweri*), barn swallow (*Hirundo rustica*), violet green swallow (*Tachycineta thalassina*), turkey vulture (*Cathartes aura*), northern mocking bird (*Mimus polyglottos*), ash-throated flycatcher (*Myiarchus cinerascens*), Swainson's hawk (*Buteo swainsoni*), and red crossbill (*Loxia curvirostra*; see Tetra Tech and Karl 2009).

## 5.0 DISCUSSION

The results of the winter Phase III burrowing owl and avian point count surveys have furthered our understanding of the winter avian population in the Project Area, including both migratory and resident species. The results of these surveys do not alter the impact discussion found within the 2009 Biological Resource Technical Report (Tetra Tech and Karl 2009).

### Burrowing Owl

The 2009 spring surveys identified that burrowing owls are present within the Project Vicinity, and the Winter 2009 surveys confirmed that they are also present during the winter (specifically within the Plant Site). This indicates that the owls are present year-round as either residents or wintering birds. However, it is uncertain that the observed owls are resident birds because the observations of live birds during the spring and winter surveys were not made at the same locations and were not associated with the same burrows. It is also uncertain whether these owls are breeding in the Project Area, as no active nests were found during the breeding-season surveys. However, because suitable habitat for this species exists throughout the Project Area and because birds were observed during the spring surveys, it is possible that owls use the area for breeding.

Burrowing owls may be directly and indirectly affected by Project development; however, burrowing owls known to adapt to and occupy areas of human disturbance (Haug et al. 1993). Direct impacts may include removal of general foraging and breeding habitat, as well as specific burrows; temporary disruption by noise, construction activity and vibrations, potentially including nest abandonment; and mortality due to vehicular strikes during both construction and operation activities. Potential indirect impacts could include displacement from existing habitat to adjacent habitats, temporary alteration in genetic continuity within the population, and increased mortality as a result of artificially enhanced populations of native predators due to Project activities. Population-level impacts to the burrowing owl are not expected due to the low density of owls observed within the Plant Site (i.e., two bird sightings and one active burrow within the Plant Site), the mitigation measures that will be employed during construction and operations (see Tetra Tech and Worley Parsons 2009), as well as the burrowing owl's ability to adapt to human disturbances (Klute et al. 2003).

### Avian Species

Some of the species observed during the winter surveys are likely migrants, and not year-long residents of the area. Based on the expected range of the species detected during Winter 2009 avian point count surveys, the sage sparrow and yellow-rumped warbler are likely migrants and not present year-round. This assumption is supported by the fact that these two species were

not detected during spring surveys. In addition, the northern harrier (a California species of special concern) was detected during both spring and winter surveys (as an incidental during winter surveys), even though it is thought to only be a winter occupant of this general region (Zeiner et al. 1988-1990). The observation of this species during spring was likely of a bird migrating through the area (see Tetra Tech and Karl 2009). In total, there were six species that were detected during Winter 2009 avian point count surveys that were not detected during spring surveys. However, the fact that these six species were not observed during spring surveys does not necessarily mean that they are not present in the Project Vicinity year-round.

Direct impacts to birds could include disruption of nesting activities during construction, permanent habitat loss, and mortality by transmission line collisions and electrocution. In addition, migratory birds may be attracted to Project evaporation ponds for resting, foraging, and nesting; the accumulation of waste material in evaporation ponds can be detrimental to birds. Indirect impacts could result from disruption of natural foraging behavior by increased ambient noise levels and unnatural lighting during dawn, dusk, or nighttime construction. The mitigation measures that will be employed during construction and operations (see Tetra Tech and Worley Parsons 2009) would reduce impacts to avian species such that Project development would not result in population-level consequences to these species.

## 6.0 REFERENCES

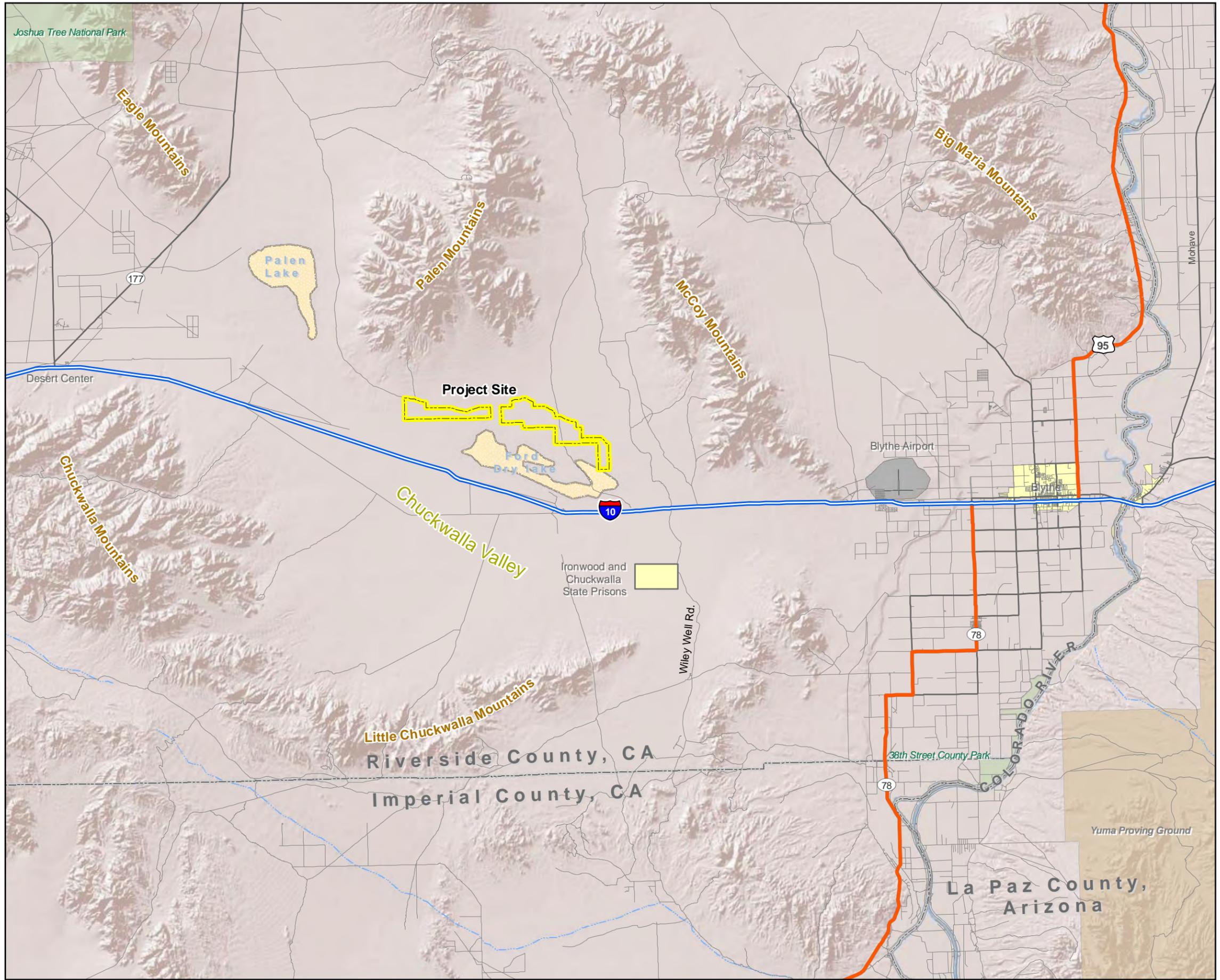
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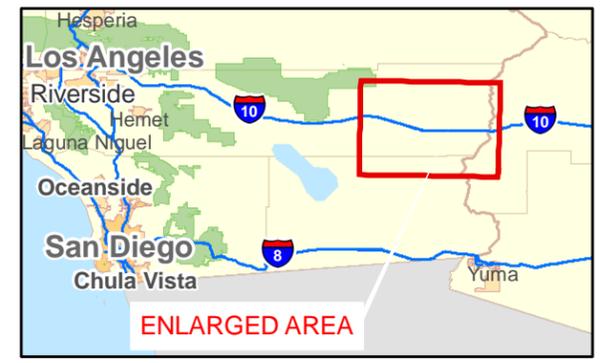
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## FIGURES



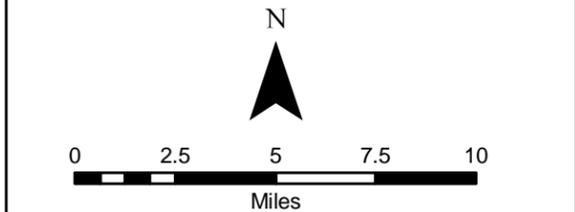
# GENESIS SOLAR, LLC

## GENESIS SOLAR ENERGY PROJECT RIVERSIDE COUNTY, CALIFORNIA



**Legend**

Project Site	Lake/River
Interstate	Lake Intermittent
Highway	Parks (Regional)
Major Road	Military Installation
Local Road	Urban Areas
Airport Area	
County Boundary	
State Boundary	

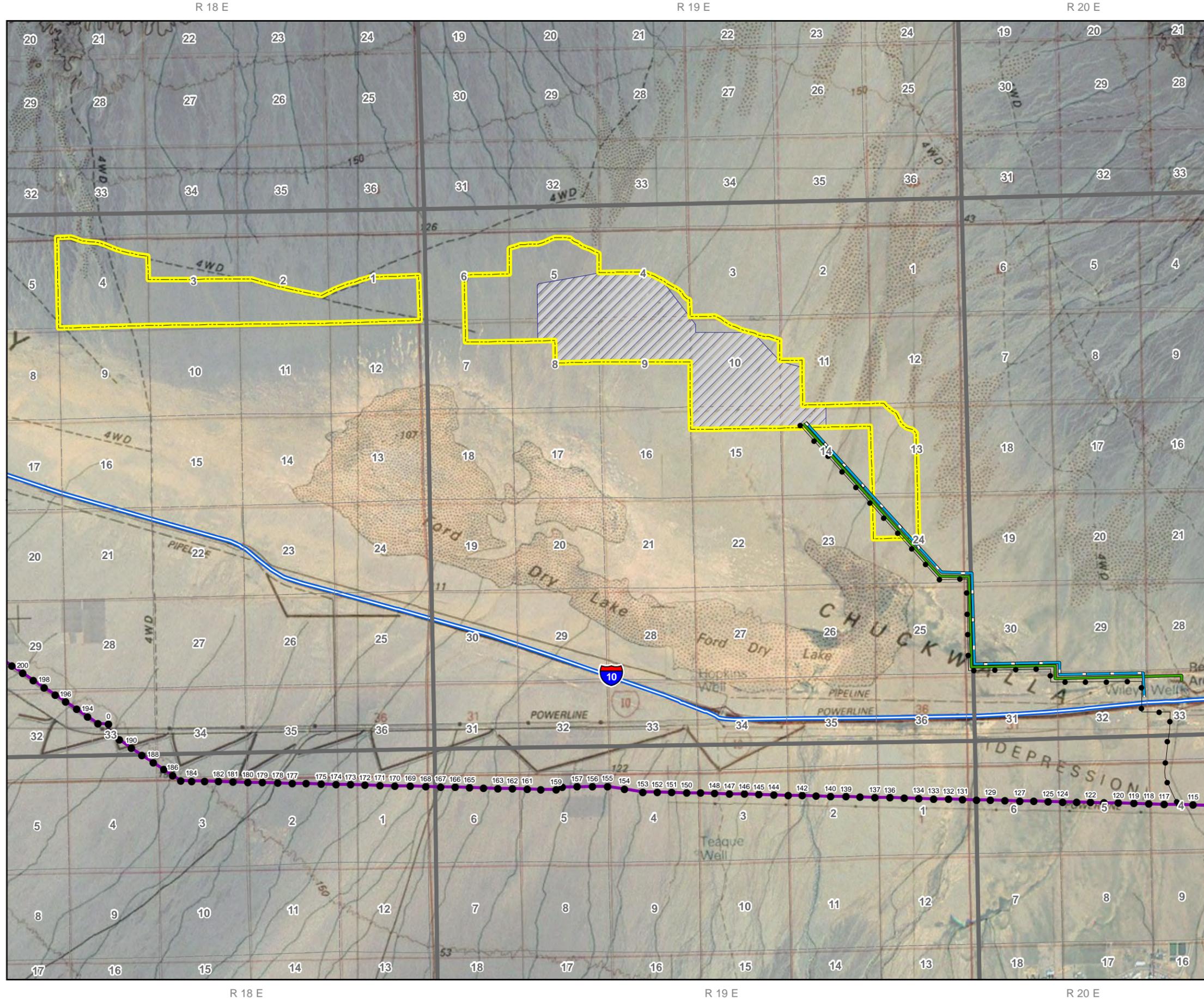


Notes:  
(a) UTM Zone 11, NAD 1983 Projection.  
(b) Source data: ESRI, BLM

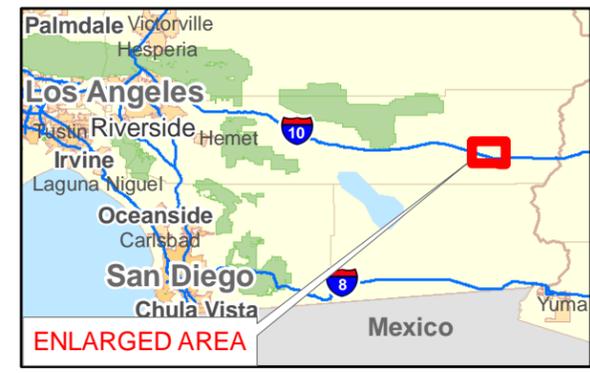
**FIGURE 1**  
**REGIONAL LOCATION MAP**



TETRA TECH EC, INC.



**GENESIS SOLAR, LLC**  
**GENESIS SOLAR ENERGY PROJECT**  
**RIVERSIDE COUNTY,**  
**CALIFORNIA**



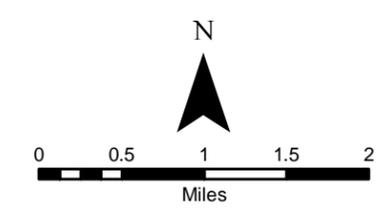
**Legend**

- Blythe Transmission Line
- Blythe Transmission Line Structures
- Project Requested ROW
- Plant Site
- Township and Range Lines
- Section Lines

**Project Linear Facilities**

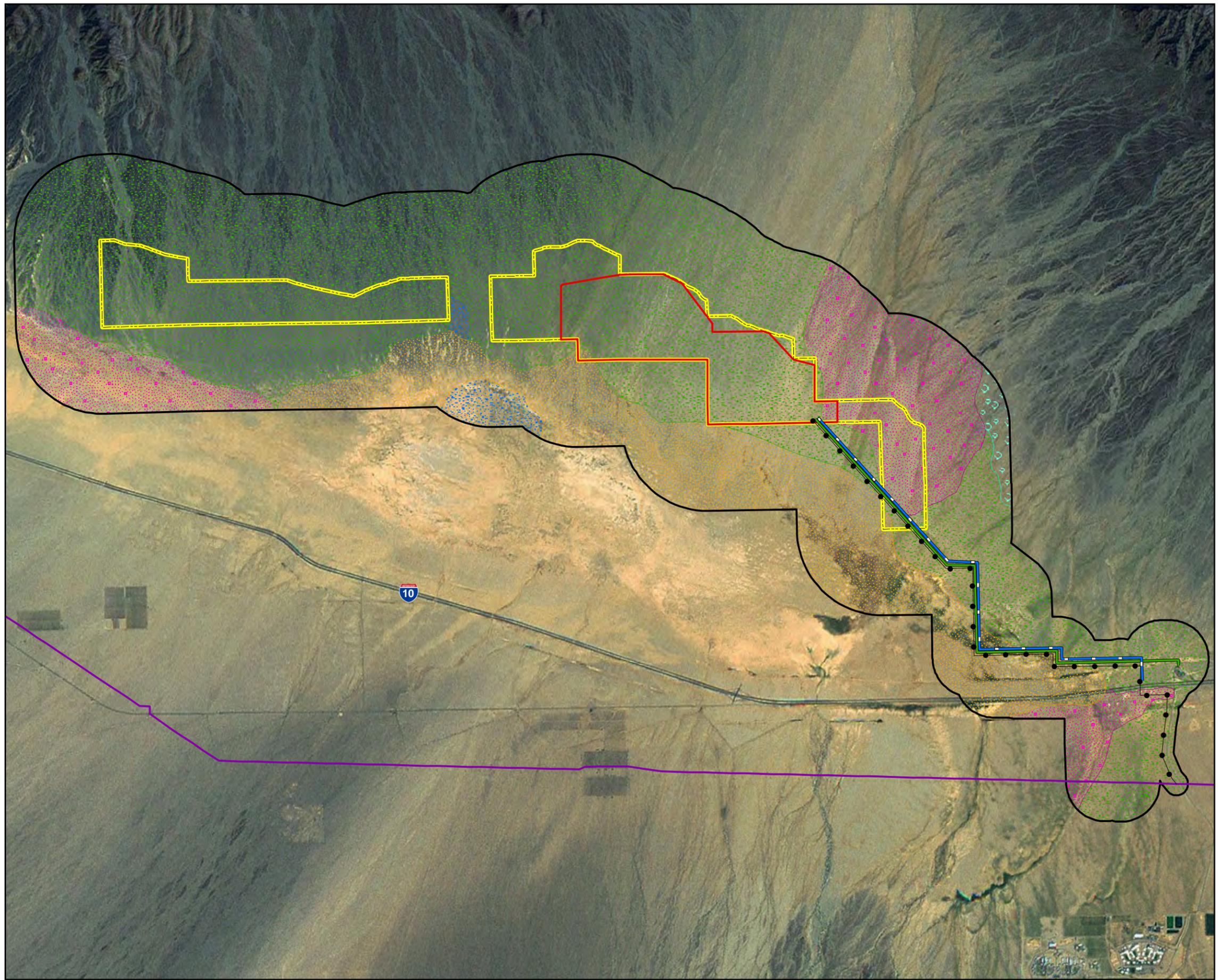
- Proposed Transmission Interconnect (7.5 Miles)
- Proposed Gas Line (5.9 Miles)
- Proposed Access Road (6.1 Miles)

Notes:  
 (a) UTM Zone 11, NAD 1983 Projection.  
 (b) Source data: ESRI, BLM, TTEC



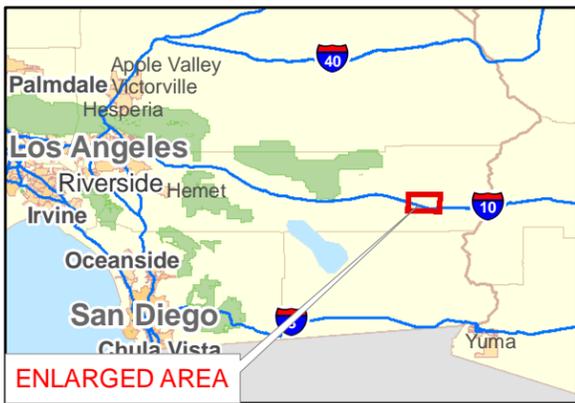
**FIGURE 2**  
**FEATURES AND LOCATION MAP**

**TETRA TECH EC, INC**

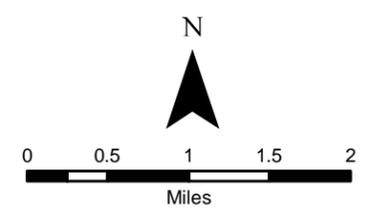


**GENESIS SOLAR, LLC**

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

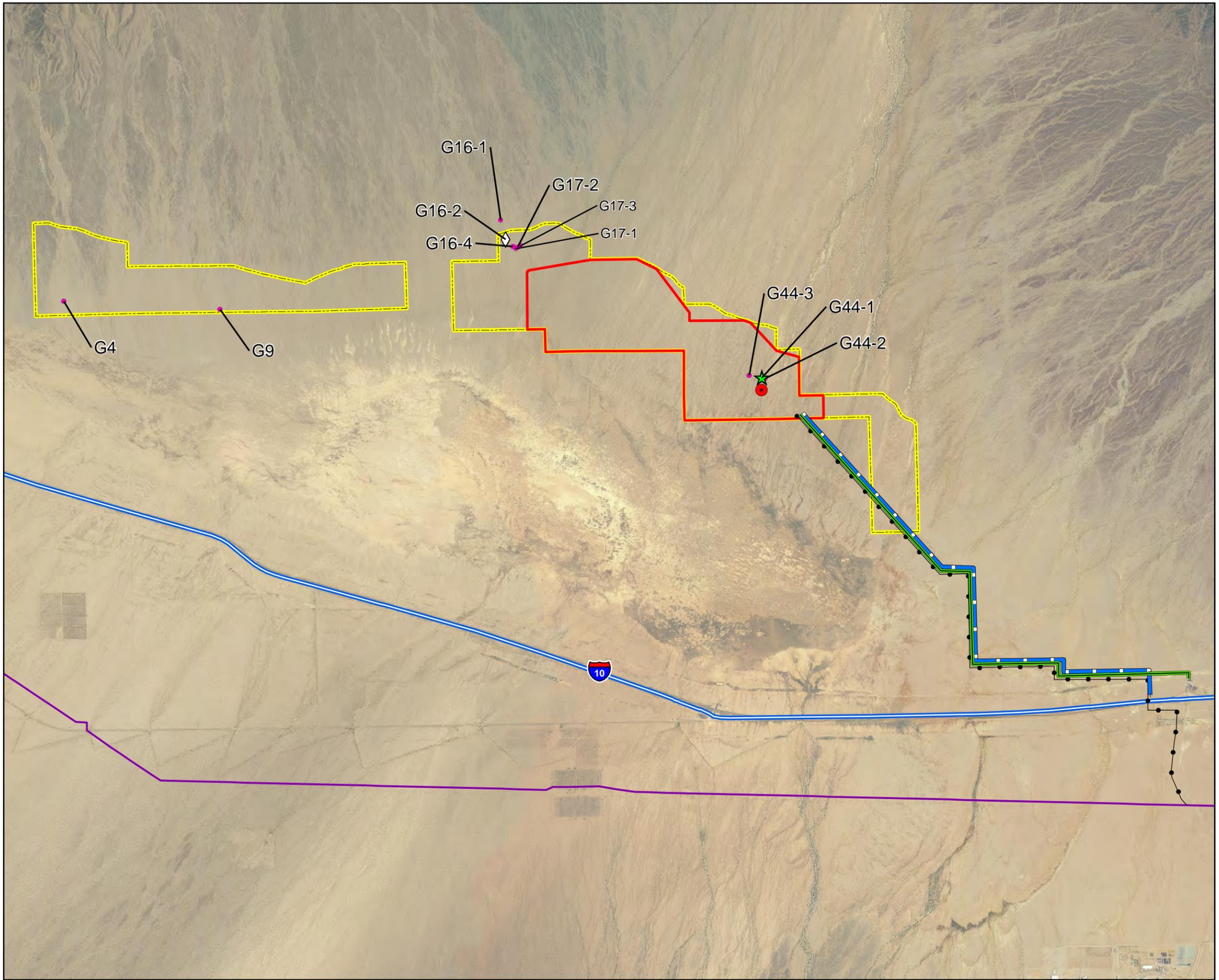


- Legend**
- Chenopod Scrub
  - Sonoran Creosote Bush Scrub
  - Dry Desert Wash Woodland
  - Playa and Sand Drifts over Playa
  - Stabilized and Partly-Stabilized Sand Dune
  - Plant Site
  - Requested Project ROW
  - Extent of Surveyed Area
  - Blythe Energy Project Transmission Line
- Project Linear Facilities**
- Proposed Transmission Interconnect (7.5 Miles)
  - Proposed Gas Line (5.9 Miles)
  - Proposed Access Road (6.1 Miles)



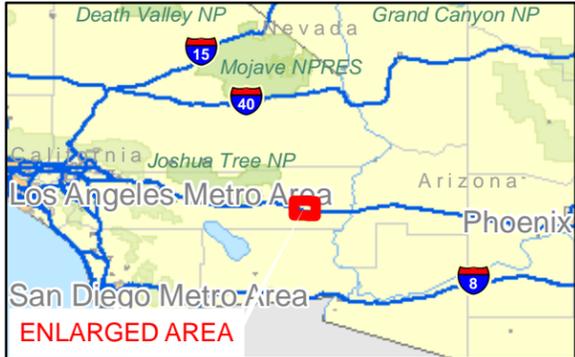
Notes:  
 (a) UTM Zone 11, NAD 1983 Projection.  
 (b) Source data: ESRI, USDA, TTEC, Alice Karl & Assoc.

**FIGURE 3  
 NATURAL COMMUNITY TYPES**



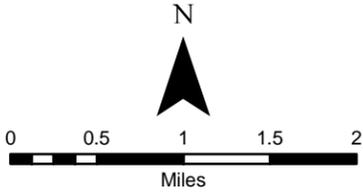
# Genesis Solar, LLC

## GENESIS SOLAR ENERGY PROJECT RIVERSIDE COUNTY, CALIFORNIA



### Legend

- ★ Owl (2 Sightings)
- Active Burrow
- ◇ Pellet
- Observation Point (No Sign)
- Current Proposed Interconnect
- Current Proposed Gas Line
- Current Proposed Access Road
- Blythe Energy Project Transmission Line
- ▭ Project Requested ROW
- ▭ Plant Site



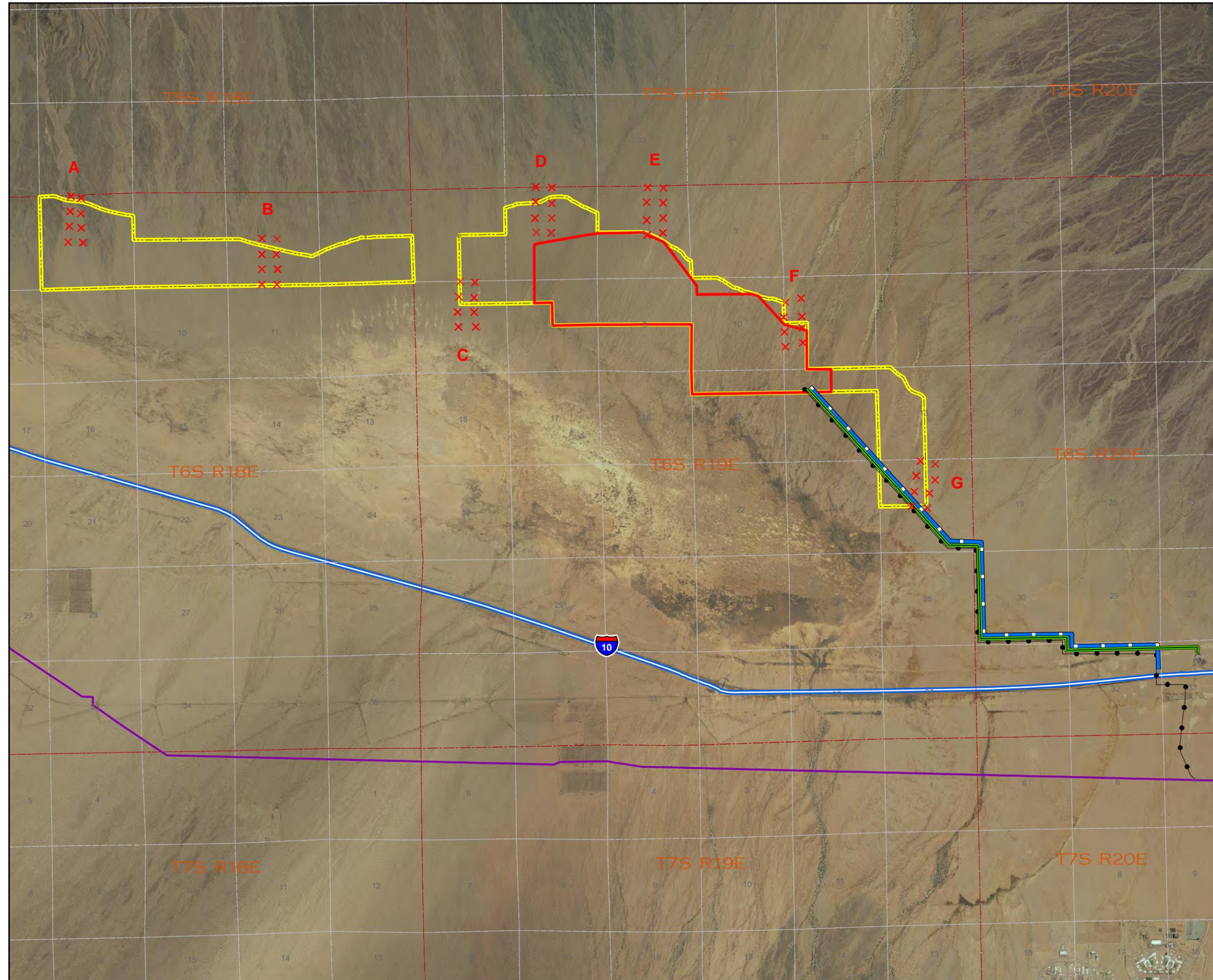
Notes:  
(a) UTM Zone 11, NAD 1983 Projection.  
(b) Source data: ESRI, USDA, Alice Karl 2009

**Figure 4.**  
**Winter Burrowing Owl Survey Locations**  
**and Observations**



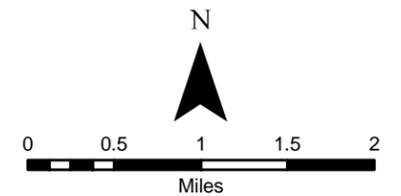
# Genesis Solar, LLC

## GENESIS SOLAR ENERGY PROJECT RIVERSIDE COUNTY, CALIFORNIA



### Legend

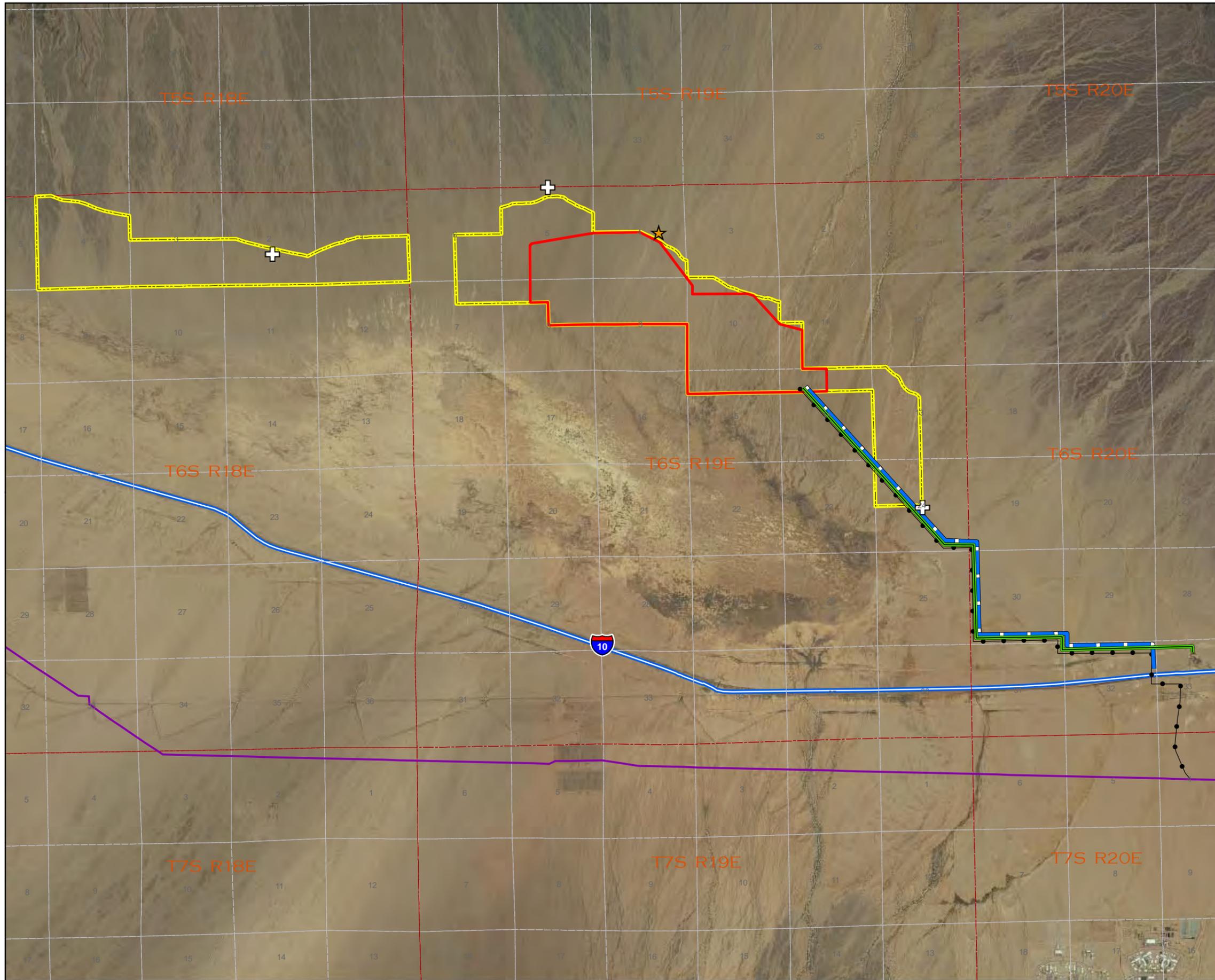
- ✕ Avian Point Count Location
- Current Proposed Access Road
- Current Proposed Gas Line
- Current Proposed Interconnect
- Blythe Energy Project Transmission Line
- ▭ Plant Site
- ▭ Project Requested ROW
- ▭ Section
- ▭ Township (Meridian 27, SE)



Notes:  
 (a) UTM Zone 11, NAD 1983 Projection.  
 (b) Source data: ESRI, BLM

**Figure 5.**  
**Avian Point Count Locations**





# Genesis Solar, LLC

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



### Legend

#### Species

- ⊕ Loggerhead Shrike
- ★ Northern Harrier
- Current Proposed Access Road
- Current Proposed Gas Line
- Current Proposed Interconnect
- Blythe Energy Project Transmission Line
- ▭ Project Requested ROW
- ▭ Plant Site
- ▭ Section
- ▭ Township (Meridian 27, SE)



Notes:  
 (a) UTM Zone 11, NAD 1983 Projection.  
 (b) Source data: ESRI, BLM, Alice Karl 2009

**Figure 6.  
 Winter Avian Point Count Observations**



**APPENDIX A**  
**EXAMPLES OF SURVEY DATA SHEETS**

BURROWING OWL SURVEY FORM

PROJECT: GENESIS

DATE 05-DEC-09  
 OBSERVER  
 ART SCHAUB  
 + JAKE MOHLMANN

WEATHER:

TIME	Ta	Tg	Cloud Cover	Wind
Start				
5:28	-2°C		90%	0 mph
End				
8:30	1°C		100%	0 mph
Changes:				
Recent Weather: CLEAR - warm DAYS - LAST night clear cold w/ almost full moon				

Dawn - 6:28 h (PST)  
 Sunset - 16:31 h (PST)

ONE  
 BUOW  
 sighted

TIME	YOUR ACTIVITY; YOUR OBSERVATIONS
5:28	- start survey - HIKE to burrow area.
6:30	In burrow area with good visibility - approached active burrow from east side - slowly, watching ahead - <sup>(Burrow 687284/3726229)</sup> <u>The BUOW flushed from its position</u> standing at the entrance when we were 30 m East - BUOW flew south low at least 200m before we lost view. There was additional white wash at burrow entrance
7:00	Begin walking spirals out from active burrow about 50 m apart, searching for other burrows and owls.
7:55	- Spiral pattern was walked from 50m to active burrow to 350m out from active burrow - no BUOW's or sign found.
8:00	- Jake will sit at (NEAR) the active burrow sight, I will head to burrow site 687061/3726268.
8:30	- END SURVEY - No more BUOW sightings or sign after initial BUOW flushed - Hiked Back to camp

NOTES: other birds : SAGS - 10 VERDIN - 2 HOLA - 5

DATE Nov. 10 2009  
TIME: Start ~~7:30~~ 7:50  
End 8:42

OBSERVER: J. MOHLMANN, A. Schaub  
POINT LOCATION: CELL ID. G27

WEATHER:

	Ta	Tg	Cloud Cover	Wind
Start	25°C		5	0
End	28°C			

UTM (NAD 83) 681898 E 372742 N

GENERAL SITE DESCRIPTION:

VEGETATION SHRUB LAYER AND BUNCH GRASSES)

General Area:

Aspect Dominants LATR / AMDU

Common Species HISA

% Cover 10 LATR 6% AMDU 3%

Specific Point Count Site:

Aspect Dominants HISA 1%

SAME AS ↑

Common Species

% Cover \_\_\_\_\_

UNDERSTORY

Abundant Species CRAW, PLOV

Exotics BRTO

TOPOGRAPHY

General Description of Landforms and Drainages in the Area

LOWER BAJADA, shallow braided wash, SANDY w/ 70% fine gravel  
5% coarse gravel

Specific Description of Point Count Site

Elevation (state meters or feet) 113 ft.

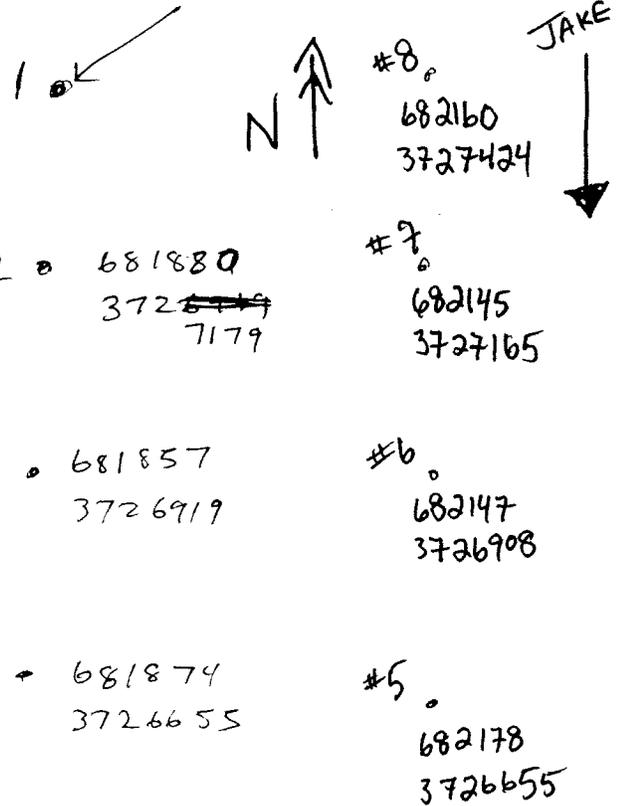
HUMAN-RELATED DISTURBANCES (Onsite and Adjacent)

SITE PICTURE:

A - Form

B - \_\_\_\_\_

COMMENTS



NOV 10, 07 G27

	Species	#	Type of Detection	Behavior	Microhabitat
Pt. 1	<del>NONE</del>				
Pt 2	BTGN	1	A/V	in shrub calling	LATR
Pt 3	<del>NONE</del>				
Pt 4	<del>NONE</del>				
Pt. 5	NONE				
Pt. 6	HOLA	1	A	<100 calling	desert pavement
	HOLA	1	V	<100 on ground	desert pavement
Pt. 7	HOLA	1	A	<100 calling	desert pavement
	HOLA	1	A	<100 calling	desert pavement
Pt. 8	<del>NONE</del>				
before survey	CORA	1	A	fly over >100	♀
	LOSH	1	V	perched >100	palo verde
	CORA	Common Raven			
	HOLA	Horned Lark			
	BTGN	Black-tailed gnatcatcher			



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 – [WWW.ENERGY.CA.GOV](http://WWW.ENERGY.CA.GOV)

**APPLICATION FOR CERTIFICATION FOR THE  
GENESIS SOLAR ENERGY PROJECT**

**Docket No. 09-AFC-8**

**PROOF OF SERVICE  
(Revised 3/10/10)**

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I, Emily Festger, declare that on April 6, 2010, I served and filed copies of the attached 2009 *Winter Avian Point Count and Burrowing Owl Survey Report for the Genesis Solar Energy Project*, dated April 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [[http://www.energy.ca.gov/sitingcases/genesis\\_solar](http://www.energy.ca.gov/sitingcases/genesis_solar)].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

*(Check all that Apply)*

FOR SERVICE TO ALL OTHER PARTIES:

sent electronically to all email addresses on the Proof of Service list;

by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

**AND**

FOR FILING WITH THE ENERGY COMMISSION:

sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

**OR**

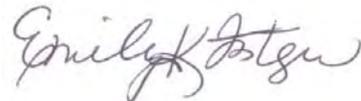
depositing in the mail an original and 12 paper copies, as follows:

**CALIFORNIA ENERGY COMMISSION**

Attn: Docket No. 09-AFC-8  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By:



---