February 2, 2010

Mr. Eric Solorio
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Ridgecrest Solar Power Project - 09-AFC-9
Plan of Development for BLM (File # CACA 49016) – Fourth Update

Dear Mr. Solorio:

Per your request, enclosed please find two (2) CDs and one (1) hard copy of the updated Plan of Development (POD) for the RSPP.

This revised POD is based on the reconfigured design which was submitted to the CEC and BLM at the workshops on January 5th and 6th.

These materials are being submitted to the CEC Docket Office by fedex on February 3, 2010.

If you have any questions, please contact Billy Owens.

Thank you for your time and attention to this matter.

Sincerely,

Nicole Tenenbaum

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Solar Millennium LLC

Updated Plan of Development

4th update to original Plan of Development submitted 07/08/07

RIDGECREST SOLAR POWER PROJECT

BLM Land Use Application

File # CACA - 49016

Submitted February 2, 2010 to:

Bureau of Land Management
Ridgecrest Field Office
300 S. Richmond Rd.
Ridgecrest, CA 93555

Proponent Contacts:

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Contents

List of Figures

List of Tables

Attachments

List of Acronyms and Abbreviations

°F	degrees Fahrenheit
AB	Assembly Bill
ACC	air-cooled condenser
ACEC	Area of Critical Environmental Concern
af	acre-feet
AFC	Application for Certification
amsl	above mean sea level
APE	Area of Potential Effects
ARRA	American Recovery and Reinvestment Act
AST	aboveground storage tank
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	best management practice
BO	Biological Opinion
BRMIMP	Biological Resources Mitigation Implementation and Monitoring Plan
BRSA	Biological Resources Study Area
CAA	Clean Air Act
CAISO	California Independent System Operator
Cal-OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CDCA Plan	California Desert Conservation Area Plan of 1980 as Amended
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
DESCP	Drainage, Erosion, and Sediment Control Plan
DOD	Department of Defense
DT	desert tortoise
DTSC	Department of Toxic Substances Control
DWMA	Desert Wildlife Management Area

EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FLPMA	Federal Land Policy Management Act of 1976
ft.	foot
HTF	heat transfer fluid
IIPP	Illness and Injury Prevention Plan
IM	Instruction Memorandum
ITP	Incidental Take Permit
IWVWD	Indian Wells Valley Water District
KCAPCD	Kern County Air Pollution Control District
kV	kilovolt
LTU	land treatment unit
mg/kg	milligram per kilogram
mg/L	milligram per liter
MGS	Mohave ground squirrel
MOU	memorandum of understanding
MSDS	Material Safety Data Sheet
MUC	Multiple Use Class
MW	megawatt
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act of 1970 as Amended
NFPA	National Fire Prevention Association
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
O&M	operations and maintenance
OHV	off-highway vehicle
PG	Participating Generator
PMPD	Presiding Members Proposed Decision
POD	Plan of Development
PPE	Personal Protective Equipment
PSD	Prevention of Significant Deterioration

RO	reverse osmosis
ROD	Record of Decision
ROW	right of way
ROWD	Report of Waste Discharge
RPS	Renewable Portfolio Standard
RSPP	Ridgecrest Solar Power Project
RWQCB	Regional Water Quality Control Board
SA	Staff Assessment
SCADA	supervisory control and data acquisition
SCE	Southern California Edison
SEGS	Solar Electric Generating System
SF-299	Standard Form 299, Application for Transportation and Utility Systems and Facilities on Federal Land
SHPO	State Historic Preservation Office
SLF	Sacred Lands File
SMLLC	Solar Millennium, LLC
SSJVIC	Southern San Joaquin Valley Information Center
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WBO	western burrowing owl
WDR	Waste Discharge Requirement
WEMO Plan	West Mojave Plan

1.0 Introduction

This fourth update to Solar Millennium's August 8, 2007 Plan of Development (POD) for the Ridgecrest Solar Power Project (RSPP or Project) is being submitted to the U.S. Bureau of Land Management (BLM) Ridgecrest Field Office in connection with BLM #CACA 49016, a right of way (ROW) application for the development of a commercial solar parabolic trough generating station with a nominal capacity of 250 megawatts (MW). Solar Millennium, LLC (SMLLC or the Applicant) has prepared a ROW application and POD in conformance with the requirements of the Federal Land Policy Management Act of 1976 (FLPMA) and per guidance from the BLM's solar energy development policy, Instruction Memorandum 2007-097 (IM 2007-097). In order to facilitate review, this POD has been prepared following the BLM's latest POD format guidelines, dated July 3, 2008.

Figure 1: Parabolic Trough Technology

As a solar thermal project over 50 MW in capacity located on BLM-administered land, the Project is under the jurisdiction of both the California Energy Commission (CEC) and BLM. In August 2007, the BLM California Desert District and the CEC executed a Memorandum of Understanding (MOU) establishing a policy for the joint environmental review of solar thermal power plant projects. As a Federal agency, the BLM must comply with the requirements of the National Environmental Policy Act (NEPA), and as a California State agency, the CEC must comply with the requirements of the California Environmental Quality Act (CEQA). The two agencies are conducting a joint review of the Project and will prepare a joint Staff Assessment (SA)/Environmental Impact Statement (EIS), which will serve as the combined decision document for both NEPA and CEQA.

The contents of this POD, in conjunction with the materials submitted during the CEC's Application for Certification (AFC) process, are intended to provide a basis for the joint NEPA/CEQA review process and preparation of the SA/EIS. Solar Millennium submitted an AFC for the Project to the CEC on September 1, 2009. A Data Adequacy Supplement providing additional information requested by the CEC was submitted on October 26, 2010, and the CEC deemed the AFC data adequate on November 18, 2009. The Project is now in the data discovery phase of the AFC process, which involves responding to additional data requests from regulatory agencies for the purpose of conducting NEPA and CEQA impact analyses. Solar Millennium submitted responses to the CEC's Data Request Set 1 on January 25, 2010, and will submit responses to Data Request Set 2 on or before February 19, 2010.

1.1 Solar Radiation in the Mojave Desert

The high elevation northern Mojave Desert (see Figure 2) is a unique region with some of the world's best direct normal insolation. Concentrating solar power can capture only the direct normal or "beam" solar radiation. Figure 3 shows direct normal solar radiation levels in the U.S. The Project site was selected based on its excellent radiation levels, relatively flat topography (less than 1% slope), and proximity to existing power lines and roads, compared to other potential solar sites in the area.

Figure 2: Mojave Desert. Source: Wikipedia

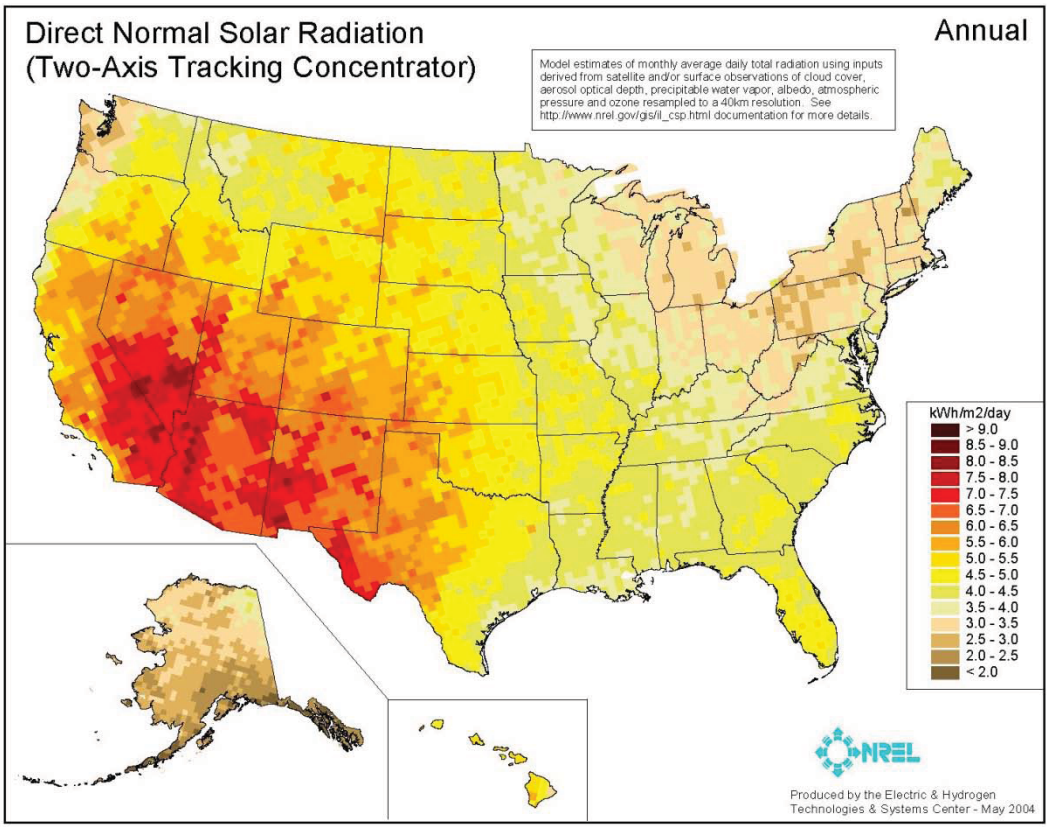


Figure 3: Direct Normal Radiation Map of the US. Source: NREL

Development of solar power facilities on Federal lands in desert areas of southern California responds to California's rapidly growing needs for reliable, clean peaking power. Environmental impacts from solar development can be minimized by concentrating solar power generation in "development corridors" located near existing roads and transmission lines, thereby reducing the scattered utilization of sensitive desert habitat. SMLLC has chosen a Project site in close proximity to existing transmission and transportation infrastructure. The Project site is located adjacent to the southwest of U.S. Highway 395 and adjacent to the north and south of Brown Road. Existing transmission lines cross the western portion of the Project ROW.

1.2 Type of Facility, Planned Uses, Generation Output

The Project site will be approximately 5 miles southwest of the city of Ridgecrest, in eastern Kern County, California (see Figure 4). The community provides a sound labor base of skilled workers that would supply a significant quantity of the labor needed to staff the Project's construction, operations, and maintenance jobs. Solar Millennium is actively engaged in discussions with community leaders and has held several public meetings in Ridgecrest.

The proposed RSPP will consist of a parabolic trough solar thermal power plant with two solar fields composed of rows of parabolic mirrors. These mirrors will focus solar energy on receiver tubes running along the focal point of the mirrors' parabola. These receiver tubes will capture and carry the heat of the sun via a heat transfer fluid (HTF) to a series of steam generators, which will send live steam to a Rankine-cycle reheat steam turbine. The solar field and power generation equipment will be put into operation each morning after sunrise and then shut down in the evening when solar insolation drops. Electricity will be produced by the plant's steam turbine generator.

The RSPP will have a facility footprint of approximately 1,448 acres, which encompasses the area within the facility fenceline. The Project disturbance area, which includes areas inside and outside of the facility fenceline that will be directly affected by development of the Project, is approximately 1,944 acres within an overall Project ROW area of 3,995 acres (see Figure 5). The project facilities will be composed of the following major elements:

- Two solar fields
- One power block
- A main office building and parking area
- A main warehouse and construction laydown area
- A bioremediation area (referred to as the Land Treatment Unit [LTU])
- A 230-kilovolt (kV) transmission line
- A 230-kV switchyard
- Aboveground HTF piping
- Paved access roads to the solar fields and power block from Brown Road
- Unpaved maintenance roads within the solar fields and along the transmission line
- Wind fencing and perimeter security fencing
- Water pipeline
- Drainage ditches

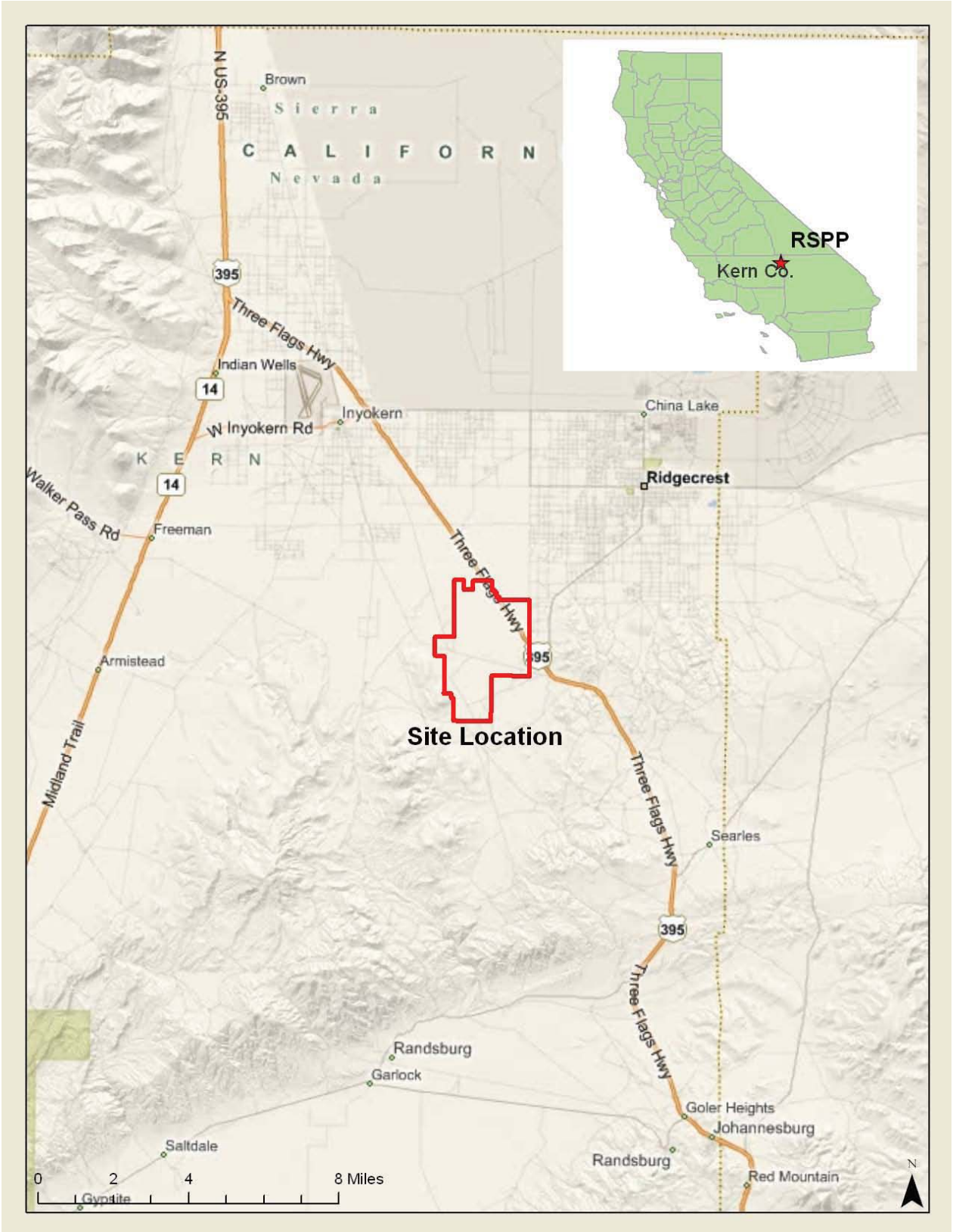


Figure 4 Project Location and Surrounding Area

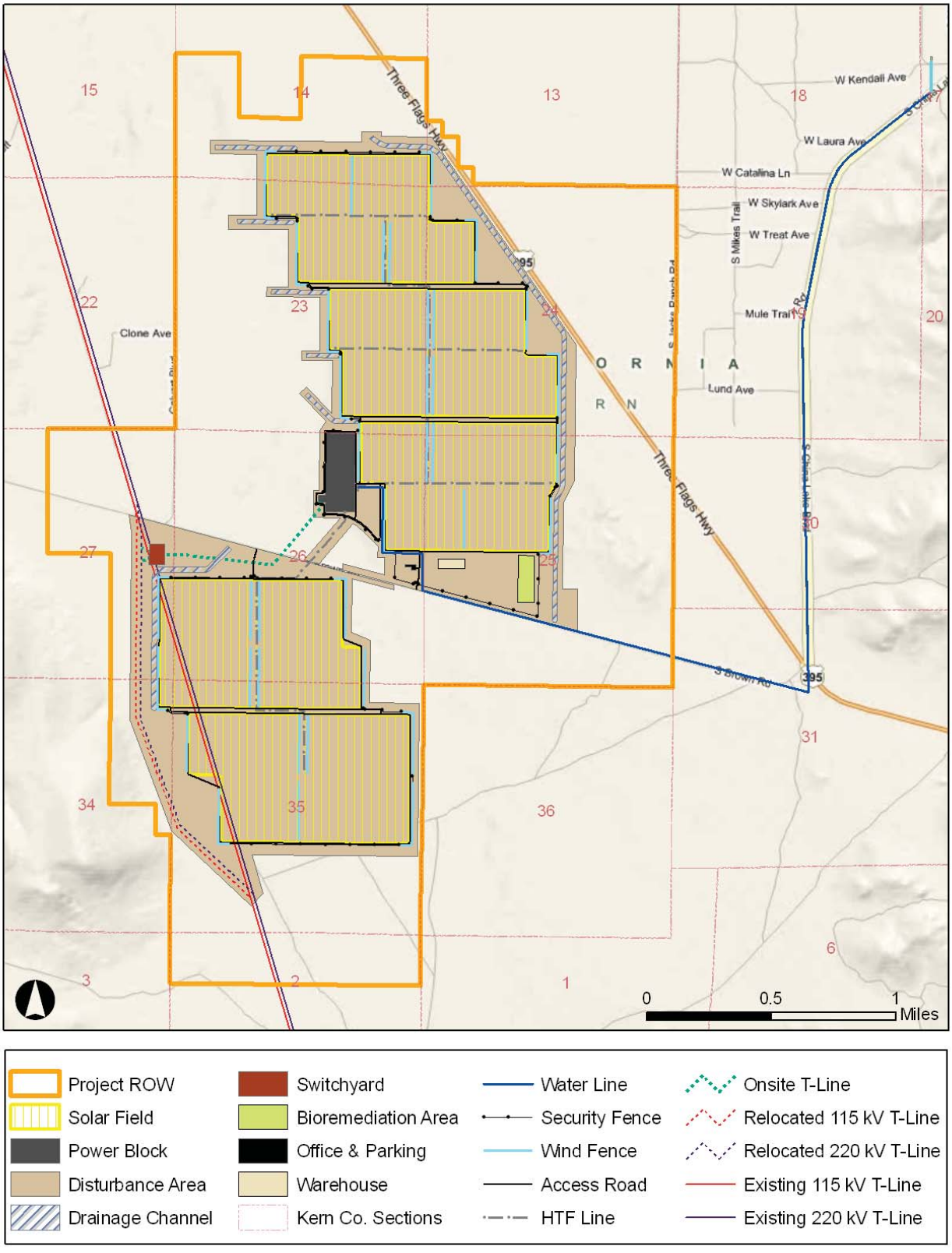


Figure 5 Preliminary Site Layout

The proposed Project consists of two solar fields. The north field will consist of 167 loops and the south field will consist of 119 loops ("loop" meaning a parallel pair of 1,300-foot [ft.] long arrays of parabolic mirrors, or collectors). The facility footprint (i.e., area within the Project fenceline) of the north field will be approximately 894 acres, and the south field will be approximately 554 acres. The solar fields will share a central power block located near the southwest corner of the north solar field. The major components of the power block will include:

- Power transmission poles and conductors
- Generator step up transformer
- Steam turbine generator
- Solar steam generators
- Air cooled condenser (ACC)
- Ancillary equipment cooling tower
- HTF expansion tanks and overflow vessels
- Propane-fired auxiliary boiler
- Propane-fired HTF heater
- Emissions control systems
- Propane unloading and storage
- Potable water storage tank
- Water treatment system
- Treated water storage tank
- Reverse osmosis (RO) concentrate storage tank
- Operations and maintenance buildings

The Project proposal also includes the relocation of sections of two existing parallel transmission lines, one 115-kV and one 230-kV, owned and operated by Southern California Edison (SCE). The Project design will relocate these lines around the southwest corner of the southern solar field. Offsite extension of the water pipeline will occupy an additional area of approximately 16.3 acres, all within existing road ROWs.

1.2.1 Project Reconfiguration

To address resource management agencies' comments regarding habitat values at the Project site, the RSPP site plan has been reconfigured to avoid impacts to natural storm water flows across El Paso Wash (see Figure 6). South of Brown Road, this avoidance has been accomplished by shifting the south solar field slightly to the north and west, placing it entirely out of and to the west of the Wash. This adjustment results in an approximate 4% reduction in the disturbance area south of Brown Road. The reconfiguration also includes relocation of the power block to the north of Brown Road. The main site access road and main office also have been moved to north of Brown Road. The reduced footprint of the south solar field requires the number of solar collector array loops, which individually have dimensions of approximately 1,300 ft. long by 140 ft. wide, to be decreased from 133 to 119. Attachment 1 provides engineering drawings of the site reconfiguration.

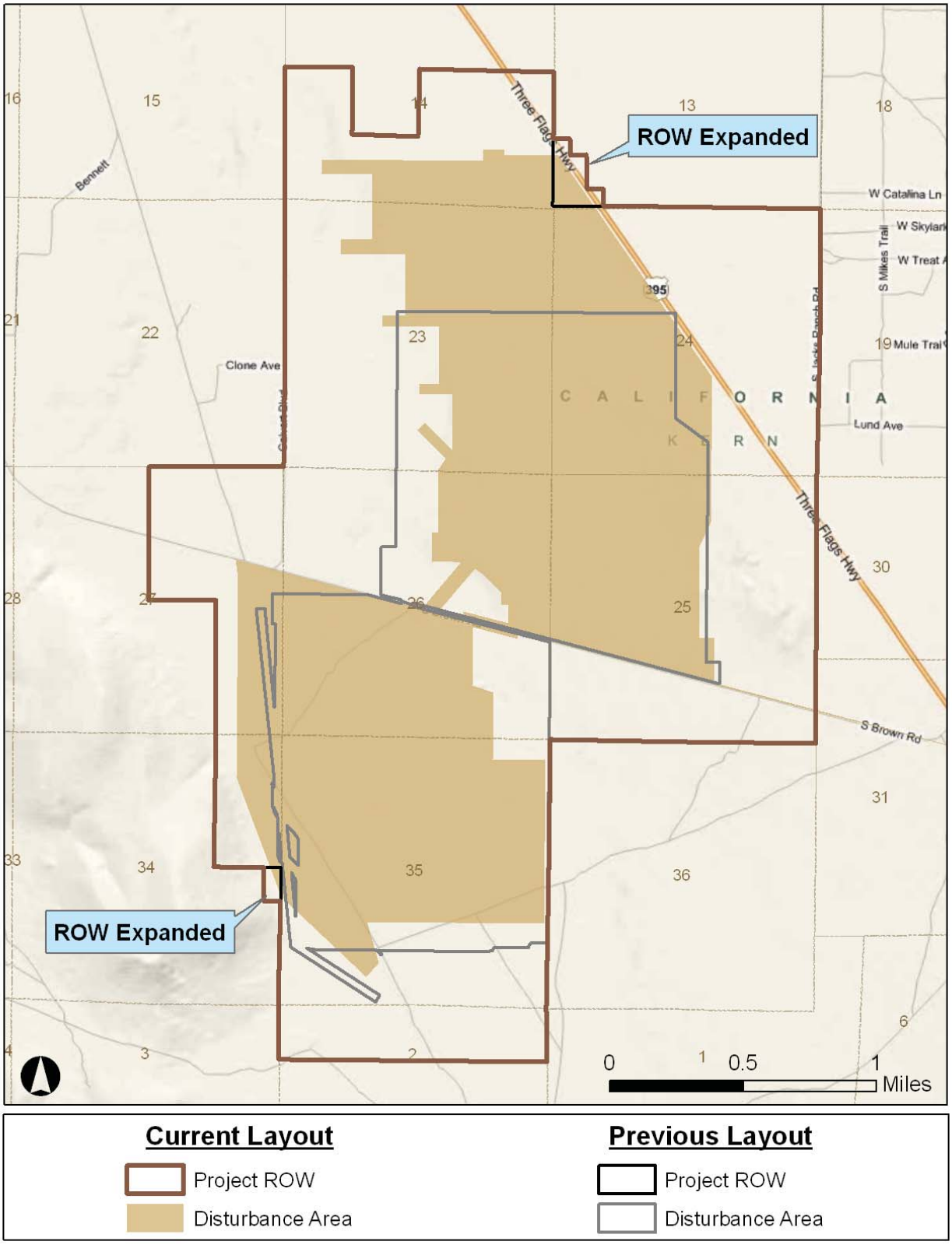


Figure 6 Project Reconfiguration Comparison

The design of the 230-kV switchyard has been optimized, resulting in a reduction of the footprint from 5.5 acres (600 ft. x 400 ft.) to 3.2 acres (425 ft. x 325 ft.). The new location of the switchyard is such that its western boundary limit will be contiguous with the eastern boundary line of the proposed SCE permanent easement for the relocated transmission lines. Modifications to the planned reroute of the existing SCE lines west of the south solar field are consistent with the original intent to closely follow the western limits of the field. The length of the existing lines that will need to be relocated (through a shift to the west) is now 8,600 ft. compared to 8,000 ft. in the original site configuration. The length of the proposed realigned segments of the existing SCE 115-kV and 230-kV transmission lines will run 9,060 ft. around the southwest corner of the south solar field.

North of Brown Road, the north solar field has been shifted north and east to move the field entirely out of El Paso Wash. The area of disturbance associated with the north solar field has increased by approximately 25% to offset the reduction of the south solar field. The number of solar collector array loops in the north solar field has increased from 145 to 167. In order to contain the entire field between the east side of the El Paso Wash and U.S. Highway 395, the east-west dimensions of the two original segments of the north solar field are reduced and the field is reconfigured into a total of six segments, with some segments of the field shifted east.

The reconfiguration of both solar fields will require small additions to the Project ROW, resulting in a total ROW area of 3,995 acres. The ROW additions are made up of BLM-administered lands and will include approximately 20 acres in the northeast portion of the site (in Section 13, Township 27 South, Range 39 East) and 5 acres in the southwest of the site (in Section 34, Township 27 South, Range 39 East). A revised legal description of the ROW is provided in Section 1.5.2. Solar Millennium will file a supplemental Standard Form 299 (SF-299), Application for Transportation and Utility Systems and Facilities on Federal Land, requesting an amendment to add the additional ROW areas to the pending ROW application.

Engineered drainages along the perimeters of both the north and south solar fields are being redesigned to accommodate the new solar field configuration. Total disturbed acreage for the Project will increase from approximately 1,760 acres to 1,944 acres (a 10% increase). Several factors contribute to the increase in the disturbance area of the north field. The greatest factor is the presence of more unused space within the fence lines of the solar field due to segmentation of the field needed to avoid the wash and fit the collectors into the remaining available area. The new design is not as efficient as the previous design, in both use of land area and conversion of solar radiation into electricity. Process efficiency is reduced, requiring approximately 3% more solar loops due to the heat transfer requirements associated with the solar collection and pumping inefficiencies that occur with the staggered field configuration.

In addition, regarding the less efficient use of land area, the staggered field configuration results in triangular spaces at the “offsets” in the field design that may be disturbed in the process of grading the site. These areas are currently being evaluated to minimize potential impacts. The segmentation in the north field has also increased the number of solar array subfields from four to six, resulting in additional terraces, access roads, and on-site drainage channels between the subfields. In addition, the rerouted SCE lines have been pushed further to the west, which also has resulted in some space inefficiencies and a corresponding increase in total disturbance area. The areas of disturbance associated with the relocated SCE transmission lines are included within the total Project disturbance area. The disturbed areas west of the south field may be able to be further reduced when SCE has finalized their design for the re-alignment.

To mitigate the overall losses in process efficiency resulting from the new configuration, the process performance of the steam cycle was improved by adding cells to the ACC. This change approximately doubled the area occupied by this piece of equipment, from about 1.66 acres to 3.27 acres; ACC height remains at 120 feet. The increase in ACC size will reduce the steam system backpressure. To

accommodate the larger ACC, the layout within the power block was rearranged somewhat, although the overall impact to the power block footprint is negligible.

Relocation of the power block to the north of Brown Road will result in a longer generation interconnection (gen-tie) line alignment and a greater number of monopoles between the power block and the switchyard. The length of the gen-tie line alignment has increased from approximately 1,250 ft. to 3,900 ft., and the number of poles will increase from three to four. The reconfiguration will also result in the need for the gen-tie line to cross over Brown Road. The longer north-south dimensions of the north solar field will result in an overall longer run of in-field HTF piping, and the new relative positioning of the two solar fields will result in a longer run of out-of-field HTF piping. The major length of out-of-field piping is a 2,200-ft. run from the power block, crossing over El Paso Wash via a new pipe bridge, under Brown Road via a pair of culverts, and onward into the south solar field.

Because the offsite portion of the water pipeline is shortened in the new design, total disturbed acreage for the offsite water line will be reduced from approximately 18 acres to approximately 16.3 acres. The pipeline will be either 12-inch or 16-inch diameter, to be determined by the preference of Indian Wells Valley Water District (IWVWD).. The environmental analysis will be conducted for the 16-inch diameter pipe, thus if a smaller pipe is chosen the potential impacts will already have been assessed.

1.2.2 Air Pollution Control

Air pollution emissions from the combustion of propane in the HTF heater and auxiliary boiler will be controlled using best available control technology. To ensure the systems perform correctly, SMLLC will perform continuous emission monitoring for nitrogen oxides and carbon monoxide during plant operation. Solar Millennium will also provide emission controls for the HTF vessels.

1.2.3 Water Supply

Project construction will require water for dust control and soil compaction. The IWVWD will supply water for construction, via truck delivery at the start of construction and via pipeline once the Project water line is built. Construction water use was originally estimated at 1,000 acre-feet (af) in total over a two-year construction period. After further analysis, the construction water needs were determined to be approximately 1,500 af over a 28-month construction period. This amount of 1,500 af is the amount agreed upon with IWVWD and the amount set forth in the AFC. The Project reconfiguration will cause modifications to the Project grading plan; however, significant modifications to the construction water use estimate are not expected. The revised grading plan will be completed in late February 2010, and Solar Millennium will provide the revised grading plan and water estimates to the BLM when they are completed.

During operations, the Project will utilize a dry cooling system. Steam from the turbine will exhaust to the ACC. Use of an ACC will result in a small efficiency performance penalty compared to use of a conventional wet cooling system, but will result in over 90% water savings annually.

During operations, the Project will require water for mirror washing, ancillary equipment cooling, domestic uses, steam turbine feed water makeup, and dust control (in descending order of quantity to be consumed). The plant's water demand during operations will be approximately 150 af of water per year. The IWVWD will supply the Project's water via an approximately 4.6-mile long pipeline that will run from the plant site along Brown Road and then China Lake Boulevard, The line will be installed entirely within existing public road ROWs. As discussed above, impact analyses for the Project are being conducted assuming a 16-inch diameter water line, although the pipeline may be either 12-inch or 16-inch diameter, depending on the final decision of the IWVWD.

Water received from IWVWD will meet the requirements of the California Department of Health Services for potable water supplies and will not require further treatment for this purpose. Water for power cycle makeup, mirror washing, and cooling of ancillary equipment will require onsite treatment for reduction of dissolved solids, and this treatment varies according to the quality required for each of these uses.

A membrane desalination process will be used for treatment of water during operations. Reverse osmosis (RO) is the process most likely to be used. Membrane desalination processes split the feed stream into two streams: 1) a product water stream (permeate) with reduced salinity and 2) a concentrate stream containing the majority of the salts removed from the feed stream. The permeate stream will be directed to a 600,000-gallon treated water tank storage tank. The RO concentrate stream, which will be utilized onsite for dust control, will stored in a 100,000-gallon tank.

It is anticipated that all of the power cycle makeup water will be recycled and reused as feed to the RO system. This will reduce the salinity of the RO feed and improve the RO recovery. Because of the very low level of dissolved solids in the makeup to the ancillary equipment heat rejection cooling tower, it is expected that blowdown will not be required. Rather, drift (windblown mist) will provide the necessary salt removal. If blowdown is required, it will be recycled to the RO system.

1.2.4 Transmission System Interconnection and Upgrades

SCE's 115-kV and 230-kV Inyo-Kern/Kramer Junction transmission lines run through the Project site. The Project switchyard will step up the generator voltage to 230 kV for connection to the existing 230-kV line adjacent to the northwest of the southern solar field (see Figure 7). The switchyard will be located within the proposed plant boundary. The Project will involve the relocation of approximately 1.6 miles of the existing SCE transmission lines to accommodate construction of the southern solar field.

Developing a new onsite switchyard and interconnecting with the SCE lines in close proximity to the plant site will minimize the length of the gen-tie line. An alternative approach evaluated during the early stages of Project planning involved running a new gen-tie line to the existing SCE Inyokern substation, located approximately 5 miles northwest of the Project site. The California Independent System Operator (CAISO) evaluated both of these interconnection options in the Phase I Cluster Study released to Solar Millennium in July 2009. Solar Millennium is no longer considering the Inyokern interconnection alternative due to the substantial environmental impacts and added costs of constructing 5 additional miles of transmission line and the various easements necessary. CAISO is currently conducting the final Phase II Study, which began in November 2009 and will be completed in 2010. An Interconnection Agreement for the Project is expected to be concluded in the fourth quarter of 2010.

1.3 Project Schedule

The Project development plan includes a preference for an initial twelve-month permitting period. This period started with BLM's publication of the Notice of Intent (NOI) to Prepare an EIS for the Project on November 23, 2009. Permitting is expected to conclude in late 2010, allowing construction to begin before the end of 2010 to meet the goals of the American Recovery and Reinvestment Act (ARRA) Renewable Energy Grant Program. Solar Millennium will continue to make every effort to assist the BLM, the CEC, and the CAISO during this permitting period so tasks can be accomplished in the most efficient fashion.

A permitting schedule is included in Table 1. The Project ROW is located entirely on BLM-administered land managed under the California Desert Conservation Area (CDCA) Plan. Because the Project was not identified in the CDCA Plan, a CDCA Plan Amendment will be required. The Plan Amendment process

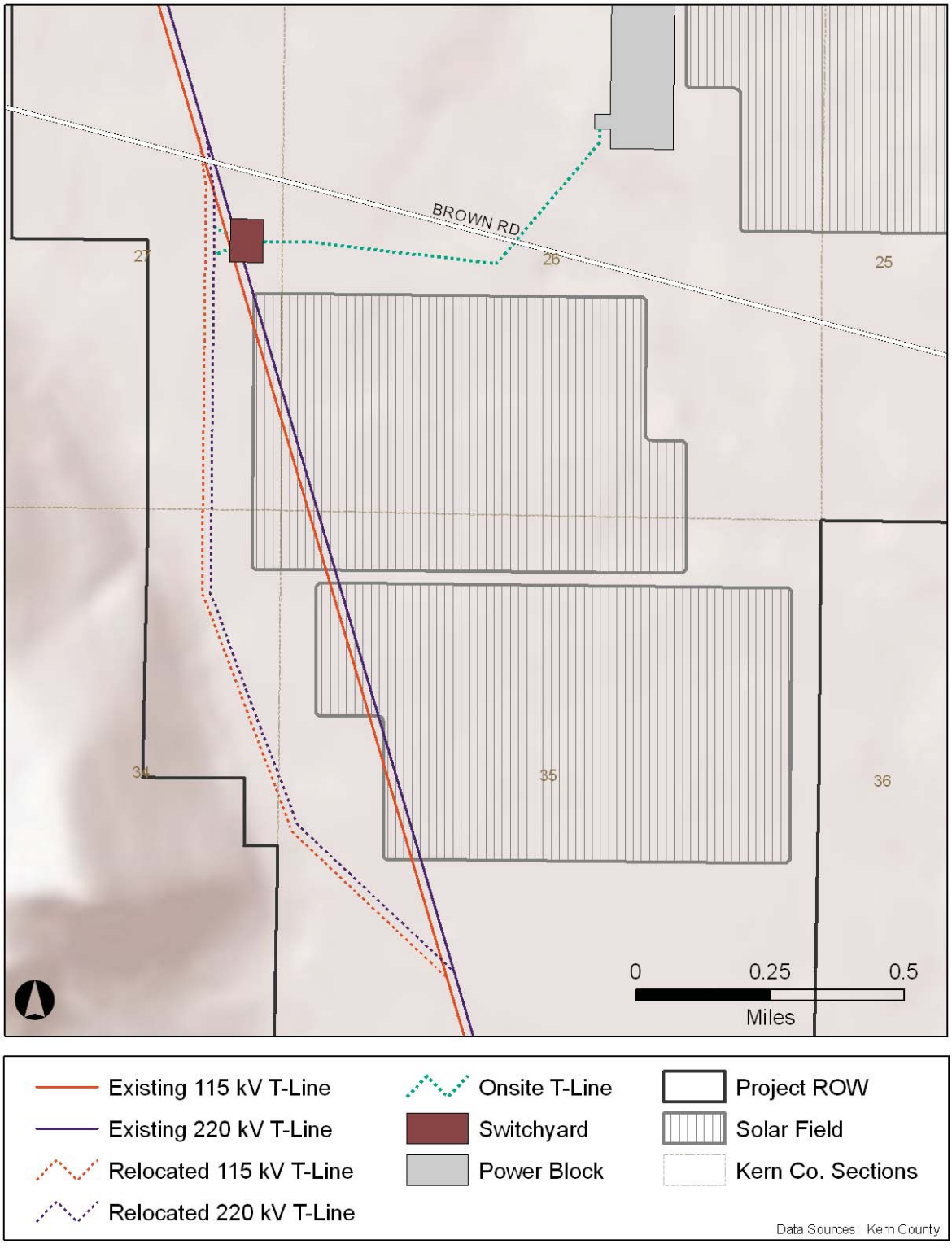


Figure 7 Transmission System Interconnection

will run concurrently with the joint BLM-CEC NEPA-CEQA process, as outlined in Table 1. Assuming that required transmission upgrades and permits are in place, SMLLC would start construction in late 2010 and continue through to completion in mid-2013.

Table 1 Project Permitting Schedule

Activity	Due Date[1]
AFC submitted to CEC	September 1, 2009
CEC deems AFC Data Adequate	November 18, 2009
BLM publishes the NOI in the Federal Register for Preparation of EIS/Land Use Plan Amendment/CEC Staff Assessment (SA)	November 23, 2009
CEC issues Data Requests	December 22, 2003
Formal NEPA Scoping Period ends	December 23, 2009
CEC Staff files Issues Identification Report	December 23, 2009
CEC Technical staff receive final comments and conditions from appropriate agencies	January 4-10, 2010
BLM Scoping Meetings/CEC Information Hearing and Site Visit	January 8, 2010
Solar Millennium provides Responses to CEC/BLM Data Requests	January 25, 2010
Preliminary Draft EIS/Plan Amendment/SA for Internal Staff Review	January 25, 2010
Fourth Update to RSPP POD submitted to BLM	January 29, 2009
Local, State, and Federal agency draft determinations due; Kern County Air Pollution Control District (KCAPCD) files Preliminary Determination of Compliance (DOC)	February 12, 2010
BLM publishes the Notice of Availability (NOA) in the Federal Register for the Draft EIS/Plan Amendment/SA	February 19, 2010
90-day NEPA Public Review and Comment Period begins	February 19, 2010
BLM submits Biological Assessment (BA) to U.S. Fish and Wildlife Service (USFWS) (Starts the 135-day Consultation Process)	February 2010
SA published	March 3, 2010
SA Workshop	March 17, 2010
BA determined Data Adequate by USFWS	March 19, 2010
Local, State, and Federal agency final determinations; KCAPCD files Final DOC	April 9, 2010
Staff Assessment Addendum (SAA) prepared	April 30, 2010
CEC Prehearing Conference	TBD[2]
CEC Evidentiary Hearing	TBD[2]
90-Day NEPA Public Review and Comment Period Ends	May 20, 2010
Preliminary Final EIS/Proposed Plan Amendment/SAA for Internal Staff Review	July 9, 2010
USFWS issues Biological Opinion (BO)	July 15, 2010
BLM publishes the NOA in the Federal Register for the Final EIS/Proposed Plan Amendment/SAA; Final EIS/SAA distributed	July 30, 2010
30-Day Protest Period for Proposed Plan Amendment begins	July 30, 2010

Activity	Due Date[1]
Protest Period for Proposed Plan Amendment ends	August 30, 2010
CEC Committee files Presiding Members' Proposed Decision (PMPD)	TBD[2]
CEC Comment Hearing on PMPD	TBD[2]
Close of Public Comments on PMPD	TBD[2]
Addendum/Revised PMPD issued	TBD[2]
BLM releases the Record of Decision (ROD) for Plan Amendment and Energy Project	November 3, 2010
CEC Decision issued	TBD[2] (Late-2010)
CEC issues Notice to Proceed	TBD[2] (Late-2010)
Project Construction	December 2010 – April 2013

[1]Dates for the CEC's AFC process are taken from the Committee Scheduling Order issued by the CEC on January 25, 2010.
[2]The assigned CEC Committee will determine this part of the schedule.

1.4 Purpose and Need for the Project

The purpose of this Project is to create a clean, renewable source of electricity that helps meet California's growing demand for power and helps fulfill national and State renewable energy and greenhouse gas goals. Solar energy provides a sustainable, renewable source of electrical power that helps reduce fossil fuel dependence and greenhouse gas emissions.

The specific objectives of the Project are:

- To develop a utility-scale solar energy project utilizing parabolic trough technology.
- To construct and operate an environmentally friendly, economically sound, and operationally reliable solar power generation facility that will contribute over 500,000 MW-hours of clean, renewable solar energy per year to the State of California's renewable energy goals.
- To locate the Project in an area with high solar insolation (i.e., high intensity of solar energy), while avoiding and minimizing impacts to environmentally sensitive areas.
- To interconnect directly to the CAISO electrical grid through the SCE transmission system while minimizing additions to electrical infrastructure (e.g., avoiding lengthy new transmission lines).
- To commence construction in 2010 to qualify for the ARRA's Renewable Energy Grant Program.

Renewable energy development at both Federal and State levels has attained a sense of urgency unseen since the 1970s. Increasingly ambitious State renewable portfolio standards (RPS) and the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act, in California have further increased this sense of urgency. Against this background, electric utilities throughout the nation, and particularly in California, are intensifying their search for reliable sources of renewable energy.

The Federal government and the State of California have clearly established the need for the nation and State to increase the development and use of renewable energy in order to enhance energy independence, meet environmental goals, and create new economic and employment growth opportunities. California utilities will need in excess of 50,000 gigawatt-hours per year of new renewable energy production over the next 10 years to meet the State's clean energy needs. It is expected that at least 5,000 MW of new solar generating capacity will be required to meet this need, and that this amount could grow to nearly 10,000 MW. The proposed Project will supply a critical pioneering source of

renewable energy - sufficient for the consumption of more than 70,000 California households per year[1] - to meet these important needs.

More specifically, the Project will further the development of renewable energy and thereby:

- Contribute toward meeting the requirements of the Federal Energy Policy Act of 2005, which requires the Department of the Interior to approve at least 10,000 MW of renewable energy generation capacity on public lands by 2015.
- Support U.S. Secretary of the Interior Salazar's Orders 3283 and 3285, which make the production, development and delivery of renewable energy top national priorities.
- Help meet the goals of the ARRA's Renewable Energy Grant Program, including enhancing energy independence and creating near-term employment opportunities for Americans.
- Assist California in meeting its RPS goals, which require California's investor-owned utilities to supply 20% of their total electricity through renewable energy generation by the year 2010 and 33% of their electricity supply from renewable energy by 2020.
- Generate electricity without significant emissions of greenhouse gases, thereby meeting the statewide reduction goals of AB 32, which require California's greenhouse gas emissions to be reduced to 1990 levels by 2020, a 25% reduction compared to business-as-usual estimates.
- Sustain and stimulate the economy of Kern County through new job creation, additional revenue for local businesses from Project expenditures, additional tax revenue for the County, and by ensuring an adequate supply of affordable renewable electrical energy.

Siting and planning the RSPP was a complex process that Solar Millennium carried out painstakingly over the course of several years. Solar Millennium selected this BLM-administered site due to its excellent solar radiation, access to existing electric transmission corridors and roads, and access to skilled labor and industrial infrastructure in nearby Ridgecrest. Solar Millennium is prepared to undertake long-term stewardship of the Project site to meet the clean energy requirements of the State while recognizing and showing consideration for the environmental sensitivity of the land.

1.5 General Facility Description, Design, and Operation

1.5.1 Project Location, Land Ownership and Jurisdiction

The Project will be located approximately 5 miles southwest of Ridgecrest, California, on land adjacent to the north and south of Brown Road and southwest of U.S. Highway 395. The plant site ROW and portions of the linear facilities will be located on lands administered by the BLM (see Figure 8). The Project's water pipeline will run within existing ROWs for Brown Road and China Lake Boulevard. Portions of the water line are located within unincorporated areas under the jurisdiction of Kern County.

The Project site is located partially inside a Mohave Ground Squirrel (MGS) Conservation Area designated by the West Mojave Plan (WEMO Plan). The MGS is a State-listed threatened species, and impacts to this species fall under the jurisdiction of the California Department of Fish and Game (CDFG).

1. Assuming 2006 annual energy consumption of 590 kWh per month, per household. Note: Power generated by the facility will flow into many communities across southern California, including Ridgecrest.

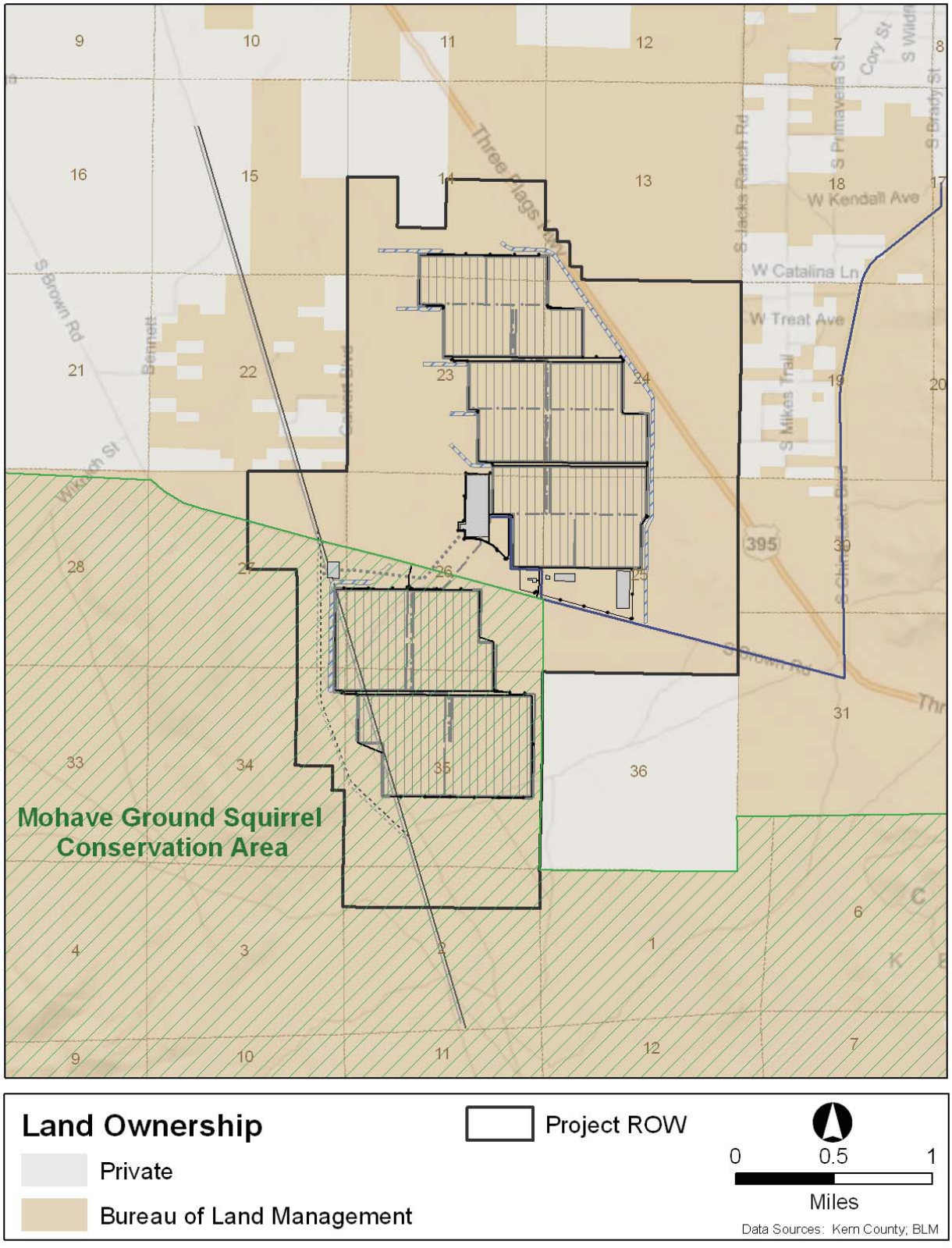


Figure 8 Land Ownership and Jurisdiction

The WEMO Plan established a conservation area for MGS of 1,726,712 acres, of which 1,280,106 acres are public lands administered by the BLM. According to the WEMO Plan, up to 1% of the public lands within the MGS Conservation Area, or 12,801 acres, can be developed according to the WEMO Plan. According to the BLM, approximately 12,740 acres of the development limit remain available (see Section 5.1.2 below). The proposed ROW will occupy about 809 acres within the MGS Conservation Area, which comprises approximately 0.05% of the total MGS Conservation Area or about 6% of the acreage available for development.

1.5.2 Legal description of facility

The legal description of the area covered by proposed ROW # CACA – 49016, located within the Mount Diablo Meridian, Kern County, California, as revised as of 02/03/10, is as follows:

Township 28 South Range 39 East

Section 2	N ½ of N ½ (Government Lots 1 through 4)

Township 27 South Range 39 East

Section 13	SW ¼ of SW ¼ of SW ¼ W ½ of NW ¼ of SW ¼ of SW ¼ SE ¼ of NW ¼ of SW ¼ of SW ¼ SW ¼ of SE ¼ of SW ¼ of SW ¼
Section 14	S ½ of SW ¼ NW ¼ of SW ¼ SE ¼
Section 23, 24, 25, 26, 35	All
Section 27	E ½ of SE ¼ NE ¼
Section 34	E ½ of NE ¼ E ½ of NE ¼ of NE ¼ of SE ¼

The total acreage of the revised ROW is approximately 3,995 acres. (Based on the legal description above, assuming perfect 640-acre Sections and Aliquot parts, the ROW acreage would be 3,985 acres; however based on GIS data the ROW is about 3,995 acres. The higher of the two numbers used in this POD to conservatively estimate the ROW area). In the POD submitted on July 8, 2007 the ROW acreage was 4,920 acres. Soon thereafter, BLM requested SMLLC to reduce the ROW size and it was reduced by 1,000 acres to 3,920 acres, which was the ROW size in the AFC submittal on September 1, 2009. The revised ROW area of 3,995 reflects the additional ROW areas needed to accommodate the Project reconfiguration. Figures 9 and 10 provide BLM master plat maps showing the land covered by the proposed ROW (as revised).

1.5.3 Total acreage and general dimensions of facilities and components

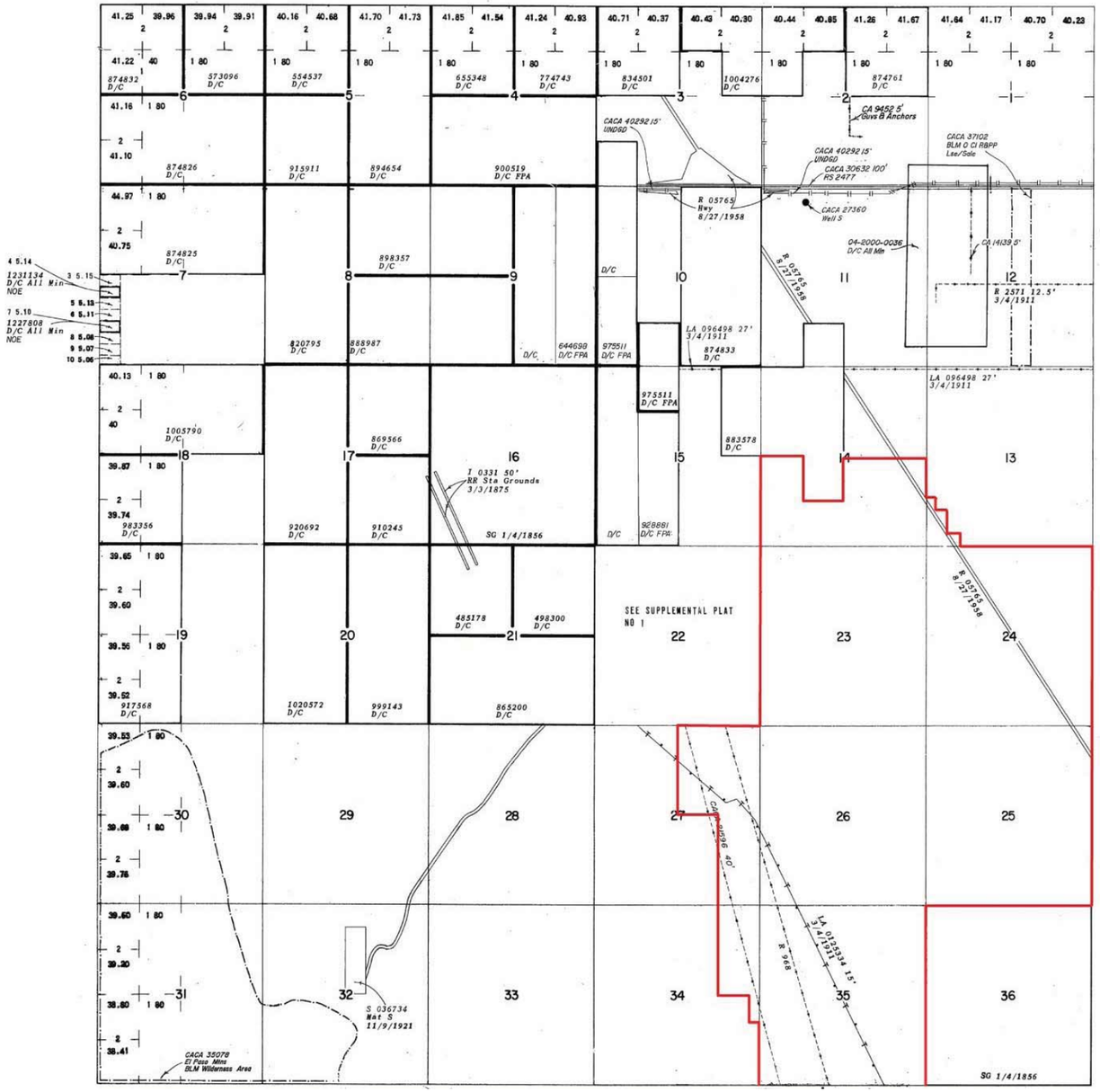
The total proposed ROW acreage is 3,995 acres. The total disturbance area is approximately 1,944 acres, which encompasses areas that will be directly affected by Project construction, including the solar fields, the power block, buildings, site roads, the laydown area, the LTU, the interconnection switchyard, the rerouted SCE transmission lines, and drainage channels. Linear facilities outside of the proposed ROW area will occupy an additional approximate 16 acres, and are also included within the total Project disturbance area calculation. Due to the inherent planning uncertainties related to a project of this magnitude, the remaining approximate 2,051 acres will be reserved and studied for potential uses during the planning and construction phases of the Project. The extra acreage will accommodate the changing requirements of construction logistics and could potentially serve as a buffer area around the plant or as a

TOWNSHIP 27 SOUTH RANGE 39 EAST OF THE MOUNT DIABLO MERIDIAN, CALIFORNIA

KERN COUNTY

CALIFORNIA DESERT DISTRICT SEC 3

RIDGECREST FO



STATUS OF PUBLIC DOMAIN
LAND AND MINERAL TITLES

MT PLAT

INDEX TO SEGREGATED TRACTS				
RESURVEY	ORIGINAL SURVEY			
TRACT NO	T	R	SEC	SUBDIVISION

SO 11/11/1929 Wdl Pwr S Cl 241, all land lying within 20' of center line R/W Trans line 1 02165
- Sec 4: W1/2NE1/4, W1/2SE1/4, SE1/4SE1/4
- Sec 9: E1/2NE1/4, NE1/4SE1/4
- Sec 10: W1/2SW1/4
- Sec 15: W1/2NW1/2, W1/2SW1/4
- Sec 22: N1/2NW1/4, SE1/4NW1/4 E1/2SW1/4, SW1/4SE1/4
- Sec 27: W1/2NE1/4, N1/2SE1/4, SE1/4SE1/4
- Sec 34: E1/2NE1/4, NE1/4SE1/4
- Sec 35: W1/2SW1/4

All Tp included in Wdl Calif Gr Dist No 1 SO 4/8/1935

All Tp included in R 258 BLM O Cl Non-suitable for Agri

ST Pat may be Subj to R/W for roadway & public utility

All Tp within designated California Desert Conserv Area Act of Cong 10/21/1976

CACA 23919 R/W Airspace Reservation. Airspace above 75
- Sec 1: All
- Sec 2: SE1/4
- Sec 11: E1/2
- Sec 12: NE1/4, E1/2NW1/4, SW1/4SW1/4, E1/2SW1/4, SE1/4
- Sec 13: All
- Sec 14: E1/2
- Sec 23: E1/2
- Sec 24: All
- Sec 25: All
- Sec 26: E1/4

FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS REFER TO INDEX OF MISCELLANEOUS DOCUMENTS.

CURRENT TO	CURRENT TO
10-27-2009	PH

USE PLATS:

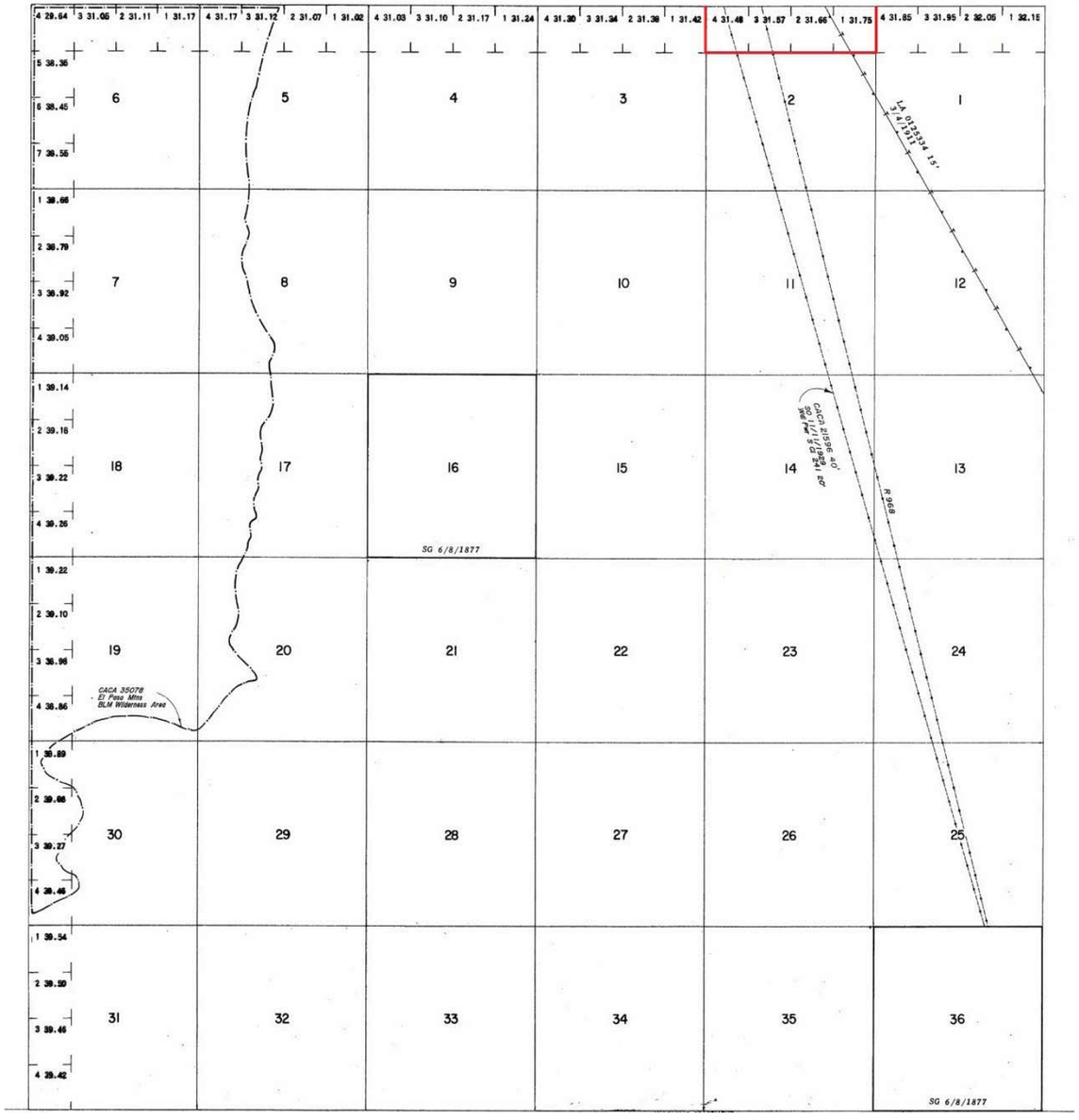
Figure 9 BLM Master Plat Map of Project ROW (north)

TOWNSHIP 28 SOUTH RANGE 39 EAST OF THE MOUNT DIABLO MERIDIAN, CALIFORNIA

KERN COUNTY

BAKERSFIELD DISTRICT SEC 3

RIDGECREST FO



STATUS OF PUBLIC DOMAIN
LAND AND MINERAL TITLES

MT PLAT

INDEX TO SEGREGATED TRACTS				
RESURVEY	ORIGINAL SURVEY			
TRACT NO	T	R	SEC	SUBDIVISION

All Tp included in Wdl Calif Gr Dist No 1 SO 4/8/1935

All Tp within designated California Desert Conserv Area Act of Cong 10/21/1976

FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS REFER TO INDEX OF MISCELLANEOUS DOCUMENTS.

CURRENT TO	CURRENT TO
10-15-2009	PH

USE PLATS:

Figure 10 BLM Master Plat Map of Project ROW (south)

development exclusion area that could be set aside for wildlife habitat. If Solar Millennium does not identify a need for the extra area once site plans have been finalized, this land will be excluded from the actual leasehold area requested from the BLM.

1.5.4 Power plant facilities, thermal conversion process

Figure 11 Construction of Andasol solar facility, Spain

The Project will use Solar Millennium's solar parabolic trough technology. Parabolic trough technology is the only solar thermal power technology that has a proven performance and commercial record on a large scale. Nine plants with a total capacity of 354 MW, built in the Mojave Desert in the 1980s and early 1990s, are all still running today. The solar field performance at the Kramer Junction Solar Electric Generating System (SEGS) site, as a case in point, has consistently exceeded design values during the important peak power demand period.

Solar Millennium, LLC, through its engineering affiliate Flagsol GmbH, is involved in various execution steps of three large parabolic trough plants in Spain (the Andasol 1, 2 and 3 projects). Flagsol supervised completion of solar field installation and initial collector testing at Andasol 1 and 2. Andasol 1 became operational in December 2008, while the Andasol 2 project is currently in the commissioning phase. Flagsol led the final design of the Andasol 3 project, which is currently under construction.

The HelioTrough parabolic trough, Solar Millennium's next generation of solar collector technology, is based on a new collector design with an extended aperture area and heat collection elements, which aims for increased efficiencies. The prototype HelioTrough collector was built and evaluated in 2008 in Germany. In 2009, a demonstration collector loop of the HelioTrough was commissioned at a solar energy generating facility in the southwestern United States and is currently undergoing comprehensive testing.

The Solar Millennium Group, erected and qualified its previous generation collector, the SkalET at the same solar energy generating facility in 2003. The SkalET collector was used in Solar Millennium's projects in Egypt and Spain and has shown excellent optical efficiency. Solar Millennium is now building on its experience with the SkalET collector by testing it next generation HelioTrough collector side by side with the SkalET, and will utilize the HelioTrough collector for the Project.

The general Project design consists of a conventional steam Rankine cycle power block, a parabolic trough solar field, a HTF and steam generation system, and "balance-of-plant" consisting of electrical switchgear, transmission lines and poles, a switchyard to connect with the existing electrical transmission grid, water tanks and a water pipeline, LTU, and maintenance facilities.

The power block, including the steam cycle, HTF system, and dry cooling system, is located outside of, and shared by, the two solar fields. Several buildings related to process control are located within the

power block. The individual collectors have a linear parabolic-shaped reflector that focuses the sun's direct beam radiation on a receiver tube located at the focal point of the parabola. The receiver tube is composed of stainless steel with a highly absorptive, low emissivity coating encased in an outer glass tube evacuated to reduce thermal losses.

The collectors track the sun from east to west during the day to keep the sun's rays continuously focused on the receiver tube. The row of collectors has a hydraulic drive unit with sensors to determine appropriate collector orientation throughout the day according to ambient conditions. The drive unit also reports operational status, alarms, and diagnostics to the main solar field control room.

HTF is heated to a high temperature as it circulates through the receiver tube and returns to a series of heat exchangers in the power block where the fluid is used to generate high-pressure superheated steam (see Figure 12). The superheated steam is then fed to a conventional power block, consisting of a reheat steam turbine generator to produce electricity, and carried to a nearby substation via a Project-specific transmission line. Condensing steam Rankine cycle turbines with single reheat and six extractions have been in commercial operation for many years, and are available from numerous world-class suppliers.

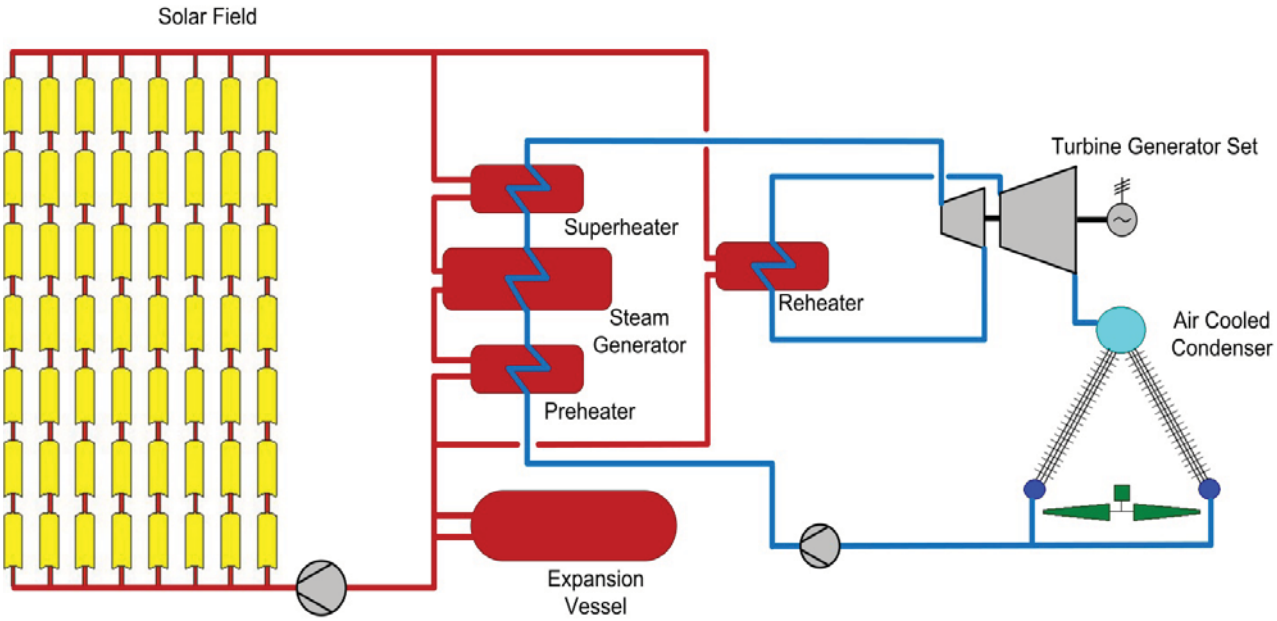


Figure 12 Plant Schematic Diagram

The plant will utilize dry cooling in order to reduce water consumption. The plant will employ an ACC to condense steam exiting the low-pressure turbine. The ACC will use a large array of fans to force air over finned tube heat exchangers arranged in an A frame bundle configuration. The exhaust from the steam turbine will flow through a large diameter duct to the ACC where it will be condensed inside tubes running diagonally top to bottom through indirect contact with the ambient air. The heat will then be rejected directly to the atmosphere.

Dry cooling rejects heat to ambient air through conduction and convection. Heat is thereby rejected to the atmosphere at ambient dry bulb temperature. Since the heat transfer requires a temperature difference between the condensing steam and ambient atmosphere, the associated saturation pressure of the condensate does not achieve the same low levels achievable with a circulating water supply used with wet cooling. Dry bulb temperatures are generally much higher than wet bulb temperatures - especially in arid regions such as the desert at Ridgecrest. As the dry bulb temperature increases, the dry cooling system becomes less efficient as a heat rejection method. The decreased efficiency of a dry cooling

system at the Project site will be most noticeable in the hot summer months when the power demand is highest.

An ACC does not rely upon evaporation for heat transfer and therefore will not require cooling water supply, treatment, and disposal. The ACC will not have the visible plume associated with wet cooling towers. The ACC will employ banks of large fans to enhance the convection cooling that is critical to the effective performance of the system. It will require larger and more powerful fans than a wet system.

Solar radiation will supply all of the energy to generate the entire electric output of the plant. The Project will utilize propane gas only to fuel the auxiliary boiler to accelerate start-up each morning, and to fuel the HTF heater only on the coldest of winter nights.

The parabolic trough solar fields will make up approximately 90% of the plant footprint. The solar fields will be highly modular and together be composed of 286 loops, with each loop consisting of a series of collectors approximately 2600 ft. in length, 1,300 ft. in down and back, to and from the HTF header piping. The loops will be designed to raise the temperature of the heat collection fluid by approximately 175 degrees Fahrenheit (°F). The orientation of the collectors will be north – south.

The power block, temporary construction laydown areas, temporary assembly building, main office, LTU, and switchyard will be located adjacent to the solar fields. The temporary assembly building will be converted to a maintenance and spare parts facility once the plant is in operation. The electrical and local control building, workshop building, electrical equipment building, and water treatment building will be located within the power block. There will be maintenance access roads around the solar fields, between solar field loops, and to the power block, as well as drainage channels constructed along portions of the perimeters of the solar fields.

1.5.5 Numbers and general dimensions of Project facilities and components

Numbers and general dimensions of Project facilities and components are provided in Table 2.

Table 2 Dimensions of Project Facilities

Project Facility or Component	Dimensions and/or Area*
Total proposed ROW area	3,995 acres
Project disturbance area	1,944 acres
Disturbance area north of Brown Road	1,118 acres
Disturbance area south of Brown Road	809 acres
Water line disturbance area	16.3 acres
Facility footprint (area within facility fenceline)	1,448 acres
Facility footprint north of Brown Road	894 acres
Facility footprint south of Brown Road	554 acres
Power block	22.2 acres (1550 ft. x 600 ft. plus 250-ft. x 150-ft. extension for power block switchyard) General height 60 ft., ACC height 120 ft
Parking area	21,000 ft^2 (0.5 acre)
Office:	10,000 ft^2
Laydown area	45 acres
Warehouse/ assembly building	112,000 ft^2 (2.6 acres)
Substation/switchyard	425 ft x 325 ft (3.2 acres)
Access roads (within disturbance area)	15.8 miles x 24 ft wide

Project Facility or Component	Dimensions and/or Area*
Gen tie line (within disturbance area)	0.75 mile (4 poles between the power block and switchyard)
SCE transmission line realignment	1.6 miles of two existing lines to be rerouted to a new 1.7 mile length 280 ft. wide construction corridor; 58 acres total
LTU	4 acres
Domestic septic fields	6,200 ft^2 plus 6,200 ft^2 in reserve
Water pipeline (to be built, owned and operated by IWVWD)	16 inch diameter, 4.3 miles (offsite), 30' wide construction ROW (16 acres) entirely within existing road ROWs
Drainage channels	5 miles, width varies
*All dimensions and areas are preliminary, approximate, and subject to change per final engineering drawings.	

All Project buildings will be of pre-engineered metal frame construction and assembled onsite except for the electrical buildings, which will be factory-assembled structures with electrical and control equipment factory installed. Accessibility to buildings will be in full compliance with applicable codes and standards including Americans with Disabilities Act.

Solar Millennium will provide suitable platforms and walkways per Federal and State occupational health and safety requirements for areas requiring daily access (such as valves, instrumentation, controls, etc,). Solar Millennium will also provide manufacturer's standard doors or manholes to allow access for inspection of equipment and critical areas. Solar Millennium will also establish a visitor viewing area, if desired by the local community or regulatory agencies.

1.5.6 Access Roads

Equipment will be delivered to the Project site via the major roads in the region, Highways 14, 178, and 395 (see Figure 13). Access to the main office at the plant site will be from Brown Road via a new 550-ft. long, 24-ft. wide paved road to be located approximately 1.75 miles west of the intersection of Brown Road and U.S. Highway 395. A second 650-ft. long, 24-ft. wide road for access to the south solar field for operations and maintenance personnel will be located approximately 0.6 miles farther west along Brown Road. To provide safe ingress and egress at the new access roads, 1,500-ft. long acceleration and 1,000-ft. long deceleration lanes will be required in both directions for both access roads along Brown Road to accommodate eastbound and westbound ingress/egress. The site access road will be constructed during the first 6 months of the construction schedule in conjunction with plant site preparation activities.

Construction will involve a work force of approximately 405 workers average monthly (633 workers peak) whose commuting vehicles, along with truck traffic for delivery of equipment and materials, will increase traffic volumes on U.S. Highway 395, Brown Road, and China Lake Boulevard during Project construction. All roadways are forecast to continue operating at their existing traffic flow conditions with no Project impacts on Level of Service during peak Project construction activity. However, the Project could impact the intersection of U.S. Highway 395 with South China Lake Boulevard and Brown Road during peak construction periods. To mitigate potential impacts, the Applicant will implement measures to reduce the volume of workers arriving at the work site at the same time, such as temporarily staggered work shifts or approaches such as contractor-required vanpools, car pools, shuttle buses, park and ride, etc. The Applicant is also in discussion with Caltrans regarding potential improvements to the intersection of U.S. Highway 395 and Brown Road (turn pockets, acceleration and deceleration lanes, etc.). Because of the moderate size work force of 84 people associated with plant management, traffic impacts will be minimal during Project operations.

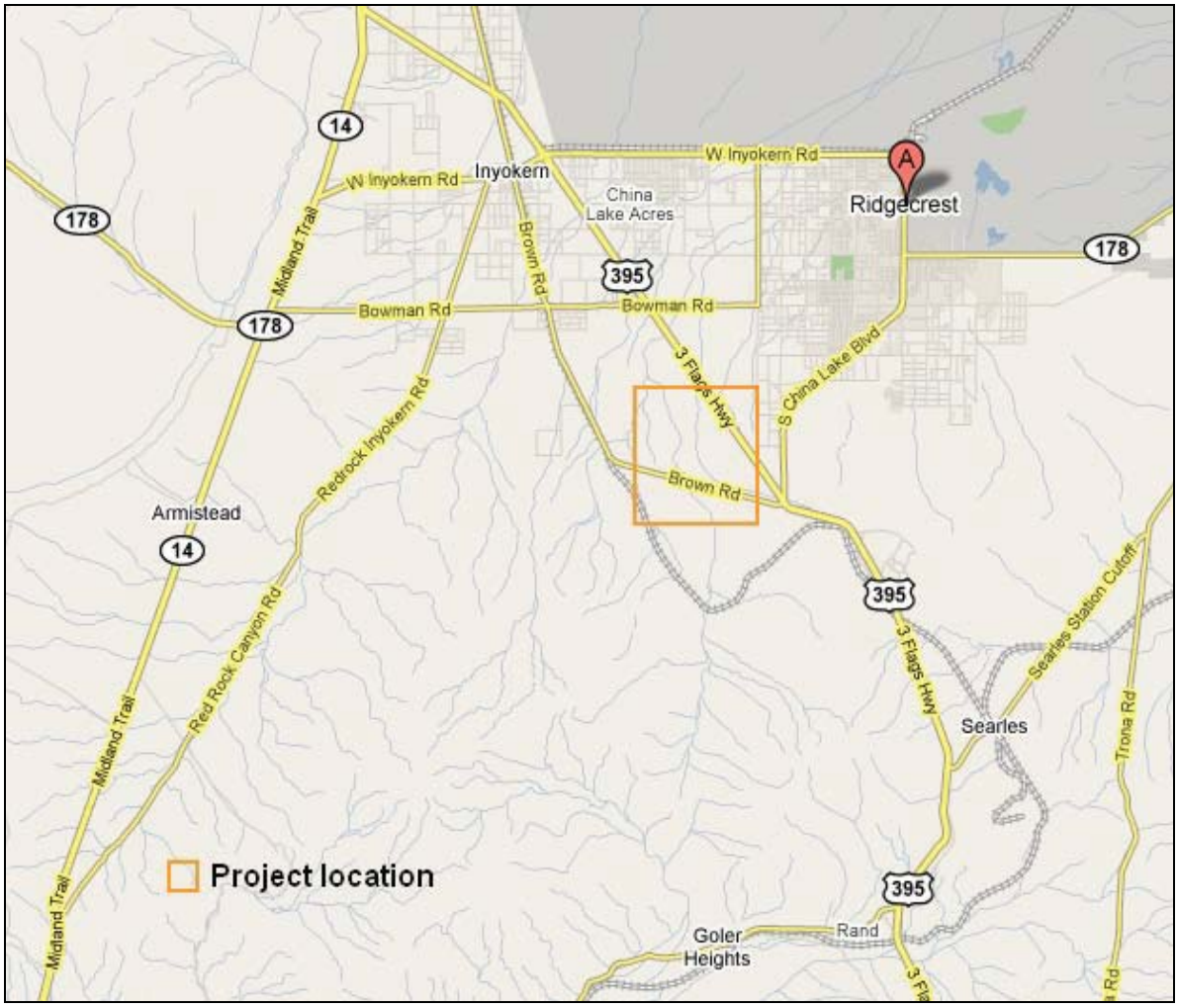


Figure 13 Transportation Map

The Applicant understands that the intersection of U.S. Highway 395, China Lake and Brown Roads will be critical during and after construction of the proposed Project. The Applicant will develop a Transportation and Traffic Management Plan, which will evaluate and address access needs for Project construction and operation; access needs for the public; and ensure public safety during and after construction. The Applicant will work with Caltrans to install traffic signals at the intersection of U.S. Highway 395 and Brown Road in order to improve traffic safety through this intersection. Additional measures, such as advance signs with flashing lights warning of signals ahead on U.S. Highway 395 would also be implemented as necessary.

The Applicant is currently in discussion with CalTrans and BLM regarding management of Project access routes and traffic. In 2008, CalTrans conducted scoping meetings that were attended by the BLM on the expansion of U.S. Highway 395 to four lanes and construction of intersections at China Lake and Inyokern Roads. The potential for implementation of Caltrans' proposed long-term improvement is not being pursued at this time due to the extended time needed to acquire additional ROWs. Caltrans has acknowledged that it does not expect to complete this project for at least the next ten years or more and do not have the necessary ROW assembled yet. Any improvements to U.S. Highway 395 implemented for the Project would be constructed within the existing Caltrans ROW.

1.5.7 Lighting

The Project's lighting system will provide operations and maintenance personnel with illumination in both normal and emergency conditions. The system will consist primarily of AC lighting, but will include DC lighting for activities or emergency egress required during an outage of the plant's AC electrical system. The lighting system will also provide AC convenience outlets for portable lamps and tools. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be shielded and oriented to focus illumination on the desired areas and minimize additional nighttime illumination in the site vicinity. Lights used for a particular operation will be extinguished once that operation has been completed, providing they are not required for ongoing safety or security purposes.

1.5.8 Temporary construction workspace, yards, staging areas

An assembly building will be built for storage of equipment and for field fabrication facilities. The assembly building may become permanent, depending on the need for additional permanent warehouses for spare parts or maintenance work. Indoor storage space will be required only for weather sensitive items, such as control/electrical panels, or small parts that could easily be misplaced. Other items will be stored outdoors on raised platforms with proper covers or temporary shelters. Construction area lighting will be provided at the warehouse locations.

In addition to the permanent plant roads and parking, construction roads and parking will be required to provide access to construction facilities and the laydown area. Temporary construction parking areas will be provided within the power plant site adjacent to the laydown area. The parking area will have barriers to control parking pattern and locations. The construction parking area will be sized to accommodate approximately 200 vehicles. Temporary construction roads will be all-weather gravel-surfaced and of sufficient width and location to accommodate efficient use and traffic pattern.

A temporary construction laydown area covering approximately 45 acres will be utilized throughout the construction of the two solar fields. Applicant will make every effort to ensure that areas disturbed during construction are within the site footprint, to reduce the need for additional surface disturbance and restoration.

1.5.9 Geotechnical studies and data needs, including solar insolation testing

Geotechnical studies

A preliminary geotechnical study of the plant site was conducted in July and August 2009 to evaluate general subsurface conditions, seismicity, and other geologic hazards and to provide recommendations for design and construction of the foundations for Project structures. A Preliminary Geotechnical Investigation Report was included as Appendix B of the Project AFC. The preliminary geotechnical study found that the site is geotechnically feasible for construction of the proposed Project and provided recommendations for site preparation and foundation design. Additional geotechnical investigations (e.g., additional soil borings at specific equipment locations), will be performed as part of the detailed final facility design phase, as necessary, and results will be provided to the BLM.

The preliminary site geotechnical study undertaken for this Project included soil borings and test pits in the proposed solar fields and borings in the area of the power block and other Project structures. Soil borings were drilled to obtain samples of the site soils for laboratory testing and soil classification. The purpose of the test pits was to gain a better spatial assessment of the near-surface soil materials and to provide a better understanding of the general grading recommendation, such as stripping depths and effects of the existing moisture conditions on the general grading operations. The investigation included excavation and logging of test pits of approximately 5 ft. in length, and 5.5 to 9 ft. in depth. Laboratory testing was performed on selected representative soil samples obtained from the exploratory locations to assess the geotechnical and corrosivity characteristics of the subsurface soils.

The site foundation soils encountered in the preliminary field exploration generally consists of silty sand, clayey sand, with fine to coarse gravel and some cobbles. The upper soils (6 to 10 inches or greater) are in a loose state as a result of desiccation or wind deposition and are generally unsuitable for support of shallow spread foundations and new fill soils in their present condition. This condition will require removal of the upper soils and replacement as engineered fill in areas to receive fill or under structure foundations. The onsite soils encountered during the investigation, excluding organics, debris, and/or other deleterious materials, are considered suitable for use as engineered fill.

No groundwater was encountered within the maximum boring depth of 43 ft. below the ground surface. Evidence of ground subsidence (e.g., fractures possibly caused by historic groundwater extraction) has not been documented at the Project site. The preliminary geotechnical investigations found that the potential for ground subsidence, expansive and collapsible soils, liquefaction, seismic settlement, and slope failures at the Project site are low. Given the high historic use of local groundwater resources for agricultural and residential development with no subsidence reported, it is not anticipated that the Project's limited pumping program from the IWVWD's wells will induce subsidence.

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone, as designated by the State of California. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures planned for human occupancy. It is understood that the proposed Project structures will be designed and constructed in accordance with the requirements of the California Building Code (2007). Recommendations for seismic design parameters are presented in the Preliminary Geotechnical Report.

Foundations for Project structures will be designed in accordance with recommendations provided in the Preliminary Geotechnical Investigation Report and as amended by future geotechnical investigations.

Solar Insolation Testing

Solar Millennium has a network of solar meteorological measurement stations recording data in the southwestern United States, including a station located on private land near Armistead, which is monitoring conditions at for the Project site. Direct normal, global horizontal and diffuse horizontal irradiation, as well as temperature, humidity, wind speed, and wind direction, are measured and then recorded in one-minute increments. Applicant utilizes proprietary programs and expert personnel to calculate, validate, and present the key design conditions for the solar thermal power plant.

Figure 14 Solar Insolation Monitoring Equipment

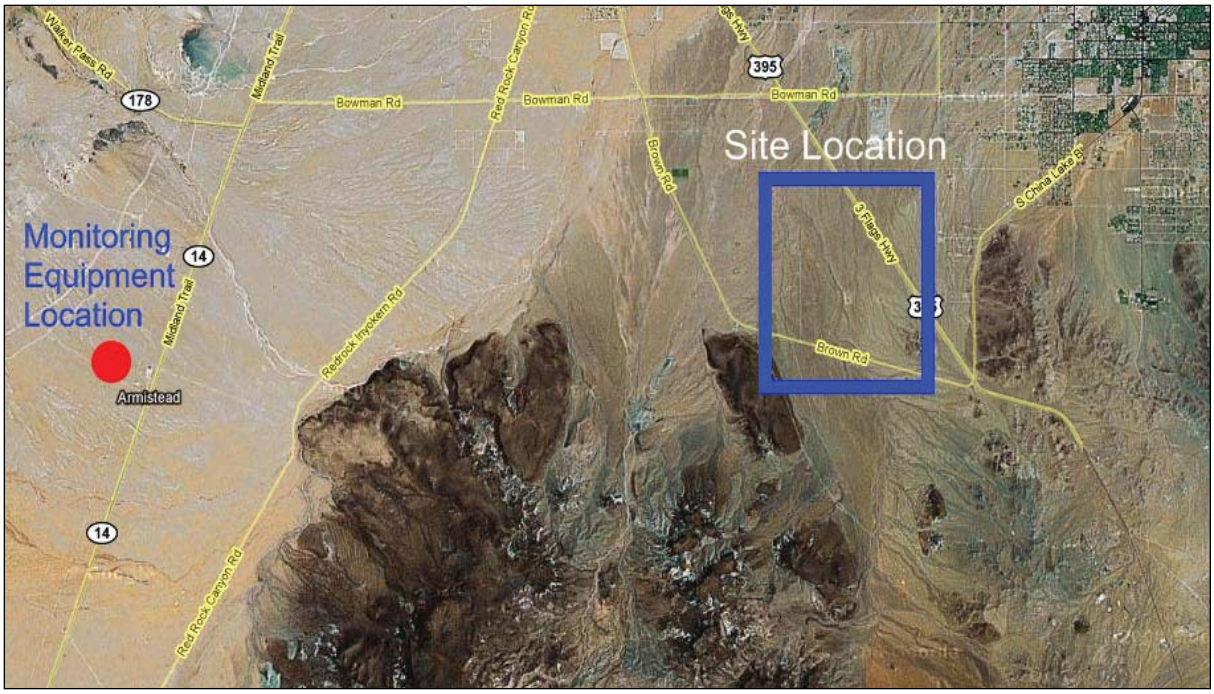


Figure 15 Solar Monitoring Equipment Location

The Solar Millennium meteorology station is 10 miles from the proposed site (see Figure 15). Both the Project site and the meteorology station are situated in the same valley. The station is approximately 3,070 ft. above mean sea level (amsl) and the site is approximately 2,800 ft. amsl. A direct line between the two locations does not rise above the station's elevation. There are no large bodies of water in the region that affect measurements. Within error, these locations are deemed acceptable for measuring the solar resource using rotating shadow band technology.

1.5.10 Ancillary facilities (administrative, maintenance facilities and storage sites)

In addition to the power generating facilities (solar fields and power block), the site will include a main office building and parking lot, a main warehouse with laydown area, onsite access roads, a tie-in switchyard, and an LTU for bioremediation of HTF-contaminated soil.

1.5.11 Water usage, amounts, sources

As discussed Section 1.1.4, the Project will require water during construction for dust control and soil compaction. The amount of construction water required is subject to ongoing revisions to the grading plan; however, the anticipated amount required is 1,500 af over the 28-month construction period. The revised grading plan and construction water estimates will be provided to BLM when complete. The water for construction will be trucked to the work site from an IWVWD supply source during the early stages of construction and supplied by the IWVWD via pipeline after the Project water line is completed.

During operation, the plant will utilize dry cooling using an ACC. This will result in a substantial savings of water compared to traditional evaporative wet cooling. The water usage during operations will require approximately 150 af per year for collector mirror washing, ancillary equipment cooling, domestic uses, steam turbine feed water makeup, and dust control (in descending order according to the amount required). Table 3 provides a breakdown of water consumption by use.

Table 3 Summary of Annual Operational Water Usage

Service	Annual (af)
Power Cycle Makeup Water*	38
Mirror Wash Water	53
Domestic Potable Water	3
Dust Suppression Water	10
Cooling of Ancillary Equipment	40
Annual Total (rounded up)	**144 (150)**
* Power cycle makeup water will be recycled to offset about 25% of annual consumptive use. The minimum monthly (January) volume will be about 1.25 million gallons (3.8 af). The peak monthly (June) volume will be about 5.7million gallons (17.5 af).	

The water source for the Project will be groundwater provided through the IWVWD. Power cycle makeup and other water needs for the Project will be met by treating the water supplied by the IWVWD. While the proposed Project lies outside the IWVWD service area, it is within approximately 4 miles of the District boundary and the IWVWD is currently revising its boundaries to include the Project site. The Project will require a new pipeline to bring IWVWD water from the Ridgecrest Heights storage tank to the RSPP. The offsite portion of the pipeline would be approximately 4.6 miles long and would run within the existing ROWs for Brown Road and China Lake Boulevard. The Project demands will amount to about 1.6% of the existing IWVWD demand. Impacts to the groundwater basin are expected to be minimal, as discussed in detail in the Data Request responses submitted on January 25, 2010. No offsite backup water source is included as part of the Project.

1.5.12 Erosion control and stormwater drainage

A conceptual drainage study was performed to evaluate hydrologic conditions within the Project site and in hydrologically connected offsite areas. The drainage study provides a preliminary design basis for onsite drainage structures and grading. The full Drainage Report was provided as Appendix L1 of the Project AFC. The drainage evaluation was designed following guidance provided in the Kern County Hydrology Manual and the Kern County Division Four–Standards for Drainage. The Drainage Report is currently being updated to reflect changes in the Project design. The sections below present the available data, which is subject to change per the revised Drainage Report. The revised Drainage Report is expected to be completed in March 2010 and will be provided to the BLM to serve as the basis for the EIS analysis.

Existing Offsite Drainage

Offsite upstream hydrology drains a set of watersheds totaling approximately 35 square miles, generally flowing from local topographic highs located 2 to 6 miles south of the Project site to more gradually sloped areas just south of the solar fields. Once these flows leave the Project site, they flow to lower elevations in the Indian Wells Valley to the north. Figure 16 is an existing conditions hydrology map depicting the location and extent of the drainage areas. Natural vegetation within the watersheds is sporadic scrub brush typical of the local high desert conditions.

Three watercourses run through the Project site. The first major watercourse is in an unnamed wash that drains 4 square miles to the southwest of the Project site (Area E1 in Figure 16). This watercourse crosses the southwest portion of the Project site, continuing in a northwest direction toward Brown Road. A small branch of the second watercourse drains 0.8 square mile (Area E1b), which includes the central

portion of the southern field area. Collected water in this drainage area flows westward along the road, moving water away from the Project site.

The second major watercourse, El Paso Wash, drains 22 square miles upstream of the Project site (Area E2), and runs roughly through the center of the Project site. El Paso Wash drains water from the hills south of the Project site and crosses Brown Road inside the Project boundary. Currently, El Paso Wash flows over Brown Road at a low point in the road and continues in a northwest direction across the Project site. An elevated railroad grade, located south of the Project site, interrupts several natural drainage paths in this drainage area and concentrates flows into several watercourses that cross the railroad grade through pipes, concrete culverts, and timber bridges.

The third major watercourse drains a 10 square mile area extending to the southeast of the Project site along both sides U.S. Highway 395 (Area E3). Drained water crosses U.S. Highway 395 at several points in both east-west and west-east direction, hydraulically connecting all the catchments in this drainage area. Water collected in this eastern drainage area flows westward toward the Project site from near the intersection of Brown Road and U.S. Highway 395. This watercourse crosses the Project site changing flow direction from westward to northward midway through the Project site. A small subdrainage (Area E3b) drains the eastern portion of the Project disturbance area.

Existing Onsite Drainage

The drainage flows that currently exist in the areas of the proposed solar fields are wide, very shallow overland flows that do not concentrate to any degree until they flow into one of the three aforementioned washes. The existing ground is highly consolidated throughout the site, and rain falling on the site drains to the existing washes with little to no infiltration due to the density and types of soils present.

El Paso Wash currently serves as the drainage outlet for approximately 70% of the southern solar field and 50% of the northern field. The western unnamed watercourse (Areas E1 and E1b) receives approximately 30% of the flows from the southern field. The eastern unnamed watercourse (Areas E3 and E3b) receives approximately 50% of the flows from the northern field.

Proposed Onsite Flows

Proposed drainage modifications to the Project site seek to replicate the existing flow patterns as nearly as possible. The Project has been reconfigured in order to avoid directly affecting El Paso Wash, which will continue to flow through the site in its existing channel. A number of drainage channels will be created to direct flows from and/or around the solar fields (Figure 17). The proposed channels will not substantially alter natural flow amounts, as they will simply reroute natural drainage. These channels will collect the flows from within the site or prior to their entry to the site and then convey them in engineered drainage channels to approximately the same locations within existing washes where they exit the site under existing conditions.

The Project site will be largely occupied by long rows of solar collectors, but these collectors are elevated above the ground and the ground below the mirrors will remain a pervious surface. The only portions of the site that will be impervious to surface water are the administration building, the main warehouse, portions of the power block area, the access road between these areas, and the parking lots associated with these areas. Less than 1% of the Project disturbance area will be occupied by impervious surfaces. The proposed site development will disturb the existing soils and then compact the soils to approximately 95% of maximum density as part of the re-grading. The current densities are at nearly 100% of maximum density, thus, the post-development soil conditions will be less dense and slightly more permeable than under existing conditions.

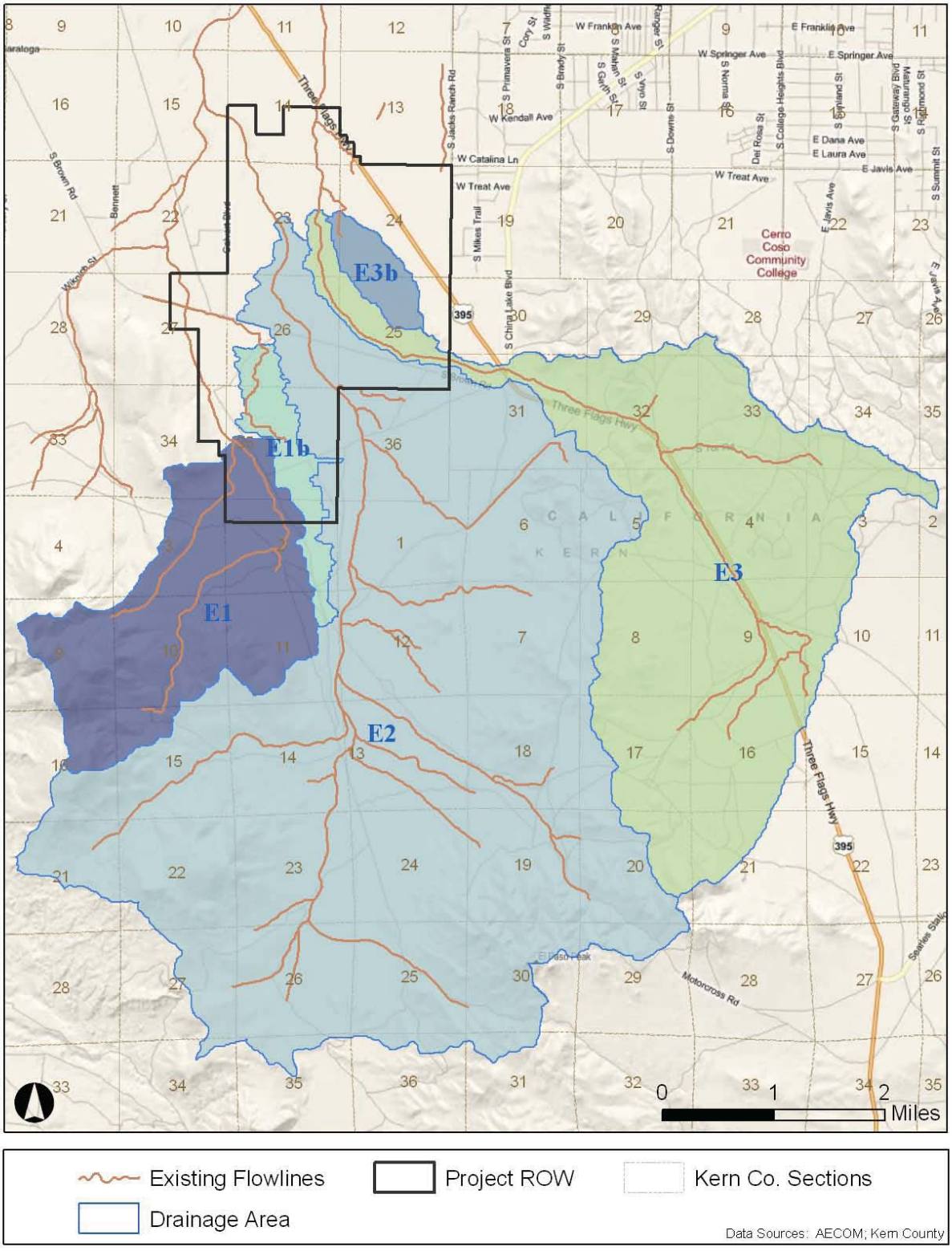


Figure 16 Existing Hydrology Map

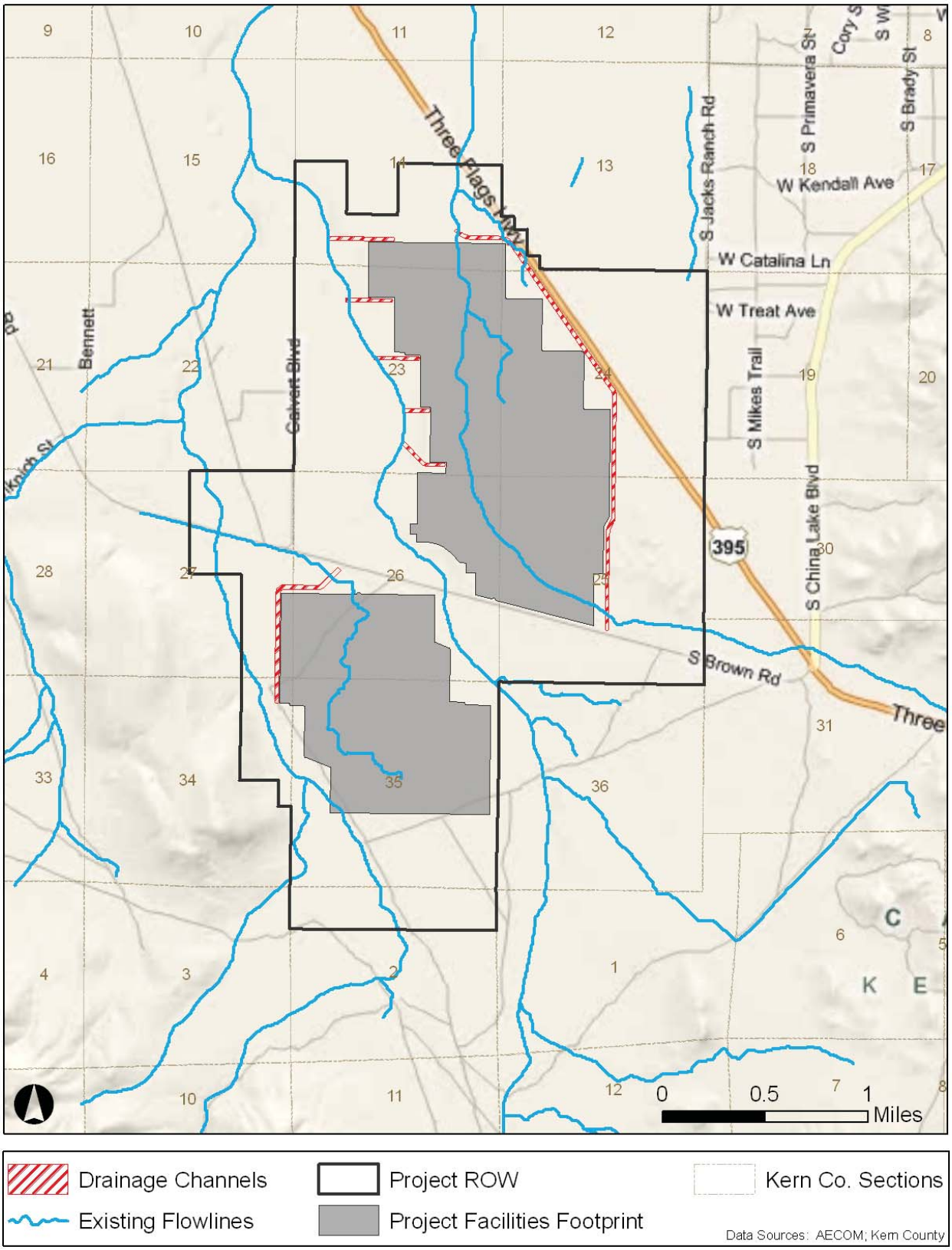


Figure 17 Preliminary Drainage Plan

The site will be graded such that drainage is collected in swales between the solar collector arrays and then directed to new drainage channels, which ultimately discharge to one of the existing washes downstream of the solar fields. The post-development drainage flows onsite will be directed to the existing channels in very close proportion of flows to the existing conditions. The updated Drainage Report will provide additional details on these flows.

The proposed solar field improvements will not change the existing upstream offsite drainage patterns. Offsite flow of up to a 100-year event will be collected in peripheral drainage channels and conveyed around the Project site. Each of the proposed channels will be sized to contain the peak flow of a 100-year, 24-hour storm event and will include necessary earth compaction and riprap side-slope protection along key reaches (e.g., directional transitions, proposed-to-natural channel transitions, and reaches with significant design velocities). The new channels will be designed with appropriate side slopes, drop structure, and ground slopes to minimize erosion and provide for tortoise movement.

Erosion Control

A Drainage, Erosion, and Sediment Control Plan (DESCP) has been developed for the site in compliance with the criteria set forth by the Lahontan Regional Water Quality Control Board (RWQCB). The DESCP was submitted as Appendix L2 of the Project AFC. A variety of standard best management practices (BMPs), as described in the DESCP, will be used during construction for dust control, soil loss, soil erosion control, and protection of drainage channels from on-site waste discharges. The DESCP also outlines long-term BMPs to be implemented during operation of the Project.

The onsite flows within the solar fields will be non-erosive by design. The swales between the fields are very flat (0.015%), and the drainage channels within the site will also be relatively flat throughout the length of the channel. The discharge points for these channels will require a drop structure at the connection to an existing wash. There will be no sediment transport originating from the site due to the flat slopes created by Project grading. The drop structures at the termination of the channels will be constructed of soil cement, thereby avoiding erosion impacts to the existing washes. The outfall end of the channels will be designed such that flow is returned to a downstream offsite location and condition as close as possible to that which existed prior to the Project.

The site plan has been redesigned so that impacts to El Paso Wash are minimized and so that the stability of the banks of the Wash are not impacted by scour and migration that may have resulted from Project development and removal of material within the Wash under the previously proposed layout. The Project is now located outside of the floodplain and beyond the banks of the Wash. The reconfigured Project design includes a number of small drainage connection channels that will outflow to El Paso Wash. These drainage connections are proposed to aid in maintaining natural flows directed from swale complexes within the Project footprint into the Wash. The small drainage channel connections to El Paso Wash will be designed using Kern County or American Public Works Association standards and the outwash aprons will be constructed of soil cement so that erosion is not an issue within the Wash.

Drainage from upstream areas intercepted by the engineered channels on the perimeter of the site is not expected to create erosion or sedimentation issues. These engineered channels will be created from native soil and will incorporate drop structures constructed from soil cement prior to discharge into existing washes. The flows in the channels are small and flow velocities will be less than scour velocity. The drop structures, which will occur along the length of these channels at 1,300-ft intervals and at the end of the channel, will capture any minor amounts of sediment that get washed into these channels. There is not anticipated to be a sedimentation impact to the downstream channels because of the offsite flows intercepted by the engineered channels. Further details regarding the drainage impacts associated with the reconfigured site plan are being developed and will be provided in March 2010.

1.5.13 Vegetation treatment and weed management

The Applicant is in the process of developing a vegetation treatment and weed management program, including the selection of specific herbicides and seed mixtures, in consultation with the BLM and Kern County. A Draft Weed Management Plan was provided as Attachment DR-BIO-69 to the Data Request responses submitted to the CEC on January 25, 2010. The Plan was prepared to be consistent with BLM's guidelines for weed management, including the *Vegetation Treatments Using Herbicides* (2007) and *Vegetation Treatment Final EIS* (2007). The Plan is on information collected during vegetation mapping and special-status plant surveys conducted at the Project site as part of the CEC licensing process..

1.5.14 Waste Management

Wastes will include process and sanitary wastewater, and liquid and solid nonhazardous waste and hazardous waste. The Project will produce two primary wastewater streams:

- Non reusable sanitary wastewater
- Reusable streams including blowdowns and RO system reject water.

The Project will utilize three septic systems to treat waste streams from domestic sources such as showers and toilets. Liquid effluent from the septic tanks will have biological oxygen demand of about 175 milligrams per liter (mg/L) and suspended solids concentration of about 75 mg/L. Heavy solids will settle to the bottom of the septic tank where they will undergo anaerobic decomposition and slight compaction. Solid wastes will be removed from the tank every three to five years. Liquid sanitary wastes will be disposed via leach fields located at the power block as well as at the administrative and warehouse areas. Based on the current estimate of 2,800 gallons per day of sanitary wastewater production, a total leach field area of approximately 5,600 $ft.^2$ will be required. It is expected that the leach fields will satisfy the needs of the plant for its entire service life. The leach fields will be constructed of open tile drains laid in trenches filled with gravel or crushed stone. The trenches will permit downward percolation or upward evaporation and transpiration.

Process water streams generated on site will be reused to the maximum extent possible. RO reject water from the primary desalination process will be used for site dust control. Other wastewater streams will be reused on site. These include blowdown water from the solar steam generation system, cooling tower for the ancillary equipment heat rejection system, and from the auxiliary boiler.

Non-hazardous solid wastes that will be generated during Project operation include:

- *HTF-contaminated soil:* Soil contaminated with HTF in concentrations less than 10,000 milligrams per kilogram (mg/kg) will be placed in an onsite permitted LTU located near the warehouse. Here the soil will be spread out to facilitate natural degradation of the hydrocarbons in the soil. Once the hydrocarbons levels reach a low enough level, the soil will be reused on site as fill or stockpiled prior to reuse.

- *Spent Demineralizer Resin:* Spent resins from the boiler feedwater demineralizer system will be shipped off site to the supplier for regeneration and reuse. Offsite regeneration will preclude storage of large amounts of sulfuric acid and caustic on site.

- *Damaged mirror or piping assemblies:* Damaged mirrors and piping assemblies will rarely become waste streams. If they do, they contain materials that can be recycled.

1.5.15 Hazardous Waste Management

Relatively small volumes of hazardous wastes will be generated during operation of the solar power plant. These wastes include:

- *Used hydraulic fluids, oils, greases, oily filters and oily rags, and associated wastes:* Used oils, greases, and oily effluent from the water separation systems will be accumulated and maintained on site in secure hazardous waste accumulation areas within secondary containment. These wastes, primarily used lubricating oils, will be collected and sent off site to a waste oil contractor for recycling.
- *HTF-contaminated soil:* Soil contaminated with HTF in concentrations greater than 10,000 mg/kg may be generated during equipment failure or maintenance activities in the solar array. The contaminated soil (i.e., soil containing greater than 10,000 mg/kg of HTF) will be collected and will be transported and disposed at Class I landfill if hazardous waste or to a permitted thermal soil treatment facility to allow the soil to be treated then recycled.
- *Cleaning solutions:* Waste cleaning solutions, such as solvents and other chemical cleaning solutions will be generated during routine equipment maintenance and repair. These waste cleaning solutions will be collected and sent off site by a licensed contractor for treatment or recycling.
- *Spent batteries*: Intact lead-acid batteries will be returned to the vendor as required by Title 22 of California Code of Regulations (CCR) Division 4.5, Chapter 16. Other spent batteries (such as consumer-type alkaline, nickel-cadmium and other types) will be accumulated on site in labeled containers as Universal Waste and recycled to an appropriately licensed facility.
- *Spent Carbon*: The HTF expansion tank will be vented through a two-stage activated carbon system for the control of toxic air emissions from the tank. When saturated with air contaminants, the activated carbon will be characterized to determine if it is a hazardous or a non-hazardous waste. Regardless of the classification, the carbon will be removed from the vessels and shipped off site to a licensed management facility for regeneration.

A variety of safety-related plans and programs will be developed and implemented to ensure safe handling, storage, and use of hazardous materials (e.g., Hazardous Material Business Plan). Solar Millennium will supply plant personnel with appropriate Personal Protective Equipment (PPE) and will properly train personnel in the use of PPE and the handling, use, and cleanup of hazardous materials used at the facility, as well as procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials will be stored on site.

1.5.16 Fire Protection

Applicant will design the fire protection system to protect personnel and limit property loss and plant downtime in the event of a fire. The system will include a fire protection water system, foam generators, carbon dioxide fire protection systems, and portable fire extinguishers. A 1.5 million-gallon water storage tank located at the power block will supply both potable water and firewater for the plant. One electric and one diesel-fueled backup firewater pump, each with a capacity of 1,500 gpm, will deliver water to the fire protection piping network.

The firewater system capacity at the plant will be at least equal to the flow rate required for the largest single fire hazard, plus a 500 gpm allowance for two hose streams, or as required by the local or county fire marshal. The fire protection water system will be supplied from an underground fire main located on the plant site. Electric or diesel-fueled firewater pumps will deliver water to the fire protection water-piping network.

Within the power block and at the main office and warehouse area the piping network will be configured in a loop so that a piping failure can be quickly isolated with shutoff valves without interrupting water supply to other areas in the loop. Solar Millennium will place fire hydrants at intervals throughout the power block and at the main office and warehouse area; the firewater supply loop will supply water to these hydrants. The supply loop will also supply firewater to a sprinkler deluge system at each unit transformer, HTF expansion tank, and circulating pump area, and to sprinkler systems at the steam turbine generator and in the administration building. Portable fire extinguishers of appropriate sizes and types will be located throughout the plant site.

Fire protection for the solar field will be provided by zoned isolation of the HTF lines in the event of a rupture that results in fire. As vegetation or other combustible materials will not be allowed in the solar field, the HTF will be allowed to extinguish itself naturally, since the remainder of the field is of nonflammable material (aluminum, steel, and glass). There are no anticipated fire ignition situations associated with the solar facilities that would cause wildland fires. However, vegetation management and fire control will ensure that any fire is contained to the site.

All fire protection systems and components will be designed and supplied in accordance with the requirements of the local fire marshal. All fire pump equipment will be UL listed, and FM approved and designed in compliance with National Fire Protection Association (NFPA) Standards 20 and 850 recommendations. All fire pump equipment will be located in an enclosed building with sufficient room for access to facilitate equipment maintenance. The underground fire main will supply firewater throughout the power block area. The fire main will be looped, and will supply water to fire hydrants, hose stations and fixed water suppression systems installed in buildings and elsewhere around the plant. The underground fire main will be an FM-approved, high-density polyethylene piping. Fire protection for the solar field will be provided by installation of isolation valves in the HTF piping and an on-site plant fire fighting foam truck.

1.5.17 Site security and fencing (during construction and operations)

Site guards will be trained, uniformed, unarmed personnel. Their primary responsibility will be to control ingress and egress of personnel and vehicles, perform fire and security watch during off hours, and perform security-badge administration. The plant will utilize a Project-wide photo security-badge system for all construction and operations personnel to control security. Guardhouses will be constructed at the main entrance gate for delivery vehicles, at the construction pedestrian entry point adjacent to the parking area and at the entrance to the solar collector assembly/laydown area.

The Project solar fields and support facilities perimeter will be secured with a combination of chain link and wind fencing. Chain link metal-fabric security fencing, 8 ft. tall, with 1-ft. barbed wire or razor wire on top will be installed along the north and south sides of the facilities. Thirty-ft. tall wind fencing, composed of A-frames and wire mesh, will be installed along the east and west sides of each solar field. Tortoise exclusion fencing will be included. Controlled access gates will be located at the site entrances. The Project's drainage channels will be outside the plant facilities and the security fencing but still within the Project ROW.

1.5.18 Electrical components, new equipment and existing system upgrades

The Project electrical components consist of the solar field electrical system, the power block, and the Project substation. The electrical output of the steam turbine generator will be stepped up to 230 kV through an oil-immersed step-up transformer located in the plant substation. The plant substation ground grid will be connected to the generation plant ground grid and will consist of copper conductor throughout the yard with ground rods installed around the perimeter and near major equipment. A layer of aggregate will be installed above grade to increase contact resistance within fenced substation area.

1.5.19 Interconnection to electrical grid

Applicant proposes to connect the Project to the SCE transmission system by constructing an onsite 230-kV transmission line that will interconnect at a new Project switchyard immediately adjacent to the facility. Two existing transmission lines owned and operated by SCE that currently traverse the plant site will be re-routed around and to the west of the site. Approximately 1.6 miles of existing lines would be relocated; the resulting rerouted segment will be approximately 1.7 miles long. The rerouting of the SCE lines would occur adjacent to the Project site boundaries and entirely within the Project ROW. The new Project switchyard will be located in close proximity to the rerouted SCE 230-kV transmission line. The Applicant will construct the new switchyard, but the switchyard will be owned and operated by SCE and will include design and construction features required for an interconnection to the SCE transmission system.

The gen-tie route will be approximately 0.75 mile long and will proceed southwest from the power block across El Paso Wash and Brown Road, then turn west into the Project's planned 230-kV substation, which will be located northwest of the south solar field abutting the existing SCE transmission line ROW. Solar Millennium selected this route because it was the shortest route and most suitable location to interconnect to the SCE 230 kV line while minimizing environmental impacts and costs.

The CDCA Plan requires that new transmission facilities be located within appropriately designated corridors. An approximately one-mile wide utility corridor designated by the CDCA Plan and Section 368 of the Energy Policy Act of 2005 runs north-south across the western portion of the Project site (see Figure 18). The Project's gen-tie line and switchyard will be located entirely within the designated utility corridor. On December 16, 2009, BLM reviewed the Corridor Conflict Analysis provided by the Applicant and determined there would be ample room for the RSPP and to accommodate existing and future utility sitings through the corridors.

1.5.20 Existing transmission systems relocation

There are existing SCE transmission lines crossing the southwest corner of the proposed RSPP site. The Applicant is working with SCE to relocate approximately 1.6 miles of the Kramer-BLM West 230-kV Line and Inyokern-Kramer-Randsburg 1&3 115-kV lines. A new SCE ROW approximately running west of the currently permitted alignment is proposed. The rerouting of these SCE transmission lines will follow the Project site boundaries around the southwest portion of the site in order to accommodate layout of solar collectors associated with the south solar field. To minimize potential environmental impacts of the line relocation, the rerouting of the SCE lines would occur immediately adjacent to the RSPP site boundaries and entirely within the limits of the RSPP ROW Solar Millennium will request from the BLM.

The existing SCE transmission lines are on steel towers generally 80 to 120 ft. above the ground. Preliminary transmission line engineering performed by Solar Millennium's engineering design consultant, AECOM, suggests that the re-aligned transmission lines would use 120-ft. tall tubular towers that would be placed to achieve nominal 1,000-ft. spans; poles for each system would be adjacent to each other. Based on initial assessments, Solar Millennium assumes that the construction corridor would be limited to existing or new access and spur roads to each pair of power poles, plus an area around each pole foundation to minimize the area of disturbance. Solar Millennium assumes that the new towers would be placed using concrete foundations. The construction footprint at the new tower locations would be approximately 40 ft. by 40 ft. square. Pull sites would be the same general locations as the tower sites. Solar Millennium assumes that the pull would originate from the end of the alignment and would progress from pole to pole for the full alignment using pulley rigs and cables. Solar Millennium recognizes that the actual alignment, pole configuration, and system design for the relocation will be determined by SCE following upcoming feasibility studies to be performed in early 2010.

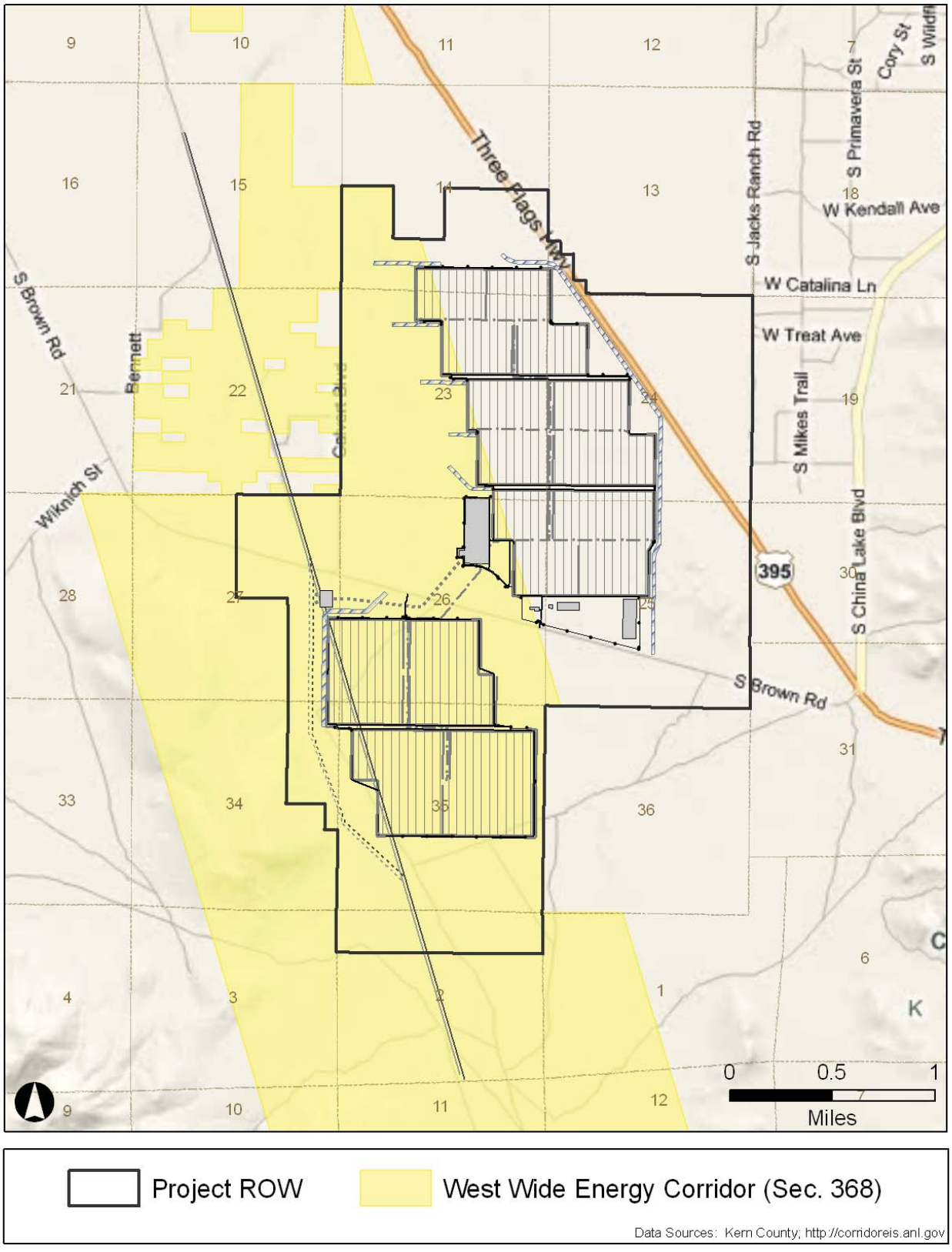


Figure 18 Designated Utility Corridors

1.5.21 Spill prevention and containment for construction and operation of facility

The Project will maintain material safety data sheets (MSDS) for chemicals used on the site. The primary chemicals that will be used on site include the following:

- HTF (diphenyl/biphenyl oxide)
- Oxygen scavenger reagent
- Propane
- Lubricating oil
- Sulfuric acid (in batteries)
- Diesel fuel
- Mineral insulating oil (in transformers)

Solar Millennium will provide secondary containment structures around outdoor oil-filled transformers, the steam turbine generator lube oil tanks, HTF overflow and expansion vessels, and any other oil-containing tanks over 55 gallons without double walls or vendor supplied secondary containment. The containment will be sized to contain 100% of the fluid in the transformer or vessels with appropriate freeboard required per code. Additional equipment (such as HTF pumps, feedwater pumps, etc.) will be provided with 6-inch tall curbs, as appropriate. Containment will be designed to accommodate manual cleanup with a portable sump pump.

HTF Spill Remediation

The HTF to be used for the Project, diphenyl/ biphenyl oxide (trade name Therminol or Dowtherm), requires periodic make-up due to the minor fluid degradation that occurs during the cyclic operation as well as due to the effects of vaporization (losses from pump seals, valve packings, and other mechanical joints), and unplanned spillage. The HTF make-up quantity projected is based on annualized losses of 2% by volume, consistent with actual experiences of fluid loss at Kramer Junction. SMLLC will provide an MSDS for the HTF in an accessible location on site.

Solid waste generated during operation of the Project may include soil contaminated with HTF from spills and leaks in the HTF system. While solar collector design has advanced to an excellent level of performance and reliability, occasional small spills of HTF do occur, primarily because of equipment failures. The existing solar thermal plants in Southern California that utilize the same parabolic trough technology as proposed for the Project have reduced HTF spills to very low levels. If a spill or release is identified, the system operators in the power block will be notified promptly and the affected collector loop shut down. An appropriately equipped crew will make any necessary equipment repairs and any HTF-impacted soil will be cleaned up immediately and will be managed as described below. It is estimated that the Project will generate about 750 cubic yards of HTF-contaminated soil per year.

Management of HTF-contaminated soil is based on the HTF concentrations in the soil. A letter from the California Department of Toxic Substance Control (DTSC) dated April 4, 1995 (included as Appendix K of the Project AFC) and issued to the Kramer Junction SEGS facility states that soil contaminated with HTF "poses an insignificant hazard and classifies the waste as non-hazardous pursuant to Title 22 CCR Section 66260.200(f)." The Project will utilize the same type of HTF as the Kramer Junction SEGS facility. Therefore, the determination in the 1995 DTSC letter is relevant to the Project for purposes of preliminary waste classification. However, the DTSC has further indicated that site-specific data will be required to provide a classification of the waste. Site-specific samples will be analyzed for ignitability and toxicity using appropriate State and Federal methods to characterize the waste as hazardous or non-hazardous. A non-hazardous designation will be verified for waste soils in accordance with the hazardous waste

characterization methodology in Title 22 CCR Section 66262.11. Soils with concentrations above 10,000 mg/kg or at any other level at which the soils are determined to be hazardous waste would be shipped off site for disposal at a permitted Class I landfill.

As discussed in Section 2.0, Project Description, the solar fields to be installed at the Project would share the same LTU to bioremediate or land farm soil contaminated from releases of HTF. Non-hazardous waste soils will be treated on site in the LTU, using bioremediation and/or land farming treatment techniques. Bioremediation will be used for soils contaminated with HTF levels of between 1,000 and 10,000 mg/kg, while land farming will be used for soils with HTF concentration between 100 and 1,000 mg/kg. The land farming area will be located next to the bioremediation area within the LTU. Soils with initial HTF concentrations less than 10,000 mg/kg will be brought to the LTU and treated there until concentrations are reduced to less than an average concentration of 100 mg/kg.

The Project will utilize an LTU for bioremediation of HTF-contaminated soils. The LTU will be designed in accordance with requirements of the Lahontan RWQCB requirements. The LTU would utilize indigenous bacteria to metabolize hydrocarbons contained in non-hazardous HTF contaminated soil. A combination of nutrients, water, and aeration will facilitate the bacterial activity, allowing microbes to restore contaminated soil within two to four months. Soil contaminated with HTF levels of between 100 and 1,000 mg/kg will be land farmed at the LTU, meaning that the soil will be aerated but no nutrients will be added. Soils with less than 100 mg/kg of HTF would be stockpiled on site and used as fill material on the Project site as needed.

A facility-specific Waste Discharge Requirement (WDR) permit from the Lahontan RWQCB is required to operate the LTU. The LTU will be constructed with a clay liner at least five ft. in thickness as per Title 27 requirements. Unsaturated zone monitoring and/or groundwater monitoring will be used to evaluate liner integrity.

Figure 19 Bioremediation of HTF-contaminated soil (Source: Kramer Junction Company)

1.5.22 Health and safety program

SMLLC will design the RSPP health and safety program to meet or exceed applicable Federal and State health and safety standards and associated codes to provide a healthful and safe environment for workers and the public. A health and safety program will cover the Project during construction and operation. The proposed program is a multifaceted plan that will include the following four major elements:

- Safety Program, including safe work practices, procedures, and inspections.
- Emergency Response Program, including response procedures, recordkeeping, and follow-up.
- Chemical Monitoring Program, including procedures for proper storage and handling of chemicals and recordkeeping. A variety of safety-related plans and programs will be developed and implemented to ensure safe handling, storage, and use of hazardous materials (e.g., Hazardous Material Business Plan). SMLLC will supply plant personnel with appropriate PPE and will properly train personnel in the use of PPE and the handling, use, and cleanup of hazardous materials used at the facility, as well as procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials will be stored on site.
- Training Program, including on-the-job and new employee safety training courses, and training in the use of personal protection devices, fire brigade, and first aid.

The programs outlined above would address impacts that could adversely affect Project personnel, including individuals employed directly by the RSPP as well as employees of contractors, vendors, or others working on site, during both Project construction and operations.

The following subsections address RSPP construction and operations phase worker safety issues. Project work activities, the associated hazards, and the approaches to controlling those hazards will be similar during construction and operations, and thus, many of the workplace health and safety programs for Project operations will be similar to those developed for construction activities. As reflected in the following discussions, many of the Project construction health and safety programs and plans will be adapted for the Project operations phase so that health and safety efforts transition smoothly from construction to operations as the overall Project makes the same transition.

Construction

Health and safety programs designed to mitigate hazards and comply with applicable laws, ordinances, regulations, and standards will be developed and implemented to protect worker health and safety during RSPP construction. Qualified individuals will perform periodic audits to determine whether construction contractors are using proper work practices and programs to mitigate hazardous conditions and to evaluate regulatory compliance. Elements of the construction phase health and safety program are outlined below.

Hazard Analysis

SMLLC will conduct a hazard analysis in order to identify work activities and associated hazards, and programs to reduce the occurrence of exposures to occupational hazards. As Project design, construction, and operations proceed, SMLLC will update the analyses of hazards and the specifics of control strategies as needed to ensure that they are appropriate for Project activities at that time.

Injury and Illness Prevention Plan (IIPP)

The RSPP construction IIPP will meet California Occupational Safety and Health Administration (Cal-OSHA) requirements. The construction IIPP will be used as the basis for the operations phase IIPP, which is required by Title 8 CCR Section 3203.

Fire Protection and Prevention Program

The RSPP will rely on both onsite fire protection systems and local (e.g., Kern County) fire protection services during both construction and operations. Solar Millennium will develop a Construction Fire Protection and Prevention Plan and will implement the plan throughout all phases of construction. During construction, the permanent facility fire suppression system will be placed in service as early as practicable. Prior to installation of the facility's permanent fire suppression system, fire extinguishers and other portable firefighting equipment will be available onsite. These fire extinguishers will be maintained for the full duration of construction, in accordance with Cal-OSHA requirements. Locations of portable fire extinguishers will include, but not necessarily be limited to, portable office spaces, welding and brazing areas, flammable chemical storage areas, and mobile equipment (e.g., passenger vehicles and earthmoving equipment). Fire-fighting equipment will be located to allow for unobstructed access to the equipment and will be conspicuously marked. Portable firefighting equipment will be routinely inspected and replaced immediately, if defective, or if in need of recharge. Construction fire prevention regulations in Title 8 CCR § 1920 et seq. will be followed, as necessary, to prevent construction fires.

Emergency Action Program and Plan

The RSPP will establish a Construction Emergency Action Program and Plan that will include emergency evacuation procedures.

Personal Protective Equipment Program

The Project will develop and implement a PPE Program, which will apply to all contractor and subcontractor employees, as well as direct Project employees during both construction and operation. The elements of the PPE Program will be the same for both construction and operation phases, but, as discussed above for the Project Hazard Analysis, program specifics will be tailored as needed as the Project transitions from construction into operations.

Safety Training Program

The RSPP will develop and implement a Construction Safety Training Program that will be adapted to serve as an Operations Safety Training Program as the Project transitions from construction into routine power generation facility operations. As mentioned above for the Project Hazard Analysis and PPE Program, the elements of the Safety Training Program will be essentially the same for operations as for construction. Specifics of the training will be adapted as needed to be suitable for the specific work activities associated with operations to the extent that the various activities differ between the two phases.

UXO Safety Training

During World War II (1942-1945) and for two weeks in 1964, large areas of the Mojave Desert were utilized for large scale military training exercises. Small caliber ammunition and "practice ordnance" were used during these maneuvers. Tanks and planes were also involved in these exercises. Shells that contained spotting or marking charges were fired and dropped over a large area during these activities. A small percentage of this ordnance did not explode and some UXO has been discovered on the Project site during routine resource surveys. When detonated by the Kern County Sheriff's department, the UXO were found to be inert practice ordnance.

The prior history of the site and the discovery of UXO indicate that additional precautions should be taken by construction crews while on the Project site. As necessary, a geophysical survey will be undertaken by

qualified UXO personnel to clear sites prior to ground disturbance. Site personnel will also be trained to identify potential UXO and how to respond and who to contact if potential UXO is discovered.

Operations

As noted earlier, many of the workplace health and safety programs for RSPP operations will be similar to those developed for Project construction activities. Therefore, many of the construction programs and plans will be revised so they are appropriate for routine operations activities, and the Project health and safety programs will transition from the construction phase into the operations phase as the overall Project makes the transition between phases. The discussions presented earlier for the Project construction phase concerning the Project's Hazard Analysis and IIPP apply to Project operations as well, and discussion of these components is not repeated in this subsection.

Fire Protection and Prevention Program

Fire protection at the Project site during Project operations will include measures relating to safeguarding human life, preventing personnel injury, preservation of property and minimizing downtime due to fire or explosion. Fire protection measures will include fire prevention methods to prevent the inception of fires. Of concern are adequate exits, fire-safe construction, reduction of ignition sources, control of fuel sources, and proper maintenance of firewater supply and sprinkler systems.

The Kern County Fire Department will have fire protection responsibility for the Project site, and the Project's fire suppression systems will be subject to review and approval by the Kern County Fire Department. In addition, the fire suppression facilities will be designed by a California Registered Fire Protection Engineer and fire protection equipment will be installed and maintained in accordance with applicable NFPA standards and recommendations. Project facilities also will be designed and operated in conformance with Uniform Fire Code requirements for safe storage, dispensing, use, and handling of hazardous materials, as well as meeting State and local requirements for preparation of hazardous materials release plans and inventories.

Emergency Action Plan

In addition to the other design and procedural elements of the Project health and safety program, the Project will have a site-specific operations phase Emergency Action Plan. This plan will be have many similarities to the construction phase Emergency Action Plan. The operations Emergency Action Plan will address a variety of potential emergencies, including chemical releases, fires, bomb threats, pressure vessel ruptures, and other catastrophic events. The plan will describe evacuation routes, alarm systems, points of contact, assembly areas, responsibilities, and other actions to be taken in the event of an emergency. The plan will have a layout map, a fire extinguisher list, and describe arrangements with local emergency response agencies for responding to emergencies. The Emergency Action Plan will be used in conjunction with the IIPP.

Source: AECOM

1.6 Other Federal, State and Local Agency Permit Requirements

1.6.1 Required Permits

Permitting the proposed Project will require consultation with and concurrence from Federal, State, and local agencies, which will include the following major components:

- The Project must document compliance with NEPA. The BLM will be the lead Federal agency for NEPA compliance, and the BLM's decision to issue a ROW grant will be based in part on an evaluation of the Project's impacts through the NEPA process.
- The Project will be permitted through the CEC, which is the designated lead agency for all State compliance and permitting activities for solar thermal plants greater than 50 MW in capacity. The CEC's licensing/certification process is a certified regulatory program under CEQA, and the CEC is the State lead agency for the CEQA–equivalent AFC process.
- In August 2007, the CEC and BLM signed an MOU outlining the joint process for conducting environmental review of solar thermal plants. This process sets forth a unified approach to compliance and permitting that integrates the CEQA and NEPA processes to minimize redundancy of analysis and documentation and streamlines the overall timeline for conducting such review. The compliance and permitting steps outlined below identify items that are "parallel" CEQA and NEPA processes.
- The proposed Project must also comply with the requirements of the Federal Endangered Species Act (ESA); the California Endangered Species Act (CESA); the Clean Water Act (CWA); Section 106 of the National Historic Preservation Act (NHPA); the American Indian Religious Freedom Act, and other laws and regulations as described below in Table 4.
- The Project site in the planning area covered by the BLM's CDCA Plan and recently adopted WEMO Plan, and the Project must conform to these plans.
- The Project is located within eastern Kern County. The County will have jurisdiction over several permits, which are outlined in Table 4 below.

The proposed Project will conform to applicable Federal, State, and local laws and regulations. Table 4 presents the approvals, reviews and permitting requirements needed for the construction and operation of the Project.

Table 4 Permits and Authorizations

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
Federal			
ROW Grant	BLM	Per BLM's IM 2007-097, applications for commercial solar energy facilities will be processed as ROW authorizations under Title V of the FLPMA and CFR Title 43, Part 2804. Applications submitted to the BLM for commercial solar energy development projects must submit an SF-299 Application for Transportation and Utility Systems and Facilities on Federal Land.	In addition to the SF-299, a completed POD describing construction and operation of the solar facility must be approved by BLM prior to the beginning of construction. When possible, the ROW authorization and POD can be processed simultaneously.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
NEPA compliance	BLM	NEPA compliance includes an evaluation of the Project's effects on natural and human resources to determine the potential for significant impacts. By virtue of the CEC-BLM MOU, the NEPA analyses will be incorporated into the CEC AFC process and presented in a joint BLM-CEC SA/EIS.	A ROD under NEPA is needed for the 30-year Project ROW grant, subject to renewal.
CDCA Plan Amendment	BLM	The CDCA Plan, while recognizing the potential compatibility of solar generation facilities on public lands, requires that all sites associated with power generation or transmission not identified in the Plan be considered through BLM's land use Plan Amendment process.	BLM will conduct the CDCA Plan Amendment process concurrently with EIS.
ESA Section 7 Consultation and Incidental Take Authorization	USFWS	Because the desert tortoise (DT) (*Gopherus agassizii)*, a federally-listed species, has been confirmed present on the Project site, consultation and take authorization under Section 7 will be required. The BLM must submit a BA analyzing impacts to listed species to the USFWS, which will then issue a BO.	The BA is expected to be submitted in February 2010. In addition to the incidental take authorization, a Section 10(a)(1)(A) permit will be required for handling and relocation of a federally-listed species.
Department of Defense R-2508 Complex Sustainability Office review and approval	U.S. Department of Defense (DOD)	The RSPP is within the R-2508 complex and this designation requires an evaluation o f land use compatibility be conducted in consultation with the R-2508 Complex Sustainability Office to determine potential impact on military overflights and operations.	Solar Millennium has consulted with the R-2508 Complex Sustainability Office regarding military airspace use at the RSPP site. The R-2508 Office has confirmed that RSPP structures comply with military air space requirements and that the Project will not have significant mission impacts with the adoption of mitigation measures. This is documented in a July 16, 2009 letter addressed to Solar Millennium from the R-2508 office.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
Consultation under NHPA Section 106; Executive Order 11593; and Archaeological Resources Protection Act of 1979	BLM	Federal agencies that carry out activities that may affect historic properties must undergo the Section 106 consultation process. Nine archaeological sites on the Project site and one archeological site along the water line route have the potential for impacts covered under the NHPA. These would be addressed through California Archaeological Resources Identification and Data Acquisition Program and consultation between BLM, the SHPO, and interested parties.	The BLM will conduct the Section 106 consultation with the California SHPO. SMLLC submitted the final Class III Cultural Resources Inventories to the BLM and CEC in late November 2009. It is expected that the BLM will initiate Section 106 consultation in early January 2010 and that the consultation will be completed in late July.
Native American Consultation and Coordination	BLM	The BLM will conduct government-to-government consultation with Native American tribes as part of the NEPA process.	SMLLC is coordinating with BLM to support BLM's consultation with Native American tribes to identifying sacred sites and other places of traditional religious and cultural importance. Consultation with tribes has been initiated and will continue throughout the NEPA and Section 106 compliance processes.
BLM Cultural Use Permit and Fieldwork Authorization	BLM, State Office (Cultural Use Permit) and Ridgecrest Field Office (Fieldwork Authorization)	Prior to all archaeological field investigations on BLM land, a Cultural Use Permit and Fieldwork Authorization must be approved by the BLM.	The Applicant's consultant filed a Fieldwork Authorization Request under statewide BLM Cultural Use Permit CA-06-21. The request indicated areas to be surveyed, supervisory personnel, and survey dates. Maps of the survey areas accompanied the request. A Fieldwork Authorization was obtained on April 3, 2009 for cultural resources studies of the RSPP.
Concurrence on Jurisdictional Delineation of Waters of the U.S. under Section 404 of the CWA	USACE	Section 404 of the CWA governs the placement of dredged or fill materials into jurisdictional waters of the U.S. USACE concurrence is needed for delineations of jurisdictional waters conducted by Project scientists to determine the need for a permit under Section 404.	A revised Jurisdictional Determination Report covering both the Project site and the water pipeline route was submitted to the USACE on October 27, 2009. The Report concluded that there were no jurisdictional waters of the U.S. present within the Project site. If USACE concurs with this finding, no Section 404 permit is required.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
U.S. Environmental Protection Agency (USEPA) Identification Number	USEPA	As a generator of hazardous waste, the Project will be required to obtain a USEPA identification number from the California DTSC. DTSC delegates some enforcement authority to local fire department hazardous materials divisions.	SMLLC will file an application for an USEPA Identification Number before the start of construction.
National Ambient Air Quality Standards (NAAQS) Conformity Determination	BLM	Conformity determinations for Federal actions not related to Federal transportation projects are required for criteria pollutants (or precursors) listed under the NAAQS. Conformity is demonstrated by showing that a proposed project would not cause or contribute to an exceedance of the NAAQS for the duration of the project.	The Project occurs in a designated maintenance area for PM 10. Conformity with the NAAQS for PM 10 and other criteria pollutants will be determined during the NEPA process.
Conditional Letter of Map Revision (CLOMR)/ Letter of Map Revision (LOMR)	Federal Emergency Management Agency (FEMA)	A CLOMR is FEMA's comment on a proposed project that would affect the hydrologic or hydraulic characteristics of a regulatory floodway. According to the Flood Insurance Rate Map for the Project site, portions of the plant site are considered a Special Flood Hazard Area, and modifications to these areas would require a CLOMR/LOMR.	For the RSPP, a detailed hydrologic analysis of proposed project channel re-alignments has been performed consistent with applicable guidelines and engineering standards, including those in the Kern County Hydrology Manual. These data will be compiled, and a CLOMR application will be filed as part of the Project.
2920 Permit for Installing Solar Insolation Monitoring Equipment	BLM	Needed to install and monitor solar insolation monitoring equipment at the site; limited to 3 years.	Used to confirm site-specific solar insolation rates.
State			
AFC and CEQA compliance	CEC	Approval from the CEC through the AFC process is required to construct and operate a solar thermal plant over 50 MW in capacity in California. AFC requirements include full project specifications and environmental impact analyses.	Solar Millennium submitted an AFC for the proposed Project on September 1, 2009. The CEC deemed the AFC data adequate on November 18, 2009, and the Project is now in the data discovery phase of the AFC process. The AFC is certified under CEQA, and Project's CEQA requirements will be addressed by the AFC and the joint SA/EIS.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
Participating Generator (PG) Certification	CAISO	The prospective PG must complete two contractual agreements, a PG Agreement and the Meter Service Agreement for the ISO Metered Entities, install requisite CAISO certified revenue quality metering, establish or verify visibility of the Project's Supervisory Control and Data Acquisition (SCADA) system with the CAISO Energy Management System, and arrange to have the specific generation unit(s) scheduled with the CAISO by a certified Scheduling Coordinator.	The Project will obtain PG Certification before the start of operations.
Endangered Species Incidental Take Permit (ITP) under Section 2081 of the California Fish and Game Code (CFGC)	CDFG	Because DT (State-listed endangered) has been confirmed as present within the RSPP disturbance area and MGS (State-listed threatened) is assumed present based on habitat suitability, it is expected that a Section 2081 ITP will need to be obtained prior to Project implementation to comply with CESA.	A draft permit application was submitted in mid December. A supplement with protocol level surveys of the Projects linear components will be submitted in late May, and another supplement covering botanical surveys will be submitted in July. Although the Applicant will work closely with CDFG, the formal issuance of the permit will occur through the CEC licensing process; the CDFG's ITP requirements will be included in the CEC's Conditions of Certification. CESA compliance must be coordinated with Federal ESA consultation because DT is listed at both the State and Federal levels.
Lake and Streambed Alteration Agreement (SAA) under CGFC Section 1603	CDFG	As the Project's disturbance area contains potential waters of the State, the Project is expected to require an SAA from the CDFG.	As with the ITP, the formal issuance of the SAA will occur through the CEC licensing process. CDFG will provide their SAA determination to the CEC, and SAA requirements will be included in the CEC's Conditions of Certification.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
Industrial Storm Water General Permit, Order 97-03-DWQ (General Industrial Permit CAS 000001)	Lahontan RWQCB	Industrial activities with the potential to impact storm water discharges are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. In California, an Industrial Storm Water General Permit is issued to regulate discharges associated with ten categories of industrial activities, including electrical power generation. Permit requires submission of an operations-phase Storm Water Pollution Prevention Plan (SWPPP).	The Applicant will submit a Notice of Intent (application for permit) at least one month prior to commencing operations.
General Permit for Discharges of Storm Water Associated with Construction Activity, Water Quality Order 99-08-DWQ (General Construction Permit CAS 000002)	Lahontan RWQCB	Construction activities that disturb one acre or more require coverage under California's General Permit for Discharges of Storm Water Associated with Construction Activity. Activities subject to permitting include clearing, grading, stockpiling, and excavation. Permit requires the development and implementation of a construction-phase SWPPP that specifies BMPs to reduce or prevent the release of pollutants into storm water runoff and to minimize erosion.	In addition to the SWPPP, the Project also requires a DESCP to meet CEC requirements. A preliminary construction SWPPP/DESCP was provided in AFC Appendix L2.
Waste Discharge Requirements (WDR)	Lahontan RWQCB	Under the Porter-Cologne Act, all parties proposing to discharge waste that could affect the quality of waters of the State should file a Report of Waste Discharge (ROWD) with the appropriate RWQCB. The Project must file a ROWD for evaluation of Section 401 water quality impacts and in association with the proposed LTU for management of soils impacted by a release of HTF.	RSPP will file a ROWD application with the Lahontan RWQCB which will include engineering drawings of the LTU, a subsurface hydrological assessment, various plans (contingency, closure, etc.), and financial assurance. Once the information is submitted, the RWQCB will review and then provide recommendations for WDR to the CEC. The RWQCB will not issue a separate WDR; instead, the requirements will be incorporated into the CEC certification.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
California Department of Transportation (Caltrans) ROW Encroachment Permit (Form TR-0100)	Caltrans	Required when a State highway ROW would be affected. Construction of the RSPP will require access to and utility encroachment into Brown Road, which will require an encroachment permit from CalTrans. Application requirements are a plan sheet(s) and full description of the encroachment on State ROW.	Discussions are ongoing with Caltrans. The permit application will be submitted in late April. Process can take up to 6 months. An encroachment permit will not be granted until final engineering plans are provided. The encroachment permit from Caltrans is anticipated to be required as part of the CEC's Conditions of Certification. No roadwork will be performed until the encroachment permit is issued.
Caltrans Oversize Load Permit (Form TR-0015)	Caltrans	Required when oversize equipment will be traveling on State roads or unusual impacts to traffic are anticipated. Applicant must perform all possible size/weight reductions before permit can be issued (e.g., shipping only single units, etc.)	California Highway Patrol also requires notification of oversize vehicles. Apply at least 7 working days prior to oversize load on State highways
Local			
Determination of Compliance (DOC)/Permit to Operate (PTO)	Kern County Air Pollution Control District (KCAPCD)	Covers air emissions. Application requires submission of project description, emission sources, types, rates, and operating schedule.	A DOC application was submitted to the KCAPCD in mid September 2009, shortly after AFC submittal. The KCAPCD deemed the application complete in October 2009. The KCAPCD will work within the timeframes of the CEC's licensing process to issue the DOC. Once the equipment becomes operational, the Applicant will obtain a PTO.
Hazardous Waste Generator Permit/ Hazardous Materials Business Plan	Kern County Environmental Health Services Department	Permit required by the Kern County Environmental Health Department (reviewed by Kern County Fire Department). Project will need MSDS data for all hazardous materials used on Project, plans for disposal, and contingency plans for release/spill.	The Kern County Environmental Health Services Department is the Certified Unified Program Agency (CUPA) with jurisdiction over the Project for hazardous materials compliance.
Aboveground Storage Tank (AST) Permit	Kern County Environmental Health Services Department	Needed if any ASTs (temporary or permanent) are used on the Project.	The Kern County Environmental Health Services Department is the CUPA with jurisdiction over the Project for AST permits and inspection.

Permit / Authorization	Regulatory Authority	Permit Requirements	Comments
Septic System Approvals	Kern County Environmental Health Services Department	The type, capacity, location and layout of each private system shall comply with the rules and regulations of the Kern County Environmental Health Services Department, and the discharge requirements of the RWQCB.	Solar Millennium will obtain required approvals prior to installation of the septic system.
Grading, Building, and Floodplain Development Permits	Kern County Engineering Services and Survey Department	Local land use related permits will be required prior to initiation of the Project. Site construction and drainage plans will be required to apply for permits.	Applications are required at least six weeks prior to construction.
Local Zoning and General Plan Designations	Kern County Planning Department	All BLM-administered parcels within the site area are currently zoned N-A, Natural Assets. Private parcels along the water line route are zoned E, Estate. The General Plan land use designation for the Project site is Non-jurisdictional (Federal land); portions of the water pipeline cross an area designated as Residential.	The Project facilities are compatible with the zoning and General Plan designations of the parcels where they are located. Rezoning or a Conditional Use Permit is not necessary for development of the Project.
Kern County Oversize and Overweight Vehicle and Highway Encroachment Permit	Kern County Road Department	Required when oversize equipment will be traveling on county/State roads or if county ROW impacts are anticipated. Requirements are similar to State permit described above.	For encroachment permit, an application will be submitted at least 14 working days prior to construction work in public ROW. Most permits are issued within 14 working days. For Oversize Load Permit, an application will be submitted at least five working days prior to oversize load on County roadways.
Kern County Pipeline Permit	Kern County Road Department	Pipelines that parallel the roadway (as in the case of the RSPP water line), must have two sets of plans submitted with the application. The plans must depict the location of encroachment in reference to the roadway. Total distance of line and size of pipeline must also be noted on the drawings.	If the trench or excavation will be 5 ft. or deeper, Solar Millennium would need to obtain a permit from the Kern County Division of Industrial Safety.
Fire Protection Permit	Kern County Fire Department	Will require information on fire detection and prevention systems installed at the facility.	Permits are issued by the Kern County Fire Department's Fire Prevention Office and require approval by the Fire Chief.

1.6.2 Status of Permits

The status of the Project permits is discussed in Table 4 above. Solar Millennium will notify the BLM as the Project's permits and approvals are obtained and, as required, provide copies of permits and authorizations.

1.7 Financial and Technical Capability of Applicant

The Solar Millennium Group has built a strong team that is technically as well as financially competent for this development. Solar Millennium is currently involved in the development and construction of the Andasol three-unit solar power park in southern Spain. The first unit, known as Andasol 1, began operating in November 2008 and now provides 50 MW of power, enough electricity to supply 50,000 to 60,000 Spanish homes year-round. Andasol 2 has commenced its testing phase, and Andasol 3 is already under construction. When the entire Andasol complex is completed in 2011, it is expected to generate enough electricity to serve 150,000 Spanish households or about 600,000 people. Solar Millennium is also in the early stage of development of more multi-unit projects elsewhere in Spain. In addition, the Solar Millennium group of companies is involved with an integrated solar/gas combined cycle plant in Egypt and is in an early development phase in China.

Parabolic trough solar power technology is the only solar thermal power technology that has a proven performance and commercial record on a large commercial scale. Nine plants with a total capacity of 354 MW, built in the Mojave Desert in the 1980s and early 1990s, are all still running today. Their solar field performance at the Kramer Junction site, as a case in point, has consistently exceeded design values during the important peak power demand period. Since 2004, this technology has experienced a strong revival, specifically in the Spanish power market. Today, four plants with an accumulated capacity of 130 MW are under construction in Spain co-owned and engineered by the Solar Millennium Group, and there is another 800 MW of projects already fully permitted. No other concentrating solar power technology can boast a technical or commercial performance track record remotely approaching that of parabolic trough. In short, it is by far the most likely technology to succeed.

Detailed information about Solar Millennium, including our most recent annual report, can be found at: http://www.solarmillennium.com/

2.0 Construction of Facilities

2.1 Solar field design, layout, installation, and construction processes

Solar Millennium is currently in the design phase of the Project. The previously submitted design consisted of two roughly equally-sized solar fields, with one field each on either side of Brown Road and portions of both fields covering El Paso Wash.. In response to agency concerns over potential impacts to El Paso Wash and the MGS Conservation Area, Solar Millennium has reconfigured the solar field layout so that a larger field will be located to the north of Brown Road and to the east of El Paso Wash and a smaller southern field would be located to the south of Brown Road and to the west of El Paso Wash. The new design removes Project facilities from El Paso Wash and reduces the overlap of the Project disturbance area with the MGS Conservation Area by approximately 4%.

Significant earthwork will be required early in the construction phase of the Project. The site will be appropriately terraced and dikes will be constructed on the periphery of the solar fields most susceptible to flooding during severe rainstorms. Extreme care will be taken to minimize the offsite impacts of this earthwork.

2.1.1 Timetable and Sequence of Construction

Major milestones of the planned construction schedule include:

- Begin construction: fourth quarter 2010
- Project construction is expected to occur over a total of 28 months
- Start of commercial operations: mid-2013

Temporary construction parking areas will be provided within the power plant site adjacent to the laydown area. The plant laydown area will be utilized throughout the build out of the two solar fields. The construction sequence for power plant construction includes the following general steps:

- *Site Preparation:* This includes detailed construction surveys, mobilization of construction staff, grading, and preparation of drainage features. Grading for the solar field, power block, and drainage channels will be completed during the first 18 months of the construction schedule.
- *Linears:* This includes construction of the site access road, telecommunication line, transmission line, and water pipeline. The site access road and telecommunication line will be constructed during the first 6 months of the construction schedule in conjunction with plant site preparation activities. The onsite transmission line, telecommunications line, and water line will be constructed during the first 18 months of the construction schedule. The re-alignment of the existing SCE line will begin in the 18th month and be complete in the 27th month.
- *Foundations:* This includes excavations for large equipment (steam turbine generator, solar steam generator, generator step-up transformer, etc.), footings for the solar field, and ancillary foundations in the power block.
- *Major Equipment Installation:* Once the foundations are complete, the larger equipment will be installed. The solar field components will be assembled in an onsite erection facility and installed on their foundations.
- *Balance of Plant:* With the major equipment in place, the remaining field work will include piping, electrical, and smaller component installations.

- *Testing and Commissioning:* Testing of subsystems will be conducted as they are completed. Major equipment will be tested once all supporting subsystems are installed and tested.

Site filling, backfilling, and embankment construction will be monitored during placement of material and tested for conformance with compaction requirements. Appropriate measures will be taken to maintain site drainage and flood protection during construction. The entire site will be protected against erosion, and any municipal drainage systems will be protected from silt deposits. A secure chain-link desert tortoise-proof fence will be installed around the perimeter of the Project site.

2.1.2 Site Work and Solar Field Foundations

Site work and solar field foundation preparation will include the following tasks:

- Earthwork, construction of main entrance and construction personnel entrance roads, preparation of the solar collector assembly area, storage area, parking area and construction office area and installation of temporary and permanent site utilities.

- Construction of the flood bypass channels.

- Installation of solar and piping of drilled piers, sequenced with earthwork. Installation of underground piping and electrical systems will be sequenced consistent with orderly evacuation and placement of concrete foundations. Concrete foundations are required throughout the solar field, for the turbine pedestal, for the control and maintenance buildings and for the cooling tower basins. Concrete and other building materials will be procured from local sources when available and practical.

2.1.3 Dust Control

Air impacts associated with the construction and operational phases of the Project will be minor but will include fugitive dust emissions (primarily during construction) and small amounts of propane gas use (primarily during operation). Air quality management district permitting and offset requirements will mitigate potential impacts.

SMLLC will submit a dust control plan to the KCAPCD, as well as to BLM for approval. Approved dust palliatives (soil stabilizers) will be used, if needed, to keep down dust during construction. Various methods, such as use of packed gravel or soil binding material, will be considered. During operations, an approved dust suppression coating will be used on the dirt roadways within and around the solar field.

2.2 Access and transportation system, component delivery, worker access

Project access issues were discussed previously in Section 1.5.5. The site has immediate access from Brown Road. SMLLC is evaluating the locations of the principal site entry gates for both construction and operations in consultation with Caltrans and the City of Ridgecrest to ensure access and egress from the site does not have adverse impacts on traffic flow.

During water line construction, the contractor will be required to maintain access to the existing tenants that use any driveway from a public road. This will be a condition of permit from the County. The Contractor will meet this requirement by using temporary diversions of the driveways that are within the County ROW and/or by providing phased construction across the driveways with use of trench plates to provide access over any open excavation. Any temporary diversion of a driveway will be a 15 foot wide driveway located parallel and approximately 10 feet immediately adjacent to the existing driveway. These driveways, if needed, will only exist for one day, which will be sufficient time for the water line to be constructed. All work for the driveways will be within the existing Kern County ROW. The temporary relocation and protection of the existing driveways will be defined on the engineering plans and will be subject to review and permit requirements of Kern County Engineering Department.

2.3 Construction work force numbers, vehicles, equipment, timeframes

Project construction will require an average of 405 employees over the entire 28-month construction period, with work force requirements peaking at approximately 633 workers in Month 11. The construction workforce will consist of a range of laborers, craftspeople, supervisory personnel, support personnel, and management personnel.

Solar Millennium will manage Project construction, and will hire several dozen major and minor subcontractors to undertake mechanical, civil, and electrical construction tasks. Solar Millennium has begun the process of identifying and qualifying critical subcontractors to support the Project construction schedule. Prior to mobilization for construction, Solar Millennium will develop a detailed construction plan to define the construction supervisory and technical field organization.

Construction will require surveyors, inspectors, linemen, laborers, operators, supervisors and biological monitors. Several types of vehicles including personnel transport, water wagons, bulldozers, motor graders, paddle-wheel loaders, pan scrapers, track-mounted backhoes, front-end loaders, dump trucks, construction equipment, material delivery and line trucks will be present during construction. Not all personnel involved in construction will be on the Project site at the same time.

Construction will generally follow the sequence of staking/flagging the perimeter of the Project area, construction of access roads, site grading and installation of grounded fence, assembly and installation of all Project facilities, cleanup, and site reclamation of any temporary work areas.

2.4 Site preparation

2.4.1 Surveying and staking

Light Detection and Ranging (LiDAR) mapping of the site has been performed to obtain preliminary topographic information on the site to establish local benchmarks and site boundaries and to understand grading- and drainage-related requirements and issues. Detailed land and topographic surveys will be performed during the final design of the Project.

Project surveying will include two main objectives: 1) obtaining detailed topographic information for supporting the storm water modeling and grading design, and 2) construction layout surveying with staking. The final Site Plans for the Project will be based on the detailed topographic survey of the site that is being performed as a part of the permitting and engineering design process.

Road corridors, buried electrical lines, solar field locations, and the locations of other facilities will be located and staked in order to guide construction activities. Pre-construction survey work will consist of staking and flagging the following: 1) ROW and construction area boundaries, 2) work areas (permanent and short term), 3) cut and fill, 4) access and roads, 5) transmission structure centers, 6) foundation structure, and 7) DT or endangered plant offsets. Staking and flagging will be maintained until final cleanup.

2.4.2 Vegetation removal and treatment

Initial construction activities will include site clearing and grubbing to clear the site of vegetation and debris. Please refer to Section 1.4.13 for additional information on vegetation treatment and weed management.

2.4.3 Site clearing, grading and excavation

Site preparation will consist of clearing, earthwork, and grading as required to construct the facility and achieve finished site grades. Final grading design may require terraces with up to a 10-meter elevation differential to allow for balanced earthwork and proper drainage.

Rough site grading, excavation and backfilling will be performed using heavy-duty earth-moving equipment. Material for balancing cut-and-fill quantities will be taken from within the plant site. Embankments and dikes will be required around a portion of the site periphery to protect the plant from flooding during severe rainstorms. Upon completion of site preparation work, a permanent site security fence will be installed around the site perimeter. Temporary fencing will be provided to enclose material lay down and storage areas. Temporary parking areas will be created to accommodate the large construction force.

2.5 Solar array assembly and construction

Solar Field Installation Workflow

- **Solar collector element assembly.** An assembly line will be erected in the site fabrication and storage area. Assembly line fabrication consists of assembly of the solar collector element structural steel components and the mounting of the mirror panels.

- **Field assembly** - The solar collector element assembly will be transported to the field by truck and trailer and lifted with a spreader bar and crane and set on end, middle, shared or drive pylons, and then aligned. The alignment takes approximately 2-3 hours. The solar collector elements are installed (three preassembled welded sections) in the field and the ends are welded to an adjacent solar collector element. Ball joint assembly and assembly of measuring equipment will follow.

- **Solar Field Commissioning** – Solar collector assembly loops will be commissioned on an ongoing basis as they are completed during the installation of the solar collection field.

2.6 Power plant construction

- Construction of power block foundations will start shortly after the start of solar field drilled piers.

- The power block will be erected and commissioned in parallel with the solar collection fields.

- Construction of the storm water dispersion areas, the switchyard, office, main building, fences and gatehouse will run concurrently with the power plant and will be commissioned to support the startup of the plant.

2.7 Gravel, aggregate, concrete needs and sources

Adequate aggregate surfacing will be provided around the power block as required for maintenance and access throughout the life of the Project. All other areas will be left with the natural soil as the final surface.

All paved roads will utilize 24 ft. wide, 2½-inch thick asphalt over a 6-inch aggregate base with 3-ft. wide aggregate shoulders on the side. Aggregate surfaced roads will be 20 ft. wide and 6 inches thick. Road width and turning radius will meet plant operations requirements and all local regulations, including local fire department access. Sunshades will be provided for a portion of parking lots.

Gravel, aggregate, and concrete will be procured from local sources when available and practical. Solar Millennium will obtain associated permits or mineral material sales contracts from the BLM or other parties, when required.

2.8 Electrical Construction Activities

Certified electricians in the construction workforce will perform appropriate Project electrical construction activities. Utility journeymen may be required to perform or supervise the higher-voltage electrical construction activities for the Project switchyard and gen-tie line.

2.9 Aviation safety and lighting (power block towers, transmission)

The Project is located approximately seven miles from the Inyokern Airport and the China Lake Naval Air Weapons Station. There is no available information to suggest that air operation safety issues have arisen from the operation of existing transmission lines in the general Project vicinity. The Project's gen-tie line and proposed transmission line reroute will represent a negligible increase in the total length of the existing transmission lines already in the area. It is, therefore, anticipated that no adverse affects would be generated by the Project and impacts on aviation safety would be less than significant.

All Project structures leading from the power block switchyard to the interconnection point would be less than 200 feet in height and are more than 20,000 feet from an airport, so no proposed structure will be identified as an object affecting navigable airspace pursuant to Title 14 CFR Section 77. It is therefore concluded that the Federal Aviation Administration (FAA) will not require a "Notice of Proposed Construction and Alteration (Form 7460) for the Project and the Applicant does not plan to make such a submittal. The Applicant received correspondence from the DOD Sustainability Office that the project, sited within the R-2506 airspace of the R-2508 Complex, would not result in significant mission impacts.

If it is determined to be required, aviation lighting will be installed on Project structures in conformance with FAA requirements.

2.10 Site stabilization, protection, and reclamation practices

The expected Project life is 30 years. Given the uniquely high levels of solar radiation at this site, it is highly possible that new and improved solar power generating technology will be deployed at the site to continue clean and renewable power generation after the initial 30-year lifespan has elapsed. At the end of the RSPP's lifespan, the Project will either be repowered or decommissioned. Repowering may involve replacing the existing parabolic troughs with components that are more efficient, thereby extending the useful lifespan of the Project. Decommissioning, when it occurs, would adhere to the requirements of appropriate governing authorities and would be in accordance with all applicable Federal, State, and local regulations and permits, including any reclamation requirements BLM specifically adopts for utility-scale solar projects. For this particular site, the decommissioning process will involve steps to dismantle and remove equipment, stabilize soil and drainages, and regrade and reshape features as necessary. These steps are described in more detail in Section 7, below. Consistent with the CEC's AFC process and BLM requirements, a detailed Decommissioning Plan will be prepared once the disposition of the Project and subsequent use of the site is known (see Section 7.0).

3.0 Related Facilities and Systems

3.1 Transmission System Interconnect

The Project's transmission system interconnection facilities were described previously in Section 1.2.4, 1.5.19, and 1.5.20. A 0.75-mile gen-tie line will connect the power block to a new Project switchyard, which will connect the Project to the SCE transmission system. The switchyard will be located adjacent to the northwest corner of the southern solar field in close proximity to the SCE transmission lines. Approximately 1.6 miles of the existing SCE lines will need to be rerouted to the west of the southern solar field, resulting in new 1.7-mile rerouted segment. The gen-tie line, interconnection switchyard, and rerouted SCE transmission lines will occur within the Project ROW and are included in the Project disturbance area. Project transmission lines would be designed with the latest technology to deter to raptors in order to reduce impacts to sensitive species. Detailed engineering drawings of the Projects transmission facilities will be provided in the engineering drawings to be provided in February 2010.

3.1.1 Status of Power Purchase Agreements

A power purchase agreement was executed for this Project with SCE in June of 2009.

3.1.2 Status of Interconnection Agreement

Solar Millennium submitted an interconnection request for this Project in July 2009. CAISO has completed the Phase I Interconnection Study and the final Phase II Study will be completed in 2010. An Interconnection Agreement for the Project is expected to be concluded in the fourth quarter of 2010.

3.2 Propane System

Solar energy will provide the entire electric output of the plant; the Project will not use fossil fuel to generate electricity. The plant will use a propane-fired HTF heater for infrequent freeze protection of the HTF in the solar field. The HTF to be used for the Project is a synthetic hydrocarbon liquid – diphenyl/biphenyl oxide – that has a freezing point of about 55°F. Freeze protection will be accomplished by circulating HTF at a very low flow rate through the solar field using hot HTF from the storage tank as a source. The HTF heater may be required on very cold nights in the deep winter months. In addition to the HTF heater, the plant will use a propane-fired auxiliary boiler to accelerate start-up each morning. Propane for the HTF heater and auxiliary boiler will be supplied via twice-weekly truck deliveries offloaded into a storage tank located in the power block.

3.3 Telecommunications Facilities

The proposed RSPP switchyard will require new telecommunication infrastructure to provide a protective relay circuit and a SCADA circuit together with data and telephone services. The telecommunication path from the switchyard to a local carrier facility interface is being determined and will be provided in the final Project engineering drawings. In a will-serve letter dated August 25, 2009, Verizon Network and Engineering confirmed their ability and intention to provide telephone services to the Project site.

4.0 Operation and Maintenance

Solar Millennium will establish an Operations and Maintenance (O&M) Service Company to operate and maintain the plant. Personnel for the O&M Services Company will include staff that will be intimately involved in plant commissioning and acceptance testing. Solar Millennium is in the process of establishing a similar O&M Services Company in southern Spain to serve the Andasol Unit 1 and 2 Power Projects.

A description of the power plant facilities and thermal conversion and energy generating processes to be used during operation are described in Section 1.4.4 above and in detail in AFC Section 2.0, Project Description. Additional details related to O&M are provided below.

4.1 Operation and facility maintenance needs

The RSPP solar fields will consist of thousands of individual parts in the modular solar collector assemblies and the power block. Management of O&M will require appropriate tracking tools and an appropriately trained staff. Solar Millennium has refined and optimized such tools and procedures over the past three years as part of the company's test loop operation in the southwestern U.S. As described in Section 1.4.22, an O&M safety and health program will be prepared prior to operation of the Project.

4.2 Maintenance activities, including mirror washing and road maintenance

To facilitate dust and contaminant removal, water from the RO desalination process will be used to spray clean the solar collectors on a weekly or as-needed basis, determined by the reflectivity monitoring program. This mirror washing operation will be done at night and will involve a water truck spraying treated water on the mirrors in a drive-by fashion. Mirror washing equipment will utilize brushes to reduce the amount of water use. It is expected that the mirrors will be washed weekly in winter and twice weekly from mid-spring through mid-fall. The mirrors will be angled down for washing and water will not accumulate on the mirrors. Wash water will fall from the mirrors to the ground and, due to the small volume, will soak in with no appreciable runoff. The water treatment facilities will be sized to accommodate the solar mirror washing demand of approximately 53 af per year.

In addition to mirror washing, maintenance activities will include inspection of the HTF piping and other Project components, road maintenance, vegetation restoration and management, scheduled maintenance of transformers and other electrical equipment, and occasional replacement of faulty equipment. The Project's access roads will be regularly inspected, and any degradation due to weather or wear and tear will be repaired.

O&M activities will require periodic vehicle travel over the unpaved portions of the solar field to perform routine maintenance including mirror washing, maintenance inspections and repairs of the piping network, and herbicide application. These operations have the potential to create fugitive dust emissions. The Applicant or its contractors will follow the fugitive dust control strategy outlined in the Operations Dust Control Plan that will be prepared for the Project. Solar Millennium will apply a dust palliative on unpaved site roads, as needed.

4.3 Operations workforce and equipment

The O&M Service Company Management will manage supervision of the plant and maintenance of the solar fields. Skilled personnel will be assigned to conduct expedient maintenance and mirror washing. The primary responsibility of field operators will be to monitor, in considerable detail, the condition and repair needs of the solar field. While electrical power is to be generated only during daylight hours, the Project will be staffed 24 hours a day, 7 days per week. A total estimated workforce of 84 full time employees will be needed to staff the Project.

5.0 Environmental Considerations

5.1 General description of site characteristics and potential environmental issues (existing information)

The RSPP site is mostly flat, with elevation ranging from a low of about 2,600 ft. amsl in the northwestern portion of the disturbance area to a high of about 2,780 ft. amsl in the southern portion of the disturbance area. The site is located on an alluvial fan that slopes downward to the north from the El Paso Mountains, located to the southwest of the site; it consists primarily of undeveloped open space. As described in Section 1.4.12, two large ephemeral washes traverse the proposed plant site, and smaller dry desert washes traverse the site generally from the southeast to the northwest. A series of rock outcrops are located in the eastern portion of the ROW northwest of the intersection of Brown Road and U.S. Highway 395.

A former Southern Pacific Railroad ROW is located in the western portion of the Project ROW. The railroad ties and tracks have been removed, but the alignment remains, and includes raised berms, bridges, and stormwater conveyances. The Project disturbance boundary is located, at its closest point, approximately 130 feet from the railroad ROW, thus no disturbance within the railroad ROW or of the remaining railroad infrastructure would occur. There are no existing structures on site that would need to be demolished, but portions of the existing 115- and 230-kV SCE transmission lines that traverse the southwestern portion of the site will require relocation.

During pre-Project surveys, biologists mapped vegetation types within a Biological Resources Study Area (BRSA) that included the previously-proposed Project disturbance area, a 1-mile buffer around the disturbance area, and a 1,000-ft. buffer around Project linear features, as required by CEC guidelines. Mojave creosote bush scrub dominates the RSPP site. Small areas of Mojave Desert wash scrub (approximately 8 acres in total) occur along portions of desert washes within the BRSA. Unvegetated ephemeral dry wash (approximately 8 acres), and developed land (less than 1 acre) also occur within the BRSA. The CDFG considers Mojave Desert wash scrub and unvegetated ephemeral dry wash to be sensitive vegetation communities. The Project reconfiguration significantly reduces impacts to these sensitive vegetation types (see Figure 20). Project biologists will conduct additional surveys in 2010 to map vegetation types in additional areas of the BRSA resulting from the Project reconfiguration.

As a result of the site reconfiguration, impacts to the El Paso Wash, will be largely avoided. The exceptions are a road culvert crossing at Brown Road, supports for an HTF pipe bridge crossing the wash, and eight to ten drainage channel tie-ins. These drainage tie-ins are proposed to aid in maintaining natural flow diverted from swale complexes within the Project footprint that would be impacted by construction activities for the RSPP. Further details regarding the impacts associated with the reconfigured site plan, including construction of crossings and tie-ins, are being developed and will be provided to the BLM and CEC in February. To further minimize impacts on sensitive biological resources, a natural vegetated buffer around the El Paso Wash is being incorporated into the site plan. Natural flow would not be diverted away from the El Paso Wash under the reconfiguration, and impacts to the natural communities supported by the wash would be substantially reduced when compared to the original site plan. The reconfigured site plan would retain the wash's hydrologic and ecological functions and allow for the continued use of the El Paso Wash as a wildlife movement corridor.

In correspondence dated January 26, 2009, the USACE declined jurisdiction over the waters within the Project site, in concurrence with jurisdictional delineations conducted for the Project in 2009. Project biologists delineated approximately 16.6 acres of washes that are potential State jurisdictional waters in the previously proposed disturbance area. The Project has since been reconfigured to minimize impacts to

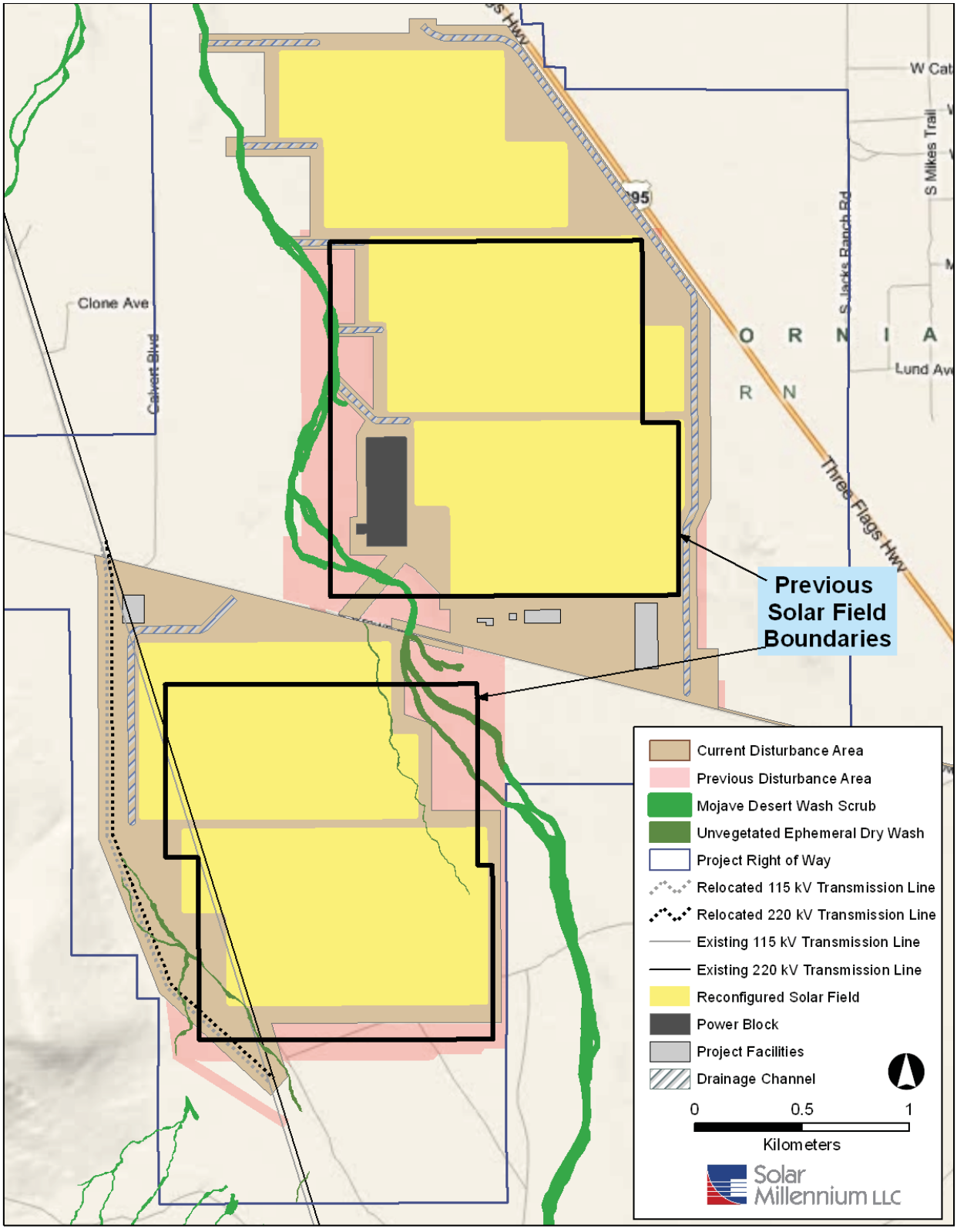


Figure 20 Avoided Impacts to Sensitive Vegetation Types

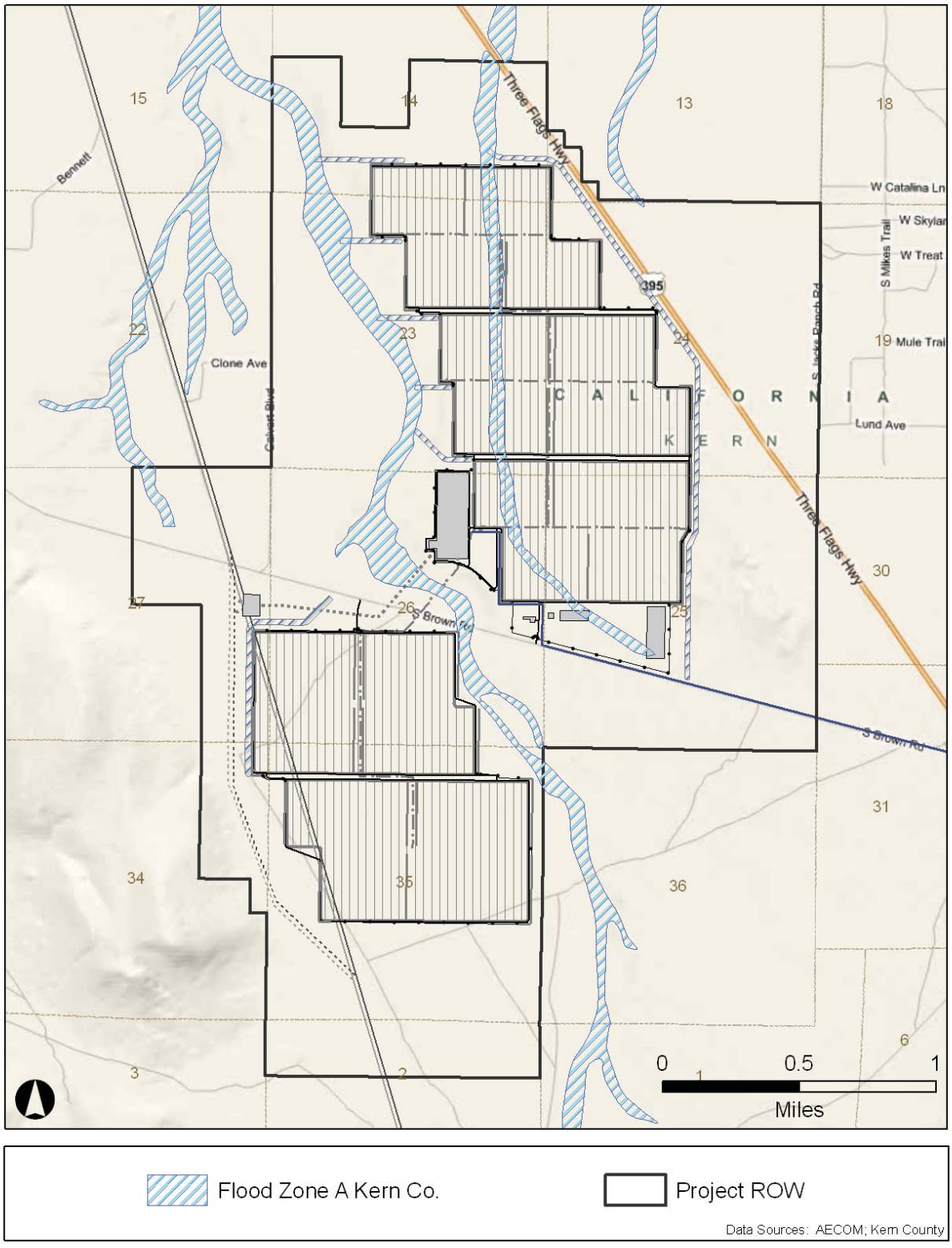


Figure 21 FEMA Flood Zones

waters of the State by avoiding El Paso Wash. Project biologists will conduct additional jurisdictional delineations in 2010 and it is anticipated that the area of waters of the State within the disturbance area will be significantly reduced. However, portions of the washes still occurring in the disturbance area may be altered by development of the Project, in which case an SAA will be required.

Portions of the onsite washes also occur within the FEMA-designated 100-year floodplain (FEMA Zone A), as shown in Figure 21. As discussed previously, modifications to the hydrologic characteristics of the designated floodway are expected to require a CLOMR from FEMA

Since March 2009, biological and cultural resources surveys have been underway. Solar Millennium's AFC and Data Adequacy Supplement include the results of these surveys. Solar Millennium has provided the BLM with the AFC materials to serve as the basis for the EIS for the ROW grant. A summary of the survey methodologies and results of surveys conducted to date is provided in the following sections.

5.1.1 Special or sensitive species and habitats

Sensitive biological resources on the Project site and proposed biological survey methods were discussed with BLM in Ridgecrest on January 30, 2009; USFWS staff participated by phone. As a result of this discussion, Solar Millennium developed a document entitled *Proposed Survey Protocols*. Solar Millennium discussed the protocols with the relevant staff from the above agencies, as well as representatives from the CEC and the CDFG in a conference call held on February 11, 2009. Solar Millennium then modified the protocols slightly based on input received during this call. Solar Millennium transmitted the protocols to the appropriate staff from the above agencies on February 17, 2009. The agencies reviewed the *Proposed Survey Protocols* collectively. It was determined that a unified agency response would be compiled and forwarded by CDFG. Agency input was received in the form on an email from Julie Vance of CDFG dated March 10, 2009. Solar Millennium then incorporated the clarifications and elaborations requested by the agencies.

Focused special status species surveys have been conducted within the BRSA for DT, western burrowing owl (WBO), and rare plants. In addition, biological surveys have been conducted in support of vegetation mapping and a jurisdictional wetland delineation. Avian point count surveys were completed at the request of BLM.

New focused surveys to address changes to the Project disturbance area as a result of the site plan reconfiguration have yet to be conducted. Protocol surveys of the 3.6 miles of water pipeline and approximately 200 acres of disturbance area resulting from the site reconfiguration not yet subjected to focused studies will be conducted during the appropriate seasonal windows in spring 2010. Project biologists will also conduct surveys of any proposed translocation or compensatory mitigation sites.

Table 5 summarizes the special-status species with potential to occur within the Ridgecrest Project site, based on preliminary Project surveys, a search of the CDFG's California Natural Diversity Database and other applicable databases, and input from Project and agency biologists.

Table 5 Special Status Species with Potential to Occur within the Ridgecrest Project Area

Common Name	Scientific Name	Status	Detected within BRSA
Plant Species			
Mojave tarplant	*Deinandra mohavensis*	SE, CNPS List 1B.3	No
Red Rock tarplant	*Deinandra arida*	SR, CNPS List 1B.2	No
Charlotte's phacelia	*Phacelia nashiana*	CNPS List 1B.2, BLM	No
Red Rock poppy	*Eschscholzia minutiflora ssp. twisselmannii*	CNPS List 1B.2, BLM	No
Creamy blazing star	*Mentzelia tridentate*	CNPS List 1B.3, BLM	No
Latimer's woodland-gilia	*Saltugilia latimeri*	CNPS List 1B.2	No
Alkali mariposa-lily	*Calochortus striatus*	CNPS List 1B.2, BLM	No
Brown fox sedge	*Carex vulpinoidea*	CNPS List 2.2	No
Muir's tarplant	*Carlquistia muirii*	CNPS List 1B.3, BLM	No
Gilman's goldenbush	*Ericameria gilmanii*	CNPS List 1B.3	No
Hall's daisy	*Erigeron aequilifolius*	CNPS List 1B.3, BLM	No
Sweet-smelling monardella	*Monardella beneolens*	CNPS List 1B.3, BLM	No
Nine-mile canyon phacelia	*Phacelia novenmillensis*	CNPS List 1B.2, BLM	No
Animal Species			
Desert tortoise	*Gopherus Agassiz*	FE, SE	Yes
Western burrowing owl	*Athene cunicularia hypugaea*	FSC, SSC	Yes
Northern harrier	*Circus cyaneus*	SSC	No
Loggerhead shrike	*Lanius ludovicianus*	SSC	Yes
Le Conte's thrasher	*Toxostoma lecontei*	SSC	Yes
Bendire's thrasher	*Toxostoma bendirei*	SSC	No
Mohave ground squirrel	*Spermophilus mohavensis*	SE	No
American badger	*Taxidea taxus*	SSC	Yes
Desert kit fox	*Vulpes macrotis arsipus*	PFM	Yes
Nelson's bighorn sheep	*Ovis canadensis nelson*	BLM	No
Pallid bat	*Antrozous pallidus*	SSC, BLM	No

Status Codes:

Federal: BLM – BLM-designated sensitive species
FE – federally listed as endangered

State of California: PFM – State protected fur-bearing mammal
SE – State listed as endangered
SSC – State species of special concern
SR – State listed as rare

California Native Plant Society: List 1B – Rare, threatened or endangered in California and elsewhere
(CNPS) List 2 – Rare, Threatened, or Endangered in California, but More Common Elsewhere
Decimal notations: .1 – Seriously endangered in California,
.2 – Fairly endangered in California,
.3 – Not very endangered in California

No protocol trapping surveys for MGS were conducted within the BRSA, in keeping with guidance from MGS expert, Dr. Phil Leitner, and CDFG and BLM biologists. MGS trapping was not expected to accurately reflect MGS occurrence on the RSPP site given the species' tendency for dynamic population fluctuations in known occupied areas. Additionally, during early consultation, CDFG and USFWS indicated that they would assume that this species was present on the Project site. Therefore, Dr. Leitner conducted a habitat assessment in lieu of trapping to quantify MGS habitat within the Project disturbance area. The MGS habitat assessment included a visual evaluation of conditions on the Project site as well as at numerous locations in the vicinity where MGS have been previously documented. Dr. Leitner conducted field surveys in support of the MGS habitat assessment for a total of three days in December 2008 and June 2009. Dr. Leitner and representatives from Solar Millennium also attended an onsite meeting on April 29, 2009 with CDFG and BLM staff and Project biologists to discuss potential Project impacts to MGS.

There have been no incidental observations of MGS on the Project site during focused wildlife surveys conducted to date. However, the BRSA contains habitat for MGS. MGS habitat within the BRSA is mostly moderate to low quality but some high-quality habitat exists along the wash and in a small portion of the southwest of the BRSA. Portions of the Project site overlap with an MGS Conservation Area designated by WEMO (see Section 4.1.2). There have been 24 recorded MGS occurrences within 5 miles of the BRSA, generally to the north and outside of the MGS Conservation Area.

Desert tortoise, a Federal and State-listed threatened species, is known to occur within the Project site, and there were multiple detections by biologists during focused surveys conducted for the Project. Spring surveys in 2009 identified a total of 50 DTs in the BRSA. The Project site is located outside of designated DT Desert Wildlife Management Areas (DWMAs) and Critical Habitat Units. As described above, Solar Millennium consulted with BLM, CDFG, USFWS, and CEC wildlife specialists to determine appropriate survey protocols for DT, and is carrying out similar consultations regarding tortoise relocation and mitigation requirements. Solar Millennium has prepared a Draft DT Clearance and Relocation/Translocation Plan, which was provided as Attachment DR-BIO-54 to the recently submitted Data Request responses to the CEC. Indirect impacts related to predation from ravens potentially attracted to the Project site are addressed in the Common Raven Monitoring, Management, and Control Plan submitted as Attachment DR-BIO-55 to the Data Request responses.

Because DT has been confirmed as present within the RSPP disturbance area and MGS is assumed present based on habitat suitability, it is expected that Solar Millennium will need to obtain an ITP under Section 2081 prior to Project implementation to comply with CESA. In the case of DT, a take authorization under Section 7 of the Federal ESA will also be required. Although the Applicant will work closely with CDFG, the formal permit issuance, if required, will occur through the CEC licensing process, and conditions of the ITP will be included in the CEC's Conditions of Certification for the Project.

State species of special concern that have been observed within the BRSA include WBO, loggerhead shrike (*Lanius ludovicianus*), and Le Conte's thrasher (*Toxostoma lecontei*). Eight WBOs were detected within the BRSA during 2009 Project surveys, including two nesting pairs with juveniles. Seven active WBO burrows were located in three separate regions of the BRSA. Additional WBO surveys are scheduled for spring 2010. Four loggerhead shrikes were observed within the BRSA during 2009 Project surveys. High-quality nesting habitat for loggerhead shrike is limited in the BRSA due to the lack of larger shrubs and trees, and low abundance of thorny vegetation. Three Le Conte thrashers were detected within the BRSA and suitable habitat for the species is present throughout the Project site.

No Federal or State-listed plant species were detected within the BRSA during spring 2009 surveys. Based on review of regional databases, including a records search of the California Natural Diversity Database, site-specific habitat evaluations conducted by Project botanists, and literature review, two State-listed plant species were identified as potentially occurring in the BRSA: Mojave tarplant and Red Rock tarplant. However, upon visiting nearby locations of known habitat for Mojave tarplant, it was determined that habitat for this species has low potential to occur within the BRSA. Habitat for Red Rock

tarplant may be present, but this species is considered to have low potential for occurrence due to the low water flow in the dry washes of the BRSA. No non-listed special-status plant species (i.e., CNPS List 1A, 1B, or 2) were detected within the BRSA. Project biologists will conduct additional rare plant surveys in spring 2010 during the peak blooming periods.

The BLM requested that cottontop cactus (*Echinocactus polycephalus* var. *polycephalus*), hedgehog cactus (*Echinocereus* sp.), and any varieties of California barrel cactus (*Ferocactus* spp.), be mapped for future salvage when construction begins. One species targeted by the BLM, cottontop cactus, was observed; three specimens of this species were located in the eastern portion of the disturbance area and one specimen was located in a nearby area within the buffer.

5.1.2 Special land use designations

The Project ROW is located on lands administered by the BLM pursuant to the CDCA Plan, as amended. The primary goal of the CDCA Plan is to provide overall maintenance of the land while planning for multiple uses and balancing the needs of people with the protection of the natural environment.

In March 2002, the CDCA Plan was amended by the WEMO Plan, which covers the Project area. The WEMO is a multispecies landscape-scale habitat conservation plan developed to protect and conserve the DT, MGS, and numerous other sensitive species and their habitats; to prevent future species listing; and provide a consistent, cost-effective, streamlined process for complying with threatened and endangered species law. The WEMO designates Areas of Critical Environmental Concern (ACECs), DWMAs, and other special management areas; designates off-road travel routes on public lands; reclassifies various land use categories for appropriate uses; and establishes regional standards and guidelines for grazing, mineral exploration and development, recreation, and other public land uses. The WEMO also includes compensatory mitigation requirements for projects that would affect environmental resources in the Plan area.

The CDCA and WEMO Plans organize BLM-managed lands into one of four multiple-use classes (MUCs): Controlled Use (C), Limited Use (L), Moderate Use (M), and Intensive Use (I). The Project ROW is within areas designated as MUC L and in unclassified BLM-administered lands (see Figure 22). A MUC L designation protects sensitive, natural, scenic, ecological, and cultural resource values. Lands designated as MUC L are "managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished." Wind and solar electric generation facilities may be allowed on MUC L lands after NEPA requirements are met (nuclear and fossil fuels are not allowed).

The majority of the Project is located in unclassified BLM-administered land. The BLM manages these parcels on a case-by-case basis, as explained in the Land Tenure Adjustment Element in the CDCA Plan:

> *"The BLM will retain or transfer to other appropriate managing agencies those unclassified parcels containing sensitive resources. Parcels with known mineral resources will be selectively retained. Parcels which are found not to contain sensitive resources and would be better used for development purposes will be considered for disposal after appropriate inventories and consultation with local governments are completed. The most common form of disposal for smaller parcels is competitive bid (sale) at fair-market value. However, exchanges, or even leases and permits, may be considered for these smaller tracts of land if an economically sound proposal in the public interest can be developed."*

Nearly the entire range of the MGS, a state-listed threatened species, is within the WEMO planning area, and most of this land is public land managed by BLM. A total of 1,726,712 acres is included within the MGS Conservation Area established by the WEMO Plan, of which 1,280,106 acres are public land administered by the BLM. According to the WEMO Plan, development is only allowed within 1% of public lands in the MGS Conservation Area, or 12,801 acres.

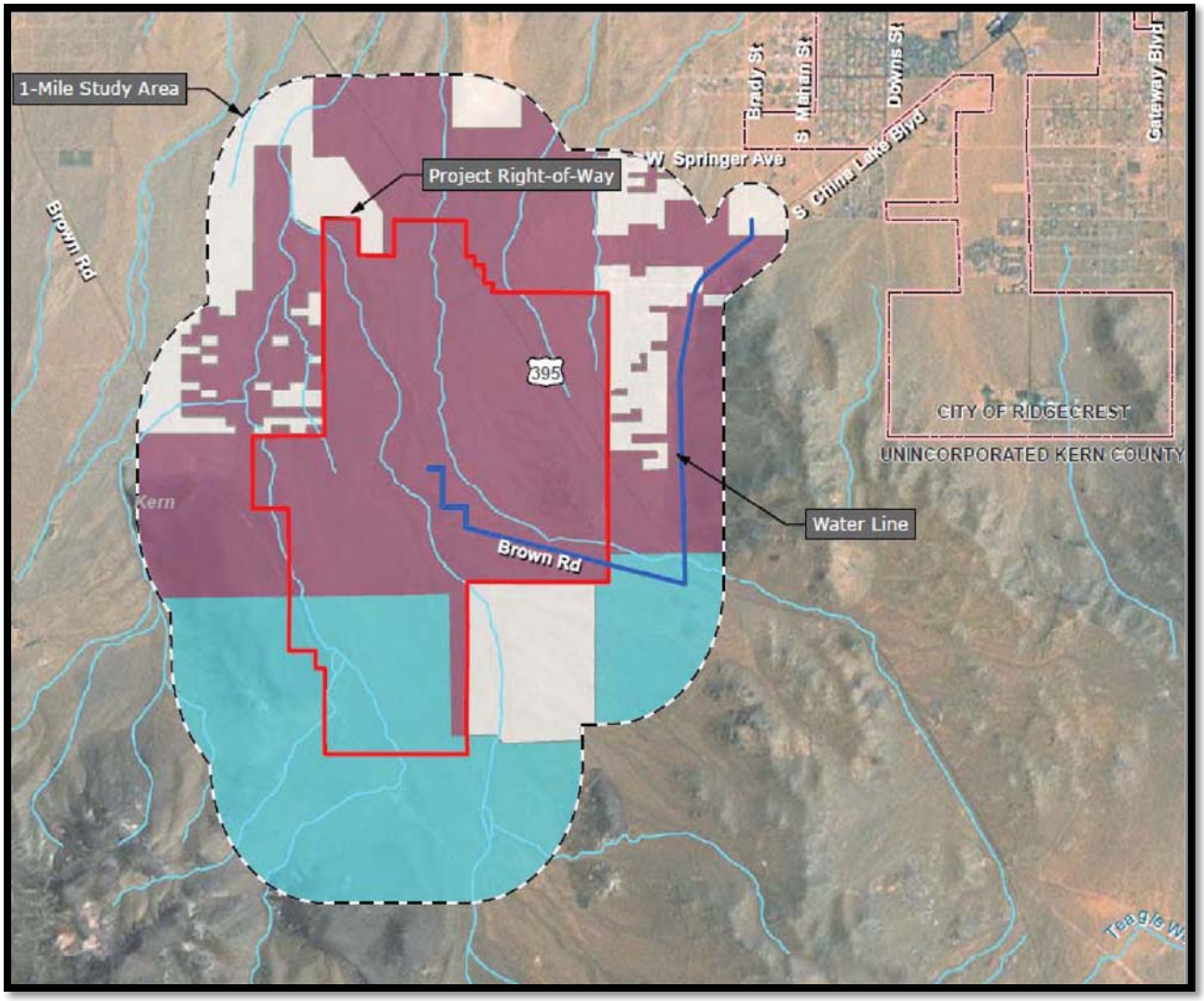


Figure 22 BLM Multiple Use Classifications

Based on preliminary information from the BLM, at least one existing project, the California Light-Weight Pumice Mine expansion, encroaches on the MGS Conservation Area. The pumice mine expansion overlaps with 59 acres of the MGS Conservation Area. Accounting for the 59 acres taken up by the pumice mine expansion, up to 12,742 acres are still available before the 1% development limit is reached. The revised Project site layout is expected to disturb 809 acres within the MGS Conservation Area, or approximately 6.03% of the remaining acreage within the 1% development limit. The BLM believes that there may be additional projects that fall within the MGS Conservation Area and is currently investigating this possibility. When Solar Millennium receives this information from the BLM, they will revise the estimate of the remaining acreage available for development within the MGS Conservation Area. However, based on preliminary estimates from BLM, it is expected that the Project will be well within the 1% development limit.

The Energy Production and Utility Corridors Element of the CDCA Plan discusses locating power plants on BLM land managed pursuant to the CDCA Plan. Sites associated with power generation or transmission that are not identified in the CDCA Plan must apply for a Plan Amendment. The Project and its linear facilities are not identified in the existing CDCA Plan. Thus, a Plan Amendment will be required, in accordance with Chapter 7 of the CDCA and the planning regulations set forth at Title 43 CFR Section 1600 et seq.

The BLM will utilize the following planning criteria during the Plan Amendment process:

- The Plan Amendment process will be completed in compliance with FLPMA, NEPA, and all other relevant Federal law, Executive orders, and BLM management policies;
- The Plan Amendment process will include an EIS that will comply with NEPA standards;
- Where existing planning decisions are still valid, those decisions may remain unchanged and be incorporated into the new Plan Amendment;
- The Plan Amendment will recognize valid existing rights;
- Native American Tribal consultations will be conducted in accordance with policy and Tribal concerns will be given due consideration.
- The Plan Amendment process will include the consideration of any impacts on Indian trust assets;
- Consultation with the SHPO will be conducted throughout the Plan Amendment process; and
- Consultation with the USFWS under the ESA will be conducted throughout the Plan Amendment process.

The Plan Amendment process will be conducted in conjunction with the NEPA process for the ROW grant. If BLM grants the ROW and approves the proposed land use Plan Amendment, the Project would be authorized in accordance with Title V of the FLPMA and implementing regulations at 43 CFR part 2800.

The CDCA Plan requires that new gas, electric, and water transmission facilities and cables for interstate communication may be allowed only within appropriately designated corridors. An approximately 1-mile wide Section 368 Utility Corridor and BLM Designated Utility Corridor runs north-south across the western portion of the Project site. The Project's short transmission line (0.75 mile), located entirely within the corridor, will be in compliance with the CDCA Plan.

The CDCA Plan requires that new transmission facilities be located within appropriately designated corridors. As discussed in Section 1.4.19, the Project's transmission facilities an approximately one-mile wide utility corridor designated by the CDCA Plan and Section 368 of the Energy Policy Act of 2005 runs north-south across the western portion of the Project site. The Project's gen-tie line and switchyard will be located entirely within the designated utility corridor.

The Project will require the relocation of roughly 1.6 miles of two existing transmission lines owned and operated by SCE. Both transmission lines traverse Federal land pursuant to ROWs issued by BLM. SCE will be required to obtain amended ROWs for the relocations, and BLM is required to review these amendments through the NEPA process. The additional land required for the rerouted transmission corridor is contained within the amended ROW the Applicant is seeking from BLM. The Applicant will assign this portion of the ROW to SCE at the appropriate time, with the concurrence of BLM. In accordance with NEPA, the relevant environmental resource sections of the Project AFC evaluate the potential impacts of these transmission line relocations. BLM's recent Westwide Corridor Programmatic EIS may also assist in satisfying BLM's obligations under NEPA.

The Project's water pipeline will run along existing ROWs for Brown Road and China Lake Boulevard. Approximately 1.7 miles of the water pipeline running along China Lake Boulevard is located within unincorporated areas under the jurisdiction of Kern County. This area is zoned as an Estate (E) District, which permits underground water facilities. Kern County Zoning Designations in the vicinity of the Project are shown in Figure 23.

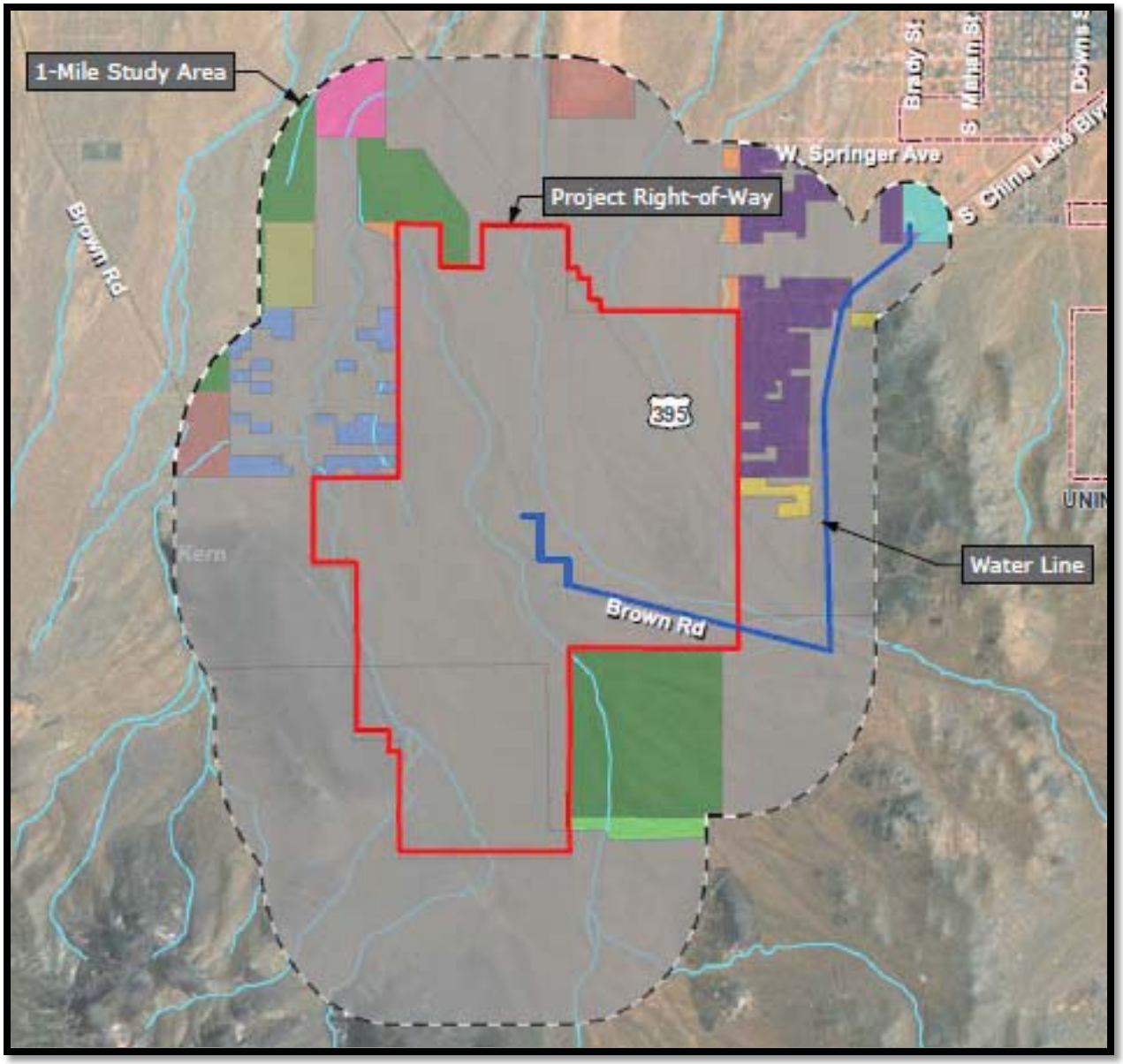
The Project is not within, and would not be expected to significantly affect designated Wilderness Areas, National Parks, ACECs, DWMAs, or other designated sensitive land uses, other than the MGS Conservation Area discussed above.

5.1.3 Cultural and historic resource sites and values

EDAW|AECOM, on behalf of the Applicant, has conducted a cultural resources inventory of the Project's Area of Potential Effects (APE). The APE consists of the Project disturbance area plus a CEC-required 200-ft. survey buffer around the plant site disturbance area and a 50-ft. buffer on either side of linear facility corridors. An additional approximate 300 acres will need to be surveyed to cover the APE of the reconfigured Project site layout. These surveys will be conducted in early 2010, and the results, which will supplement the findings discussed below, will be provided to the BLM and CEC.

Prior to field investigations, EDAW|AECOM undertook a records search at the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield. The records search covered a 1-mile buffer around the Project ROW and a greater than 0.25-mile buffer on both sides of linear facilities (the Records Search Study Area). The records search included a review of archaeological, historical, and environmental literature in addition to the site records and survey maps on file at the SSJVIC.

The records search identified 17 surveys previously conducted within the Records Search Study Area, 12 of which were conducted within portions of the APE for the reconfigured site layout. Three resources were recorded within the current APE during previous studies. In addition, the western one-third of the APE overlaps with the Last Chance Canyon Archaeological District, which is listed on the National Register of Historic Places (NRHP). No list is available of the individual sites that were nominated to the NRHP within the Last Chance Canyon Archaeological District; however, BLM Archaeologist Don Storm has compiled a list of 79 sites within the District, most of which have never received trinomial numbers and all of which are far to the southwest of the Project area and would not be affected by the Project.



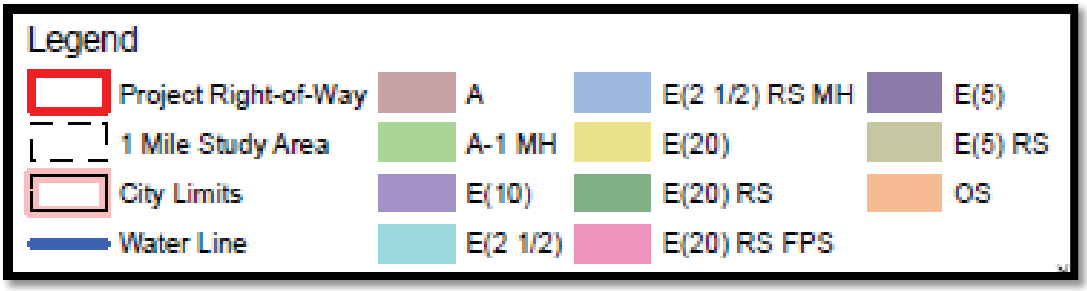


Figure 23 Kern County Zoning

Prior to fieldwork, EDAW|AECOM filed a Field Work Authorization Request under statewide BLM permit CA-06-21. The request indicated areas to be surveyed, supervisory personnel, and survey dates. EDAW|AECOM obtained a Field Work Authorization on April 3, 2009.

A Class III cultural resources inventory, including a pedestrian survey, was conducted for the APE for the previously proposed plant layout in May 2009. Additional field surveys for the water line APE were undertaken in October 2009. A survey of the built environment identified 42 architectural resources that are within the APE for the currently proposed site configuration. The archaeological survey identified 77 sites and 302 isolated finds within the current APE. Fifty-nine sites are within the current disturbance area, seven of which are prehistoric sites and 52 of which are historic sites. The historic period sites are primarily refuse scatters consisting of tin canisters or tin canisters combined with other historic glass, metal, and ceramic debris. Historic features included survey or claim markers, a historic campsite and historic road alignments. Prehistoric cultural materials included isolated lithics and lithic scatters. Cryptocrystalline silicate and obsidian are the main sources of raw materials used in the manufacturing of these artifacts. Also present are rock features and groundstone objects made from locally available materials. The full results of the Class III inventory were provided as AFC Appendix G; these results will be supplemented by additional surveys to cover the APE for the reconfigured layout. The Project AFC also includes a description of measures to avoid, minimize, and mitigate identified impacts to cultural resources.

In a letter dated December 1, 2009, the staff of the CEC provided guidance to the Applicant concerning the review of cultural resources under NEPA, CEQA, and Section 106 of the NHPA. The letter outlined three choices of approach to cultural resources review, each of which requires an equally thorough review of cultural resources under the law by the CEC and the Bureau of Land Management (BLM). The Applicant has chosen to proceed with the third of the three choices, which was developed by the CEC and BLM staff to facilitate the review of certain solar thermal projects with compressed review schedules, including the RSPP. Under this approach, all inventoried cultural resources would be assumed to be historically significant for the purposes of the joint CEQA and NEPA analysis. Those cultural resources that staff could determine to be not historically significant on the basis of extant inventory information, or those that would not be affected by a project, could be excluded from further assessment work. Thorough consideration and treatment of cultural resources in the Project area would be ensured through the use of a phased treatment plan as specified in a Memorandum of Agreement pursuant to the NHPA Section 106 process. This treatment plan will be executed after the issuance of the CEC's Staff Assessment but before the onset of construction.

5.1.4 Native American Tribal concerns

BLM is conducting government-to-government consultation with local Native American tribes for the purpose of identifying sacred sites, traditional cultural properties, and cultural landscapes. These consultations are being conducted as part of the NEPA and NHPA compliance processes.

EDAW|AECOM, on behalf of the Applicant, contacted the Native American Heritage Commission (NAHC) on April 13, 2009 to request a Sacred Lands File (SLF) search and to solicit a list of local tribal representatives who might have concerns or information about the Project area. EDAW|AECOM received a response on April 20, 2009, indicating that Native American cultural resources are located within a 0.5-mile radius of the Project Area. The NAHC also provided a list of Native American contacts indicating groups or individuals who may have an interest in the Project Area. To date, one response has been received from Harold Williams of the Kern Valley Indian Council requesting additional information. Follow-up contacts were made via telephone on August 5, 2009, during which Mr. Williams indicated that he is no longer Chairperson and does not have any comments on the Project. He referred the Applicant's consultant to Robert Robinson and Ron Wermuth, who have previously been contacted as part of this ongoing program and who, to date, have not submitted responses. In addition to the government-to-

government consultation, Solar Millennium is reaching out to the local tribes that may be impacted to discuss the Project and to learn the concerns of the Tribes.

5.1.5 Visual Resources

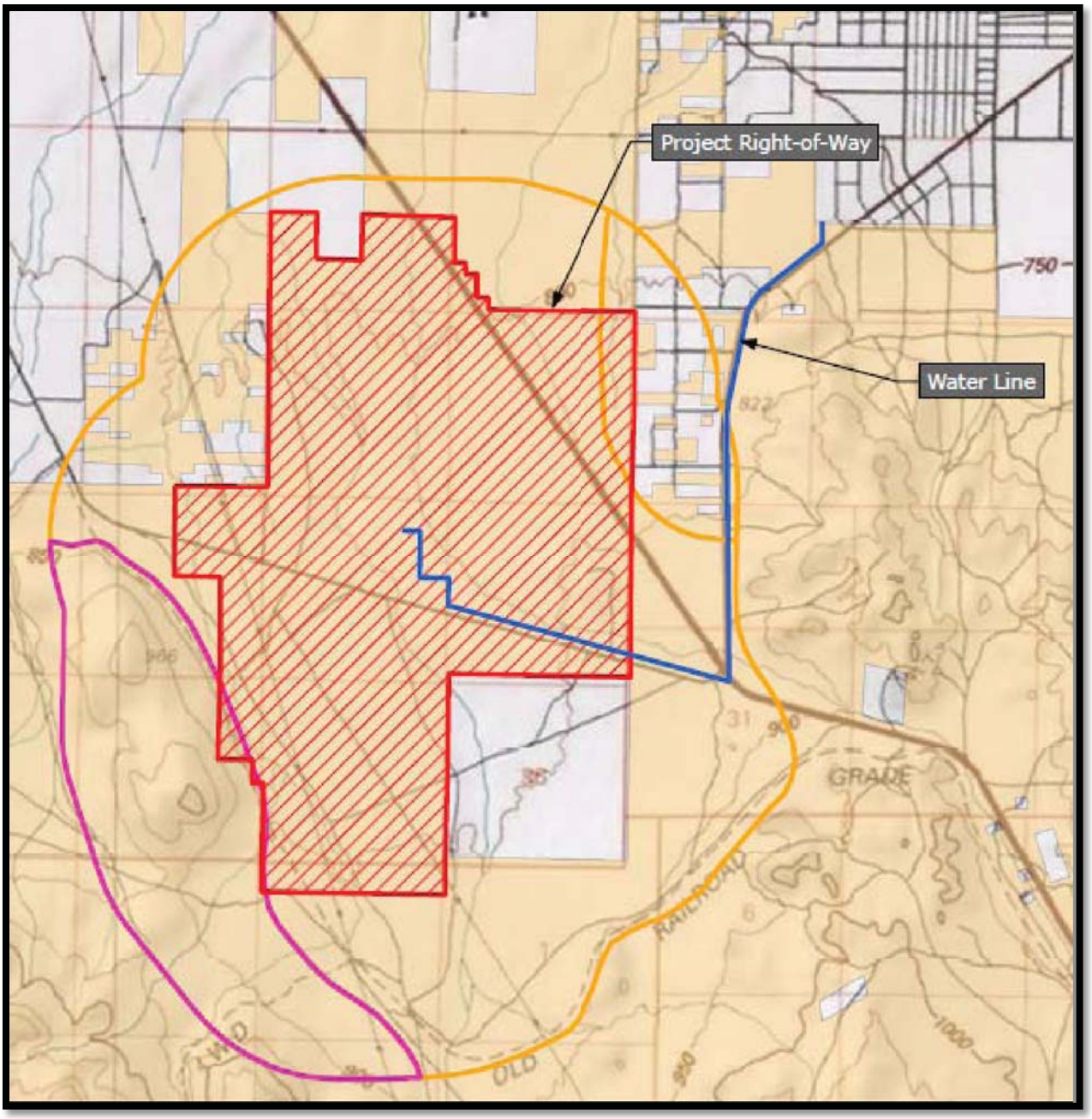
Under the FLPMA, BLM developed a standard visual assessment methodology, known as the Visual Resource Management (VRM) System. The BLM uses the VRM System to inventory and manage scenic values on lands under its jurisdiction. Guidelines for applying the system are described in BLM Manual 8400 et seq. VRM designations range from Class I, for areas with high visual resource value where preservation of the existing landscape is prioritized, to Class IV, which allows for management activities that require major modification of the existing landscape.

VRM classes are typically assigned through a Resource Management Plan. The applicable Resource Management Plan for the Project area is the CDCA Plan. The Recreation Element of the CDCA Plan specifies that VRM objectives and procedures be used to manage visual resources within the CDCA, but a VRM inventory has not been prepared for the Area. However, a visual resource inventory for the Project area was prepared by the Applicant and was submitted for review to the BLM Ridgecrest Field Office and approved by the BLM in July 2009.

Most of the Project area, including the entire disturbance area, was designated as Interim VRM Class III (see Figure 24). The BLM's management objective in VRM Class III areas is to partially retain the existing character of the landscape, and a moderate level of visual change is permissible. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

A small portion of the Project ROW located southwest of the railroad alignment was classified as Interim VRM Class II. The BLM's management objective in VRM Class II areas is to retain the existing character of the landscape. The level of change to the characteristic landscape in Class II areas should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. The VRM Class II areas within the ROW are outside of the disturbance area, and development of the Project will not have a direct impact on the Class II area.

The presence of the Project facilities would create a moderate to strong contrasting change in the visual quality of the overall landscape, which could conflict with BLM Interim VRM Class III management objectives. When viewed from eye level, during most hours of the day, the solar field would be relatively unobtrusive, with portions of the power block profile visible above the solar field. Power block structures would have neutral colors and non-reflective surfaces to minimize their contrast with the natural background. From elevated locations, because of the movement of the sun and the changing orientation of the mirrors to track the sun's movement, the view would change over the course of a day. In afternoon hours when viewed from distant elevated locations to the southwest in the El Paso Mountains, the reflective surface of the mirror would be oriented toward the viewer. At these times, on a sunny day, the solar collectors would create a visual impression that more closely resembles a body of water than a power plant or other industrial facility because the collectors would be reflecting the blue sky. On a cloudier day, the visual impression would appear grayer. In the morning hours viewed from the same elevated locations to the southwest, viewers would have the non-reflective backs of the mirrors toward them, in which case the visual contrast with the surrounding environment would be considerably less. Some viewers may find the facility visually interesting, given its contribution to important societal goals (providing renewable energy and reducing greenhouse gases).



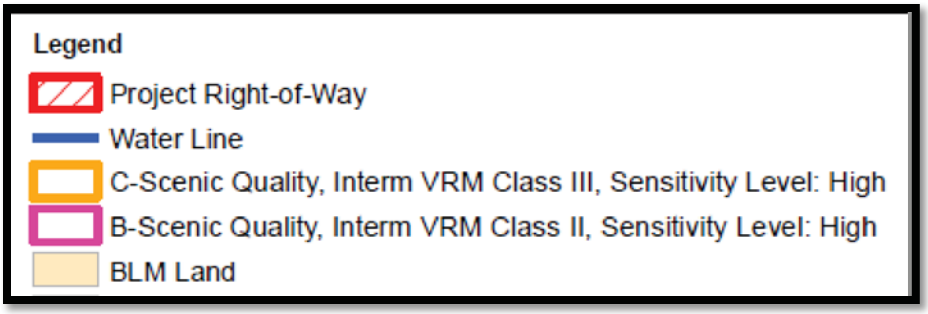


Figure 24 Interim VRM Classes

5.1.6 Recreation and OHV Resources

Construction of the RSPP may affect certain access routes designated by the BLM and used by the public for OHV use, recreation, or other uses. Access to the north/south and east/west will still be available. Where possible, and with BLM guidance, some of the routes will be rerouted to provide for continued access through and around the Project ROW by recreational users and others.

The BLM's Western Mojave Desert Off-Road Vehicle Designation Project designates routes on public land in the Western Mojave as either open, open on a limited basis, or closed to motorized vehicle access. The Western Mojave Region is divided into subregions for route designation purposes. The Project is located at the northern edge of the El Paso Subregion and borders the Ridgecrest Subregion. The El Paso and Ridgecrest Subregions are popular recreational destinations for local residents, but also possess many sensitive natural and cultural features including a NRHP District and MGS habitat. Thus, the BLM Ridgecrest Field Office has established the El Paso Collaborative Access Planning Area to address motorized access routes and to protect sensitive resources. As described in the BLM Ridgecrest's application to the California Department of Parks and Recreation's Off Highway Vehicle Recreation Division, the process would designate routes as open, limited, or closed following the principles of species and habitat protection specified in the WEMO Plan. The route designations would then be adopted as a component of the CDCA Plan.

According to the Environmental Assessment and Draft CDCA Plan Amendment for the Designation Project, the El Paso and Ridgecrest Subregions will continue with the current route designations until completion of the El Paso Collaborative Access Planning process. As shown in Figure 25, there are seven open designated routes that traverse the Project ROW, with four of the routes (EP0222, EP0223, EP0234, EP0235) located within the Project disturbance area, and three of the routes located outside of the disturbance area (EP 0236, EP 02265, EP 0421). Open designations are used for intensive OHV use areas where there are no special restrictions or where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel. There are also a number of unofficial trails and OHV routes crossing the Project ROW. Figure 25 depicts these unofficial trails based on preliminary data. However, this data is approximate and incomplete, and at the request of the CEC and BLM, the Applicant will conduct a field survey to gather additional information on the locations, conditions, and type and frequency of use of trails crossing the Project ROW and will provide this information to the BLM and CEC.

Solar Millennium will work with the BLM and the OHV community to reroute existing trail access where necessary to minimize impacts to public access. Rerouting of existing trails would comply with applicable regulations. In conjunction with the EIS process, Solar Millennium will develop a Transportation and Traffic Management Plan, which will evaluate and address access needs for Project construction and operation; access needs for the public; how many existing routes and miles of route the Project will affect; and how best to ensure public safety during and after construction.

5.1.7 Other environmental considerations

Detailed analyses of other environmental considerations, including potential Project impacts related to air quality, geological hazards and resources, hazardous materials management, noise, paleontological resources, public health, socioeconomics, soils, traffic and transportation, transmission line safety, waste management, and worker safety are provided in the Project AFC and Data Adequacy Supplement. A significant amount of additional information has been requested by resource management agencies through the CEC's Data Requests for the purpose of determining potential environmental impacts from the Project. Solar Millennium provided responses to Data Request Set 1 on January 25, 2010; responses to Data Request Set 2 will be provided on or before February 19, 2010.

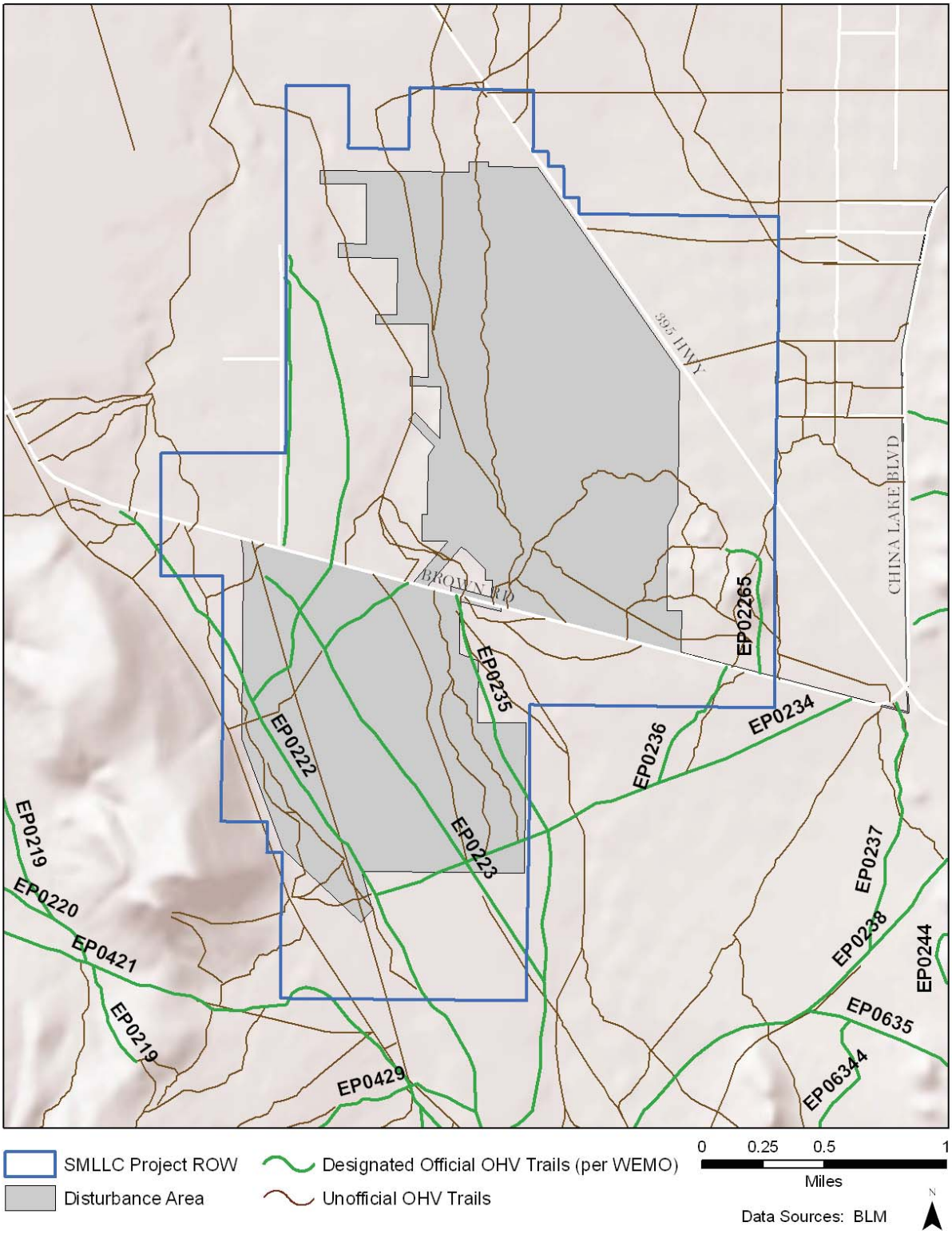


Figure 25 Designated Access Routes

Per the CEC-BLM MOU, the documents discussed above, along with this POD, will serve as the basis for the environmental analyses required by NEPA and CEQA, which will be presented in the joint SA/EIS. In addition, as Project planning and permitting progress, Solar Millennium will provide the BLM and CEC with new information relevant to environmental considerations, as applicable to the permitting and impact analysis processes.

5.2 Mitigation measures proposed

The Project AFC contains a description of avoidance, minimization, and mitigation measures proposed for each resource area analyzed (e.g., biological resources, cultural resources, etc.). As described above, Solar Millennium has reconfigured the Project to avoid and minimize impacts to environmental resources, and final mitigation measures for remaining impacts are being developed in coordination with resource management agencies. Final measures to avoid, minimize, and mitigate Project impacts will be included in the CEC's Condition of Certification for the Project; Solar Millennium will implement these measures during Project construction and operation.

Project surveys have identified special status biological species within the Project disturbance area, and the potential exists for take of these species as a result of development of the Project. Mitigation in the form of compensatory land acquisition, translocation of sensitive species, and in-lieu fees may be required. Solar Millennium will develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) for review by the CEC as a Condition of Certification. The BRMIMP will comprehensively describe avoidance, minimization, and mitigation measures, and provides a matrix to document their implementation and monitor their effectiveness.

6.0 Maps and Drawings

A full set of 30% civil engineering design drawings showing the reconfigured Project layout is currently being prepared, as is a revised site grading plan. Preliminary drawings of the general site layout are provided as Attachment 1. The complete set of engineering design drawings and grading plan will be completed in February and provided to the BLM and CEC at that time.

7.0 Supplemental Information

Per BLM guidelines, the POD is intended primarily as a description of the Project, rather than an impact analysis document. Solar Millennium understands that the BLM will require supplemental information in order to prepare the NEPA analysis and complete the review process, although it is not required to be submitted with the POD. Much of this information has already been developed and made available to the BLM through the CEC's AFC process. The supplemental information called for in the BLM's Solar POD Outline is summarized below. Additional data will be developed and provided to the BLM and CEC in the future, as more information is obtained during the Project design development phase, and finalized prior to Project construction and operation.

7.1 Engineering and Civil Design

7.1.1 Facility Survey and Design Drawing Standards

The Project will comply with applicable survey, inspection, and design drawing codes and standards as mandated by the Federal, State, and local regulations and International Building Codes. Solar Millennium is a leader in the development of large-scale solar energy systems and, as such, has technical expertise in conducting facility surveys and preparing design drawings based on appropriate engineering specifications and design criteria. Solar Millennium and its contractors will conform to applicable codes and drafting standards as well as company policies and procedures in the production of engineering and civil design drawings.

7.1.2 Final Engineering and Civil Design Packages

As discussed in Section 5.0, Solar Millennium is in the process of developing 30% engineering and civil designs showing the reconfigured site layout and will provide these to the BLM and CEC in February. The engineering and civil designs will be updated as the design of the Project progresses and will be finalized prior to Project construction and provided to the BLM and CEC at that time.

7.1.3 Watershed and Drainage Analysis and Calculations

As described in Section 1.4.11, a conceptual drainage study was performed to evaluate hydrologic conditions within the Project site and in hydrologically connected offsite areas. The full Drainage Report was provided as Appendix L1 of the Project AFC. The Drainage Report was prepared following guidance provided in the Kern County Hydrology Manual and the Kern County Division Four–Standards for Drainage. The Drainage Report is currently being updated to reflect changes in Project layout and will be provided to the BLM when complete.

7.1.4 Watershed Protection and Erosion Control Drawings

Watershed protection and erosion control drawings were submitted in the SWPPP included as Appendix L2 of the Project AFC. Based on the results of the updated conceptual drainage study described above, Solar Millennium will update the watershed protection and erosion control drawings, as needed, and will submit these in February along with the 30% design package and revised grading plan.

7.1.5 Final Site Grading Plans

Solar Millennium is developing 30% design grading and erosion control plans and details based on the reconfigured site layout. These site grading plans will be updated as the design of the Project progresses and will be finalized prior to Project construction and provided to the BLM and CEC.

7.2 Alternatives Considered by the Applicant

NEPA regulations (40 CFR § 1502.14 [c]) identify the need to consider reasonable alternatives. NEPA requires consideration of all aspects that may be relevant and important to decision-makers. NEPA requires substantial treatment of each alternative, including the proposed action, so that reviewers may evaluate their comparative merits (40 CFR Section 1502.14).

Section 4.0 of the Project AFC provides an extensive analysis of alternatives considered by the applicant. In addition, the CEC's Data Request Set 1 included a significant number of requests related to Project Alternatives. The responses to the these Data Requests were submitted on January 25, 2010, and were also made available to the BLM to provide further basis for the alternatives analysis required by NEPA. The information provided in the AFC and Data Request responses is summarized below.

7.2.1 Alternative site evaluation criteria

Prior to choosing the proposed Project site and requesting the Project ROW from the BLM, the Applicant conducted an analysis using NREL data, first analyzing base maps of solar energy values and then applying exclusion criteria to identify study areas for further analysis. The criteria included:

- Solar resource
- Site size, shape, grade, hydrology, land use
- Environmental sensitivity
- Proximity to existing transmission infrastructure
- Proximity to existing road access
- Site control/availability
- Labor availability

Solar Millennium evaluated a significant number of sites in the California desert, as the company plans to develop multiple utility-scale solar projects in California. Solar Millennium is the proponent for two other solar projects, both within the I-10 corridor, one near Blythe (Blythe Solar Power Project) and another near Desert Center (Palen Solar Power Project). Solar Millennium's three California projects are subject to separate environmental review processes, and separate AFCs have been prepared for all three Projects.

As discussed in Section 4.3.2 of the AFC, application of the above criteria eliminated other potential Project locations in or near the Ridgecrest area from being carried forward for more detailed analysis. The site screening process that led to the selection of the proposed site and the elimination of alternative sites is discussed in detail in Section 4 of the AFC and in the recently submitted Data Request responses related to alternatives.

7.2.2 Alternatives considered but not carried forward by Applicant

During the initial phases of Project planning, Solar Millennium identified alternatives that clearly did not meet the Project objectives, were technically or economically disadvantageous, or had greater environmental impacts than the currently proposed Project. These alternatives were eliminated from further consideration. The alternatives that were considered, but not carried forward due to various constraints are described in detail in the Project AFC and Data Request responses and are listed below. These alternatives and possibly others will be analyzed in detail in the SA/EIS.

- No Project Alternative
- Project Site Alternatives
    - Alabama Hills (BLM property south of Lone Pine, California)
    - Boron (private property northwest of Boron, California)
    - South of California City (private property approximately 20 miles south of California City, California)
    - An additional Site Alternative proposed by the CEC, the Garlock Road Alternative, located west of Randsburg, California, was not analyzed in the Project AFC, but is discussed in detail in the Data Request responses.
- Alternative Site Layout (see Section 6.2.4 below)
- Plant Size Alternatives
- Transmission Route Alternatives
- Freeze Protection and Auxiliary Boiler Heating Alternatives
- Water Supply Alternatives
- Power Generation Technology Alternatives

7.2.3 Comparative analysis of Applicant's alternatives

Section 4.0 of the Project AFC and the recently submitted Data Request responses related to alternatives contain a detailed comparative analysis of alternatives considered by the Applicant and suggested by the CEC. Alternatives evaluated include the "No Project" alternative, alternative Project sites, alternative site layouts, a smaller plant alternative, transmission line alternatives, freeze protection and auxiliary boiler heating alternatives, alternative water sources, and alternative power generation technologies. The "No Project" alternative would not meet Project objectives. The selected site was the most suitable among the various sites considered based on economic, technical, environmental, transmission access, and other criteria. A smaller facility would not meet Project objectives and would not offer economies of scale required for economic viability. With the construction of a natural gas pipeline considered to be both environmentally intrusive and expensive, none of the other boiler fuel alternatives were economically preferable to the selected propane option. Even with dry cooling, the Project requires water, and using water supplied by the IWVWD represents the best option in terms of both environmental impact and economic feasibility. Other renewable technology alternatives were rejected because Solar Millennium is an industry leader in parabolic trough technology.

7.2.4 Alternative site configurations

A number of alternative site configurations are analyzed in detail in the Project AFC and recently submitted Data Request responses. Initially in 2007, the RSPP was designed for three plants with a ROW of 8,000 acres. This configuration was eliminated and reduced to avoid two existing washes running through the northeast portion of the site. Additionally, the original far north location was determined to be too close to the residential communities to the northeast boundary and was eliminated.

Another configuration considered was the design that was submitted with the AFC on September 1, 2009. This option is not rejected; however, it is now an alternative to the reconfigured design discussed in this POD. The September 1, 2009 design represents a reduction in the capacity of the site from the original three plant design to one 250 MW plant. Multiple constraints exist with this design. These include: mountains and rapidly increasing slopes to the east and south; two existing transmission lines to the west; California Highway 395 traversing the northeast boundary of the site; Brown Road bisecting the site

diagonally in an east-west direction; and a large wash. The constraints of this property required a 'split' solar field on either side of Brown Road, which required careful design of the HTF system to ensure plant balance and efficiency. This option was able to be engineered and designed to fit within the boundaries and surrounding constraints.

An additional alternative considered and rejected involved eliminating the southern solar field and exclusively placing the project north of Brown Road. This option was eliminated as there was insufficient space north of Brown Road to accommodate the number of collectors necessary for economic viability, and constraints posed by Highway 395, rising slopes to the west and east, and proximity to residences. The solar field for such a project would need to cover the entire ROW area north of Brown Road, including the entire area of El Paso Wash. Upon examining the construction costs and environmental impacts of completely filling the entire wash with cuts from the southern portions of the site, and rerouting the entire wash to the west and east of the solar field, this option was abandoned.

Solar Millennium briefly considered a split solar field, north and south of Highway 395, but found major HTF pipe crossings of 395 to be impractical. Solar Millennium concluded that a large solar field exclusively north of Brown Road and south of 395 was not practical from an economic or environmental perspective.

The current reconfigured design submitted with this POD has similar constraints as the September 1, 2009 design with a few additional constraints. The reconfiguration shifts the collectors entirely out of the El Paso Wash for environmental preservation and at the request of multiple agencies. This design ensures habitat viability and connectivity for species in the local area. The additional constraints with this design include rebalancing of the solar field to ensure efficiency, a small increase in total acreage and disturbance area, and increased length and width of transmission line relocation.

7.3 Facility Management Plans

A number of facility management plans have been or will be prepared for the Project as required by Federal, State, and local regulations. Those plans specifically called for in the BLM's Solar POD Outline are discussed below.

7.3.1 Storm Water Pollution Prevention and Protection Plan

As noted earlier in the POD, Solar Millennium is preparing a revised hydrology study for the Project, which includes a drainage and storm water analysis. Because the Project will disturb more than one acre of land, a SWPPP will be required for Project construction. A SWPPP has been prepared addressing Project construction and was submitted as Appendix L2 of the AFC. The SWPPP identifies BMPs to manage the offsite discharge of storm water from Project construction. A operations phase SWPPP, or its equivalent, will be prepared prior to the commencement of operations to comply with NPDES requirements.

7.3.2 Hazardous Materials Management Plan

As discussed in Section 1.4.13, several methods will be used to properly manage and dispose of hazardous materials, petroleum products and hazardous wastes. Waste lubricating oil will be recovered and recycled by a waste oil recycling contractor. Chemicals will be stored in appropriate chemical storage facilities. All chemical storage areas will be designed to contain leaks and spills in containment areas or containment plans. A detailed Hazardous Materials Business Plan indicating types, quantities, storage and management procedures, etc., will be prepared by Solar Millennium and submitted to the Kern County Environmental Health Services Department and Fire Department.

7.3.3 Waste Management Plans

As discussed in AFC Section 5.16, a detailed Construction Waste Management Plan for wastes generated during Project construction will be prepared 60 days prior to the start of onsite activities. The plan will be comprehensive to ensure that compliance is maintained with local, State, and Federal regulations. Contract specifications for construction of the onsite and linear facilities, or any other facilities associated with the Project will include provisions that require the contractor to manage construction-generated hazardous materials and solid waste in accordance with established BMPs. In addition, the Project will require each contractor to provide a written summary of how they will appropriately handle and dispose of construction-generated hazardous materials during and following construction.

A detailed Operations Waste Management Plan and procedures to minimize hazardous and non-hazardous waste generation will be prepared 60 days prior to startup of the facility to assure proper storage, labeling, packaging, record keeping, manifesting, minimization, and disposal of wastes. The plan will be comprehensive to ensure that compliance is maintained with local, State, and Federal regulations. Employees will be trained in procedures to reduce the volume of hazardous waste generated at the proposed facility. The procurement of hazardous materials will be controlled to minimize surplus materials on site and to prevent unused materials from becoming “off specification.” Non-hazardous materials will be used in lieu of hazardous materials whenever possible. Hazardous materials will be reused or recycled whenever possible.

7.3.4 Weed Management Plan

A Draft Weed Management Plan was provided as Attachment DR-BIO-69 to the Data Request responses submitted to the CEC on January 25, 2010. The Plan was prepared to be consistent with BLM and Kern County guidelines for weed management.

7.3.5 Health and Safety Plan

The Project will follow OSHA and CalOSHA requirements in its construction and operating activities. As discussed in Section 1.4.21, a site-specific health and safety program will be developed, identifying the roles and responsibilities of every employee with respect to safety on the Project in order to ensure that safety is given the highest priority.

7.3.6 Environmental Inspection and Compliance Monitoring Plans

Solar Millennium will develop an environmental inspection and compliance monitoring program for the RSPP, covering both construction and operation. This program will incorporate environmental inspection and compliance measures included as Conditions of Certification in the final SA/EIS. A qualified individual will be designated to coordinate the environmental inspection and compliance monitoring for the Project. This person will be responsible for development and implementation of the Project’s compliance program, communication and coordination with the applicable regulatory agencies, ensuring compliance with the various requirements of Project permits and approvals, completing necessary record keeping and reporting, and ensuring that all applicable plans are up to date. The environmental coordinator’s role will include advising Project management of actual and potential compliance/non-compliance issues and ensuring that Project planning takes appropriate account of compliance issues in advance.

Solar Millennium will designate a USFWS-, CDFG-, and BLM- approved Designated Biologist(s). The Designated Biologist shall be responsible for monitoring and verifying compliance with biological resource protective measures. The Designated Biologist will maintain communications with the appropriate personnel (project manager, resident engineer) to ensure that issues relating to biological resources are appropriately and lawfully managed. The Designated Biologist will submit reports that document compliance with these measures to USFWS upon request or, at a minimum, once per year in the end-of-the-year report.

A cultural resources monitoring and mitigation plan will be developed prior to construction that will identify areas to be monitored during construction by a qualified archaeologist who will act the Project's Cultural Resources Specialist. The designated Cultural Resources Specialist will provide input to construction and operation training programs for employees to enhance awareness regarding the protection of cultural resources. The specialist will be available during construction to inspect and evaluate finds of potentially significant buried cultural material. The Cultural Resources Specialist will coordinate with the construction manager and environmental compliance manager to stop all work in the vicinity of the find until it can be assessed. The Cultural Resources Specialist will also contact the BLM archaeologist in the event of a find of potentially significant cultural material. If the discovery is determined to be not significant through consultation with CEC and BLM staff, work will be allowed to continue.

Similarly, a monitoring and mitigation plan will be developed prior to construction that identifies areas to be monitored by a qualified Paleontological Resource Specialist. The plan will include measures to be followed in the event that fossil materials are encountered during construction. The plan will include worker awareness training to ensure that the construction personnel understand requirements and procedures to be followed in the event of suspected fossil discoveries. Curation of recovered fossils will be arranged with an appropriate curation facility.

7.4 Facility Decommissioning

The RSPP's projected lifespan is at least 30 years. At the end of the RSPP's useful lifespan, the Project will either be repowered or decommissioned. Repowering may involve replacing the existing parabolic troughs with components that are more efficient, thereby extending the useful lifespan of the Project. Some of the steps involved in decommissioning may also be part of repowering to the extent that the existing structures and foundations are not sufficiently engineered to accommodate the replacement of the solar fields.

Decommissioning will adhere to the requirements of appropriate governing authorities and will be in accordance with all applicable Federal, State, and local permits, including any reclamation requirements BLM specifically adopts for utility-scale solar projects. The decommissioning steps described below are also intended to comply with the reclamation standards set forth in CFR Title 43 Subpart 3809.

For this particular site, the decommissioning process will involve steps to dismantle and remove equipment, stabilize soil and drainages, and regrade and reshape features as necessary. These steps are described generally below; a more detailed Decommissioning Plan will be prepared once the disposition of the Project and subsequent use, if any, of the site is known.

1. The Applicant will hire an approved environmental monitor to oversee decommissioning activities and verify that no additional impacts to sensitive biological/cultural resources ensue.

2. Temporary roads and necessary improvement will be made, if necessary, to mobilize equipment for removing all surface improvements associated with the RSPP, including solar power units, transmission line towers, and operation facilities.

3. Components of the solar units, transmission line towers, and operation facilities will be dismantled and removed and all material would be transported off site. The removed materials will be resold, recycled or disposed of at a pre-approved landfill site.

4. Below-ground structures, such as foundations for the parabolic troughs and transmission line towers, will be excavated to a depth that is pre-approved with the appropriate regulatory agencies. This may include removing structures so that nothing is left in the ground above about 3 feet below grade level.

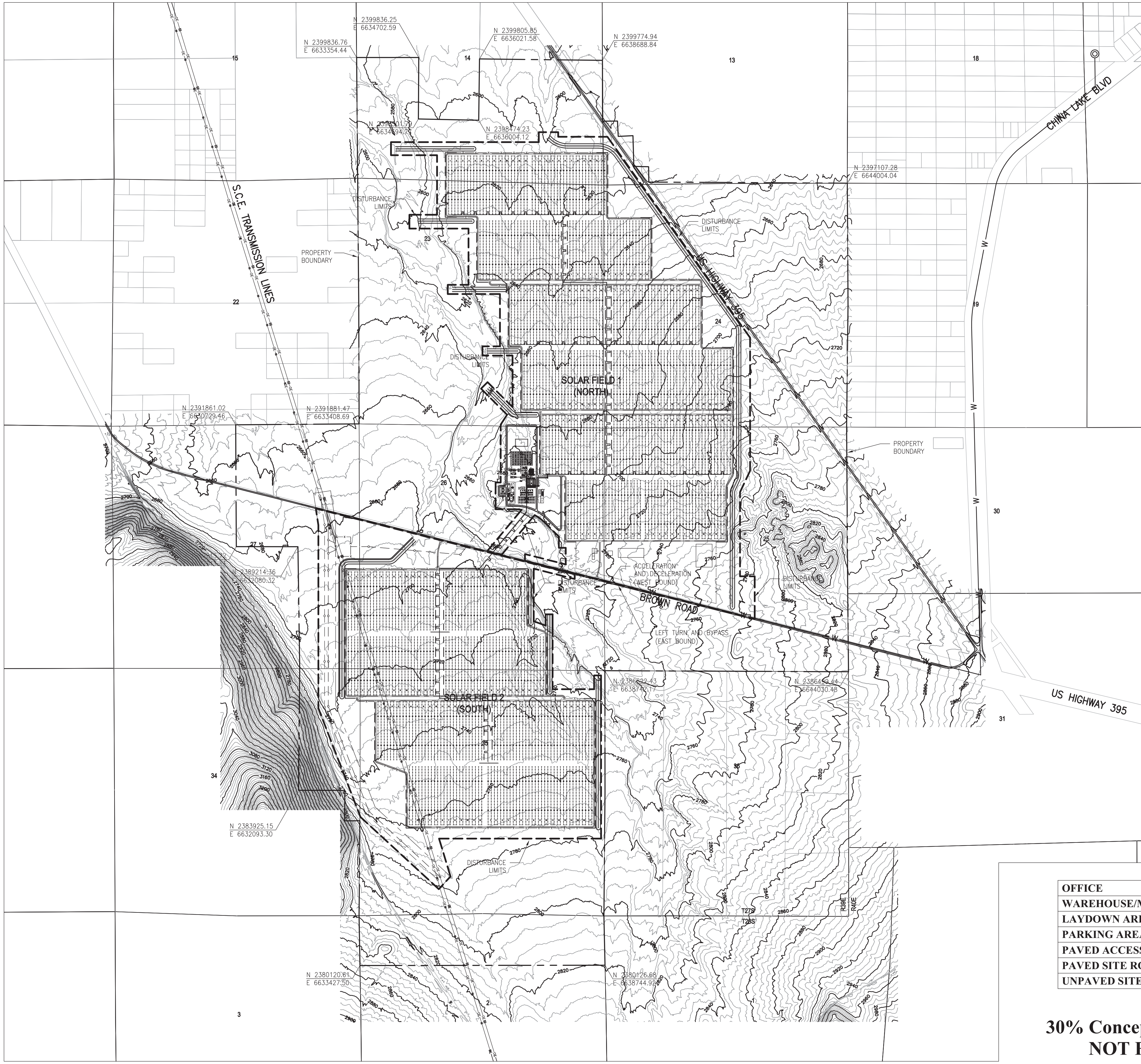
5. Excavations will be backfilled with clean sub-grade soil material in a manner that precludes hazards and facilitates subsequent use of the site.

6. If appropriate in light of the BLM's reclamation requirements for utility-scale solar projects, and in light of the future use, if any, of the Project site, the engineered channels will remain in place. If the site is devoted to a subsequent use, ongoing maintenance of these channels will become the responsibility of the new lessee or ROW holder. Should there be a time lapse between when the new lessee or ROW holder takes over responsibility for the site and when the RSPP is decommissioned, the Applicant will be responsible for maintenance of these engineered channels during this time period.

7. If removal of the engineered channels will be required in the future, a more detailed Decommissioning Plan will contain detailed steps and standards for accomplishing that removal.

8. Pursuant to CFR Title 43 Subpart 3809, all areas within the facility footprint, except the engineered channels, will be regraded and reshaped to conform with adjacent landforms in a manner that controls drainage, minimizes erosion, and stabilizes the soil.

Attachment 1
30% Preliminary Site Drawings

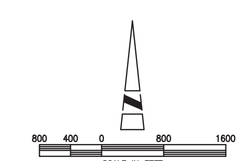


DISTURBANCE AREAS

NORTH FIELD
1,117.97 ACRES

SOUTH FIELD
808.96 ACRES

WATER LINE (395/BROWN RD)
16.3 ACRES



OFFICE	10,000 SF
WAREHOUSE/MAINTENANCE BLDG	112,200 SF
LAYDOWN AREA	45 AC
PARKING AREA (75 VEHICLES)	21,000 SF
PAVED ACCESS ROAD (24' WIDE)	
PAVED SITE ROAD (24' WIDE)	
UNPAVED SITE ROAD (24' WIDE)	

30% Conceptual Engineering Plans
NOT FOR CONSTRUCTION

AECOM

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Phone 661.325.7253

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REGISTERED PROFESSIONAL ENGINEER
WILLIAM CHARLES BLACK
No. C31465
EXP. 12-31-10
CIVIL
STATE OF CALIFORNIA

Designed: W. BLACK
Checked: W. BLACK
Drawn: K. S. BEDFORD
Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION

Prepared for:

Solar Millennium LLC

LEGEND:

- SOLAR FIELD PARABOLIC TROUGH
- BALANCE OF PLANT FACILITIES
- PROPOSED ACCESS ROAD (PAVED)
- PROPOSED ACCESS ROAD (GRAVEL)
- RAILROAD
- PROPOSED GAS
- PROPOSED WATER
- PROPOSED TELEPHONE
- PROPOSED ELECTRIC
- EXISTING ELECTRIC
- PROPOSED SECURITY FENCE
- PROPOSED WIND FENCE
- EXISTING CONTOURS (10 FOOT INTERVALS)
- PROPOSED DRAINAGE CHANNEL/FLOW DIRECTION
- EXISTING INTERMITTENT DRAINAGE CHANNEL
- SITE BOUNDARY
- HEADER PIPING
- ACCELERATION LANE

Ridgecrest Solar Power Project

Kern County, California

Site Boundary and Legend

Date: 01/19/10
Sheet: 1 of 2

DWG: S:\Solar Millennium LLC\60093833\CADD\CIVIL\PHASE 02 w LiDAR\SHEET\02 (SITE BOUNDARY).dwg Layout Name: SITE BOUNDARY – Plotted by: Bedford, Kevin Date: 1/20/2010 – 10:18 AM
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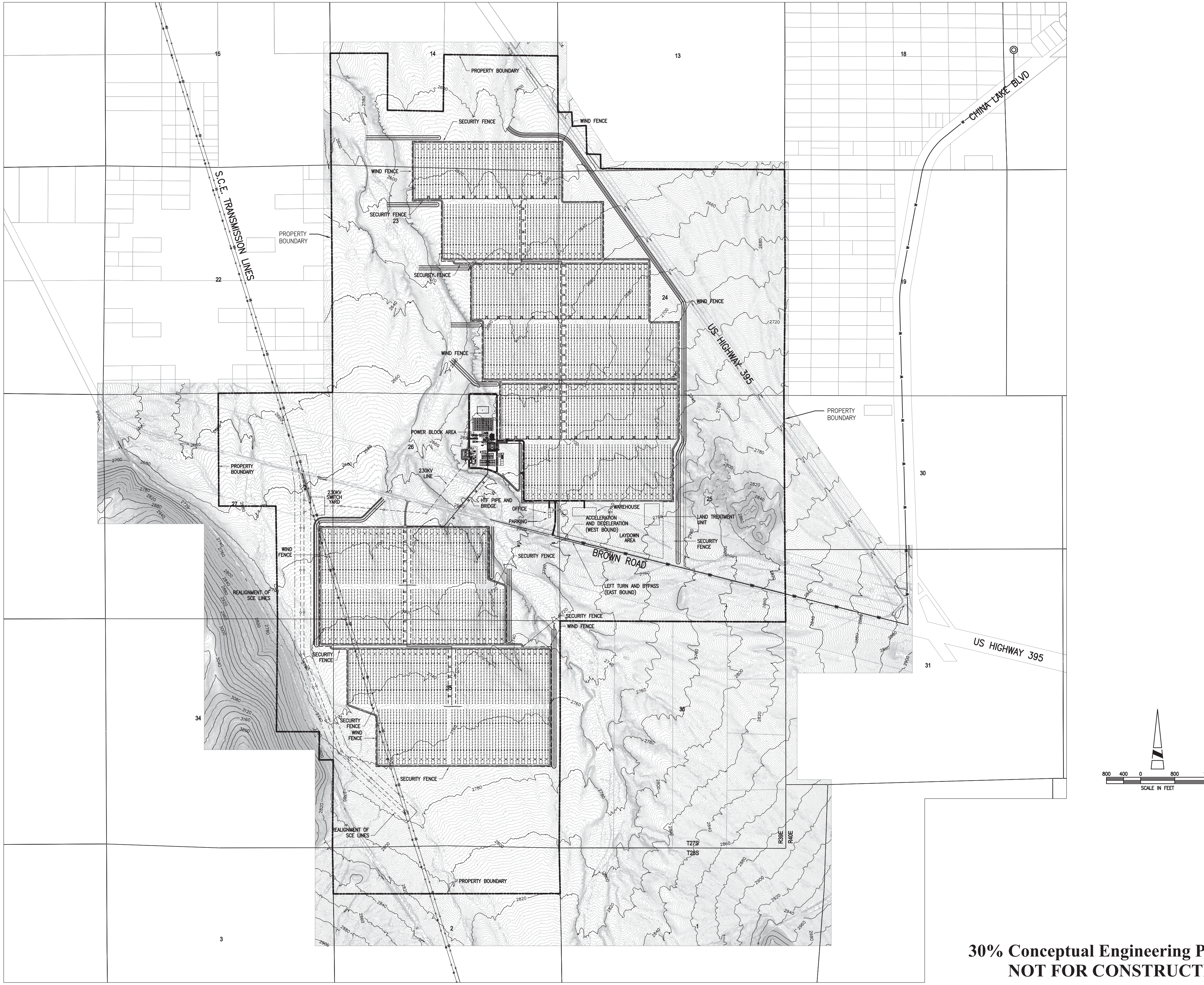

30% Conceptual Engineering Plans
NOT FOR CONSTRUCTION

DWG: S:\Solar Millennium LLC\60093833\CADD\CIVIL\PHASE 02 w LIDAR\SHEET\03 (SITE PLAN).dwg Layout Name: SITE PLAN - Plotted by: Bedford, Kevin Date: 1/20/2010 - 10:19 AM
XREFS: XSMR-CKB01 - XSMR-CKG01 - XSMR-CSP01 - not for construction txt - XSMR-VSCON 800 - XSMR-VNCON 800 - Ridgecrest_Plan - DISTURBANCE - XSMR-CEL01 - XSMR-CGP01 - XSMR-CSU01 - XSMR-CBD01 IMAGES:

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Record Drawing by/date:	

Revisions:

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Ridgecrest Solar Power Project

Kern County, California

Preliminary Site Plan

Date: 01/19/10
Sheet: 2 of 2

DECLARATION OF SERVICE

I, Nicole Tenenbaum, declare that on February 2, 2010, I submitted by fedex the attached Ridgecrest Solar Power Project, BLM Plan of Development, February 2, 2010 update. The original document, along with two (2) CDs is enclosed for filing with the Docket Unit.

The document has also been sent to the Bureau of Land Management.

For filing with the Energy Commission:

X sending an original paper copy and two (2) electronic copies, mailed 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-9
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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