February 22, 2013 JN 25-105388

Ms. Ashley Gungle
County of San Diego
Planning and Development Services
5510 Overland Avenue #110
SD CA 92123

Subject: Biological Update Letter Report for the Desert Green Solar Farm Project; Modification to Major Use Permit P09-012; ER No. 09-05-001A

Dear Ms. Gungle:

This letter report presents an updated analysis of the biological effects associated with the Desert Green Solar Farm project (previously referred to as the Eurus Energy Borrego Solar Farm project) as documented in the 2010 Biological Resources Report (Affinis, 2010). Changes made to the project since the 2010 biological report was prepared are analyzed in this letter. Biological issues that remain unchanged from the previous report are not included in this letter. This letter is intended to supplement, as opposed to replace, the 2010 Biological Resources Report.

ES Executive Summary

This biological analysis was conducted for the Desert Green Solar Farm Project and included vegetation mapping, a rare plant survey, identification of potential jurisdictional features, and an assessment of the potential to support sensitive animals in the proposed off-site project area. The fieldwork resulted in the mapping of two native vegetation communities within the project limits: desert saltbush scrub and stabilized/partially stabilized desert dunes. Developed, and disturbed areas also occur within the project footprint. No sensitive plants, animals, or jurisdictional features were identified within the off-site alignment areas during the site visits. While not observed, suitable flat-tailed horned lizard (*Phrynosoma mcallii*) habitat is present and the species is assumed to be present both in the on- and off-site areas.

The currently proposed project has been reduced in size from that previously submitted. The only sensitive habitat impacted by the project is desert saltbush scrub. This impact will be mitigated at a 2:1 ratio entirely through on site habitat preservation. The reduced project design also avoids impacts to sensitive plant species that would have been incurred under the previous project footprint. As such, no sensitive plant mitigation would be required. The mitigation measures identified in the 2010 Biological Resources Report for potential impacts to sensitive animal species still apply.

1.0 Introduction

1.1 Project Location

The land area that comprises the Project site is located northeast of the community of Borrego Springs, California, within northeastern San Diego County (Figures 1 and 2). The Anza-Borrego Desert generally surrounds the Project site and is part of the larger Colorado Desert. The Borrego Sink is located approximately four miles southeast of the Project area, and the Borrego Badlands are approximately five miles to the east.

The Project site is located approximately 0.45 mile north of Palm Canyon Drive and one mile east of Borrego Valley Road. The Borrego Valley Airport is located approximately 0.30 mile to the south of the southern border of the site. To the north and east is undeveloped land; to the west are a commercial palm nursery and a small-scale commercial sand and gravel yard. A microwave tower is also adjacent to the southwest corner of the parcel. Land uses to the south across Palm Canyon Drive generally include undeveloped lands interspersed with industrial-type and residential uses.

The land to be developed with the solar CPV systems is comprised of one main parcel, with additional lands affected to support the transmission of power generated to the existing Borrego Substation and for purposes of access and utility installation (water line). The County Assessor Parcel Number (APN) for the main facilities is APN 141-230-26 (288.29 acres). Additional parcels potentially affected by Project improvements may include APNs 141-210-04, -05, -06, -25, and -26 [site access, generation-tie (Gen-tie) line, and/or water line easement]; APNs 141-230-33 and -38 (private water line easement); and/or, APN 141-060-08 (12kV Borrego Valley Road Access/Gen-tie Route).

1.2 Project Description

The Desert Green Solar Farm Project (Project) proposes installation of a concentrated photovoltaic (CPV) solar farm for the long-term generation of clean, renewable energy from solar power. Desert Green Solar Farm LLC proposes modification to a Major Use Permit (MUP; P09-012) previously approved by the County of San Diego to allow for the construction, operation, and maintenance of the renewable energy project (MUP Sheets 1 & 2).

The previously-approved project included the 288-acre parcel and the 104-acre parcel (APN 141-230-33; P09-14) located directly adjacent to the south. The proposed Desert Green Solar Farm no longer includes the 104-acre parcel as part of the Project, and is instead limited to development within the 288-acre parcel and offsite lands for access/utility easement purposes. The biological effects on the 288-acre parcel were addressed in the 2010 Biological Resources Report.

Proposed Project

The Project would involve the construction of an approximately 45-acre solar energy electrical generation facility to provide electricity for public consumption. The proposed facilities would have an overall capacity of approximately 6.5 megawatts (MW), serving the Borrego Valley area. Of the 288 acres, the proposed development area where the trackers would be installed, the underground portion of the12kV Gen-tie line/access route, and the temporary construction laydown area would total 50.63 acres. An additional 2.61 acres on the 288-acre parcel would be affected to allow for a 15-foot wide trail easement along the northern and western property boundaries (no improvements proposed at this time); however, the trail easement is not included as part of the Major Use Permit boundary. Additionally, 124.68 (or approximately 125) acres of the 288-acre parcel would be dedicated as undisturbed onsite open space for biological mitigation purposes (to remain unfenced with intermittent small-scale signage installed along the perimeter). The remainder of the parcel (approximately 110 acres) would remain undeveloped and in its current natural state (unfenced).

Energy generated by the Project would be transmitted to the existing Borrego Substation which lies approximately one mile to the west of the site, adjacent to the east side of Borrego Valley Road. The portion of the Gen-tie line located on the 288-acre parcel would be extended underground from the Project trackers to the northwestern corner of the parcel along a 30-foot wide Gen-tie route. The Gen-tie line would then trend westward along one of two proposed routes, as follows:

The Borrego Valley Road Gen-tie Route (Area A; Figure 3) would be undergrounded and would cross the adjacent Cocopah nursery (APN 141-210-05) and the 20-foot wide SDG&E easement, then extend west to the Borrego Substation along the Borrego Valley Road Access route. The point of interconnection (POI) for the Borrego Valley Road Route would occur at the Borrego Substation.

The SDG&E 12kV Line Extension Route would extend across the adjacent Cocopah nursery to the POI located near the northwestern corner of the Project site (Area B; Figure 3). The Gen-tie line would then run westerly within the existing 20-foot wide SDG&E easement (Record #72-3377663) to the Borrego Substation. All improvements for the SDG&E 12kV Line Extension would be completed by SDG&E and would be under the land use authority of the California Public Utilities Commission (CPUC), pursuant to General Order 131D. Therefore, the SDG&E 12kV Line Extension is not included as part of the Major Use Permit boundary because it is not within the County's land use jurisdiction. Information regarding this component of the project is provided in this document for informational purposes only.

Water for the purpose of Project maintenance would be provided to the site from either the West Water Line (Area C; Figure 3) or the East Water Line (Area D; Figure 3). Both routes would require extension of a 4-inch private line northward from Palm Canyon Drive to the southern Project boundary, as shown on the MUP Plot Plan. These water line routes are new project features and were not analyzed in the 2010 biological report.

The CPV facilities would be unmanned and operated remotely. The proposed facilities would be remotely monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection. Appropriate levels of shielded security lighting would be installed at the storage structure. The site would be secured via remote security services with motion detection cameras. For security purposes, the parcel boundary would be fenced with a 6-foot high chain-link fence (breakaway fencing to allow for flood flows), topped with one foot of three-strand barbed wire. Routine maintenance would include periodic inspection and repairs on an as-needed basis, as well as washing of the CPV panels approximately every six to eight weeks.

Project Access

Operation, maintenance, and construction activities for the Project would take access from either the proposed Borrego Valley Road access route (Area A; Figure 3) or the proposed Palm Canyon Drive access route (Area C; Figure 3), as shown on the MUP Plot Plan. Both access routes are included as part of the Major Use Permit boundary.

The Borrego Valley Road access route would include construction of a 24-foot wide all-weather paved access drive (in accordance with County of San Diego Fire Standards and capable of supporting 50,000 lbs) within a 28-foot wide graded width, located within a 50-foot wide private utility/access easement. The Borrego Valley Road access route would extend from Borrego Valley Road to the northwesterly corner of the solar field. This access route would follow along a portion of an existing dirt road located just north of the existing 20-foot wide SDG&E utility easement, cross the SDG&E easement near the northwest corner of the Project site, continue through the adjacent Cocopah nursery (APN 141-210-05), and then trend south to the proposed solar facility. The Borrego Valley Road access route would also include construction of the12kV Borrego Valley Road Gen-tie Route (underground).

The Palm Canyon Drive access route would include construction of a 24-foot wide all-weather paved access drive (in accordance with County of San Diego Fire Standards and capable of supporting 50,000 lbs) within a 28-foot wide graded width, located within an existing 30-foot wide private utility/access easement. This route would connect to the solar facility at the southwesterly corner of the solar field. The Palm Canyon Drive access route may also include construction of the West Water Line extension.

2.0 Methods

2.1 Literature Review

Existing biological data for the site and vicinity was reviewed prior to conducting a site visit to confirm and update existing biological conditions. The review included search results from the California Natural Diversity Database (CNDDB) of occurrences of sensitive species reported within the project vicinity (Clark Lake quadrangle) as well as information provided in the 2010 Affinis report.

2.2 Vegetation Mapping

A site visit was conducted by biologist Greg Mason on May 21, 2012 to verify existing mapping on the 288-acre parcel and map vegetation communities occurring on the proposed off-site access alignment. A second site visit was conducted by Mr. Mason on December 7, 2012 to update vegetating mapping along the proposed access Borrego Valley Road access route (Area A; Figure 3) and SDG&E 12kV Line Extension Route (Area B; Figure 3). Plant species names followed the Jepson Manual (Baldwin 2012). Vegetation communities were mapped according to Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as updated (Oberbauer 2008). The alignment areas were walked and vegetation communities mapped on recent aerial photographs of the site. Plant and animal species observed also were noted.

2.3 Rare Plant Survey

A rare plant survey was conducted during the vegetation mapping field visit (May 21, 2012). Species of concern for the site were derived from the CNDDB database results as well as the results from the 2010 biological resources report. The main species of interest for the alignment areas included Peirson's milkvetch (*Astragalus madgalenae peirsonii*) and Gander's cryptantha (*Cryptantha ganderii*). A complete list of potentially occurring sensitive plant species is included as Appendix 5 to the 2010 Biological Resources Report (Affinis 2010).

2.4 Jurisdictional Features

While a formal jurisdictional delineation was not conducted, drainages and other features were searched for in the off-site access alignments that could have potential to be considered jurisdictional by the U.S. Army Corps of Engineers (Corps), California Department of Fish & Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and County of San Diego (Resource Protection Ordinance; RPO).

3.0 Results

3.1 Vegetation Communities

Two native vegetation communities occur within the project limits: desert saltbush scrub and stabilized/partially stabilized desert dunes (Figure 3; Table 1). Developed and disturbed areas also occur within the project footprint. The desert saltbush scrub in the off-site alignment areas runs along existing power lines, roads (paved and unpaved), and developed areas and exhibits moderate to high levels of disturbance. Complete descriptions of these habitats are included in the 2010 Biological Resources Report (Affinis 2010).

Table 1
Existing Vegetation Communities

Vegetation Community[1]	**On-Site**	**Off-Site**				**Total**
		Area A	**Area B**[2]	**Area C**	**Area D**	
Desert Saltbush Scrub (including disturbed; 36110)	285.37	5.19	2.29	1.62	--	294.47
Stabilized/Partially Stabilized Desert Dunes (22200)	2.92	--	--	--	--	2.92
Disturbed/Developed (11300/12000)	--	1.07	0.15	1.92	0.63	3.77
Total	**288.29**	**6.26**	**2.44**	**3.54**	**0.63**	**301.16**

[1]Vegetation categories and codes are from Holland (1986) and Oberbauer (2008)
[2]Data for SDG&E Easement (Area B) included for informational purposes only

3.2 Sensitive Plants

No sensitive plant species were observed within the off-site access alignment areas during the site visits. Gander's cryptantha, a state-listed endangered species was previously mapped in the on-site project footprint (Figure 3) as well as adjacent to the off-site SDG&E easement (Area B). Ribbed cryptantha (*Cryptantha costata*), a state sensitive species, also was mapped adjacent to the SDG&E easement. Full descriptions of these species are included in the 2010 Biological Resources Report (Affinis 2010).

3.3 Sensitive Animals

No sensitive animal species were observed within the off-site alignment areas during the site visit. The Loggerhead Shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), and Colorado desert fringe-toed lizard (*Uma notata notata*) were observed in the on-site portion of the project (Affinis 2010) and are anticipated to occur within the off-site alignment areas as well. While not observed on site during focused surveys, suitable flat-tailed horned lizard habitat is present and the species is assumed to be present both in the on- and off-site areas. Results of the focused flat-tailed horned lizard survey as well as a list of other sensitive animal species potentially occurring but not observed are presented in the 2010 Biological Resources Report.

3.4 Jurisdictional Features

No wetland/riparian habitat, stream beds, drainages, or other features that would be considered jurisdictional by the County, Corps, or RWQCB occur within the project footprint. Two small ephemeral drainage features were mapped previously adjacent to the dirt road upon which East Water Line would follow. The previous report noted that these two small ephemeral drainages would not be considered jurisdictional by the Corps but could be considered jurisdictional by the CDFW (Affinis 2010). The project has been designed such that the 4-inch water line would be constructed entirely within the limits of the existing, gravel road therefore there would be no effect upon the potentially jurisdictional features.

4.0 Project Effects

4.1 Vegetation Communities

The proposed project would impact a single sensitive vegetation community: desert saltbush scrub (Table 2; Figure 3). The combined on- and off-site impact to this community would be approximately 60.05 acres (excluding the SDG&E easement; Area B). On site impacts to this habitat include 50.63 acres of proposed panels and 2.61 acres for a trail easement. A maximum of 6.81 acres of impact would occur in the off-site access and alignments (Areas A, C, and D). In addition, the off-site gen tie line would impact approximately 2.29 acres of desert saltbush habitat within the SDG&E easement (Area B). This impact within the SDG&E easement is provided for informational purposes and is not included in the project analysis. A separate environmental analysis will be conducted for the SDG&E component of the project.

The remaining area impacted by the current project would be within non-sensitive disturbed/developed areas. The previous project would have impacted a great deal more desert saltbush scrub as well as a small amount of desert dune habitat.

Table 2
Proposed Project Impacts[1]

Vegetation Community	On-Site		Off-Site			Total
	Project	Trail	Area A	Area C	Area D	
Desert Saltbush Scrub	50.63	2.61	5.19	1.62	--	**60.05**
Stabilized/Partially Stabilized Desert Dunes	--	--	--	--	--	--
Disturbed/Developed	--	--	1.07	1.92	0.63	**3.62**
Total	**50.63**	**2.61**	**6.26**	**3.54**	**0.63**	**63.67**

[1] Off site impacts within the SDG&E easement (Area B) are not included

4.2 Sensitive Plants

The project would avoid all of the Gander's and ribbed cryptantha mapped on and adjacent to the site. Therefore, the project would have no effect upon sensitive plant species.

4.3 Sensitive Animals

The Project would impact habitat potentially utilized by County Group I animal species (flat-tailed horned lizard, Colorado Desert fringe-toed lizard, and the loggerhead shrike). The significance of the effects to these species is discussed in Section 3.2 of the 2010 Biological Resources Report (Affinis 2010).

5.0 Mitigation Measures

5.1 Vegetation Communities

The project would impact approximately 60.05 acres of desert saltbush scrub habitat (including off-site areas access and water line alignments) which would require mitigation at a 2:1 ratio (Table 3). A total of 120.10 acres of suitable habitat must be preserved in order to meet this mitigation requirement. The project proposes to meet this mitigation obligation entirely through preservation of suitable habitat on site. Mitigation will be met through on-site preservation of desert saltbush scrub habitat (MUP Sheets 1 & 2). The onsite mitigation includes the required 120.10 acres of preserved habitat plus an additional 4.58 acres to serve as possible mitigation (at a 2:1 ratio) for impacts to 2.29 acres of desert saltbush scrub habitat from construction of the gen tie line in the SDG&E easement (Area B). The actual mitigation requirement for this project component will be determined through a separate environmental analysis for the SDG&E alignment.

Table 3 **Proposed Project Mitigation**				
Vegetation Community	**Existing**	**Impacts**[1]	**Mitigation**	
			Mitigation Ratio	**On-Site Preserve**[2]
Desert Saltbush Scrub	293.41	60.05	2:1	120.10
Stabilized/Partially Stabilized Desert Dunes	2.92	0.00	--	0.00
Disturbed/Developed	3.64	3.64	--	0.00
Total	**299.97**	**63.69**	**--**	**120.10**

[1] Includes on- and off-site impacts (Areas A, C, & D), see Table 2 for breakdown.
[2] Preserve will include an additional 4.58 acres for possible SDG&E mitigation

A Resource Management Plan (RMP) also has been prepared (RBF 2012) in accordance with Attachment E of the County's Report Format and Content Requirements for Biological Resources to provide a framework for the management of the on-site preserve in perpetuity.

5.2 Sensitive Plants

The project has been redesigned to avoid the sensitive plant impacts identified in the 2010 Biological Resources Report and therefore the previously identified sensitive plant species mitigation measures are no longer required.

5.3 Sensitive Animals

The mitigation measures identified in the 2010 Biological Resources Report for potential impacts to sensitive animal species still apply.

6.0 Conclusion

The proposed project has been greatly reduced from that analyzed in the 2010 Biological Resources Report. The current project would impact far less desert saltbush scrub and entirely avoids the stabilized/partially stabilized desert dunes on site. This reduction in effect allows for habitat mitigation requirements to be met entirely through on-site preservation. The re-designed project completely avoids the sensitive plant species impacts previously identified, thereby eliminating the need for mitigation. Additionally, the project would not affect jurisdictional features thereby avoiding the need for regulatory agency permits.

Other analyses and measures identified in the 2010 Biological Resources Report that are not addressed in this letter report are still applicable.

Please contact me if you have any questions regarding this letter report.

Sincerely

Greg Mason
Senior Biologist

Enclosures: Figure 1, Project Site Location
Figure 2, Regional Location Map
Figure 3, Sensitive Biological Resources/Impacts
MUP Plot Plan, Sheets 1 & 2

References:

Affinis, 2010. Biological Resources Report EURUS Energy Borrego Solar Farm. Revised September 2010.

Baldwin, B. G., et al. 2012. The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley.

Bowman, R. 1973. Soil Survey of the San Diego Area. USDA in cooperation with the USDI, UC Agricultural Experiment Station, Bureau of Indian Affairs, Department of the Navy, and the U.S. Marine Corps.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California, The Resources Agency. 156 pp.

Oberbauer, T. 2008. Terrestrial vegetation communities in San Diego County based on Holland's Descriptions. San Diego Association of Governments, San Diego, California. 6 pp.

RBF, 2012. Conceptual Resource Management Plan for the Desert Green Solar Farm Borrego Springs, San Diego County, CA. September.

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08/15/2011 JN25-104980.00 4980-Alpine-regional.mxd RDH

DESERT GREEN SOLAR FARM

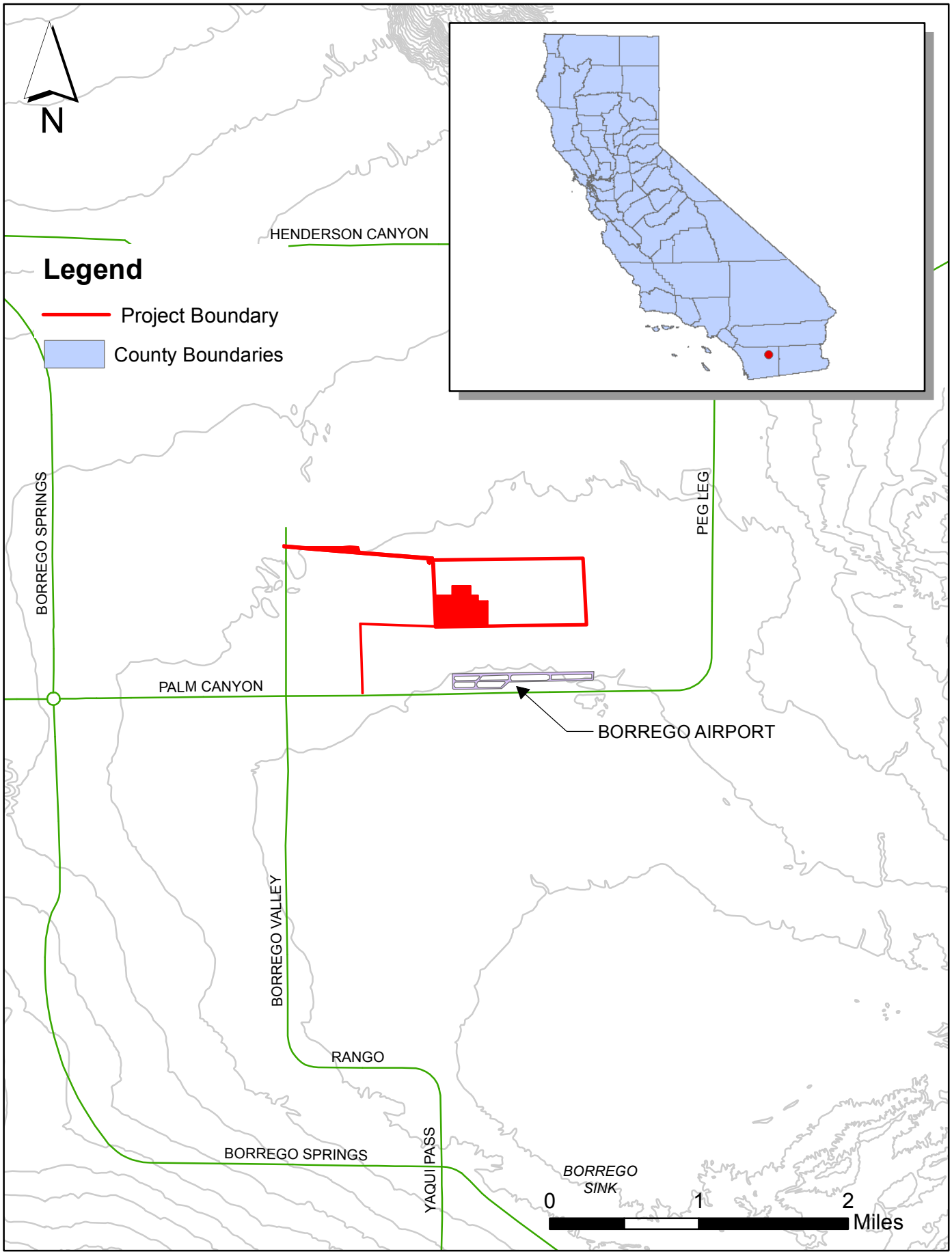
Resource Management Plan

Regional Location Map

0 2.5 5 10 Miles

Source: ESRI

Figure 1



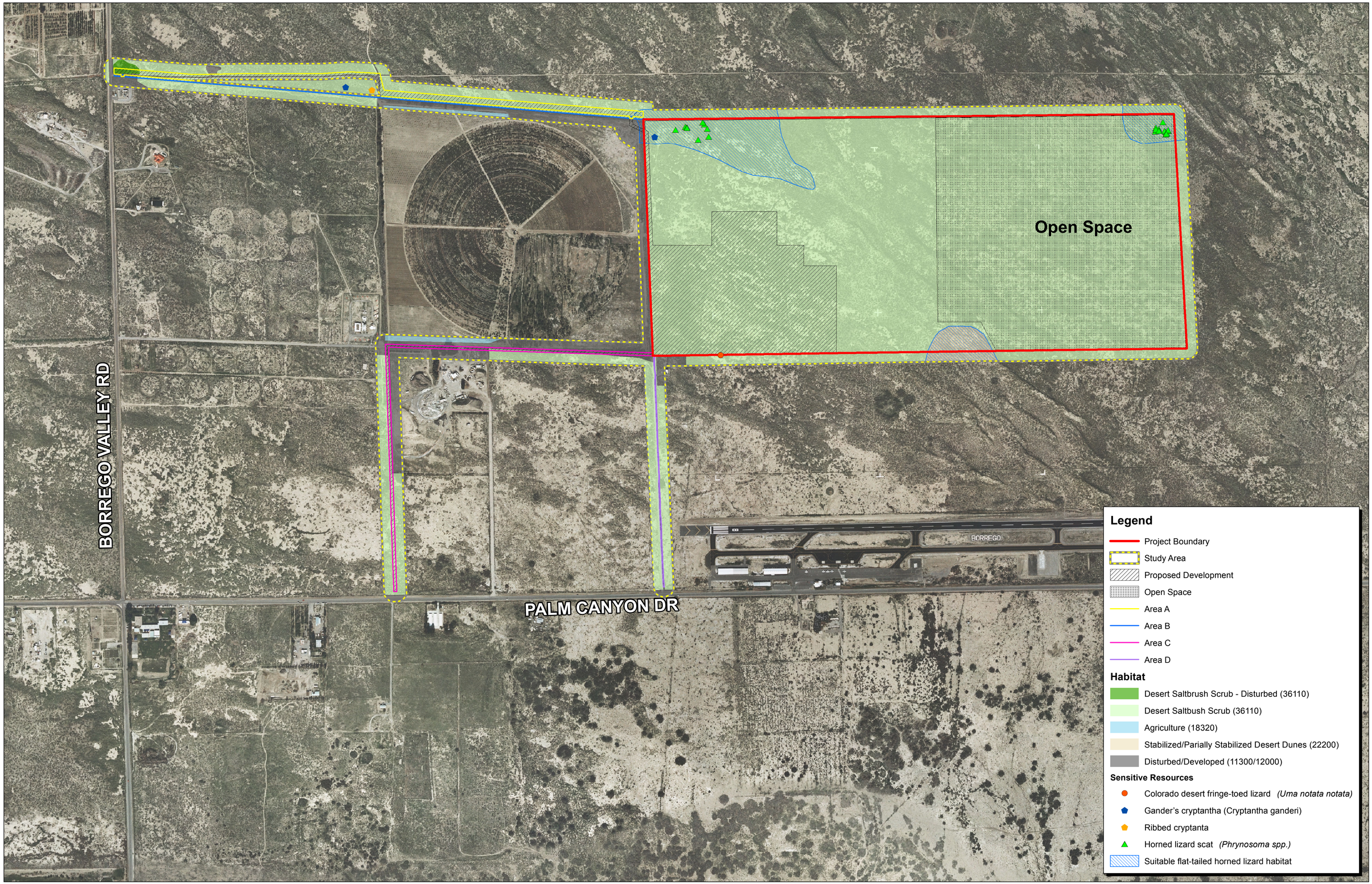
06/15/2012 JN25-105388.00 5388-Fig2-bd.mxd RDH

Source: ESRI

DESERT GREEN SOLAR FARM

Vicinity Map

Figure 2



2/13/2013 J:\N:\Mdata\25105388\GIS\G388-bio-fig3 Resource\MgmtPlan Nov2012.mxd

0 125 250 500 750 1,000 Feet

Source:

DESERT GREEN SOLAR FARM

Resource Management Plan

Sensitive Biological Resources

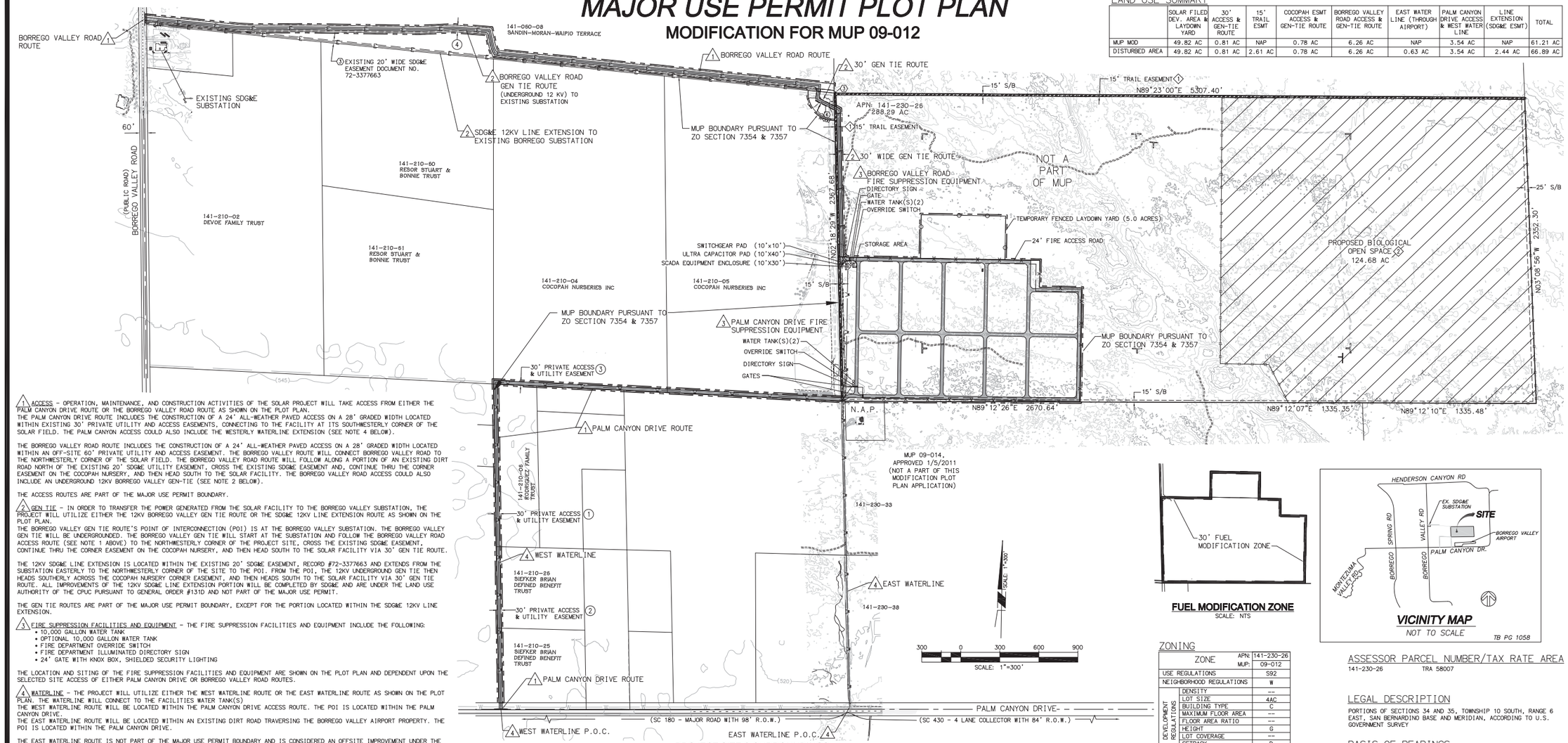
Figure 3

MAJOR USE PERMIT PLOT PLAN

MODIFICATION FOR MUP 09-012

LAND USE SUMMARY

	SOLAR FILED DEV. AREA & LAYDOWN YARD	30' ACCESS & GEN-TIE ROUTE	15' TRAIL ESMT	COCOPAH ESMT ACCESS & GEN-TIE ROUTE	BORREGO VALLEY ROAD ACCESS & GEN-TIE ROUTE	EAST WATER LINE (THROUGH AIRPORT)	PALM CANYON DRIVE ACCESS & WEST WATER LINE	LINE EXTENSION (SDG&E ESMT)	TOTAL
MUP MOD	49.82 AC	0.81 AC	NAP	0.78 AC	6.26 AC	NAP	3.54 AC	NAP	61.21 AC
DISTURBED AREA	49.82 AC	0.81 AC	2.61 AC	0.78 AC	6.26 AC	0.63 AC	3.54 AC	2.44 AC	66.89 AC



PROJECT SITE & SURROUNDINGS
SCALE: 1"=300'

FUEL MODIFICATION ZONE
SCALE: NTS

VICINITY MAP
NOT TO SCALE
TB PG 1058

ZONING

ZONE	APN: 141-230-26 MUP: 09-012
USE REGULATIONS	S92
NEIGHBORHOOD REGULATIONS	W
DEVELOPMENT REGULATIONS: DENSITY	---
DEVELOPMENT REGULATIONS: LOT SIZE	4AC
DEVELOPMENT REGULATIONS: BUILDING TYPE	C
DEVELOPMENT REGULATIONS: MAXIMUM FLOOR AREA	---
DEVELOPMENT REGULATIONS: FLOOR AREA RATIO	---
DEVELOPMENT REGULATIONS: HEIGHT	G
DEVELOPMENT REGULATIONS: LOT COVERAGE	---
DEVELOPMENT REGULATIONS: SETBACK	D
DEVELOPMENT REGULATIONS: OPEN SPACE	---
SPECIAL AREA REGULATIONS	C

ASSESSOR PARCEL NUMBER/TAX RATE AREA

141-230-26 TRA 58007

LEGAL DESCRIPTION

PORTIONS OF SECTIONS 34 AND 35, TOWNSHIP 10 SOUTH, RANGE 6 EAST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO U.S. GOVERNMENT SURVEY

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM (NAD83) ZONE 6,AS DETERMINED BY THE LINE BETWEEN NATIONAL GEODETIC SURVEY (NGS) STATIONS '13 AAR ECC' AND 'BOR 12' WITH A BEARING OF N42°35'10"W.

BENCHMARK

NGS STATION BOR 9, A 4" BRASS DISK IN 6" CONCRETE BASE 4.5' SOUTHEAST OF POWER POLE #319 AND 30' NORTHEAST OF THE EDGE OF BORREGO VALLEY ROAD. ELEVATION = 521.86 DATUM: NAVD88

APPLICANT

DESERT GREEN SOLAR FARM LLC
c/o CLARK CRAWFORD,
ATTORNEY-IN-FACT
16650 VIA ESPRILLO
SAN DIEGO, CA 92127
CONTACT: PATRICK BROWN
(619) 733-2649

SHEET INDEX

SHEET 1 - TITLE SHEET
SHEET 2 - PLOT PLAN
SHEET 3 - PROPOSED ELEVATIONS/DETAILS

DESERT GREEN SOLAR FARM
BORREGO SPRINGS, CA

MODIFICATION FOR MUP 09-012
(NO CHANGE TO MUP 09-014)
ER NO. 09-05-001A
TITLE SHEET

FEBRUARY 22, 2013
SHEET 1 OF 3

RBF CONSULTING
PLANNING ■ DESIGN ■ CONSTRUCTION
9755 CLAREMONT MESA BOULEVARD, SUITE 100
SAN DIEGO, CALIFORNIA 92124-1564
858.614.5000 • FAX 858.614.5001 • www.RBF.com

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NOTES

1. GROSS AREA: 288.29 ACRES (APN 141-230-26)
2. NET AREA: 288.29 ACRES (APN 141-230-26)
3. TOPOGRAPHIC SOURCE: VERTICAL MAPPING, FLOWN 5/8/09 & & INTERMAP FLOWN 2005
4. ASSOCIATED REQUESTS: NONE
5. THE APPROVAL OF THIS MAJOR USE PERMIT MODIFICATION (MUP) AUTHORIZES THE FOLLOWING: CONSTRUCTION, OPERATION, AND MAINTENANCE OF A CPV SOLAR FARM PURSUIT TO SECTION 6952 OF THE SAN DIEGO COUNTY ZONING ORDINANCE.
6. THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.
7. ALL STRUCTURES TO BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS (CONCRETE, BLOCK, METAL) OR SIMILAR.
8. NO LANDSCAPING PROPOSED.
9. LIGHTING FOR MAINTENANCE AND SECURITY PROPOSES ONLY. SHIELDED LIGHTING LOCATED AT GATES AND SHALL CONFORM TO COUNTY OF SAN DIEGO OUTDOOR LIGHTING REQUIREMENTS. SEE DETAIL ON SHEET 3.
10. PHASING - PROJECT WILL BE IMPLEMENTED IN SEVERAL PHASES WITHOUT REGARD TO SEQUENCE WITHIN DEVELOPMENT AREA.
11. ALL DISTURBED AREAS WOULD BE COVERED WITH GRAVEL OR A BINDING AGENT TO REDUCE DUST.
12. SEE PRELIMINARY GRADING PLAN FOR PROPOSED GRADING.
13. ONLY DIRECTIONAL, LIMITS OF OPEN SPACE AND SAFETY SIGNAGE ARE PROPOSED.
14. NO DEVELOPMENT WILL OCCUR IN THE AREAS IDENTIFIED ON THE PLOT PLAN AS "OPEN SPACE".
15. SEE SHEET 2 FOR LEGEND.
16. THE ENTIRE SITE IS SUBJECT TO INUNDATION BY THE 100-YEAR FLOOD AND IS WITHIN FEMA MAP NO. 0607300675F THE LIMITS OF THE 100-YEAR FLOOD ALONG THE WATERCOURSE WHICH FLOWS THROUGH THE PROPERTY.
17. SITE ACCESS GATE(S) TO BE EQUIPPED WITH FIRE DEPARTMENT APPROVED KNOX KEY-OPERATED SWITCH.
18. SOLAR RELATED FACILITIES (PANELS, ELECTRICAL CONNECTIONS, TRANSFORMER/ INVERTER PLATFORM, STORAGE BUILDING, EMERGENCY GENERATOR, FENCING, INTERNAL ACCESS AND SWITCHGEAR PLATFORM, ETC.) SHOWN ON THE PLOT PLAN MAY BE RELOCATED, RECONFIGURED, AND/OR RESIZED WITHIN THE SOLAR FACILITY DEVELOPMENT AREA (EXCLUSIVE OF THE OPEN SPACE AREAS) WITH THE ADMINISTRATIVE APPROVAL OF THE DIRECTOR OF PDS WHEN FOUND IN CONFORMANCE WITH THE INTENT AND CONDITIONS OF PERMIT'S APPROVAL. TRANSFORMER/INVERTER/GENERATOR SIZE, LOCATIONS, BRAND, ELECTRICAL SIZE CAN BE RELOCATED, REPLACED OR RECONFIGURED WITHOUT REQUIREMENT OF MINOR DEVIATION. THE TRANSFORMER/INVERTER/GENERATOR MUST COMPLY WITH NOISE ORDINANCE AND MUST BE ELEVATED 1' ABOVE BASE FLOOD ELEVATION. THE 24' WIDE FIRE ACCESS ROAD WIDTHS MAY BE REDUCED ADMINISTRATELY WITH THE APPROVAL OF THE COUNTY FIRE AUTHORITY AND THE BORREGO SPRINGS FIRE PROTECTION DISTRICT.
19. THE ENTIRETY OF THE PARCEL ENCUMBERED BY MUP 09-012 (APN 141-230-26-00) IS SUBJECT TO THE RESTRICTIONS AND TERMS OF A COUNTY AVIATION EASEMENT.
20. TOTAL SOLAR TRACKER HEIGHT WILL NOT EXCEED 30 FEET.
21. WATER DISTRICT: BORREGO WATER DISTRICT.
22. ALL STRUCTURES, TRANSFORMER/INVERTER PLATFORM AND ELECTRICAL PADS TO BE ON PIERS.
23. 10,000 GAL. WATER TANK(S) WITH FIRE DEPARTMENT CONNECTION.
24. NO DEVELOPMENT IS ALLOWED WITHIN THE NOT A PART AREA WITHOUT A SUBSEQUENT PERMIT AND/OR DISCRETIONARY REVIEW.
25. PROVIDE OVERRIDE SWITCH CONTROL NEAR MAIN ENTRY TO ALLOW FIRE DEPARTMENT TO MOVE TRACKERS INTO STOW POSITION.
26. TRAIL EASEMENT TO ALLOW UTILITY LINES UNDERGROUND.

1 ACCESS - OPERATION, MAINTENANCE, AND CONSTRUCTION ACTIVITIES OF THE SOLAR PROJECT WILL TAKE ACCESS FROM EITHER THE PALM CANYON DRIVE ROUTE OR THE BORREGO VALLEY ROAD ROUTE AS SHOWN ON THE PLOT PLAN.
THE PALM CANYON DRIVE ROUTE INCLUDES THE CONSTRUCTION OF A 24' ALL-WEATHER PAVED ACCESS ON A 28' GRADED WIDTH LOCATED WITHIN EXISTING 30' PRIVATE UTILITY AND ACCESS EASEMENTS, CONNECTING TO THE FACILITY AT ITS SOUTHWESTERLY CORNER OF THE SOLAR FIELD. THE PALM CANYON ACCESS COULD ALSO INCLUDE THE WESTERLY WATERLINE EXTENSION (SEE NOTE 4 BELOW).

THE BORREGO VALLEY ROAD ROUTE INCLUDES THE CONSTRUCTION OF A 24' ALL-WEATHER PAVED ACCESS ON A 28' GRADED WIDTH LOCATED WITHIN AN OFF-SITE 60' PRIVATE UTILITY AND ACCESS EASEMENT. THE BORREGO VALLEY ROUTE WILL CONNECT BORREGO VALLEY ROAD TO THE NORTHWESTERLY CORNER OF THE SOLAR FIELD. THE BORREGO VALLEY ROAD ROUTE WILL FOLLOW ALONG A PORTION OF AN EXISTING DIRT ROAD NORTH OF THE EXISTING 20' SDG&E UTILITY EASEMENT, CROSS THE EXISTING SDG&E EASEMENT AND, CONTINUE THRU THE CORNER EASEMENT ON THE COCOPAH NURSERY, AND THEN HEAD SOUTH TO THE SOLAR FACILITY. THE BORREGO VALLEY ROAD ACCESS COULD ALSO INCLUDE AN UNDERGROUND 12KV BORREGO VALLEY GEN-TIE (SEE NOTE 2 BELOW).

THE ACCESS ROUTES ARE PART OF THE MAJOR USE PERMIT BOUNDARY.

2 GEN TIE - IN ORDER TO TRANSFER THE POWER GENERATED FROM THE SOLAR FACILITY TO THE BORREGO VALLEY SUBSTATION, THE PROJECT WILL UTILIZE EITHER THE 12KV BORREGO VALLEY GEN TIE ROUTE OR THE SDG&E 12KV LINE EXTENSION ROUTE AS SHOWN ON THE PLOT PLAN.
THE BORREGO VALLEY GEN TIE ROUTE'S POINT OF INTERCONNECTION (POI) IS AT THE BORREGO VALLEY SUBSTATION. THE BORREGO VALLEY GEN TIE WILL BE UNDERGROUNDED. THE BORREGO VALLEY GEN TIE WILL START AT THE SUBSTATION AND FOLLOW THE BORREGO VALLEY ROAD ACCESS ROUTE (SEE NOTE 1 ABOVE) TO THE NORTHWESTERLY CORNER OF THE PROJECT SITE, CROSS THE EXISTING SDG&E EASEMENT, CONTINUE THRU THE CORNER EASEMENT ON THE COCOPAH NURSERY, AND THEN HEAD SOUTH TO THE SOLAR FACILITY VIA 30' GEN TIE ROUTE.

THE 12KV SDG&E LINE EXTENSION IS LOCATED WITHIN THE EXISTING 20' SDG&E EASEMENT, RECORD #72-3377663 AND EXTENDS FROM THE SUBSTATION EASTERLY TO THE NORTHWESTERLY CORNER OF THE SITE TO THE POI. FROM THE POI, THE 12KV UNDERGROUND GEN TIE THEN HEADS SOUTHERLY ACROSS THE COCOPAH NURSERY CORNER EASEMENT, AND THEN HEADS SOUTH TO THE SOLAR FACILITY VIA 30' GEN TIE ROUTE. ALL IMPROVEMENTS OF THE 12KV SDG&E LINE EXTENSION PORTION WILL BE COMPLETED BY SDG&E AND ARE UNDER THE LAND USE AUTHORITY OF THE CPUC PURSUANT TO GENERAL ORDER #131D AND NOT PART OF THE MAJOR USE PERMIT.

THE GEN TIE ROUTES ARE PART OF THE MAJOR USE PERMIT BOUNDARY, EXCEPT FOR THE PORTION LOCATED WITHIN THE SDG&E 12KV LINE EXTENSION.

3 FIRE SUPPRESSION FACILITIES AND EQUIPMENT - THE FIRE SUPPRESSION FACILITIES AND EQUIPMENT INCLUDE THE FOLLOWING:
- 10,000 GALLON WATER TANK
- OPTIONAL 10,000 GALLON WATER TANK
- FIRE DEPARTMENT OVERRIDE SWITCH
- FIRE DEPARTMENT ILLUMINATED DIRECTORY SIGN
- 24' GATE WITH KNOX BOX, SHIELDED SECURITY LIGHTING

THE LOCATION AND SITING OF THE FIRE SUPPRESSION FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLOT PLAN AND DEPENDENT UPON THE SELECTED SITE ACCESS OF EITHER PALM CANYON DRIVE OR BORREGO VALLEY ROAD ROUTES.

4 WATERLINE - THE PROJECT WILL UTILIZE EITHER THE WEST WATERLINE ROUTE OR THE EAST WATERLINE ROUTE AS SHOWN ON THE PLOT PLAN. THE WATERLINE WILL CONNECT TO THE FACILITIES WATER TANK(S).
THE WEST WATERLINE ROUTE WILL BE LOCATED WITHIN THE PALM CANYON DRIVE ACCESS ROUTE. THE POI IS LOCATED WITHIN THE PALM CANYON DRIVE.
THE EAST WATERLINE ROUTE WILL BE LOCATED WITHIN AN EXISTING DIRT ROAD TRAVERSING THE BORREGO VALLEY AIRPORT PROPERTY. THE POI IS LOCATED WITHIN THE PALM CANYON DRIVE.

THE EAST WATERLINE ROUTE IS NOT PART OF THE MAJOR USE PERMIT BOUNDARY AND IS CONSIDERED AN OFFSITE IMPROVEMENT UNDER THE AUTHORITY OF THE FAA.

PROPOSED EASEMENTS

	DESCRIPTION
1	15' TRAIL EASEMENT
2	OPEN BIOLOGICAL SPACE EASEMENT (SHT. 1)

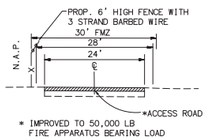
EXISTING EASEMENTS*

	DESCRIPTION	DISPOSITION
5	SDG&E EASEMENT	TO REMAIN
6	ACCESS & UTILITY EASEMENT (200' RADIUS)	TO REMAIN

○ BASED ON DATA FROM PRELIMINARY TITLE REPORT BY FIDELITY NATIONAL TITLE COMPANY, ORDER NO. 11-725137943-D-PP, DATED MAY 16, 2012.

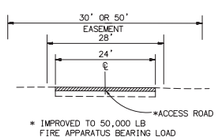
RECORDED EASEMENTS

	DESCRIPTION
1	30' PRIVATE ACCESS & UTILITY EASEMENT 2012-0235574
2	30' PRIVATE ACCESS & UTILITY EASEMENT 2012-235573
3	30' PRIVATE ACCESS & UTILITY EASEMENT 2012-0282029
4	50' PRIVATE ACCESS & UTILITY EASEMENT



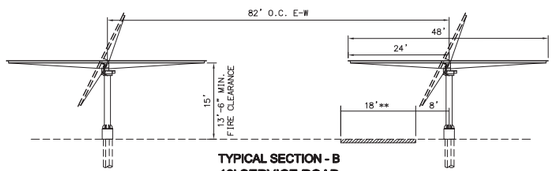
* IMPROVED TO 50,000 LB FIRE APPARATUS BEARING LOAD

TYPICAL SECTION
24' PERIMETER ACCESS ROAD
NOT TO SCALE
TYPICAL LOCATION UNLESS SHOWN OTHERWISE ON SITE PLAN



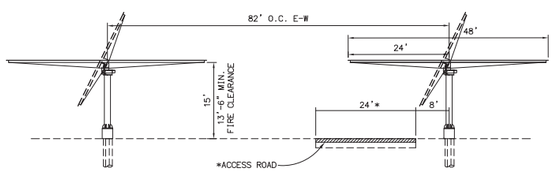
* IMPROVED TO 50,000 LB FIRE APPARATUS BEARING LOAD

TYPICAL SECTION
(PALM CANYON / BORREGO VALLEY ROAD)
PRIMARY ACCESS ROAD / EASEMENT
NOT TO SCALE



TYPICAL SECTION - B
18' SERVICE ROAD
NOT TO SCALE

** IMPROVE TO 15,000 LB SERVICE ROAD

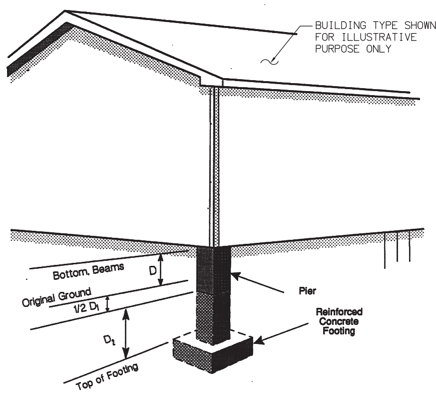


* IMPROVED TO 50,000 LB FIRE APPARATUS BEARING LOAD

TYPICAL SECTION - A
24' INTERIOR ACCESS ROAD (FIRE)
NOT TO SCALE

MAJOR USE PERMIT PLOT PLAN

MODIFICATION FOR MUP 09-012



PIER FOUNDATION

Depth of Erosion Protection

Footings for slab foundations must be constructed to a depth below the prevailing ground level as shown in Figure II-1.Sht. 1 The necessary depth of construction for these footings is based on the Borrego Valley Alluvial Fan Map.

The flood depth (D) shown for the particular location is converted to a construction depth (D_1) based on the velocity shown on the map, using the following table:

Velocity (V)	Construction Depth (D_1)
4 Feet/Second	$D_1 = D$
6 Feet/Second	$D_1 = D$
8 Feet/Second	$D_1 = 1.8 \times D$
Over 8 Feet/Second	Study Required

Where: D_1 = Depth Below Ground (Feet)
D = Depth Shown on Alluvial Fan Map (Feet)
V = Velocity Shown on Alluvial Fan Map (Feet/Second)

Erosion protection made of rock, gabions, or rip-rap must be installed to the depth D_1.

TYPICAL SECTION FOUNDATION FOOTING OPTIONS TRANSFORMER / INVERTER PLATFORM STORAGE, CABINETS, O&M STRUCTURE

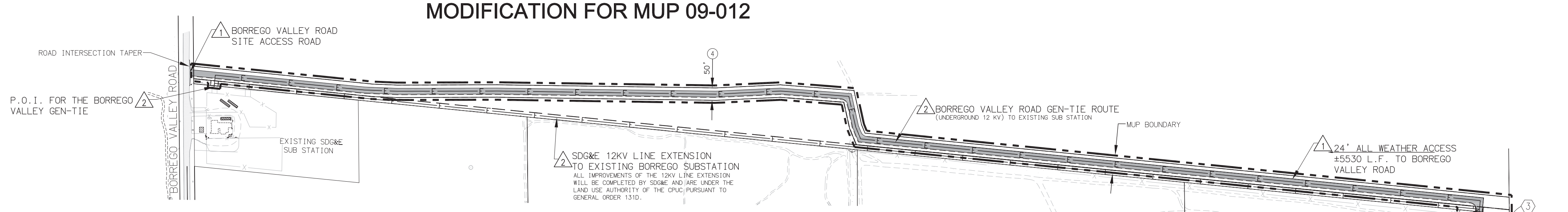
N.T.S.

SOURCE: BORREGO VALLEY FLOOD MANAGEMENT REPORT DATED OCT. 1989

NOTE: A PIER FOUNDATION DESIGN IS SELECTED TO RAISE THE BUILDINGS SO THEY ARE AT LEAST 1' ABOVE THE BASE FLOOD ELEVATION, THEN A CLOMR/LOMR PROCESS IS NOT NEEDED.

D_2 Pier Scour
Depth of Scour (feet)

Velocity (fps)	Vertical Member Diameter (inches)				
	4	6	8	10	12
1	.75	1.00	1.25	1.50	1.75
2	1.00	1.25	1.50	1.75	2.00
4	1.50	1.75	2.00	2.25	2.75
6	1.75	2.00	2.50	2.75	3.25
8	2.00	2.25	2.75	3.25	3.50
10	2.25	2.50	3.00	3.50	4.00
15	2.50	3.00	3.50	4.00	4.50

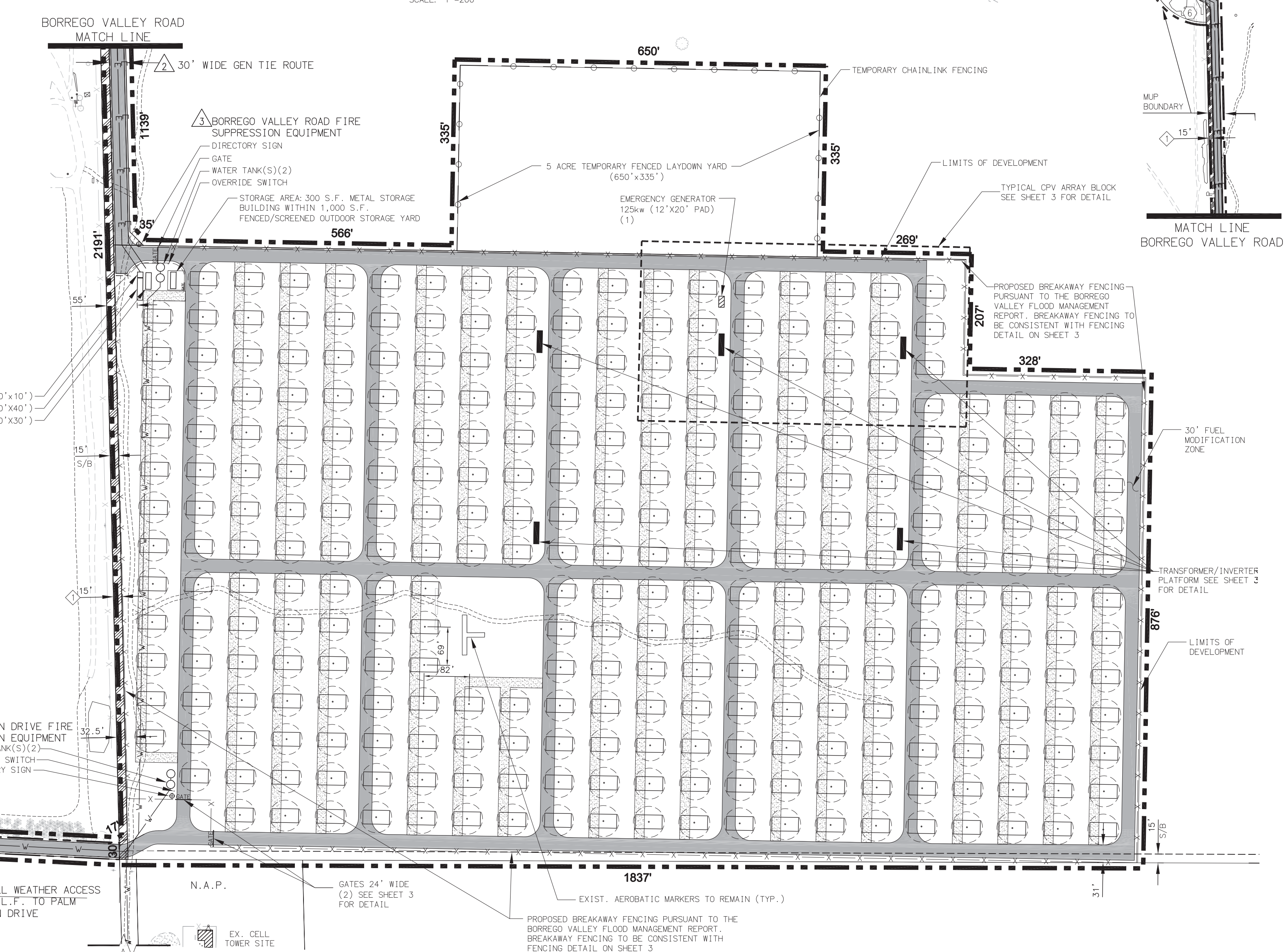


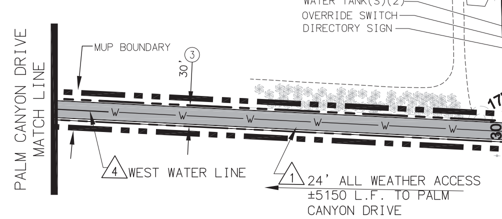
BORREGO VALLEY ROAD PLOT PLAN

SCALE: 1"=200'

LEGEND:

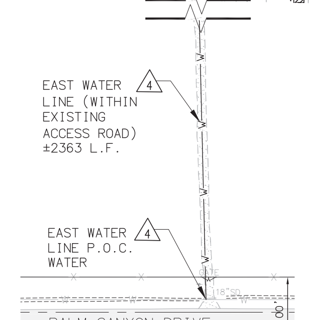
MAJOR USE PERMIT BOUNDARY	
TAX ASSESSOR BOUNDARY	
LIMITED BUILDING ZONE LINE	
EX. 6' CHAINLINK FENCE	
PROP. 6' CHAINLINK BREAKAWAY FENCE WITH 3 STRAND BARBED WIRE	
TEMPORARY FENCING	
PROP. 24' FIRE ACCESS ROAD-ALL WEATHER (10% GRADIENT MAX) 50,000 LB.	
PROP. 18' SERVICE ROAD 15,000 LB.	
PROP. TRAIL EASEMENT ◇1	
BUILDING SETBACK LINE (S/B)	
PROP. WATER LINE	W
PROP. UNDERGROUND POWER LINE	E
TRANSFORMER/INVERTER PLATFORM (4 - DUAL 630kw & 1 - DUAL 720kw INVERTER PLATFORM)	
EMERGENCY GENERATOR PLATFORM	
CPV ARRAY (308)	
PROP. BIOLOGICAL OPEN SPACE (124.68 AC.) ◇2 WITH OPEN SPACE SIGNAGE SEE DETAIL ON SHEET 3	

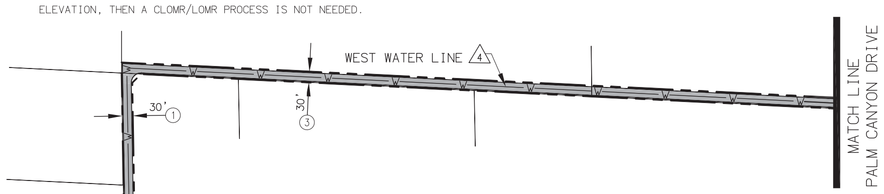




PLOT PLAN

SCALE: 1"=100'





PROJECT STRUCTURES COVERAGE TABLE

ITEM DESCRIPTION	AREA	UNIT	QUANTITY	TOTAL AREA	UNIT
INVERTER PLATFORM (10'X40')	400	SF	5	2,000	SF
STORAGE STRUCTURE (10'X30')	300	SF	1	300	SF
10,000 GAL. WATER TANK	177	SF	2	354	SF
EMERGENCY GENERATOR (12'X20')	240	SF	1	240	SF
SWITCHGEAR PAD (10'X10')	100	SF	1	100	SF
ULTRA CAPACITOR PAD (10'X40')	400	SF	1	400	SF
SCADA EQUIPMENT (10'X30')	300	SF	1	300	SF
			SUB TOTAL	3,694	SF
			EQUIV=	0.08	AC
SOLAR PANEL (25'X48')	1,200	SF	308	8.48	AC
			TOTAL	8.56	AC

3.0% OF PARCEL COVERAGE

PROPOSED EASEMENTS

	DESCRIPTION
◇1	15' TRAIL EASEMENT
◇2	OPEN BIOLOGICAL SPACE EASEMENT (SHT. 1)

EXISTING EASEMENTS*

	DESCRIPTION	DISPOSITION
⬡3	SDG&E EASEMENT	TO REMAIN
⬡6	ACCESS & UTILITY EASEMENT (200' RADIUS)	TO REMAIN

⬡ BASED ON DATA FROM PRELIMINARY TITLE REPORT BY FIDELITY NATIONAL TITLE COMPANY, ORDER NO. 11-725137943-D-PP, DATED MAY 16, 2012.

RECORDED EASEMENTS

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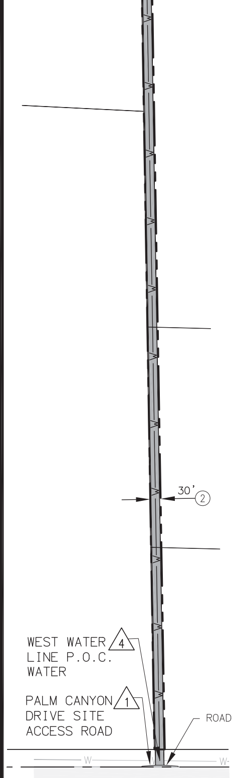
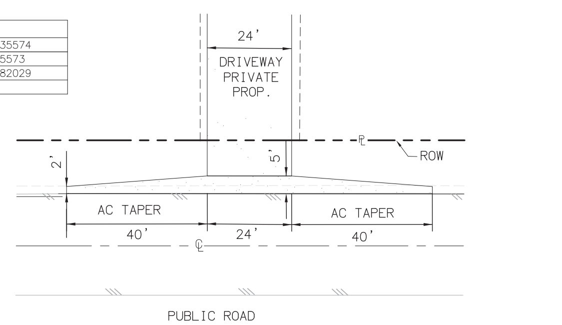


PALM CANYON DRIVE PLOT PLAN

SCALE: 1"=200'



ROAD INTERSECTION TAPERS

N.T.S.

1. ACCESS - SEE SHEET 1 FOR NOTE.
2. GEN TIE - SEE SHEET 1 FOR NOTE.
3. FIRE SUPPRESSION FACILITIES AND EQUIPMENT - SEE SHEET 1 FOR NOTE.
4. WATERLINE - SEE SHEET 1 FOR NOTE.

SCALE: 1"=100'

DESERT GREEN SOLAR FARM
BORREGO SPRINGS, CA

MODIFICATION FOR MUP 09-012
(NO CHANGE TO MUP 09-014)
ER NO. 09-05-001A
PLOT PLAN

FEBRUARY 22, 2013
SHEET 2 OF 3

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