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Filed For: Sunshine Valley Solar LLC

In accordance with NRS Chapter 719,
this filing has been electronically signed and filed
by: /s Sylvia Harrison

By electronically filing the document(s),
the filer attests to the authenticity of the electronic signature(s) contained therein.

This filing has been electronically filed and deemed to be signed by an authorized agent or representative of the signer(s) and
Sunshine Valley Solar LLC

FILED WITH THE PUBLIC UTILITIES COMMISSION OF NEVADA - 5/28/2014

McDONALD·CARANO·WILSON LLP

Sylvia Harrison, Esq.
sharrison@mcdonaldcarano.com

Reply to: Reno
(775) 326-4360

May 28, 2014

Breanne Potter
Assistant Commission Secretary
Public Utilities Commission of Nevada
1150 East Williams Street
Carson City NV 89701

Re: Application of Sunshine Valley Solar LLC for a Permit to Construct the Sunshine Valley Solar Project Under the Utility Environmental Protection Act

Dear Ms. Potter:

Enclosed for filing please find the Application of Sunshine Valley Solar, LLC for a Permit to Construct the Sunshine Valley Solar Project Under the Utility Environmental Protection Act pursuant to NRS 704.820 to 704.900 and Nevada Administrative Code 703.415 to 703.427.

Should you have any questions or concerns regarding this submission, please contact me directly at (775) 326-4360.

Very truly yours,

Sylvia Harrison

Enclosure
394635.1/SH:cj

PUBLIC UTILITIES COMMISSION OF NEVADA
DRAFT NOTICE
(APPLICATIONS, TARIFF FILINGS, COMPLAINTS, AND PETITIONS)

Pursuant to Nevada Administrative Code ("NAC") 703.162, the Commission requires that a draft notice be included with all applications, tariff filings, complaints and petitions. Please complete and include ONE COPY of this form with your filing. (Completion of this form may require the use of more than one page.)

A title that generally describes the relief requested (NAC 703.160(4)(a)):

Application of Sunshine Valley Solar, LLC for authority under the provisions of the Utility Environmental Protection Act for a permit to construct the Sunshine Valley Solar Project.

The name of the applicant, complainant, petitioner or the name of the agent for the applicant, complainant or petitioner (NAC 703. 160(4)(b)):

The applicant is Sunshine Valley Solar, LLC ("SVS").

A brief description of the purpose of the filing or proceeding, including, without limitation, a clear and concise introductory statement that summarizes the relief requested or the type of proceeding scheduled AND the effect of the relief or proceeding upon consumers (NAC 703.160(4)(c)):

Based on the Application and any supplement thereto, Sunshine Valley Solar, LLC respectfully requests that the Public Utilities Commission of Nevada grant it a Permit to construct the Sunshine Valley Solar Project. Sunshine Valley Solar, LLC is developing the proposed 110 MW AC solar photovoltaic power plant and associated facilities that will produce clean, renewable electrical power to meet the growing demand for such power in the Western United States and will help fulfill national and state renewable energy and greenhouse gas emission goals.

A statement indicating whether a consumer session is required to be held pursuant to Nevada Revised Statute ("NRS") 704.069(1)[1]:

A consumer session is not required.

If the draft notice pertains to a tariff tiling, please include the tariff number AND the section number(s) or schedule number(s) being revised.

The draft notice does not pertain to a tariff filling.

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[1] The Commission shall conduct a consumer session to solicit comments from the public in any matter pending before the Commission pursuant to NRS 704.061 to 704.110 inclusive, in which: (a) A public utility has filed a general rate application, an application to recover the increased cost of purchased fuel, purchased power, or natural gas purchased for resale or an application to clear its deferred accounts; and (b) The changes proposed in the application will result in an increase in annual gross operating revenue, as certified by the applicant, in an amount that will exceed $50,000 or 10 percent of the applicant's annual gross operating revenue, whichever is less.

BEFORE THE PUBLIC UTILITIES COMMISSON OF NEVADA

Application of Sunshine Valley Solar, LLC
under the provisions of the Utility Environmental
Protection Act, for a permit to construct the
Sunshine Valley Solar Project Docket No. 14-

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APPLICATION OF SUNSHINE VALLEY SOLAR, LLC FOR A PERMIT TO CONSTRUCT THE SUNSHINE VALLEY SOLAR PROJECT UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

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LIST OF EXHIBITS

Exhibit A **Regional Map**
Exhibit B **Legal Description**
Exhibit C **Preliminary Site Plan**
Exhibit D **Typical Array and Structure Drawings**
Exhibit E **Environmental Statement and Environmental Studies**
Exhibit F **Public Notice**
Exhibit G **Affidavit of Publication**
Exhibit H **Proof of Service to Nevada State Clearinghouse**
Exhibit I **Permits Obtained as of filing of Application**
Exhibit J **Permits to be Obtained**
Exhibit K **Proof of Payment to NDOW Cost Recovery Fund**

BEFORE THE PUBLIC UTILITIES COMMISSON OF NEVADA

Application of Sunshine Valley Solar, LLC
under the provisions of the Utility Environmental
Protection Act, for a permit to construct the
Sunshine Valley Solar Project

Docket No. 14-

APPLICATION OF SUNSHINE VALLEY SOLAR, LLC FOR A PERMIT TO CONSTRUCT THE SUNSHINE VALLEY SOLAR PROJECT UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

Sunshine Valley Solar, LLC ("SVS") hereby submits to the Public Utilities Commission of Nevada ("Commission") its application for a Permit to Construct the Sunshine Valley Solar Project under the Utility Environmental Protection Act ("Application"). The Application is made pursuant to Nevada Revised Statutes ("NRS") 704.820 to 704.900 and Nevada Administrative Code ("NAC") 703.415 to 703.427. SVS submits the following information in support of its Application.

I. INTRODUCTION

SVS intends to construct, own, and operate the Sunshine Valley Solar Project (the "Project") in the Town of Amargosa Valley, Nevada, which is in an unincorporated portion of Nye County, approximately thirty miles northwest of Pahrump. The Project will consist of an approximately 110-megawatt AC photovoltaic electric generating facility and associated facilities, described in more detail below. The Project will interconnect at Valley Electric Association's (VEA) 138 kV Valley Substation, via an approximately 0.5 mile generation-tie (gen-tie) transmission line.

The electric generating facility and gen-tie route are located entirely on non-federal lands; therefore, no environmental analysis is required by a federal agency. Accordingly, this application is filed pursuant to the requirements of NRS 704.870(1) and NAC 703.423.

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II. INFORMATION REGARDING THE APPLICANT

SVS LLC is a wholly-owned subsidiary of First Solar, Inc., ("First Solar") a provider of photovoltaic (PV) solar power worldwide. SVS, LLC is the development entity for the Sunshine Valley Solar Project. First Solar is a recognized worldwide leader in solar PV manufacturing, construction and development. First Solar Inc. has installed over 7 Gigawatts (GW) of solar PV modules worldwide, and has an over 3 GW contracted pipeline. First Solar Inc. is a U.S.-based corporation with offices in Tempe, Arizona; Perrysburg, Ohio; and San Francisco, California. First Solar Inc. has multiple PV module manufacturing facilities, located in Perrysburg, Ohio; and Malaysia. The Sunshine Valley Solar Project will use First Solar's proven thin film cadmium telluride (CdTe) PV technology. First Solar Inc. is continually refining its manufacturing and construction technologies to drive down the cost of solar power. The Company's goal is to provide reliable solar power at prices that are competitive with fossil fuel electrical generation. First Solar Inc. uses methods and programs for manufacturing and construction that are environmentally sustainable.

All correspondence related to this Application (copy of all pleadings, notices, orders and discovery requests) should be sent to the undersigned agents:

Sunshine Valley Solar, LLC
Brian Kunz, Vice President Project Development
135 Main Street, 6th Floor
San Francisco, CA 94105

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III. RESPONSES TO REQUIRED DISCLOSURES

The information required by NAC 703.421 and NAC 703.423 is provided as follows:

A. NAC 703.423(1). Description of Location

1. A general description of the location of the proposed utility facility, including a regional map that identifies the location of the proposed utility facility (NAC 703.423(1)(a)).

The Sunshine Valley Solar Project ("Project") is located in the Town of Amargosa Valley, Nevada; which is in an unincorporated portion of Nye County approximately 30 miles northwest of Pahrump. The site is located west of Powerline Road, north of Roberts Road, and east of Casada Road. The Project will interconnect at Valley Electric Association's (VEA) 138 kV Valley Substation, located approximately 0.5 miles north of the Project via an approximately 0.5 mile generation-tie (gen-tie) transmission line. The Project site and proposed gen-tie route are located on privately owned and/or Nye County property. *See* Exhibit A for the Regional Location Map.

2. A legal description of the site of the proposed utility facility, with the exception of electric lines, gas transmission lines, and water and wastewater lines, for which only a detailed description of the site is required (NAC 703.423(1)(b)).

The Project solar field and ancillary facilities are located in a portion of Sections 30 and 31, Township 16S, Range 49E Mount Diablo Base and Meridian (M.D.M.) and portions of Section 36, Township 16S, Range 48E M.D.M. The legal descriptions for the Project area are provided in Exhibit B.

3. Appropriately scaled site plan drawings of the proposed utility facility, vicinity maps, and routing maps (NAC 703.423(1)(c)).

The Preliminary Site Plan drawing of the proposed Project is included in Exhibit C. The permanent Project access routes(s) may be located at several points off of Powerline, Roberts, and/or Casada Roads, as depicted in Exhibit C.

B. NAC 703.423(2). Description of Facility

1. The size and nature of the proposed utility facility (NAC 703.423(2)(a).

The Sunshine Valley Solar Project is a 110-megawatt (MW) AC solar photovoltaic (PV) electric generating facility. The Project will use thin-film photovoltaic technology. The Project

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will interconnect at Valley Electric Association's (VEA's) 138-kilovolt (kV) Valley Substation, located north of the Project site via an approximately 0.5-mile 138kV generation-tie (gen-tie) The Project will include the following main elements:

- First Solar PV solar modules;
- The PV modules will be mounted on fixed-tilt mounting systems and/or single-axis, horizontal tracker mounting systems supported by driven steel posts or other embedded foundation design;
- The mounted PV modules will be installed in array blocks within the solar field with associated interior access ways and perimeter roads;
- Each array block will include a direct current (DC) collection system comprised of underground DC cabling and combiner boxes;
- Each array block will include a Power Conversion Stations (PCS), which contains the DC to alternating current (AC) inverters and the medium voltage transformers to step up the voltage to 34.5 kilovolts (kV AC). The PCS may also include emergency backup power;
- The array field will include a combination of underground and overhead 34.5kV AC collection system to convey electricity from the array blocks to the Project substation. AC collection system will include overhead crossings of private Smith Lane and T&T Ranch Road. Photovoltaic Combining Switchgear (PVCS) or sectionalizing cabinets may be installed to combine collection lines from multiple PCS;
- The Project substation will contain one or more 34.5kV to 138kV step-up transformers, breakers, buswork, protective relaying, meters, SCC building, backup power, and associated substation equipment, and a dedicated perimeter fence;
- The Project will have an approximately 0.5 mile 138kV generation tie transmission line with communication lines;

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- Security at the Project site will be achieved by combination of perimeter security fencing controlled access gates, lighting, on-site security patrols, electronic security systems and/or remote monitoring. The Project site may be monitored on a 24-hour-per-day, 7-day-per-week basis;
- The site will have desert tortoise exclusion fencing around its perimeter;
- The Project will have underground and/or overhead fiber optic cable;
- The Project may have an operation and maintenance (O&M) area that may accommodate an approximately 2,000-square-foot O&M building, parking area, and other associated facilities such as septic system, security gate, and signage. If an O&M building is not required, storage enclosures will be installed on concrete pads;
- The Project will have a minimum 10,000 gallon aboveground water storage tank and additional aboveground water tanks. Operations water will be supplied from an off-site well or a new on-site well;
- The Project will have private access roads, perimeter roads, and interior access ways;
- The Project will have meteorological stations within the solar field, and if tracker technology is utilized, up to 10 meteorological towers (steel lattice), approximately 20 feet high, mounted on concrete foundations will be installed around the perimeter of the solar field; and
- Telecommunications from local provider or a microwave/satellite communications tower, service power from Valley Electric Association, and emergency generator for operations.

The following is a detailed description of key elements of the Project:

Roads

Project-related roads will consist of private access roads, perimeter roads, and interior access ways (see Exhibit C of the Application). Private access roads will be located at several points off of County roads including Power Line, Roberts, and Casada Roads. Private access roads may include existing Smith Lane and T&T Ranch Road and new private roads. Access from Roberts Road will be restricted to operational access only and will not be used during

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construction. Private access road entrance from County roads will meet County driveway standards. Private access roads will consist of compacted soil or an aggregate surface if determined appropriate by the Applicant, or if necessary to comply with applicable requirements. Perimeter roads will be located just inside of the site's perimeter fences. The perimeter roads will be constructed to allow access by construction, maintenance, and security personnel. Perimeter roads will consist of compacted soil or an aggregate surface if determined appropriate by the Applicant, or if necessary to comply with applicable requirements. Interior access ways will be located within the array blocks to provide vehicle access from the perimeter roads to the PCS and solar equipment for construction, operation, and maintenance activities. Interior access ways will be composed of compacted soil.

Fencing

The solar fields and substation perimeters will be secured with 6-foot-high chain-link fence with 1-foot-high barbed-wire security strands at the top. Locked access gates will be located at all of the site entrances. United States Fish and Wildlife Service (USFWS)-approved desert tortoise exclusion fencing will be installed either as a part of the perimeter security fence or outside the perimeter security fence to prevent federally listed desert tortoises from entering the solar fields and substation. Security fencing will also be installed around the Project substation. Access gates will be provided to allow maintenance vehicles access to the equipment. Substation fencing will be similar in design to the perimeter fence. If the substation fence is within the project perimeter fence, no tortoise exclusion fencing will be required.

Lighting System

Permanent lighting will be provided at the O&M building, substation and at the main plant access road entrance. The Applicant has incorporated measures designed to reduce night lighting into the Project's lighting systems. To the extent feasible, night lighting used during construction, operation, and maintenance of the Project will be directed downward and designed to minimize its impact on the dark-sky visual environment. The Project will develop a Lighting Management Plan to be approved by Nye County.

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Construction Description

Construction of the Project, from receipt of required approvals to commercial operation, is expected to take place as early as the fourth quarter of 2015 and will be completed by the end of the fourth quarter of 2016. Once construction is complete, the Project will be in operation for at least 25 years, with the possibility of additional years of operation.

The on-site construction workforce will consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. Construction would generally occur during typical County-approved construction hours, Monday through Friday. Additional hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. For instance, during hot weather, it may be necessary to start work earlier to avoid work during high ambient temperatures. Further, construction requirements would require some night-time activity for installation, service or electrical connection, inspection and testing activities. Nighttime activities will be performed with temporary lighting, which will be directed downward to minimize impacts to residents and wildlife in the Project vicinity.

Preconstruction Environmental Clearance

Prior to engineering and construction, the Project will conduct geotechnical studies on-site, within construction logistic areas, access areas and along the gen-tie route to determine the engineering characteristics of local soils and geology. Prior to construction commencement, the boundaries of the project and construction logistics areas will be delineated and marked. Environmental clearance surveys as required will be conducted prior to construction. Additional preconstruction surveys and monitoring of work areas outside of the project and construction logistic area (i.e. access roads, gen-tie, geotech) will be performed prior to ground disturbance for each activity as necessary.

Temporary Construction Facilities

Construction of the Project will require the following temporary facilities. These facilities will be removed once construction is completed:

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- One or more construction logistics areas consisting of construction trailers, parking, portable toilets or septic system, aboveground water tanks and/or ponds, materials receiving, and materials/tools/trash/recycle storage (See Exhibit C for locations of Temporary Construction Logistics Areas);
- Construction workforce parking area with adequate parking spaces for the workforce necessary for construction of the Project;
- Construction utilities, including aboveground power and communication connection to the local distribution system adjacent to the Project, power generator, microwave/satellite communication tower, septic system, and aboveground or underground water line(s) on private property; and
- Construction of the 138kV gen-tie line will require temporary construction areas at each tower location and at locations required for conductor stringing and pulling operations.

Site Preparation

Within the solar field areas and following environmental clearance, a combination of mowing, "disk and roll," and, where necessary, conventional grading may be used to prepare the site for post and PV modules installation. Existing vegetation removal and grading shall be minimized to the extent reasonably possible. In areas where mowing will not yield the satisfactory work surface, disk and roll may be utilized. The disc and roll technique involves conventional farming techniques and equipment to prepare the site surface. Where the disk and roll technique is used, the area would be prepared using rubber-tired tractors with disking equipment and drum rollers with limited use of scrapers to perform micro-grading.

In areas where the terrain is not suitable for mowing or disk and roll, grading will be used to prepare the site surface. The desire and intent is not to change the macro-level topography (in order to utilize the existing drainage pattern across the site), but to flatten the surface of the existing topography to provide safe working conditions. Conventional grading techniques may be used for access roads, parking areas, substation, building or equipment foundations, detention ponds, and laydown areas.

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PV Solar Equipment Installation

The construction of the solar field will proceed in array blocks and will include the following:

- Prepare trenches for underground cable;
- Install underground cable;
- Backfill trenches;
- Install steel posts and table frames;
- Install PV modules;
- Install concrete pads or precast vaults for PCS, PVCS or other electrical equipment;
- Install PCS, PVCS and other electrical equipment on skids or within shelters. PCS may contain the inverter, medium voltage transformer, communications, tracker control or other equipment possibly with back-up power source; PVCS will contain switchgear, communication and metering equipment possibly with back-up power.
- Install collection system poles and lines;
- Perform electrical terminations; and
- Inspect, test, and commission equipment.

Trenches will be typically excavated to a depth of 3 feet and width of 2 to 3 feet. Underground cable will be installed and "stubbed up" to provide cable access during the electrical terminations step. Trenches may be backfilled with a sand bed (or appropriate native material) if required. The trenches will be further backfilled with native soils and will be compacted. Excess soil will be redistributed on-site and used to provide level ground for equipment foundations for inverters and transformers.

The mounting system for the modules requires steel posts driven into the ground using a vibratory hammer. The posts will be driven into the ground at depths as determined by geotechnical investigation. Steel table frames will then be bolted to the driven posts and the modules mechanically fastened to the tables.

The PCS, PVCS, transformer and other electrical equipment on skids or within shelters will be installed on concrete pads or vaults which may be pre-cast off-site or poured in place to

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provide a suitable mounting surface for the equipment. PCS may contain the inverter, medium voltage transformer, communications, tracker control or other equipment possibly with back-up power source. PVCS will contain switchgear, communication and metering equipment possibly with back-up power. Equipment or shelter will be rated for outdoor use.

AC Collection System

The 34.5kV AC output from each medium-voltage transformer will be transmitted via underground trenched or aboveground conductors and communications lines to the Project Substation. The collection system will include overhead crossing of private Smith Lane and T&T Ranch Road.

Substation Construction

The substation will be constructed based on applicable electrical safety codes. The substation will be separately fenced to provide increased security around the medium- and high-voltage electrical equipment. The substation area will be excavated and a copper grounding grid will be installed, and the foundations for transformers and metal structures will be prepared. The area will be backfilled, compacted, and leveled, followed by the application of aggregate rock base. Equipment installation of the transformers, breakers, bus-work, and metal dead-end structures will follow. Transformers may be shipped filled or will be filled onsite.

The substation will have Site Control Center (SCC) equipment building(s) which will house substation and plant control equipment, meters, battery backup and other electrical equipment. It will be located in or next to the substation. Communication lines may be installed aboveground and/or underground as needed to obtain services from local provider. Alternately microwave/satellite communications tower may be installed.

Gen-Tie Line Construction

SVS will construct an approximately 0.5-mile overhead and/or underground 138kV gen-tie transmission line for interconnection to Valley Electric Association (VEA)'s high-voltage electrical system at Valley Substation. The location of each pole will be surveyed and staked. Foundations for each pole will be constructed and then pole, arms, insulators installed. After tower erection, conductor stringing and terminations will be performed. Construction will

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include appropriate environmental monitoring. The gen-tie line may also require a 25kV underbuild of a VEA circuit along a portion of the route, depending on the route it follows from the Project site to the Valley Substation.

Construction of Operation and Maintenance Area

The Project will include one or more O&M areas that will contain material storage, aboveground water tank, communication equipment, trash/recycle, portable toilet and parking. The O&M area may include a permanent building that would house administrative, operation, and maintenance equipment. Concrete foundations will be poured to support the permanent building, and an area adjacent to the building may be graveled or paved for parking. An active and reserve septic field or tank will be established and connected to the O&M building's waste system. Power and communication service will be connected to the O&M building. The potable water treatment equipment, if required, will be installed in or near the O&M building. Alternatively, potable water may be delivered to the site. The design and construction of an O&M building will comply with applicable county building standards.

Construction Water Requirements

Water requirements for construction activities are expected to be approximately 300 acre-feet, which will be met by acquiring existing water rights on a temporary basis. A temporary above ground and/or underground pipeline will be used where possible across private property to deliver construction water to the Project site. The pipeline will be placed underground at road crossings. Prior to construction of the pipeline, surveys will be conducted to ensure that no sensitive species are present along the pipeline alignment. The primary use of water during construction will be for dust control and soil compaction.

To provide sufficient water for construction activities, temporary storage ponds may be constructed or aboveground water storage tanks may be used. Water storage tanks for domestic water may also be installed. The construction water storage pond will be excavated and lined. This will provide allow 24 hour pumping to reduce impact on groundwater. After the construction period, the construction water storage pond will be re-leveled to grade, and the lining will be removed.

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Dust Control

Removal of existing vegetation will be minimized to the extent reasonably possible to maintain natural dust control protection. The Applicant will use a combination of existing vegetation, water, and soil stabilizers to control dust in compliance with applicable requirements. The type and use of soil stabilizers will be comply with Nye County standards.

Drainage and Erosion Control

The Project site will continue to be drained by sheet flow to off-site. A Technical Drainage Study will be prepared for the Project and provided to the County. A sediment and erosion control plan will be prepared.

Construction Safety

All employees and contractors are expected to adhere to appropriate health and safety plans and emergency response plans. All construction and operation contractors will be required by the Applicant to operate under a health and safety program that is approved by the Applicant. All contractors will be required to maintain and carry health and safety materials, including the Material Safety Data Sheets of hazardous materials used on-site.

An Emergency Response Plan will be prepared for the Project and will contain a section that presents the results of a comprehensive facility hazard analysis and, for each identified hazard, a response plan. Emergencies may include wild or equipment fires, or transformer oil leaks or spills. The Emergency Response Plan will assign roles and actions for on-site personnel and responders, and will designate assembly areas and response actions.

The Applicant will also prepare a Waste Management Plan that will describe the storage, transportation, and handling of wastes and emphasize the recycling of wastes, where possible, and identify the specific landfills that would receive wastes that could not be recycled.

Operation and Maintenance Overview

The operation and maintenance of the solar PV plant will require up to 8 FTE personnel (or personnel hours totaling up to 8 FTE positions) consisting of plant operators, maintenance technicians, and site security. Maintenance and administrative staff typically work during regular business hours Monday through Friday. During periods when non-routine maintenance or major

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repairs are in progress, the maintenance force will typically work evenings/nights when the PV Power Plant is not generating power to the grid.

Operational Water Requirements

The Project's annual water consumption for operation is expected to be approximately 2 acre-feet, and will be met by acquiring water rights, drilling a well on-site, or piping water from an offsite well to the site, and/or trucking water to site. A minimum 10,000 gallon water storage tank for water deliveries and fire suppression will be installed at the O&M area. Additional potable water many be delivered for O&M staff consumption. A description of construction-related water requirements is provided above.

2. *The natural resources that will be used during the construction and operation of the proposed utility facility (NAC 703.423(2)(b)).*

No significant impacts to natural resources are anticipated from construction or operation of the SVS Project. SVS anticipates minimal uses of natural resources during construction and operation of the Project. Natural resources anticipated for construction and operation include:

- Steel for PV modules, transmission poles, and fencing;
- Cadmium, tellurium, copper, and other metals;
- Cement and aggregate for foundations and possibly aggregate for perimeter roads and private access roads; and
- Water for dust suppression, compaction and concrete fabrication during construction. The majority of the Project's water requirements will be during construction and short-term.

3. *Layout diagrams of the structures at the* proposed utility facility *and its associated equipment (NAC 703.423(2)(c)).*

A layout diagram for the structures to be installed at the Project is included as Exhibit C.

4. *Scaled diagrams of the structures at the proposed utility facility (NAC703.423(2)(d)).*

Typical array drawings are provided in Exhibit D.

5. ***A statement concerning whether the proposed utility facility is an electric generating plant or the associated facilities of an electric generating plant that uses renewable energy as its primary source of energy to generate electricity.***

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The Project will be an electric generating facility that will use the renewable resource of the sun as its sole source of energy to generate electricity.

C. NAC 703.423(3) A Copy and Summary of Environmental Studies

See Environmental Statement, Sunshine Valley Solar Facility, prepared by ESA, dated April, 2014, attached as Exhibit E. Appendix A to the Environmental Statement includes the following studies prepared for the Project:

A-1 Jurisdictional Delineation Report, Prepared for the US Army Corps of Engineers
A-2 Jurisdictional Determination and Correspondence from US Army Corps of Engineers
A-3 Desert Tortoise and Burrowing Owl Survey Report, Prepared for the US Fish and Wildlife Service
A-4 U.S. Fish and Wildlife and Nevada Department of Wildlife Correspondence
A-5 Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region
A-6 Cultural Pedestrian Survey
A-7 Phase 1 Environmental Site Assessment

D. NAC 703.423(4). Reasonable Alternative Locations.

The purpose of the SVS Project is to construct a clean, renewable source of solar electricity that helps meet the Western United States' growing demand for power and helps fulfill national and state renewable energy and greenhouse gas emission goals. Solar energy provides a sustainable, renewable source of power that reduces fossil fuel dependence and greenhouse gas emissions. To be viable, solar energy projects must be able to generate power for sale into the electrical grid at competitive prices once the project has completed the development process and is in operation. Alternative locations and construction methods for the SVS project were considered including various locations in the Amargosa Valley, and surrounding communities and the following objectives and location criteria were considered while evaluating potential alternative project locations.

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SVS Project objectives:

- Establish a solar PV power-generating facility that is of sufficient size and configuration to produce at least 110 (MW-ac) of electricity;
- Produce and transmit electricity at a competitive cost and complete construction prior to expiration of the ITC;
- Minimize environmental effects; and
- Use solar technology that is available, proven, efficient, and easily maintained, recyclable, and environmentally sound.

Facility Location Criteria

- adequate solar irradiance;
- proximity to a high voltage transmission substation with access to multiple energy markets on private land;
- adequate existing transmission capacity to convey the electrical output of a utility-scale generating facility to the ultimate buyer;
- acceptable environmental concerns;
- relatively flat topography to minimize the need for earthwork;
- existing access from paved roads;
- absence of nearby sensitive receptors or incompatible land uses;
- land parcel large enough to accommodate a utility-scale solar facility; and
- access to nearby workforce sufficient to support project construction.

Several candidate parcels were evaluated within and around the Amargosa Valley. The selected site most closely met the Project's siting criteria. Other alternatives that were considered included brownfield sites and different methods of construction. No brownfield sites of suitable size are found in the Amargosa Valley.

E. NAC 703.421(5). Proof of Public Notice

A copy of the Public Notice is included in Exhibit F and the Proof of Publication is included as Exhibit G.

F. NAC 703.423(6). Proof of Submittal to the Nevada State Clearinghouse

A copy of proof of service of to the Nevada State Clearinghouse is attached as Exhibit H.

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G. NAC 703.423(7) Probable Effect on Environment

1. A reference to any studies described in Subsection 3, if applicable (NAC 703.423(7)(a)).

See other studies listed in Section III (C) above.

2. ***An environmental statement that includes:***

> ***(a) The name, qualifications, professions, and contact information of each person with primary responsibility for the preparation of the environmental statement (NAC 703.423(7)(b)(1)).***

An Environmental Statement was prepared to support this Application by ESA, Energy and Industrial Practice; 626 Wilshire Blvd., Suite 1100, Los Angeles, CA 90017. Please refer to the Statement of Qualifications provided in Section 4 of Exhibit E. This environmental statement includes information required to respond to NAC 703.423(7)(b).

> ***(b) The name, qualifications, professions, and contact information of each person who has provided comments or input in the preparation of the environmental statement (NAC 703. 723(7)(b)(2)).***

A Statement of Qualifications is provided in Section 4 of the Environmental Statement, *see* Exhibit E.

> ***c) A bibliography of materials used in the preparation of the environmental statement (NAC 703.423(7)(b)(3)).***

The bibliography is provided in Section 5 of the Environmental Statement, *see* Exhibit E .

> ***(d) A description of the following (NAC 703.723(7)(b)(4)).***
>
> > ***(i) The environmental characteristics of the project area existing at the time the application or amended application is filed with the Commission.***

A detailed description of the project area, by resource, is provided in Section 3 of the Environmental Statement, *see* Exhibit E.

> > ***(ii) The environmental impacts that the construction and operation of the proposed utility facility will have on the project area before mitigation.***

A description of the environmental impacts of the project is provided in Section 3 of the Environmental Statement, *see* Exhibit E.

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(iii) The environmental impacts that the construction and operation of the proposed utility facility will have on the project area after mitigation.

A detailed description of the mitigation and environmental protection measures that will be undertaken for the project is provided in Section 3 of the Environmental Statement, *see* Exhibit E.

H. NAC 703.423(8) An Explanation of the Extent to Which the Proposed Utility Facility is Needed to Ensure Reliable Utility Service to Customers in this State

1. If the proposed utility facility was not approved in a resource plan or an amendment to a resource plan as required by NAC 703.423(8)(b), a description of the extent to which the proposed utility facility will:

(a) Provide utility service to customers in this state (NAC 703.423(8)(b)(1)).

The Project can provide electrical generation to utility members in Valley Electric Association's territory in Nevada and California and to utility customers served by the California Independent System Operator balancing authority. In addition, the Project is expected to provide several direct and indirect benefits to Nevada through the generation of renewable electrical energy and the reduction of emissions of greenhouse gases (such as CO_2) as a result of the reduced need for energy provided by natural gas and coal burning power plants.

(b) Enhance the reliability of utility service in this state (NAC 703.423(8)(b)(2)).

The Project will contribute to the Western United States' need for increased sources of clean, renewable energy. The Project will also contribute to state and national benefits associated with the development of solar resources. With an abundance of solar energy development, federal and state policy-makers recognize that the United States can benefit from the reduced reliance on foreign energy sources, the promotion of national security, the diversification of its energy portfolio, the reduction in greenhouse gas emissions, and the generation of "green" jobs. In addition, Valley Electric Association's connection with CAISO may increase the potential for more integration of the grid, and may assist indirectly in firming up power supplies for Nevada and western states.

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(c) Achieve interstate benefits by the proposed construction or modification of transmission facility in this state, if applicable (NAC 703.423(8)(b)(3)).

The Project will contribute to on-peak power by being connected to the electrical grid of transmission facilities which serve the western United States.

I. NAC 703.423(9) An Explanation of How the Need for the Proposed Utility Facility Balances any Adverse Effects on the Environment

The SVS project will not have significant unmitigated impacts on the environment. The proposed Project will contribute to national benefits associated with the development of solar resources. With an abundance of solar energy development potential, federal and state policy-makers recognize that the United States can benefit from the reduced reliance on foreign energy sources, the promotion of national security, the diversification of its energy portfolio, the reduction in greenhouse gas emissions, and the generation of "green" jobs.

J. NAC 703.423(10) An Explanation of How the Proposed Utility Facility Represents the Minimum Adverse Effect on the Environment

1. ***The state of available technology (NAC 703.423(10)(a)).***

Solar energy provides a sustainable, renewable source of power that helps reduce fossil fuel dependence and greenhouse gas emissions. The SVS Project is designed to utilize First Solar's thin film PV technology, which uses a stable compound of cadmium telluride (CdTe) as the semiconductor material enclosed within two sheets of glass. The PV modules are mounted on trackers or fixed-tilt units and absorb over 90 percent of the light received.

2. ***The nature of various alternatives (NAC 703.423(10)(b)).***

Other solar technologies include solar thermal and concentrating photovoltaic solar. The high water demand of solar thermal technology is not compatible with the limited water availability and competing water uses in the southern Nevada region. Solar photovoltaic technology is a proven technology used in many other solar installations throughout Southern Nevada and the Western United States, and as such, is easy to finance. Both concentrating photovoltaics and solar thermal technologies are considered to be riskier technologies, hence greatly increasing the difficulty of obtaining financing to construct and operate these projects.

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The selected alternative represents the minimum adverse effect on the environment while remaining an economically viable project.

3. ***The economics of various alternatives (NAC 703.423(10)(c)).***

The cost of solar photovoltaic technology has declined greatly in the last five years. Costs of alternative solar technologies have not declined as quickly. Hence, clean, renewable power generated by solar photovoltaic projects can be provided to power customers throughout the Western United States at a lower cost than other solar technologies. The selected alternative represents the minimum adverse effect on the environment while remaining an economically viable project.

K. NAC 703.423(11) An Explanation of How the Location of the Proposed Utility Facility Conforms to Applicable State and Local Laws and Regulations

1. ***All permits, licenses, and approvals the applicant has obtained, including copies thereof (NAC 703.423(11)(a)).***

A list of all permits, licenses, and approvals that SVS has obtained as of the date of this Application, including copies thereof, is included as Exhibit I.

2. ***All permits, licenses and approvals the applicant is in the process of obtaining to commence construction of the proposed utility facility. The applicant must provide an estimated timelines for obtaining these permits, licenses, and approvals (NAC 703.423(11)(b)).***

Permits, licenses, and approvals that are needed prior to construction of the Project, as well as the estimated date of completion, are listed in Exhibit J. Proof of payment to the Nevada Department of Wildlife is included as Exhibit K.

L. (NAC 703.423(12) An Explanation of How the Proposed Utility Facility will Serve the Public Interest

1. ***The economic benefits that the proposed utility facility will bring to the applicant and this state (NAC 703.423(12)(a)).***

The economic benefits of the Project will include an average workforce of 310 during construction, which is expected to last up to 15 months, and 8 full-time equivalent positions (or

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personnel hours totaling up to 8 full-time employee positions) for operation and maintenance of the facility. In addition, the Project will contribute to County and local taxes, and Nye County businesses will directly and indirectly benefit from the proposed Project.

2. ***The nature of the probable effect on the environment in this state if the proposed utility facility is constructed (NAC 703.423(12)(b)).***

The Project will result in the improvement of air quality resulting from the reduction in greenhouse gas emissions by displacement of electricity produced from fossil fuel sources. Additional benefits include the increases in reliability, and the sustainability of electrical energy from clean, renewable sources.

3. ***The nature of the probable effect on the public health, safety, and welfare of the residents of this state if the proposed utility facility is constructed (NAC 703.423(12)(c)).***

Residents of the State of Nevada will benefit from the improvement in air quality due to the reduction in greenhouse gas emissions by displacement of electricity produced by fossil fuel sources. They will also benefit from the increased reliability and sustainability of electricity produced from renewable energy sources. The addition of an average workforce of 310 during construction for up to 15 months, and up to 8 full-time equivalent positions for operation and maintenance of the facility will improve the economic welfare of the residents of this state and Amargosa Valley.

4. ***The interstate benefits expected to be achieved by the proposed electric transmission facility in this state, if applicable (NAC 703.423(12)(d)).***

Interstate benefits associated with the development of the Project will occur by contributing to the on-peak power available to the connected electrical grid serving the western United States.

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IV. CONCLUSION AND REQUEST FOR RELIEF

Based upon the Application, SVS respectfully requests the Commission approve and issue a permit to construct under UEPA for the Proposed Utility Facility. SVS reserves the right to amend and supplement this Amended Application as permitted and contemplated pursuant to NRS 704.820 to 704.900 and NAC 703.415 to 703.427.

DATED: This 28th day of May, 2014.

McDONALD CARANO WILSON LLP

By _____ for

Sylvia Harrison
100 West Liberty Street, 10th Floor
P.O. Box 2670
Reno, Nevada 89505-2670

Attorneys for Sunshine Valley Solar, LLC

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LIST OF EXHIBITS

Exhibit A – Regional Map

Exhibit B – Legal Description

Exhibit C – Preliminary Site Plan

Exhibit D—Typical Array and Structure Drawings

Exhibit E —Environmental Statement and Environmental Studies

Exhibit F—Public Notice

Exhibit G—Affidavit of Publication

Exhibit H—Proof of Service to Nevada State Clearinghouse

Exhibit I—Permits Obtained as of filing of Application

Exhibit J—Permits to be Obtained

Exhibit K – Proof of Payment to NDOW Cost Recovery Fund

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394551.3

CERTIFICATE OF SERVICE

I hereby certify that I have on this 28th day of May, 2014, caused to be served by either electronic mail, hand-delivery or U.S. Mail, a true and correct copy of the foregoing document on each of the persons identified on the following list:

Regulatory Staff
Public Utilities Commission of Nevada
1150 E William
Carson City NV 89701
pucn.sc@puc.nv.gov

Tammy Cordova, Staff Counsel
Public Utilities Commission of Nevada
101 Convention Center Dr, Ste 250
Las Vegas NV 89109
tcordova@puc.nv.gov

Misti Gower
Nevada Division of Environmental Protection
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Carson City NV 89701
mgower@ndep.nv.gov

Sandra L. Merlino
Nye County Clerk
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Pahrump, NV 89060
smerlino@co.nye.nv.us

Eric Witkoski
Chief Deputy Attorney General
Bureau of Consumer Protection
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Las Vegas NV 89101
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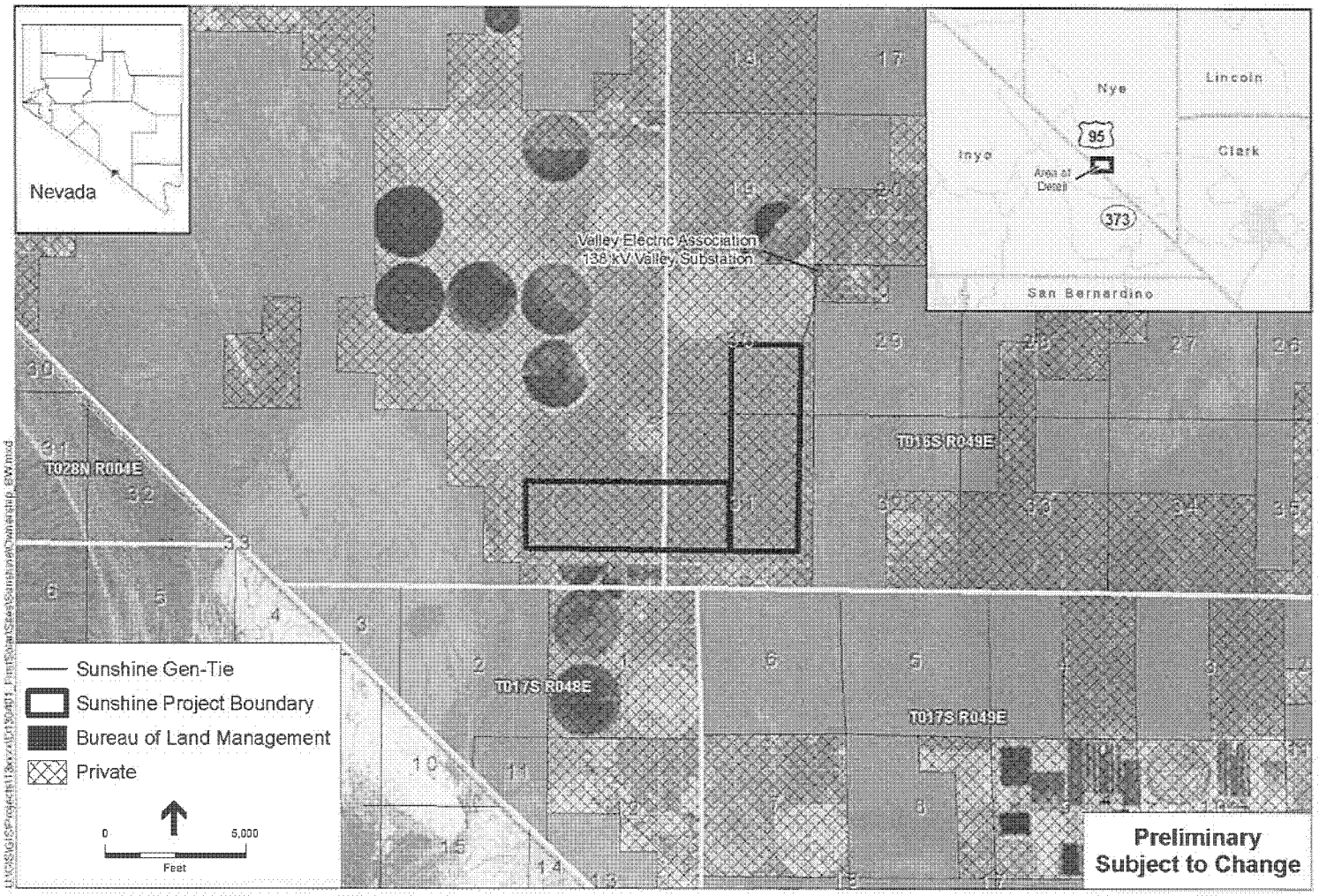
Nevada State Clearing House
209 E Musser St., Room 200
Carson City NV 89701
clearinghouse@budget.state.nv.us

Nevada Dept of Conservation and Natural Resources
c/o Nevada State Clearing House
901 S Stewart St., Ste 5001
Carson City NV 89701
clearinghouse@budget.state.nv.us

Candace Johnson
An employee of McDonald Carano Wilson LLP

Exhibit A

Exhibit A



SOURCE: ESRI Imagery

First Solar Nevada Technical Assistance . 140156

Sunshine Valley

Exhibit A

Project Location Map

First Solar

Exhibit B

Exhibit B

LEASE AREA
IN
SECTION 30
TOWNSHIP 16 SOUTH, RANGE 49 EAST, M.D.M

PORTION OF SECTION 30, TOWNSHIP 16 SOUTH, RANGE 49 EAST, M.D.M., IN THE TOWN OF AMARGOSA VALLEY, COUNTY OF NYE, STATE OF NEVADA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 30, SAID POINT ALSO BEING THE CENTERLINE INTERSECTION OF POWER LINE ROAD AND SMITH LANE; THENCE SOUTH 89°55'07" WEST 500.00 FEET ALONG THE SOUTH LINE OF SAID SECTION 30; THENCE NORTH 0°04'53" WEST 25.00 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89°55'07" WEST 2152.14 FEET PARALLEL TO AND AT A DISTANCE OF 25.00 FEET WITH THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE1/4) OF SAID SECTION 30, SAID SOUTH LINE ALSO BEING THE CENTERLINE OF SMITH LANE TO A POINT, FROM WHICH THE SOUTH QUARTER (S1/4) CORNER OF SAID SECTION 3 BEARS SOUTH 0°01'15" EAST 25.00 FEET; THENCE NORTH 89°57'38" WEST 258.35 PARALLEL TO AND AT A DISTANCE OF 25.00 FEET WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SAID SECTION 30, SAID SOUTH LINE ALSO BEING THE CENTERLINE OF SMITH LANE; THENCE NORTH 0°02'11" WEST 2546.54 FEET TO A POINT 70.00 FEET SOUTH OF THE EAST-WEST CENTERLINE OF SAID SECTION 30; THENCE NORTH 89°58'16" EAST 2407.86 FEET PARALLEL TO AND AT A DISTANCE OF 70.00 FEET WITH THE EAST-WEST CENTERLINE OF SAID SECTION 30 TO A POINT, FROM WHICH THE EAST QUARTER (E1/4) CORNER OF SAID SECTION 30 BEARS NORTH 82°03'25" EAST 504.73 FEET; THENCE SOUTH 0°05'44 EAST 2542.45 FEET PARALLEL TO AND AT A DISTANCE OF 500.00 FEET WITH THE EAST LINE OF SAID SECTION 30, SAID EAST LINE ALSO BEING THE CENTERLINE OF POWER LINE ROAD TO THE POINT OF BEGINNING.

CONTAINS 140.74 ACRES.

THE ABOVE LEGAL DESCRIPTION IS BASED UPON FIELD MEASUREMENTS AND INFORMATION FROM THE RECORD OF SURVEY PERFORMED BY GILBERT D. BUCK, REGISTERED LAND SURVEYOR NO. 3393, RECORDED AUGUST 26, 1977 AS FILE NO. 60675, NYE COUNTY, NEVADA RECORDS.

LEASE AREA
IN
SECTION 31
TOWNSHIP 16 SOUTH, RANGE 49 EAST, M.D.M

PORTION OF SECTION 31, TOWNSHIP 16 SOUTH, RANGE 49 EAST, M.D.M., IN THE TOWN OF AMARGOSA VALLEY, COUNTY OF NYE, STATE OF NEVADA, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF GOVERNMENT LOT 4 OF SAID SECTION 31, FROM WHICH THE NORTHWEST CORNER OF GOVERNMENT LOT 4 BEARS SOUTH 89°59'57" WEST 25.00 FEET; THENCE NORTH 89°59'57" EAST 2616.14 FEET ALONG THE NORTH LINE OF GOVERNMENT LOT 3 AND GOVERNMENT LOT 4 OF SAID SECTION 31 TO THE NORTHEAST CORNER OF GOVERNMENT LOT 3; THENCE NORTH 0°06'05" EAST 2613.95 FEET ALONG THE CENTERLINE OF SAID SECTION 31 TO A POINT, FROM WHICH THE NORTH QUARTER (N1/4) CORNER OF SAID SECTION 31 BEARS NORTH 0°06'05" EAST 25.00 FEET; THENCE NORTH 89°55'07" EAST 2152.12 FEET PARALLEL TO AND AT A DISTANCE OF 25.00 FEET WITH THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SAID SECTION 31, SAID NORTH LINE ALSO BEING THE CENTERLINE OF SMITH LANE; THENCE SOUTH 0°12'32" WEST 4759.47 FEET PARALLEL TO AND AT A DISTANCE OF 500.00 FEET WITH THE EAST LINE OF SAID SECTION 31, SAID EAST LINE ALSO BEING THE CENTERLINE OF POWER LINE ROAD; THENCE NORTH 89°58'48" WEST 4756.00 FEET PARALLEL TO AND AT A DISTANCE OF 500.00 FEET WITH THE SOUTH LINE OF GOVERNMENT LOT 5, 6, 7 AND 8 OF SAID SECTION 31; SAID SOUTH LINE ALSO BEING THE CENTERLINE OF ROBERTS ROAD; THENCE NORTH 0°00'44" EAST 2140.74 FEET PARALLEL TO AND AT A DISTANCE OF 25.00 FEET WITH THE WEST LINE OF GOVERNMENT LOT 4 AND GOVERNMENT LOT 5 OF SAID SECTION 31 TO THE POINT OF BEGINNING.

CONTAINS 363.08 ACRES.

THE ABOVE LEGAL DESCRIPTION IS BASED UPON FIELD MEASUREMENTS AND INFORMATION FROM THE RECORD OF SURVEY PERFORMED BY GILBERT D. BUCK, REGISTERED LAND SURVEYOR NO. 3393, RECORDED AUGUST 26, 1977 AS FILE NO. 60675, NYE COUNTY, NEVADA RECORDS.

LEASE AREA
IN
SECTION 36
TOWNSHIP 16 SOUTH, RANGE 48 EAST, M.D.M

PORTION OF SECTION 36, TOWNSHIP 16 SOUTH, RANGE 48 EAST, M.D.M., IN THE TOWN OF AMARGOSA VALLEY, COUNTY OF NYE, STATE OF NEVADA, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF GOVERNMENT LOT 1 OF SAID SECTION 36, FROM WHICH THE NORTHEAST CORNER OF GOVERNMENT LOT 1BEARS SOUTH 89°56'06" EAST 25.00 FEET; THENCE SOUTH 0°00'44" WEST 2140.72 FEET PARALLEL TO AND AT A DISTANCE OF 25.00 FEET WITH THE EAST LINE OF GOVERNMENT LOT 1 AND GOVERNMENT LOT 8 OF SAID SECTION 36; THENCE NORTH 89°55'49" WEST 4903.06 FEET PARALLEL TO AND AT A DISTANCE OF 500.00 FEET WITH THE SOUTH LINE OF GOVERNMENT LOT 5, 6, 7 AND 8 OF SAID SECTION 36, SAID SOUTH LINE ALSO BEING THE CENTERLINE OF ROBERTS ROAD; THENCE NORTH 0°00'27" WEST 2140.31 FEET PARALLEL TO AND AT A DISTANCE OF 350.00 FEET WITH THE WEST LINE OF GOVERNMENT LOT 4 AND GOVERNMENT LOT 5 OF SAID SECTION 36, SAID WEST LINE ALSO BEING THE CENTERLINE OF CASADA ROAD, TO A POINT ON THE NORTH LINE OF GOVERNMENT LOT 4 OF SAID SECTION 36; THENCE SOUTH 89°56'06" EAST 4903.81 FEET ALONG THE NORTH LINE OF GOVERNMENT LOT 1, 2, 3 AND 4 OF SAID SECTION 36 TO THE POINT OF BEGINNING.

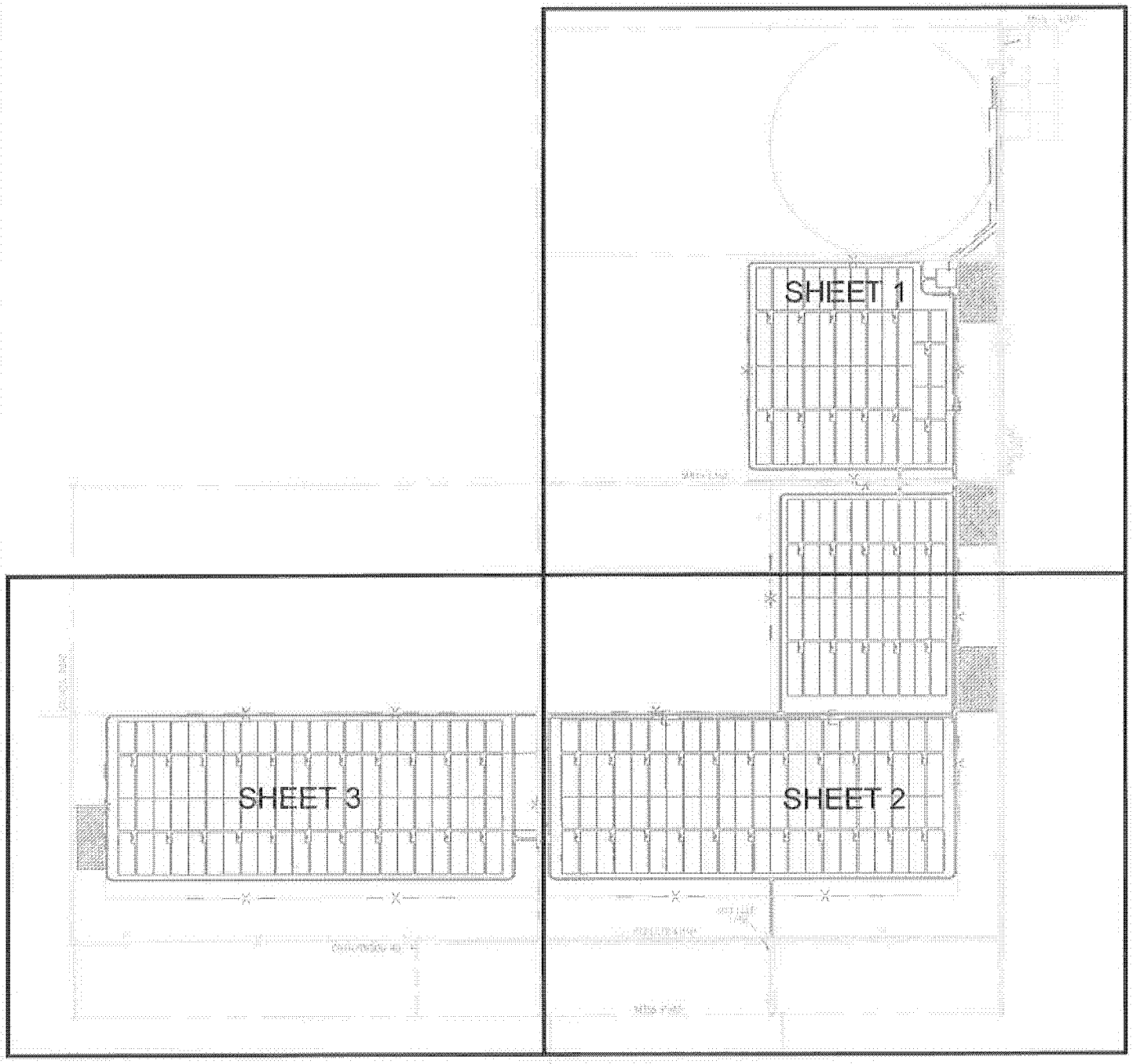
CONTAINS 240.95 ACRES.

THE ABOVE LEGAL DESCRIPTION IS BASED UPON FIELD MEASUREMENTS AND INFORMATION FROM THE RECORD OF SURVEY PERFORMED BY GILBERT D. BUCK, REGISTERED LAND SURVEYOR NO. 3393, RECORDED AUGUST 26, 1977 AS FILE NO. 60675, NYE COUNTY, NEVADA RECORDS.

Exhibit C

Exhibit C

Exhibit C

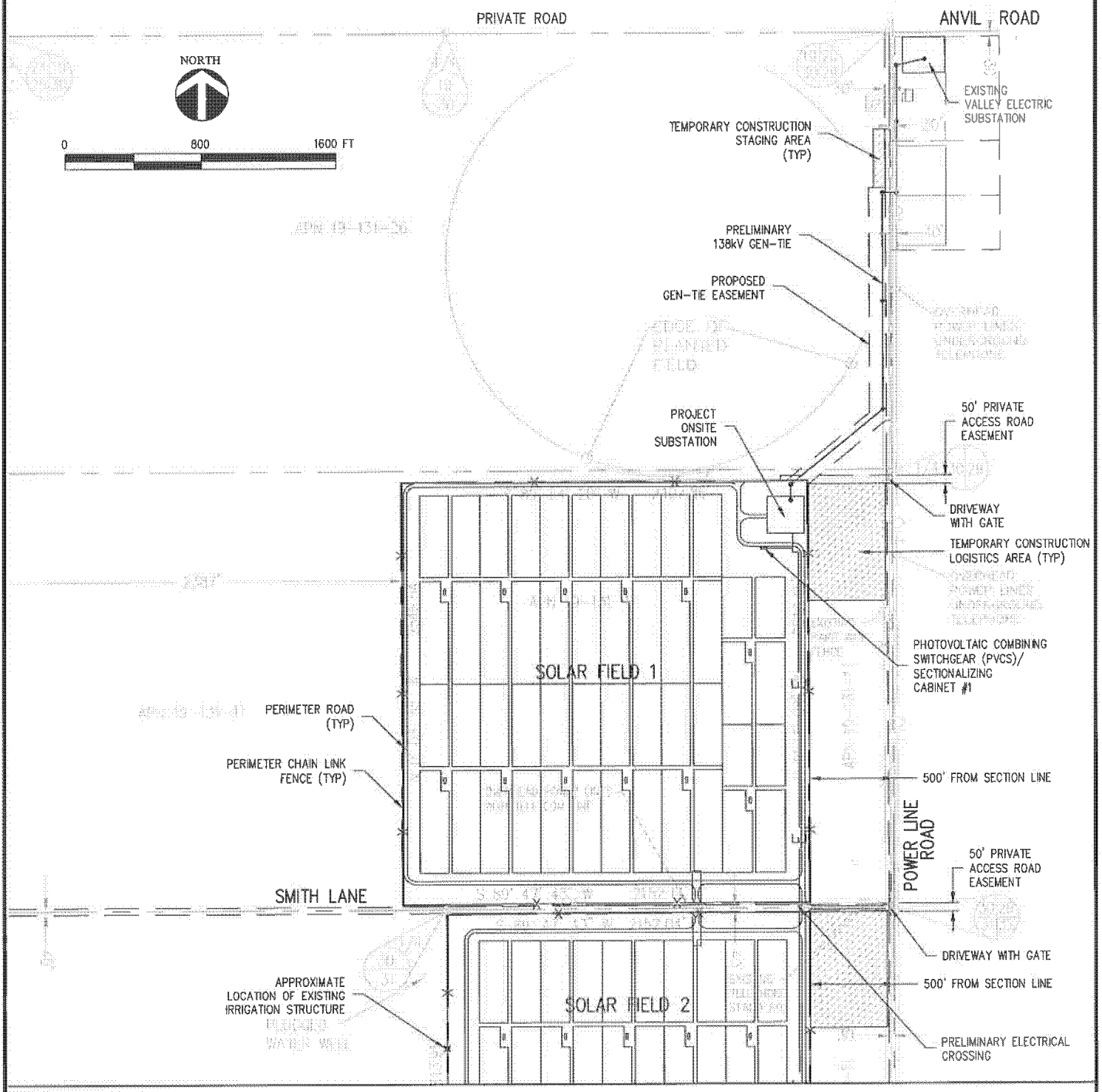


Sunshine Valley Solar Project

Preliminary Site Plan

Cover Sheet

Exhibit C

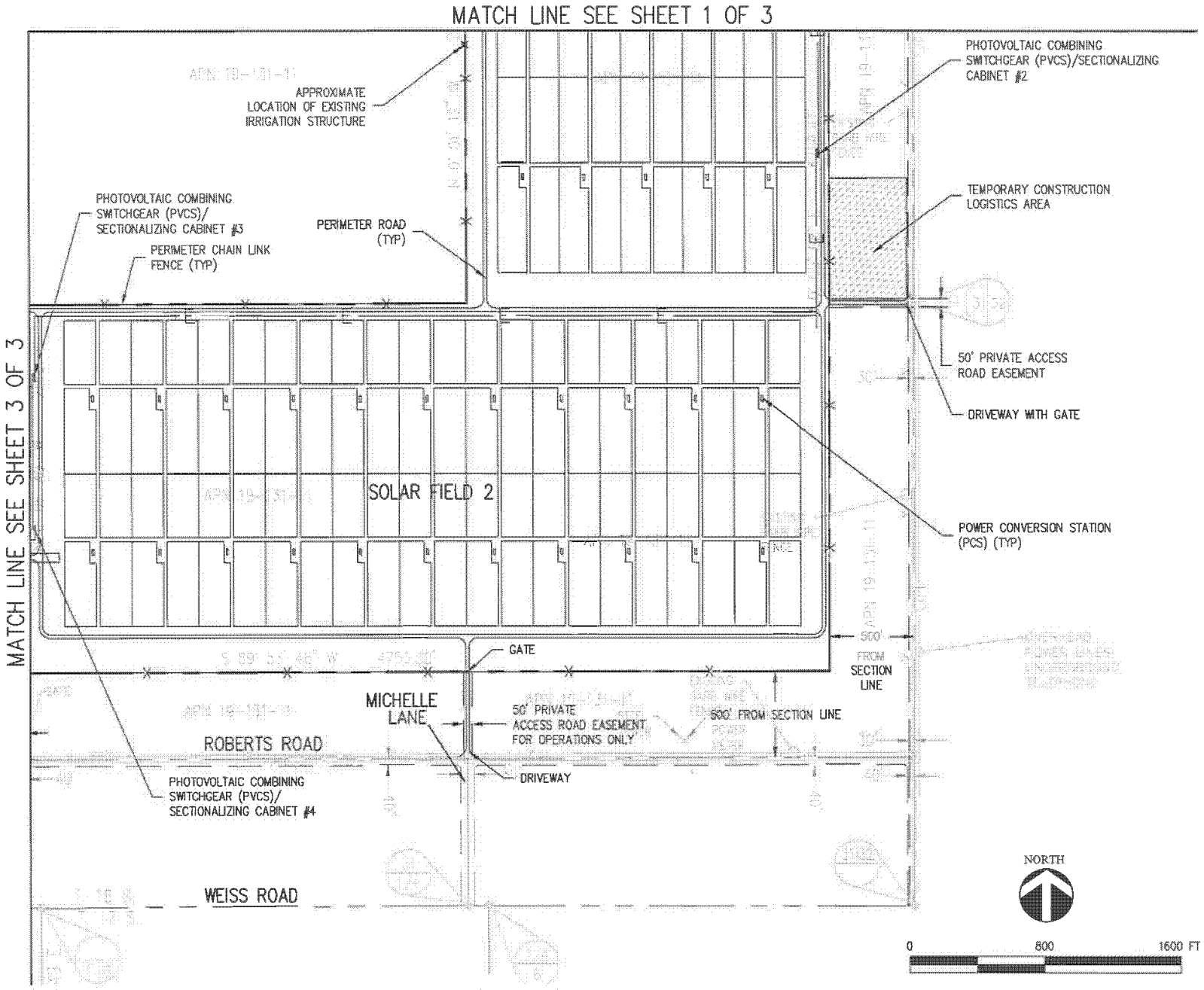


MATCH LINE SEE SHEET 2 OF 3

Sunshine Valley Solar Project

Preliminary Site Plan

Exhibit C

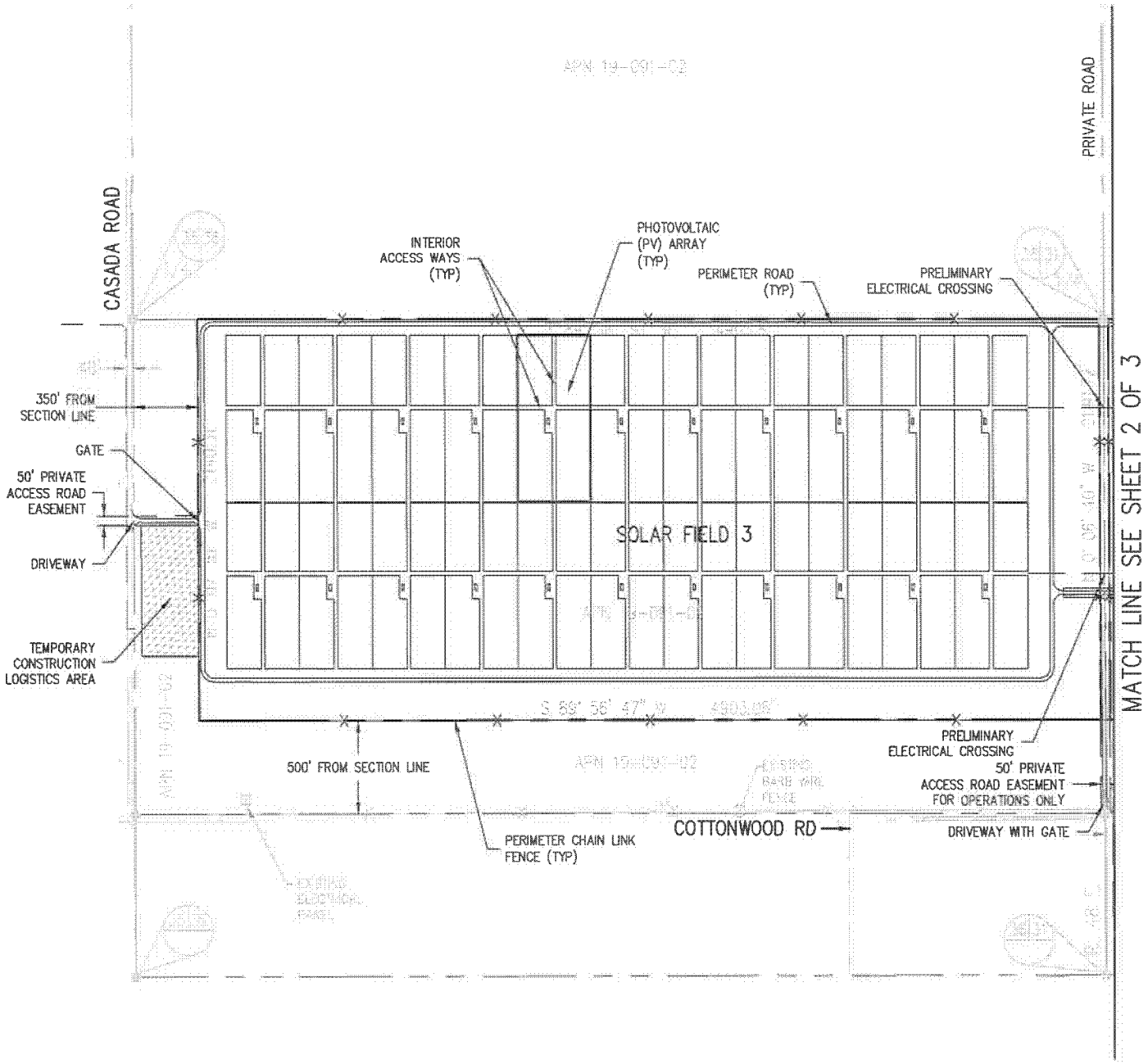


Sunshine Valley Solar Project

Preliminary Site Plan

Sheet 2 of 3

Exhibit C



LEGEND

- LEASE BOUNDARY
- PROPOSED 138kV PRELIMINARY GEN-TIE
- E — PROPOSED 34.5kV PRELIMINARY ELECTRICAL COLLECTION LINE
- PROPOSED PERIMETER FENCE
- PROPOSED EASEMENT
- EXISTING PARCEL LINE
- EXISTING POWER LINE

NOTES

1. NOT FOR CONSTRUCTION.
2. ARRAY, COLLECTION, SUBSTATION AND GEN-TIE LINE CONFIGURATION SUBJECT TO CHANGE DURING DETAIL DESIGN.
3. EXACT FENCE ALIGNMENT TO BE DETERMINED DURING DETAIL DESIGN.

NORTH

0 800 1600 FT

Sunshine Valley Solar Project

Preliminary Site Plan

Sheet 3 of 3

LEGEND

- LEASE BOUNDARY
- PROPOSED 138kV PRELIMINARY GEN-TIE
- PROPOSED 34.5kV PRELIMINARY ELECTRICAL COLLECTION LINE
- PROPOSED PERIMETER FENCE
- PROPOSED EASEMENT
- EXISTING PARCEL LINE
- EXISTING POWER LINE

NOTES

1. NOT FOR CONSTRUCTION.
2. ARRAY, COLLECTION, SUBSTATION AND GEN-TIE LINE CONFIGURATION SUBJECT TO CHANGE DURING DETAIL DESIGN.
3. EXACT FENCE ALIGNMENT TO BE DETERMINED DURING DETAIL DESIGN.

NORTH

1000' 500' 0 1000'

PRIVATE ROAD

ANVIL ROAD

TEMPORARY CONSTRUCTION STAGING AREA (TYP)

EXISTING SUBSTATION

PRELIMINARY 138kV GEN-TIE

PROPOSED GEN-TIE EASEMENT

PROJECT ONSITE SUBSTATION

50' PROPOSED ACCESS EASEMENT

DRIVEWAY WITH GATE

PHOTOVOLTAIC COMBINING SWITCHGEAR (PVCS)/SECTIONALIZING CABINET #1

LEASE AREA IN SECTION 30 140.74 ACRES

500' FROM SECTION LINE

POWER LINE ROAD

50' PROPOSED ACCESS EASEMENT

SMITH LANE

DRIVEWAY WITH GATE

500' FROM SECTION LINE

ACCESS ROAD (TYP)

PRELIMINARY ELECTRICAL CROSSING

PHOTOVOLTAIC COMBINING SWITCHGEAR (PVCS)/SECTIONALIZING CABINET #2

APPROXIMATE LOCATION OF EXISTING IRRIGATION STRUCTURES

PHOTOVOLTAIC COMBINING SWITCHGEAR (PVCS)/SECTIONALIZING CABINET #3

PRELIMINARY ELECTRICAL CROSSING

PHOTOVOLTAIC COMBINING SWITCHGEAR (PVCS)/SECTIONALIZING CABINET #4

PHOTOVOLTAIC (PV) ARRAY (TYP)

PERIMETER CHAIN LINK FENCE (TYP)

POWER CONVERSION STATION (PCS) (TYP)

TEMPORARY CONSTRUCTION STAGING AREA (TYP)

DRIVEWAY WITH GATE

50' PROPOSED ACCESS EASEMENT

LEASE AREA IN SECTION 31 363.08 ACRES

LEASE AREA IN SECTION 36 240.95 ACRES

CASACA ROAD

500' FROM SECTION LINE

GATE

50' PROPOSED ACCESS EASEMENT

DRIVEWAY

GATE

500' FROM SECTION LINE

PRELIMINARY ELECTRICAL CROSSING

50' PROPOSED ACCESS EASEMENT FOR OPERATIONS ONLY

ROBERT ROAD

MICHELLE LANE

50' PROPOSED ACCESS EASEMENT FOR OPERATIONS ONLY

500' FROM SECTION LINE

COTTONWOOD RD

DRIVEWAY WITH GATE

DRIVEWAY

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First Solar

AMARGOSA VALLEY
NYE COUNTY
NEVADA

EXHIBIT C

SHEET 1 OF 1

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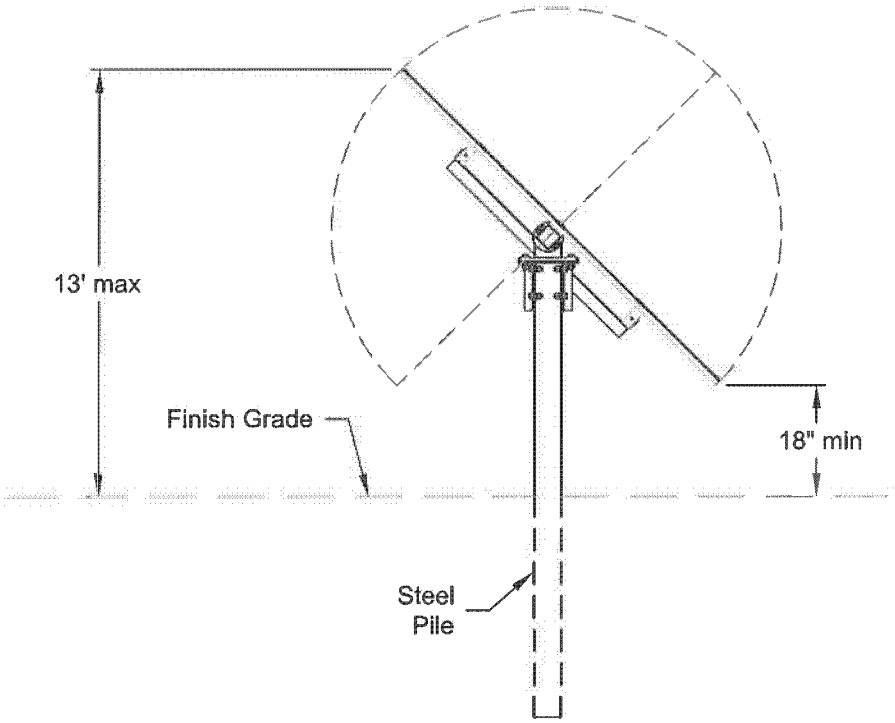
Exhibit D

Exhibit D

Exhibit D: Typical Structure Drawing

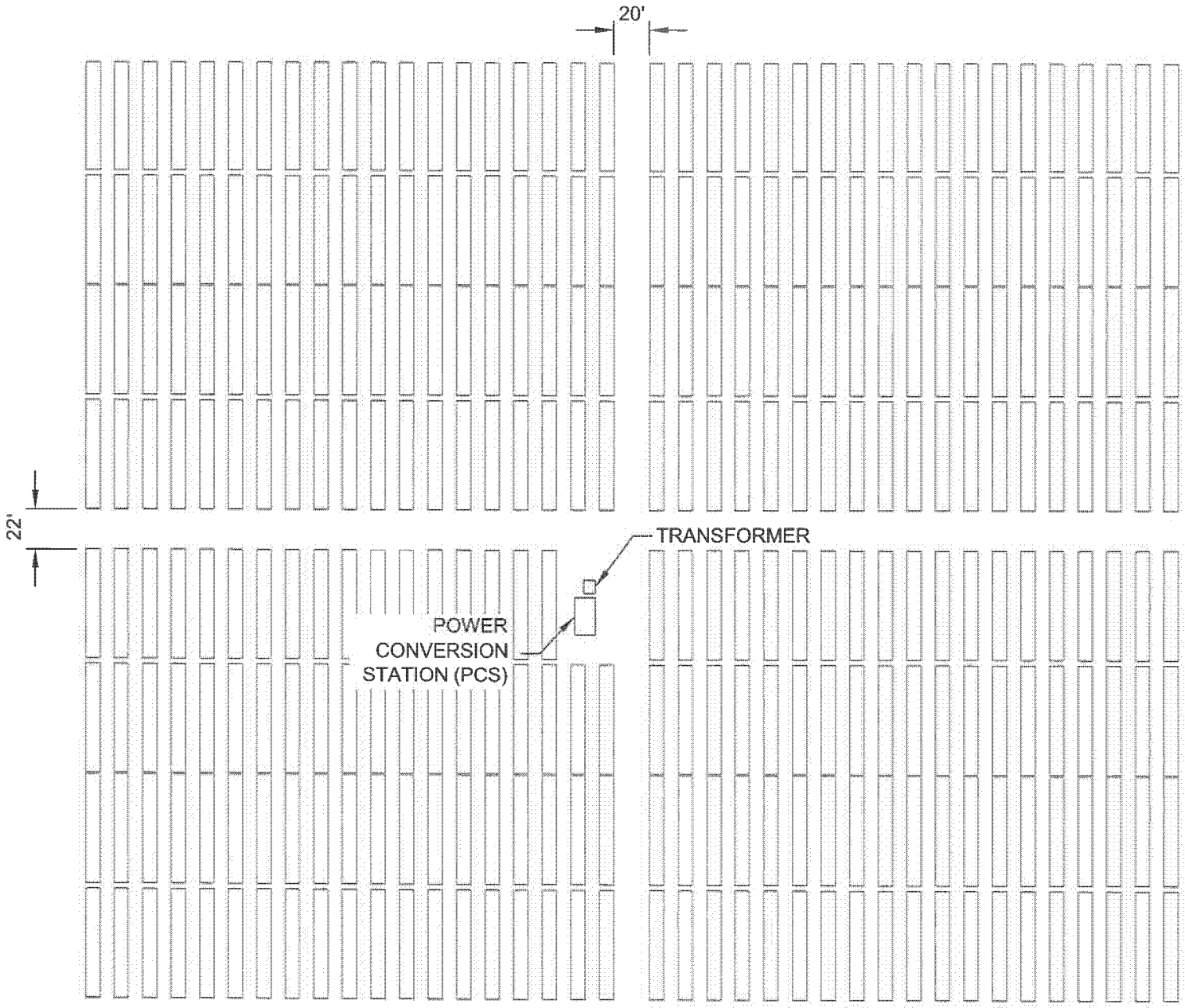


Note:
The distance from the ground to the edges of PV module table may vary depending on the topography.

Sunshine Valley Solar Project

Typical Detail Horizontal-Tracker Structure

Exhibit D: Typical Array Drawing

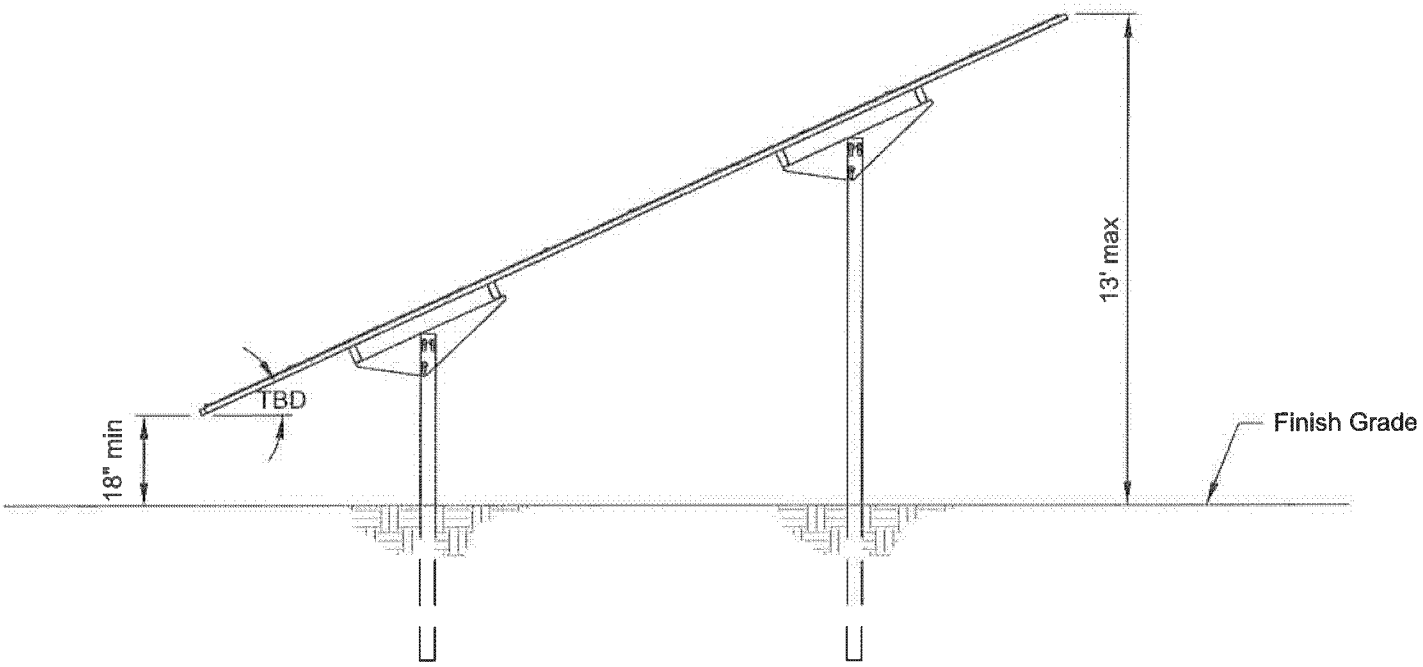


NORTH

Sunshine Valley Solar Project

Typical Horizontal-Tracker Array

Exhibit D: Typical Structure Drawing

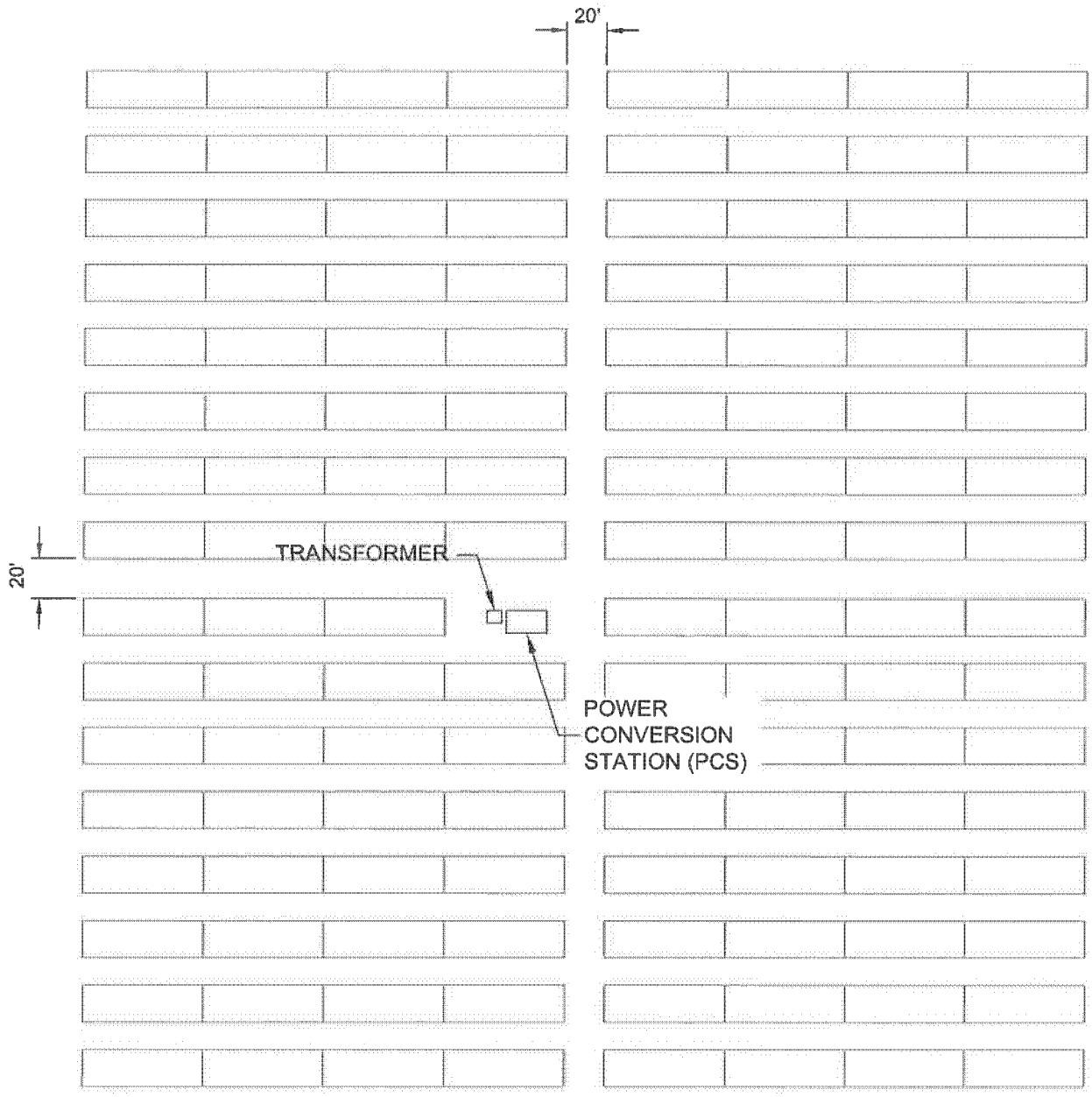


Note:
The distance from the ground to the edges of PV module table may vary depending on the topography.

Sunshine Valley Solar Project

Typical Detail 10-High Fixed-Tilt Structure

Exhibit D: Typical Array Drawing

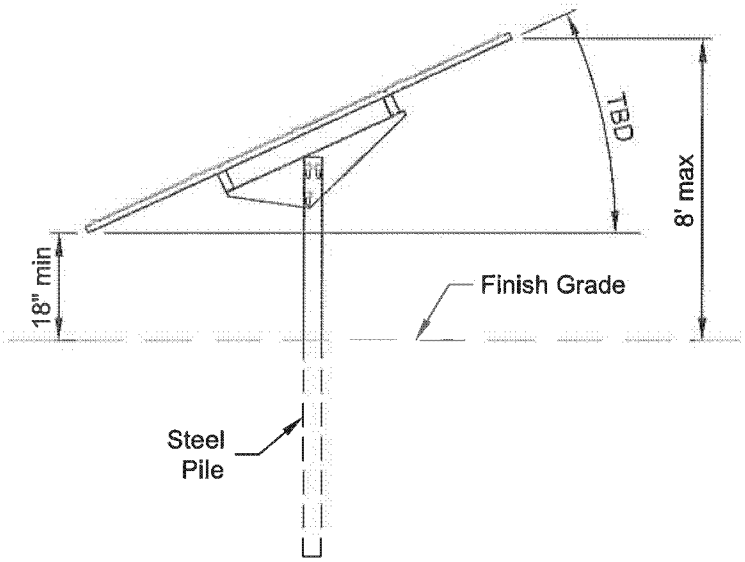


NORTH

Sunshine Valley Solar Project

Typical 10-High Fixed-Tilt Array

Exhibit D: Typical Structure Drawing

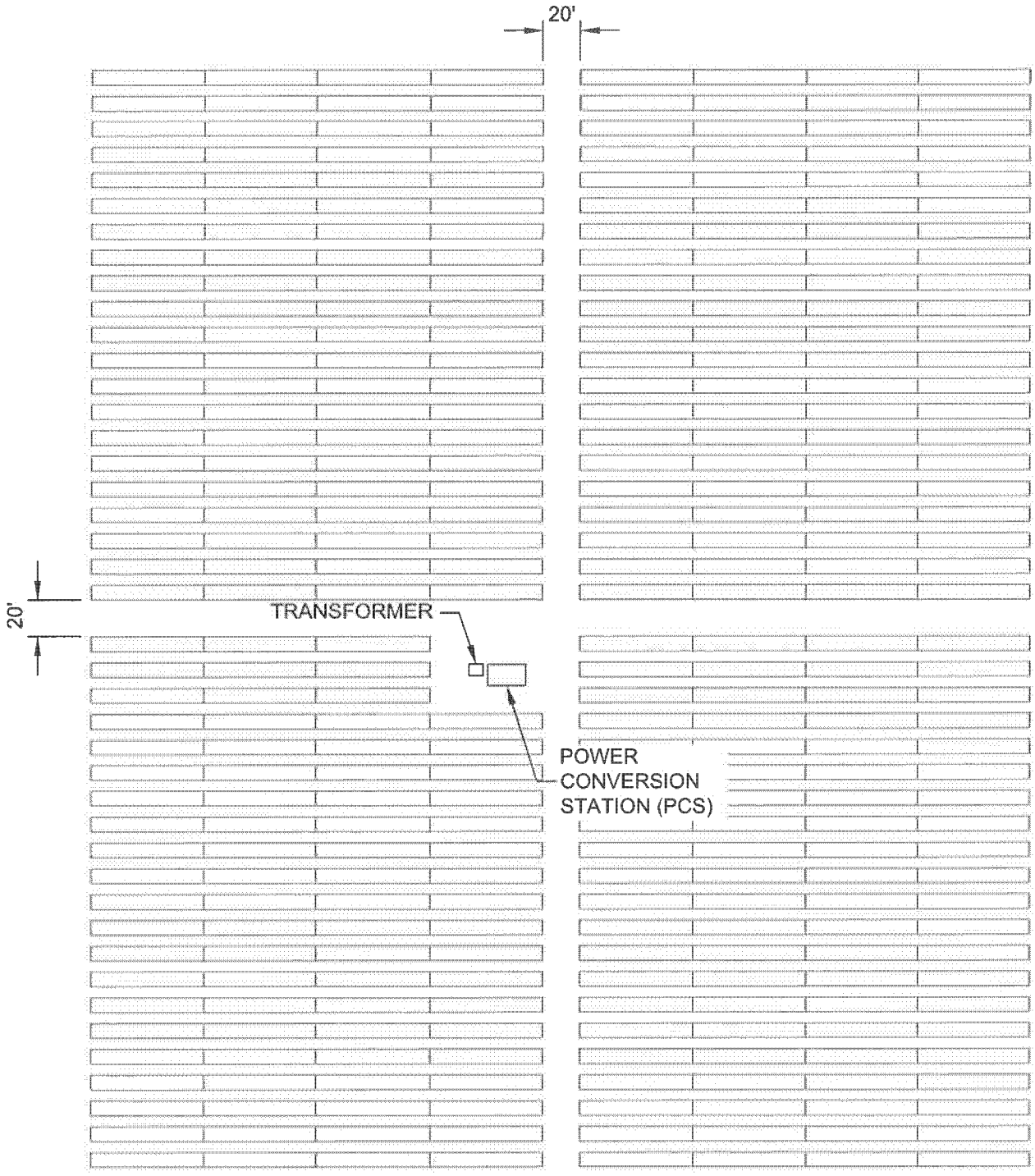


Note:
The distance from the ground to the edges of PV module table may vary depending on the topography.

Sunshine Valley Solar Project

Typical Detail 4-High Fixed-Tilt Structure

Exhibit D: Typical Array Drawing



NORTH

Sunshine Valley Solar Project

Typical 4-High Fixed-Tilt Array

Exhibit E

Exhibit E

Environmental Statement

Sunshine Valley Solar Project

Prepared for

Public Utilities Commission of Nevada

Southern Nevada Office

Prepared by

Sunshine Valley Solar, LLC

With technical assistance from

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ESA

May 2014

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INTRODUCTION

1.1 Purpose of the Environmental Statement

This Environmental Statement (ES) was prepared to support the application (Application) of Sunshine Valley Solar, LLC, for a Permit to Construct the Sunshine Valley Solar Project (Project) from the Public Utilities Commission of Nevada under the Utility Environmental Protection Act. Specifically, the ES is intended to address the requirements set forth in Nevada Administrative Code (NAC) 703.423(7). The ES references and relies on information presented in the body of the Application. A brief description of the Project, including construction, operation, and maintenance activities, is provided in the ES to support the analysis of environmental effects.

1.2 Environmental Statement Organization

To aid the reviewers and decision-makers, this section outlines the content and organization of the ES as required by the NAC 703.423(7).

1.0 Introduction – Provides an introduction and purpose of the ES, as well as an outline of content and organization of the document.

2.0 Description of Proposed Project – Provides an overview of the proposed Sunshine Valley Solar Project (Project), including construction, operation, and maintenance activities.

3.0 Existing Setting, Environmental Consequences, and Environmental Protection Measures – Describes the existing environment at the Project site, potential environmental consequences of the Project, and environmental protection measures designed to avoid or reduce impacts to an acceptable level.

4.0 List of Preparers – Lists persons who contributed to the preparation and review of this ES as well as their qualifications.

5.0 References – Lists references used in this ES.

6.0 List of Acronyms- Lists acronyms used in this ES.

7.0 Appendices – Provides technical studies and reports for the Project site, as well as correspondence with regulatory agencies.

DESCRIPTION OF PROPOSED PROJECT

2.1 Project Overview and Location

The Sunshine Valley Solar Project is a 110-megawatt (MW) AC solar photovoltaic (PV) electric generating facility. The Project will use thin-film photovoltaic technology. The Project will interconnect at Valley Electric Association's (VEA's) 138-kilovolt (kV) Valley Substation, located north of the Project site via an approximately 0.5-mile 138kV generation-tie (gen-tie) transmission line. This section contains a brief description of the Project. A more detailed description is provided in Section III, B of the Application.

2.1.1 Project Elements

The Project will include the following main elements:

- First Solar PV solar modules;
- The PV modules will be mounted on fixed-tilt mounting systems and/or single-axis, horizontal tracker mounting systems supported by driven steel posts or other embedded foundation design;
- The mounted PV modules will be installed in array blocks within the solar field with associated interior access ways and perimeter roads;
- Each array block will include a direct current (DC) collection system and a Power Conversion Station (PCS);
- The array field will include a combination underground and overhead 34.5kV AC collection system to convey electricity from the array blocks to the Project substation. The collection system will including overhead crossings of private Smith Lane and T&T Ranch Road. Combining Switchgear (PVCS) or sectionalizing cabinets may be installed to combine collection lines from multiple PCS;
- The Project substation will contain one or more 34.5kV to 138kV step-up transformers, breakers, buswork, protective relaying, meters, SCC building, backup power, and associated substation equipment, and a dedicated perimeter fence;
- The Project will have an approximately 0.5 mile 138kV generation tie transmission line with communication lines between the Project site and Valley Electric Association's Valley substation;
- Security at the Project site will be achieved by combination of perimeter security fencing controlled access gates, on-site security patrols, electronic

security systems and/or remote monitoring. The Applicant has incorporated measures designed to reduce night lighting into the Project's lighting systems;

- The site will have desert tortoise exclusion fencing around its perimeter;
- The Project will have underground and/or overhead fiber optic cable;
- The Project will have an operation and maintenance (O&M) area that may accommodate an approximately 2,000-square-foot O&M building, parking area, and other associated facilities. If an O&M building is not required, storage enclosures will be installed on concrete pads;
- The Project will have a minimum 10,000 gallon aboveground water storage tank and may have additional aboveground water tanks. Operations water will be supplied from an off-site well or a new on-site well;
- The Project will have private access roads, perimeter roads, and interior access ways for construction and operation. Private access roads will be located at several points off of County roads including Powerline, Roberts, and Casada Roads. Access from Roberts Road will not be used for construction;
- The Project will have meteorological stations within the solar field, and if tracker technology is utilized, up to 10 meteorological towers (steel lattice), approximately 20 feet high, mounted on concrete foundations will be installed around the perimeter of the solar field; and
- Telecommunications from local provider or a microwave/satellite communications tower, service power from Valley Electric Association, and emergency generator for operations.

2.2 Construction Description

Construction of the Project is expected to take place as early as the fourth quarter of 2015 and will be completed by the end of the fourth quarter of 2016. The on-site construction workforce will consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The onsite construction workforce is anticipated to be an average of 310.

Construction would generally occur during typical County-approved construction hours, Monday through Friday. Additional hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. For instance, during hot weather, it may be necessary to start work earlier to avoid work during high ambient temperatures. Further, construction requirements would require some night-time activity for installation, service or electrical connection, inspection and testing activities. Nighttime activities will be performed with temporary lighting, which will be directed downward to minimize impacts to residents and wildlife in the Project vicinity.

2.2.1 Temporary Construction Facilities

Construction of the Project will require the following temporary facilities. These facilities will be removed once construction is completed:

- One or more construction logistics areas consisting of construction trailers, parking, portable toilets or septic system, aboveground water tanks and/or ponds, materials receiving, and materials / tools / trash / recycle storage (See Exhibit C for locations of Temporary Construction Logistics Areas);
- Construction workforce parking area with adequate parking spaces for the workforce necessary for construction of the Project;
- Construction utilities, including aboveground power and communication connection to the local distribution system adjacent to the Project, power generator, microwave/satellite communication tower, septic system, and aboveground or underground water line(s) on private property; and
- Construction of the 138kV gen-tie line will require temporary construction areas at each tower location and at locations required for conductor stringing and pulling operations.

2.2.2 Site Preparation

Within the solar field areas and following environmental clearance, a combination of mowing, "disk and roll," and, where necessary, conventional grading may be used to prepare the site for post and PV modules installation. Existing vegetation removal and grading shall be minimized to the extent reasonably possible. In areas where mowing will not yield the satisfactory work surface, disk and roll may be utilized. Conventional grading techniques may be used for access roads, parking areas, substation, building or equipment foundations, detention ponds, and laydown areas.

2.2.3 PV Solar Equipment Installation

The construction of the solar field will proceed in array blocks and will include the following:

- Installation of underground cable;
- Installation of steel posts and table frames;
- Installation of PV modules;
- Installation of concrete pads or precast vaults for PCS, PVCS or other electrical equipment;
- Installation of PCS, PVCS and other electrical equipment on skids or within shelters. PCS may contain the inverter, medium voltage transformer, communications, tracker control or other equipment possibly with back-up

power source; PVCS will contain switchgear, communication and metering equipment possibly with back-up power; and

- Installation of collection system poles and lines.

2.2.4 Substation Construction

The substation will be separately fenced to provide increased security around the medium- and high-voltage electrical equipment. The substation area will be excavated and a copper grounding grid will be installed, and the foundations for transformers and metal structures will be prepared. The area will be backfilled, compacted, and leveled, followed by the application of aggregate rock base. Equipment installation of the transformers, breakers, bus-work, and metal dead-end structures will follow. Transformers may be shipped filled or will be filled onsite. The substation will have Site Control Center (SCC) equipment building(s) which will house substation and plant control equipment, meters, battery backup and other electrical equipment. It will be located in or next to the substation. Communications from local provider or a microwave/satellite communications tower will be installed.

2.2.5 Gen-Tie Line Construction

SVS will construct an approximately 0.5-mile overhead and/or underground 138kV gen-tie transmission line for interconnection to Valley Electric Association (VEA)'s high-voltage electrical system at Valley Substation. The location of each pole will be surveyed and staked. Foundations for each pole will be constructed and then pole, arms, and insulators installed. After tower erection, conductor stringing and terminations will be performed. Construction will include appropriate environmental monitoring. The gen-tie line may also require a 25kV underbuild of a VEA circuit along a portion of the route, depending on the route it follows from the Project site to the Valley Substation.

2.2.6 Construction of Operation and Maintenance Area

The Project will include one or more O&M areas. The O&M area may include a permanent building that would house administrative, operation, and maintenance equipment. Concrete foundations will be poured to support the permanent building, and an area adjacent to the building may be graveled or paved for parking. The design and construction of an O&M building will comply with applicable county building standards.

2.2.7 Construction Water Requirements

Water requirements for construction activities are expected to be approximately 300 acre-feet, which will be met by acquiring existing water rights on a temporary basis. A temporary aboveground and/or underground pipeline will be used to deliver construction water to the Project site. The pipeline will be placed underground at road crossings. Temporary storage ponds may be constructed or aboveground water storage tanks may be used. The construction water storage pond will be excavated and lined. Water storage tanks for domestic water may also be installed.

2.3 Operation and Maintenance Overview

The operation and maintenance of the solar PV plant will require up to 8 FTE personnel (or personnel hours totaling 8 FTE positions) consisting of plant operators, maintenance technicians, and site security. Maintenance and administrative staff typically work during regular business hours Monday through Friday. During periods when non-routine maintenance or major repairs are in progress, the maintenance force will typically work nights when the PV Power Plant is not generating power to the grid.

2.3.1 Operational Water Requirements

The Project's annual water consumption for operation is expected to be approximately 2 acre-feet, and will be met by acquiring water rights, drilling a well on-site, or piping water from an offsite well to the site, and/or trucking water to site. A 10,000 gallon water storage tank will be installed at the O&M area to provide water supply needed for fire protection and operations as well. Additional potable water may be delivered for O&M staff consumption.

3.0 EXISTING SETTING, ENVIRONMENTAL CONSEQUENCES AND ENVIRONMENTAL PROTECTION MEASURES

The Project is located in the Amargosa Valley, a basin loosely surrounded by the Yucca Mountains to the north, the Spring Mountains to the east, and the Funeral Mountains stretching from the south to the west. The Project site boundary is located approximately 8.5 miles southwest of the intersection of Highway 373 and Highway 95. The Project site is privately owned and was under active agriculture up until 30 years ago. The site is surrounded by active agriculture to the north and residential to the south and west. The site consists of recovering desert habitat with very low diversity and productivity. The 2013 population estimate for the Town of Amargosa Valley was approximately 1,342, and the 2013 population estimate for Nye County was approximately 44,749 (NSDO, 2012).

The topographic nature of the valley is flat with subtle elevation change. The valley generally slopes from the north to the south, following the Amargosa River. All of the surface water resources (and groundwater resources as well) are derived from the precipitation that falls over the County or adjacent recharge areas. Amargosa Valley has no major lakes or rivers; however, the Amargosa River, located approximately 3 miles to the west of the Project site, is a desert river that crosses Amargosa Valley from northwest to southeast and only flows aboveground during periods of high rainfall that flood the desert washes (AVAPC, 2009).

3.1 Resources Used to Assess Potential Environmental Impacts

Table 1 includes a list of the primary resources used to assess the potential environmental impacts of the Project, including technical studies and consultation with regulatory agencies. In addition, the Amargosa Valley Area Plan (AVAPC, 2009) and the Amargosa Farm Road Solar Project Final Environmental Impact Statement (EPG, Inc., 2010) were used to describe the Project's environmental settings. The Amargosa Valley Area Plan serves as a guide to the physical development of Amargosa Valley. The Amargosa Farm Road Solar Project was proposed to be located on US Bureau of Land Management (BLM)-administered land, approximately 1.25 miles north of the SVS Project site. The Amargosa Farm Road Solar site contains similar environmental conditions, but was proposed as a concentrating solar generating facility with significantly different environmental impacts than the Sunshine Valley Solar Project. Technical studies and reports and correspondence with regulatory agencies are listed in

Section 6 and provided in Appendix A of this Environmental Statement. For a complete list of references used throughout this document, refer to *Section 5, References*.

TABLE 1
PRIMARY RESOURCES USED TO ASSESS POTENTIAL ENVIRONMENTAL IMPACTS

Company/Agency	Title/Content	Date of Report
Technical Studies and Reports		
URS Corporation	Amargosa Cultural Resources Pedestrian Survey	September 18, 2013
URS Corporation	Phase 1 Environmental Site Assessment	August 1, 2013
Sunshine Valley Solar, LLC	Desert Tortoise (*Gopherus agassizzii*) and Burrowing Owl (*Athena Cunicularia hypugaea*) Survey Report for the Sunshine Valley Solar Power Project. Prepared for United States Fish and Wildlife Service, Las Vegas Nevada Field Office	October, 2013
Sunshine Valley Solar, LLC	Jurisdictional Waters Delineation For the Sunshine Valley Solar Power Project. Prepared for the United States Army Corps of Engineers, Sacramento District; St. George Regulatory Office	October, 2013
Correspondence with Regulatory Agencies		
US Fish and Wildlife Service, Las Vegas Office	File No. 84320-2014-TA-0022. Letter summarizing Technical Assistance for Sunshine Valley Photovoltaic Solar Project—letter states that desert tortoise is not likely to occur at site; also includes suggested management practices for addressing potential burrowing owl presence	November 20, 2013
Nevada Division of Wildlife, Las Vegas Office	Email stating concurrence with USFWS Technical Assistance Letter	December 6, 2013
US Army Corps of Engineers, Sacramento District St. George Regulatory Office	File No. SPK-2013-00798-SG. Letter stating that permit is not required for the Project	October 30, 2013
US Army Corps of Engineers, Sacramento District St. George Regulatory Office	File No. SPK-2013-00798-SG. Letter concurring with Sunshine Valley Solar's Jurisdictional Delineation	October 30, 2013
Nye County	Development Agreement between Sunshine Valley Solar, LLC, and the County of Nye	November 21, 2013
Nye County Planning Department	Flood Elevation Certificate letter from the County states that the Project is not located within a FEMA flood zone and that a certificate is not required	October 11, 2013

3.2 Geology, Soils, and Paleontology

This section presents an overview of the regional and local geology, geological hazards, soils, and paleontological resources associated with the Project site.

3.2.1 Existing Setting

Soils

The name "Amargosa Valley" is used locally, although the broad valley in which the town resides is officially labeled on US Geological Survey (USGS) topographic maps as the "Amargosa Desert." This valley lies within the basin and range physiographic province, which is characterized by a series of mountain ranges, generally trending north and northwest, separated by valleys and basins. The Amargosa Valley sits at an elevation of approximately 2,640 feet (805 m) above sea level. The landscape is typical of lower to moderate elevations in the North Mojave Desert, with large flat expanses of open desert range, including some large playas. The Project site contains mostly alluvial-fan deposits, which are the most common geological units within the Amargosa Valley (AVAPC, 2009).

The soils in Amargosa Valley are susceptible to erosion by wind and water and agricultural suitability ranges from low to moderate. The Project site is located in the USGS Southwest Nye County soil survey area within the Yermo, hot-Yermo-Arizo association map unit (USDA, 2013a). The Yermo, hot-Yermo-Arizo association has a low water capacity, with moderately rapid to very rapid permeability (USDA, 2013b).

Geology

The nearest fault to the Project site is the Rock Valley Fault Zone, which originates from the late Pleistocene and Holocene (about 15,000 years ago). This fault is located approximately one-half mile southeast of the Project site. The USGS maintains records of all earthquakes for public use; no earthquakes have been recorded within the Project site, although nine earthquakes have been recorded within 10 miles of the Project site (EPG, Inc. 2010).

Seismicity is a measure of the susceptibility of an area to damaging earthquakes and is measured in terms of acceleration due to gravity. The Project site is mapped as having 10 to 15 percent gravity. According to the USGS, 10 percent gravity is the lower threshold where damage to structures is likely to occur, dependent upon measures taken in design and construction to mitigate structural damage as a result of ground shaking.

There are no extractable mineral resources within the Project site. The nearest mineral-resource extraction area is an active mining claim staked by Mud Camp Mining, LLC, located approximately 4 miles east of the Project site. This mine provides specialty clays (sepiolite and saponite) to a processing facility operated by IMV Nevada mining operations (EPG, Inc., 2010).

Paleontology
The Project site entirely consists of intermediate alluvial deposits (Qai), which typically have a low potential for paleontological resources as a result of the nature and age of the deposits (EPG, Inc., 2010).

3.2.2 Environmental Consequences

Soils

Given the nature of the soils on the Project site, the proposed removal of vegetation and ground disturbing activities could increase the potential for wind- and water-generated soil erosion in disturbed areas. First Solar has developed a site preparation approach which considers areas where grading and disk and roll could be minimized, and proposes a zoned approach to site preparation to minimize the potential for erosion. This approach has been incorporated into Sunshine Valley's construction practices where appropriate. Some level of site grading and vegetation removal may be necessary for construction of the project to be feasible, due to the unevenness of the terrain, mainly to improve safety and constructability.

Geology

No impacts related to geology, geological hazards, or mineral resources are expected as a result of the Project.

Paleontology

The Project is not expected to have an impact on paleontological resources because of the low potential for scientifically significant fossils to be present. The Project site has been previously cultivated and paleontological resources present within the historic plow-zone would be previously disturbed.

3.1.1 Environmental Protection Measures

To address potential for impacts to soil, geology, and paleontological resources, the following environmental protection measures will be implemented.

The Applicant will conduct geotechnical studies prior to construction to determine the engineering characteristics of local soils and geology. These geotechnical studies may include borings and test pits. The purpose of the geotechnical studies will be to determine:

- The presence or absence of rock, old excavation, or fill;
- The classification of the soil strata;
- The bearing capacity of the soil and depth at which piles must be driven or footings must be founded;
- Compaction, swelling, collapse, and corrosion potential;

- Thermal and electrical resistivity; and
- Infiltration.

Removal of existing vegetation will be minimized to the extent reasonably possible. Use of conventional grading will be minimized to the extent reasonably possible.

Appropriate water erosion and sediment control measures will be used to prevent an increased dust and sediment load to ephemeral washes around the construction site. The Applicant will employ Best Management Practices (BMPs) to protect the soil surface. The Applicant will incorporate erosion control measures as required by regulatory agency permits and approvals, as well as other measures selected by the Applicant.

3.3 Groundwater and Surface Water Hydrology

This section presents an overview of the regional and local groundwater, surface water, wetlands, and other jurisdictional water resources within the Project site.

3.3.1 Existing Setting

The Project is located in Nevada's Amargosa Desert hydrologic basin (Basin 230). Basin 230 is appropriated, with a perennial yield of 2,400 acre feet per year ("af/y") and approximately 26,503 af/y committed for beneficial uses.

According to the Nye County Water Resources Plan, groundwater occurs at various depths under the entire County and has been developed for municipal, agricultural, and mining supplies as well as for other purposes. In recent years, the demand on the groundwater resources has grown significantly, in part reflecting the growth of the various economic sectors of the County, and in part reflecting the interest in exporting water from Nye County through large-scale interbasin transfers of water. Because most of the surface water resources of Nye County have already been appropriated, the groundwater resources represent the only source of water that is available to support future development in the County.

All of the surface water resources (and groundwater resources as well) are derived from the precipitation that falls over the County or adjacent recharge areas (Nye County, 2004). Although Amargosa Valley has no major lakes or rivers, there are some important surface water resources, such as the Amargosa River, located approximately 3 miles to the west of the Project site. It is a desert river that crosses Amargosa Valley from northwest to southeast and only flows aboveground during periods of high rainfall that flood the desert washes (AVAPC, 2009).

The Project is not located within a designated flood zone as identified by the Federal Emergency Management Agency (FEMA). In addition, it is not identified by the County as a special flood hazard area (Nye County, 2013; Exhibit I of the Application).

A wetlands delineation of the Project site and gen-tie line route was prepared by the Applicant using US Army Corps of Engineers (USACE) protocols to identify jurisdictional wetlands regulated by USACE. No jurisdictional wetlands were identified. The delineation results are included in Appendix A-1.

The Applicant submitted the wetland delineation to USACE, and a jurisdictional determination was received. The determination describes that no jurisdictional waters are located on the Project site or along the gen-tie line route, concurring with the results of the wetland delineation. The jurisdictional determination letter is provided in Appendix A-2.

3.3.2 Environmental Consequences

The primary use of water during construction will be for dust control and soil compaction. Water requirements for construction and operation of the Project will be met by acquiring existing water rights on a temporary basis, avoiding the need for new water rights. After construction is complete, the Project's annual water consumption for operational needs will be minimal. The Project's main water requirement during operations would be for, O&M building water service and fire water. Because no USACE-jurisdictional waters are present on the Project site or gen-tie line route, no impacts to surface waters, wetlands, and other jurisdictional waters are anticipated.

3.3.3 Environmental Protection Measures

To address the potential for impacts to water resources, the following environmental protection measures will be implemented.

The Project site will continue to be drained by sheet flow off-site. A Technical Drainage Study will be completed for the proposed Project for review and approval by the County. The Applicant will provide the improvements required in the approved Technical Drainage Study in order to mitigate any water-related impacts of the Project.

As determined necessary, the Applicant will provide septic system facilities or holding tanks in compliance with applicable Nevada State laws and regulations and, in particular, the implementation of NAC 445A.285 and Nevada Division of Environmental Protection WTS-21 (see Exhibit I of the Application).

Removal of existing vegetation will be minimized to the extent reasonably possible. The Project will incorporate sediment and erosion-control measures required by regulatory agency permits and approvals. The measures will include BMPs for control of on-site surface flows.

3.4 Air Quality

The primary factors that determine air pollutant concentrations are the locations of air pollution sources, the type and magnitude of pollutant emissions, and local meteorological conditions. This analysis takes into account these factors and provides a conservative estimate of the air impacts that could occur during Project construction and operation.

There are three primary emission components of Nevada's emissions inventory: (1) electrical generation; (2) transportation; and (3) residential, commercial, and industrial fuel use. Smaller emission sectors include industrial processes, agriculture, waste management, and forestry. Except for Clark County (Las Vegas area) and Washoe County (Reno area), the Nevada Division of Environmental Protection's Bureau of Air Pollution Control (BAPC) has jurisdiction over air quality programs in all counties of the state, including Nye County (NDEP, 2013).

Geographic areas are designated as attainment, nonattainment, or unclassified for each of the six criteria pollutants with respect to the National Ambient Air Quality Standards (NAAQS). The criteria pollutants include ozone, nitrogen dioxide, carbon dioxide, sulfur dioxide, particulate matter, and lead. If sufficient monitoring data are available and air quality is shown to meet the NAAQS, the US Environmental Protection Agency (EPA) designates the area as an attainment area. Areas in which air pollutant concentrations exceed the NAAQS are designated as nonattainment for specific pollutants and averaging times. Typically, nonattainment areas are urban regions and/or areas with higher-density industrial development. Because an area's status is designated separately for each criteria pollutant, a geographic area may have more than one classification.

3.4.1 Existing Setting

The Project is located in an unclassified area for NAAQS and is therefore treated as an attainment area. **Table 2** lists the national and Nevada ambient air quality standards. The nearest residences for air quality in the Project area are scattered rural residences, the closest of which are along Roberts Road, approximately 500 feet south of the southern Project boundary.

TABLE 2
NATIONAL AND STATE OF NEVADA AMBIENT AIR QUALITY STANDARDS

		Nevada Standards	National Standards	
Pollutant	**Averaging Time**	**Concentration**	**Primary**	**Secondary**
Ozone	1 hour	0.12 ppm	1 hour equals 0.12 ppm, 8 hour equals 0.08 ppm	Same as Primary
Carbon Monoxide	1 hour	35 ppm	35 ppm	None
	8 hour	9 ppm	9 ppm	None
Nitrogen Dioxide	Annual	0.053 ppm	0.053 ppm	Same as Primary
Sulfur Dioxide	Annual	0.030 ppm	0.030 ppm	None
	24 hours	0.14 ppm	0.14 ppm	
	3 hours	0.5 ppm	None	0.5 ppm
PM10	Annual	50 $\mu g/m^3$	50 $\mu g/m^3$	Same as Primary
	24 hours	150 $\mu g/m^3$	150 $\mu g/m^3$	
PM2.5	Annual	None	12.0 $\mu g/m^3$	15.0 $\mu g/m^3$
	24 hours	None	35 $\mu g/m^3$	Same as Primary
Lead	Quarterly arithmetic mean	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$	Same as Primary
Hydrogen Sulfide	1 hour	0.08 ppm	None	None

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
Nevada Division of Environmental Protection, 2013.

There are no ambient air quality monitoring stations within the immediate Project vicinity. The nearest station, which monitors PM10, is located 30 miles southeast in Pahrump, Nevada. During the most recent 3 years of monitoring from 2011 through 2013, there have been no monitored violations of the PM10 standard of 150 $\mu g/m^3$ in Pahrump (excluding wind-generated "natural event" violations).

3.4.2 Environmental Consequences

The Project will include on-site construction and operational vehicles and equipment which will produce emissions. Project construction traffic would include construction worker commute vehicles, periodic truck deliveries of materials and supplies, trash and other off-site truck shipments, and miscellaneous trips by Project staff.

Table 3 provides an example of the on-site construction equipment expected for PV areas (**Table 3-A**), substation construction (**Table 3-B**), and gen-tie construction (**Table 3-C**). Actual construction equipment details and durations will vary. Construction will begin with the PV areas, and continue with the substation and gen-tie, however, per the Project Description in the Application, most construction activities associated with each construction component will overlap.

TABLE 3-A
ESTIMATED ON-SITE CONSTRUCTION EQUIPMENT FOR PV AREAS CONSTRUCTION

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hr/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
Install BMP Measures (Part of Site Preparation)					
Rough Terrain Forklift	2	75	Diesel	1.7	10
Delivery / Work Trucks	3	200	Diesel	2	5
Site Prep – Solar Arrays					
Truck, Pick-Up (Survey Crew)	2	180	Gas	1.7	5
Grader	6	200	Diesel	6.8	20
Backhoe/Front Loader	2	120	Diesel	3.4	10
Tractor / Disc	3	210	Diesel	6.8	20
Scraper	4	265	Diesel	3.4	15
Compactor	2	120	Diesel	1.7	10
Water Truck	2	175	Diesel	6.8	N/A
Site Prep – Roads					
Grader	3	200	Diesel	6.8	20
Backhoe/Front Loader	1	120	Diesel	6.8	10
Compactor	2	120	Diesel	6.8	20
Water Truck	2	175	Diesel	6.8	N/A
Dump Truck	5	235	Diesel	2.7	10
Install Fencing					
Rough Terrain Forklift	2	75	Diesel	1.7	10
Delivery / Work Trucks	3	200	Diesel	1	5
Post Installation					
Delivery / Work Trucks	2	200	Diesel	1	5
Post Machine	7	45	Diesel	8.1	1
Rough Terrain Forklift	2	75	Diesel	6.8	10
Install Support Structure					
Rough Terrain Forklift	6	75	Diesel	6.8	10
Delivery / Work Trucks	2	200	Diesel	1	5
Install Inverters and Switchgear & sub-structure					
Crane	2	125	Diesel	4.5	1
Backhoe/Front End Loader	2	120	Diesel	6.8	10
Delivery / Work Trucks	2	200	Diesel	1	5
DC and AC Wire Installation (UG)					
Backhoe/Front Loader	4	120	Diesel	6.8	10
Crawling Trencher	2	100	Diesel	4.1	1
Mini-Excavator	4	42	Diesel	6.8	10
Delivery / Work Trucks	2	200	Diesel	1	5
DC and AC Wire Installation (AG)					
Rough Terrain Forklift	3	75	Diesel	1.7	10
Delivery / Work Trucks	2	200	Diesel	1	5
Module Installation					
Rough Terrain Forklift	15	75	Diesel	1.7	10
Delivery / Work Trucks	5	200	Diesel	1	5

TABLE 3-A
ESTIMATED ON-SITE CONSTRUCTION EQUIPMENT FOR PV AREAS CONSTRUCTION

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hr/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
O&M Building					
Rough Terrain Forklift	1	75	Diesel	1	1
Manlift	2	110	Diesel	3	1
Misc. (Across Project Site)					
Crane, Hydraulic, Rough Terrain	1	125	Diesel	1.5	N/A
Delivery: Truck, Semi, Tractor	1	310	Diesel	0.5	5
Delivery: Truck, Flatbed, 1 Ton	1	180	Diesel	0.5	5
Forklift, less than 5 Ton	3	75	Diesel	3.8	5
Forklift, greater than 5 Ton	2	85	Diesel	3.8	5
Motor, Auxillary Generator Power for trailers	4	24	Diesel	8	N/A
Trailer, Office, 40'	14	N/A	N/A	N/A	N/A
Trailer, Office, 20'	4	N/A	N/A	N/A	N/A
Skid Steers	5	75	Diesel	1.7	5
AWD Gator/Cart	20	15	Diesel	8.1	10
Water Truck	4	175	Diesel	6.8	N/A
Delivery / Work Trucks	10	200	Diesel	1	5
Electrical Generators/Pumps	4	50	Diesel	8.1	N/A

TABLE 3-B
ESTIMATED ON-SITE CONSTRUCTION EQUIPMENT FOR SUBSTATION CONSTRUCTION

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hr/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
Steel Structures					
Boom Truck - 33 Ton	1	290	Diesel	1.5	1
Manlift	1	110	Diesel	1.2	1
Material Delivery - Hwy Tractor w 40' Flat	3	220	Diesel	0.2	4
Insulators, Bus, & Electrical Equipment					
Boom Truck	1	220	Diesel	1.5	1
Manlift	2	110	Diesel	1.2	1
Welder Truck	2	210	Diesel	1.2	4
Material Delivery - Hwy Tractor w 40' Flat	4	310	Diesel	0.2	4
Material Delivery - Heavy Haul	1	300	Diesel	1.5	4
Crane	1	500	Diesel	1	N/A
Control Wiring					
Boom Truck	1	220	Diesel	0.6	1
Manlift	2	110	Diesel	0.8	1
1 ton crew vehicle	1	260	Diesel	0.2	4
Fiber Splicer Van	1	180	Gas	0.6	4
Test Equipment Van	1	180	Gas	1.7	4
Rough Terrain Forklift	1	75	Diesel	1.7	6

TABLE 3-C
ESTIMATED ON-SITE CONSTRUCTION EQUIPMENT FOR GEN-TIE CONSTRUCTION

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hr/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
Steel (Hauling, Shake-Out, Assembly and Erection)					
Crane, Hydraulic, 150/300 Ton	1	250	Diesel	1.8	5
Crane, Hydraulic, Rough Terrain, 25 Ton	1	125	Diesel	1.8	5
Truck, Flatbed w/Boom, 12 Ton	1	235	Diesel	1	10
Truck, Crew Cab, Flatbed, 1 Ton	6	180	Gas	1.1	10
Truck, Semi Tractor	1	310	Diesel	6	10
Trailer, Flatbed, 40'	1	N/A	N/A		10
Water Truck	1	175	Diesel	4.5	N/A
Motor, Auxillary Power	1	5	Gas	1	0
Compressor, Air	1	75	Gas	2	15
Conductor / Shield Wire / OPGW (Stringing, Sagging, Deadending and Clipping)					

TABLE 3-C
ESTIMATED ON-SITE CONSTRUCTION EQUIPMENT FOR GEN-TIE CONSTRUCTION

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hr/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
Truck, Flatbed, w/ Bucket	3	235	Diesel	3	15
Tension Machine, Conductor	1	135	Diesel	1.5	1
Tension Machine, Static	1	135	Diesel	0.2	1
Truck, Sock Line, Puller, 3 Drum	1	310	Diesel	2.3	1
Truck, Wire Puller, 1 Drum	1	310	Diesel	2.3	1
Truck, Semi, Tractor	2	310	Diesel	6	10
Water Truck	1	175	Diesel	4.5	N/A
Truck, Crew Cab, Flatbed, 1 Ton	3	180	Gas	1.4	10
Back Hoe, w/ Bucket	1	85	Diesel	3	1
Truck, Mechanics	1	260	Diesel	3	15
Crane, Hydraulic, Rough Terrain	1	125	Diesel	1	10
Motor, Auxillary Power	2	5	Gas	2.3	N/A
Cleanup					
Truck, Flatbed, w/ Bucket, 5 Ton	1	235	Diesel	2	5
Excavator, Bucket Type	1	165	Diesel	4.5	5
Truck, Semi, Tractor	1	310	Diesel	4.5	10
Truck, Dump, 10 Ton	1	235	Diesel	3	10
Motor Grader	1	110	Diesel	8	20
Truck, Flatbed	1	210	Diesel	2.1	10
Truck, Pick-Up	1	210	Diesel	2.1	10
Motor, Auxillary Power	1	5	Gas	0.5	N/A

On-site construction-related criteria pollutant and precursor emissions, including volatile organic compounds (VOCs), oxides of nitrogen (NO_X), carbon monoxide (CO), PM10, and PM2.5 are summarized in **Table 4**, which shows tons per year for each construction year. Emissions were estimated using EPA emission factors based on the equipment list in **Table 3** and the Project schedule.

TABLE 4
ANNUAL CONSTRUCTION EMISSIONS (TONS PER YEAR)

Year	VOC	NO_x	CO	PM10	PM2.5
2015	0.4	6.4	5.3	4.2	1.0
2016	3.0	52.9	38.2	32.2	6.9
Total	3.4	59.3	43.5	36.4	7.9

Notes: Emissions based on equipment list shown in Table 3 and EPA Tier 2 emission factors for all off-road equipment except cranes. Emissions for cranes based on EPA Tier 1 emission factors.

The Project's construction emissions are not anticipated to have an adverse effect on National and State of Nevada Ambient Air Quality Standards for all criteria pollutants (see Table 4). Emissions associated with operations and maintenance are expected to be substantially less than emissions from construction. Emissions associated with operations and maintenance would be generated primarily by vehicles that provide operation and maintenance support and water trucks (periodically as necessary).

3.4.3 Environmental Protection Measures

To address the potential for impacts to air quality, the following environmental protection measures will be implemented.

The Applicant will obtain a Dust Control Permit from the Nevada Division of Environmental Protection's BAPC for construction activities that disturb soils and emit or have the potential to emit particulate matter. As part of the Dust Control Permit, the Applicant will identify Best Management Practices (BMP) applicable to the Project. BMPs will be implemented and monitored to mitigate dust during construction.

Removal of existing vegetation will be minimized to the extent reasonably possible. Appropriate erosion control BMPs will be implemented to prevent increased dust around the Project site as described in Section 3.3.

3.5 Biological Resources

This section presents an overview of the biological resources, including vegetation communities and wildlife species, as well as protected species, within the Project site. The protected species in the vicinity of the Project are the Mojave desert tortoise (*Gopherus agassizii*), which is a federally threatened reptile and a State-Tracked species, and the western burrowing owl (*Athene cunicularia hypugaea*), which is a bird species listed as sensitive by the BLM and is also a state Watch List species.

Biological resources were identified by conducting field surveys of the Project site and through coordination with the US Fish and Wildlife Service (USFWS). The following information summarizes the findings, which are also provided in Appendix A-3.

3.5.1 Existing Setting

-Vegetation

Vegetation at the Project site consists of low shrubs of creosote (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). In addition, two species of annual herbaceous species are present but not abundant: Devil's spineflower (*Chorizanthe rigida*) and Booth's evening primrose (*Camissonia boothii*).

Wildlife

The Project site is located within the USFWS Desert Tortoise Eastern Mojave Recovery Unit; however, it is not designated as critical habitat. The Project site was actively cultivated until 30 years ago, and is currently surrounded by active agriculture and rural

residential establishments. The Project site is largely composed of creosote bush scrub habitat with low diversity and low productivity, in an area known to provide little to no habitat for desert tortoises.

Desert tortoise surveys were conducted on September 10 through 13, 2013, per the USFWS 2010 Pre-Project Field Survey Protocol across the entire Project site, including the buffer areas between Roberts Road and Powerline Road and the Project boundary where temporary staging areas may be located. All burrows that were detected were carefully reviewed by biologists for tortoise use present or past. No scat, scutes, shells, or any other sign of present or past tortoise use of the site or surrounding habitat were detected.

Common reptile species that were observed included side-blotched lizard (*Uta stansburiana nevadensis*), western whiptail (*Aspidoscelis tigris*), zebra-tailed lizard (*Callisuarus draconoides*), desert horned lizard (Phrynosoma platyrhinos), and sidewinder rattlesnake (*Crotalus cerastes*).

Common mammal species evidence observed included black-tailed jackrabbit (*Lepus californicus*), kangaroo rat, and other small mammal burrows; coyote (*Canis latrans*) scat; and desert kit fox (*Vulpes macrotis*) scat and dens.

Common bird species that were observed included turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), lesser nighthawk (*Chordeiles acutipennis*), ferruginous hawk (*Buteo regalis*), and American kestrel (*Falco sparverius*).

Four active burrowing owl burrows were detected, but no burrowing owls were observed. All burrows that were detected were carefully reviewed by biologists to ensure correct identification as canid or burrowing owl burrows.

Correspondence with US Fish and Wildlife Service and Nevada Division of Wildlife (NDOW)

The Applicant received a letter dated November 20, 2013, from the USFWS concurring with the Applicant's assessment of potential impacts to desert tortoise and burrowing owl from development of the Project. USFWS personnel conducted an independent site visit of the Project site on October 23, 2013, and documented two class-five burrows (deteriorated) that were possible desert tortoise burrows based on shape, size, and apron mounding. The USFWS also documented one additional active burrowing owl burrow not previously documented (included in Appendix A-4).

Although some signs of desert tortoise were recorded, the USFWS considered the overall habitat quality within the proposed Project site to be poor for desert tortoises. These findings are consistent with other tortoise investigations conducted in the vicinity of the Project site that documented low to very low desert tortoise densities.

The applicant received a letter dated December 6, 2013 from NDOW concurring with the Applicant's and USFWS' assessments of potential impacts to desert tortoise and burrowing owl (included in Appendix A-4).

3.5.2 Environmental Consequences

Based on the existing site conditions and site survey results, it is not anticipated that the Project will have an adverse impact on biological resources. Most biological resources identified on-site are common species in abundance in the region. Based on the Project location, the existing habitat on the site and adjacent lands, and the surrounding land uses, desert tortoises are not expected to be present on the Project site, and are not expected to use the Project site for foraging or as a corridor to other habitat. Impacts to burrowing owl will be minimized through adherence of the protocols described in the publication *Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region* (USFWS, 2007). The publication is provided in Appendix A-5.

3.5.3 Environmental Protection Measures

To address the potential for impacts to biological resources, the following environmental protection measures will be implemented.

Although desert tortoises are not expected to be present on the Project site, potential impacts to desert tortoise will be avoided through performing preconstruction surveys. The Applicant will install desert tortoise fencing around the Project site to prevent any tortoise from moving onto the site from adjacent areas.

Potential impacts to burrowing owl on the Project site will be minimized through adherence with the clearance protocol approved by the USFWS (USFWS, 2007; Appendix A-5). The owl burrow located between Powerline Road and the Project boundary will be avoided to the extent possible.

Any land clearing or other surface disturbance associated with the Project should be timed to avoid potential destruction of bird nests or young, or birds that breed in the area, including burrowing owl. Land clearing should be conducted outside the avian breeding season (approximately March through July). If this is not feasible, a qualified biologist will survey the area prior to land clearing or other surface disturbance. If nests are located, or if other evidence of nesting (e.g., mated pairs, territorial defense, carrying of nesting material, transporting food) is observed, a protective buffer (size depending on the habitat requirements of the species) will be delineated and the entire area will be avoided to prevent destruction or disturbance to nests until they are no longer active.

Existing vegetation removal and grading shall be minimized to the extent reasonably possible to minimize impacts to vegetation.

3.6 Cultural Resources

This section presents an overview of the cultural resources within the Project site. Cultural resources are defined as prehistoric-era and historic-era sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason.

URS Corporation (URS) conducted a Cultural Resources Pedestrian Survey (Pedestrian Survey) of the Project site on August 26 through 29, 2013. The Pedestrian Survey was conducted in accordance with BLM Nevada State Office Guidelines and Standards for Archaeological Inventory. In addition, URS contacted the California Native American Heritage Commission (NAHC) on July 15, 2013, to inquire whether they have any information regarding cultural resources within the Project site or surrounding vicinity. The complete Pedestrian Survey is provided in Appendix A-6.

3.6.1 Existing Setting

In its earliest history, the Amargosa Valley was home to two large Native American cultural entities: the Southern Paiute and the Western Shoshone. Archaeological studies suggest that the groups lived in the region from 12,000 years ago to the immediate past. Within the Township of Amargosa Valley, most of the historic and cultural resources are located within Ash Meadows or on the T&T Ranch (AVAPC, 2009). The Project site can be described as relatively undisturbed with some dirt access roads, adjacent agricultural crop circles, a transmission line, and some modern trash present.

The literature review of the Project site found no previously recorded cultural resources or previous surveys within a 3-mile search radius. Two previously unrecorded cultural resources, however, were noted within the 3-mile search radiuses, which are described below.

Historical maps and research identified the T&T Ranch, located approximately 1 mile northeast of the Project, as a historic property. The ranch was established in 1915 and is still an active ranch today. The T&T Ranch historically provided food to the Tonopah and Tidewater Railroad, a historic property. The railroad is approximately 1.5 miles west of the Project. The railroad has been dismantled and is no longer operational. Neither of these two historic resources has been previously recorded or evaluated, and both are located outside of the Project site.

URS contacted the California Native American Heritage Commission staff (NAHC) about its knowledge of resources within the Project site. The NAHC responded that no sacred land files (SLFs) or Traditional Cultural Properties (TCPs) are on file for the Project site. However, they did identify additional tribes affiliated with the area to contact for additional information. Those tribes include Las Vegas Paiute, Chemehuevi, Fort Mojave Indian, and Colorado River Tribe. The National Park Service's Native American

Consultation Database identified the Western Shoshone as affiliated with the Project site; however, no specific areas of concern were on file. Considering all of this information, the NAHC concluded that the overall cultural resource sensitivity within the Project site is low to moderate (see Appendix A-6).

The Pedestrian Survey found seven isolated artifacts (one prehistoric and six historic), a few modern trash dumps, a modern transmission line, and modern dirt roads in the Project area. No previously unrecorded archaeological sites or historic resources were identified during the survey.

The seven isolates observed consist of one prehistoric basalt flake, four historic cans, remnants of a historic metal capped well, and remnants of a historic car hood and roof. Sparse modern refuse and small trash dumps were noted within the western portion of the Project site. The trash dumps consisted of intermingled trash from the late 1960s, the 1970s, and later. A single wooden transmission line and dirt roads within the Project site were closely inspected and showed no evidence of being historic-period resources. Because the dumps and modern features are less than 45 years in age, they do not warrant formal recordation and/or evaluation for eligibility for listing on the National Register of Historic Places (NRHP). The isolates identified were displaced and lack context and integrity; therefore, all seven isolates are not considered eligible under any criterion for listing on the NRHP.

3.6.2 Environmental Consequences

Based on the survey data and archival research completed for the Project, earth-disturbing activities associated with the Project are not anticipated to have an adverse effect on cultural resources.

3.6.3 Environmental Protection Measures

Although not anticipated, if any inadvertent cultural or historic resources are discovered during construction of the Project, the Applicant will stop construction and take appropriate measures to have a cultural resource expert document the findings and SVS will notify the appropriate agencies to develop an appropriate course of action.

3.7 Land Use and Planning

This section describes existing land uses, as well as land use plans and policies applicable to the Project site.

3.7.1 Existing Setting

Solar resources in Nye County are among the best in the nation for both concentrating solar power (CSP) and PV systems. In March 2010, Nye County performed a Suitability Analysis for Nye County Solar Generation, Transmission, and Related Support Facilities, which was incorporated into the Nye County Comprehensive/Master Plan (Nye County, 2011). The suitability model included primary variables of solar resources,

slope, and land exclusions (federally protected lands). Secondary variables included proximity to flood and seismic hazards, proximity to roads and power transmission corridors, visual resources and desert tortoise and sage grouse habitats. The analysis results were presented in a large format map, showing the locations of "good, better, and best" suitable lands in Nye County for solar development. The Project site is located on lands identified as "best" and/or "better" for solar development (Nye County, 2011).

The Project site is privately owned and was under active agriculture up until 30 years ago. The site is surrounded by active agriculture and paved and gravel roads. Rural residences are located to the north, south and west of the Project site.

Public Utilities Commission of Nevada
The PUCN administers the Utility Environmental Protection Act (UEPA). The Application seeks a Permit to Construct pursuant to UEPA. Once the Application is approved and all other relevant permits have been obtained by the Applicant, the PUCN will issue a Permit to Construct.

Nye County Development Agreement
A Development Agreement for the Project between Nye County and Sunshine Valley Solar, LLC, was reviewed and approved by the Nye County Board of County Commissioners (Nye County, 2013; Exhibit I of the Application).

Amargosa Valley Area Plan
The Amargosa Valley Area Plan serves as a policy document and guide for the physical development of the Amargosa Valley over a 20-year period of time. The Project fosters several of the goals and policies of the Amargosa Valley Area Plan, including facilitating renewable projects and supporting the development of transmission corridors (AVAPC, 2009).

3.7.2 Environmental Consequences

No adverse impacts to land use are anticipated as a result of the Project. As discussed, the Project site is located on lands identified by the County as "best" and/or "better" for solar development.

3.7.3 Environmental Protection Measures

The Applicant will meet all conditions outlined in the Nye County Development Agreement and obtain all state and local permits and approvals prior to construction. Appropriate documentation will be provided to the County and the PUCN.

3.8 Transportation

The following section describes the existing traffic patterns, as well as construction and operation-related transportation activities within the Project site.

3.8.1 Existing Setting

The Project site boundary is located approximately 8.5 miles southwest of the intersection of Highway 373 and Highway 95. The Project access may be located at several points off of Powerline, Roberts, and/or Casada Road, as well as Smith Lane and T&T Ranch Road, as depicted in Exhibit C of the Application. Access roads depicted along Roberts Road will be used for operations only; all other access roads could be used for construction and/or operations depending on final configuration of the solar facility. In addition, the County recently abandoned the easement for Smith Lane and it is now a private road. Smith Lane may be utilized as an access road.

The Nevada Department of Transportation (NDOT) maintains Annual Average Daily Traffic (AADT) Count Stations. The nearest station to the site is Station 0230020, located approximately 8 miles northeast of the Project site, along Highway 373, and approximately 0.5-miles south of Highway 95. Historic traffic counts for Station 0230020 are shown in **Table 5** (NDOT, 2013).

TABLE 5
ANNUAL AVERAGE DAILY TRAFFIC COUNTS (2009–2012)

Year	Station 0230020 Annual Average Daily Traffic (AADT) Count
2009	910
2010	790
2011	860
2012	700

Source: NDOT, 2013

3.8.2 Environmental Consequences

The on-site construction workforce is anticipated to be an average of 310 employees and the operation and maintenance of the solar facility will require up to 8 FTE employees. The Applicant anticipates a high percentage of employees will be local, thereby reducing long travel times to the job site.

Traffic impacts from the Project will result primarily from construction activities. These impacts will be temporary and short-term in nature. The primary impact will be employees commuting to the Project site before and after each shift. During commute hours, increased traffic on county roads will be notable but will not exceed road design capacities. Construction traffic will not use access points off of Roberts Road to minimize impacts on rural residences.

3.8.3 Environmental Protection Measures

To address the potential for impacts to transportation and traffic, the following environmental protection measures will be implemented.

Prior to commencement of construction, the Applicant will submit a Master Traffic Impact Analysis for review and approval by Nye County. The Master Traffic Impact Analysis will address construction related impacts, if any, on county roads and traffic volumes.

The Applicant will make improvements to county roads that are selected for construction (construction routes). Construction routes depicted along Roberts Road will not be used for construction. Upon completion of construction of the Project, the Applicant will restore the selected construction routes utilized to the standards prescribed in the Analysis and in conjunction and subject to the approval of the Public Works Director (Nye County, 2013; Exhibit I of the Application).

3.9 Visual Resources

The following section describes the existing visual resources and visual character in the Project area. Visual resources include the natural and manmade features that give a particular environment its aesthetic qualities. Together, they form the overall impression of an area, referred to as its visual character. Visual character is evaluated to assess whether a proposed project would appear compatible with the existing setting or would contrast noticeably with the setting and/or appear out of place.

3.9.1 Existing Setting

The Project is located within the Mojave Desert section of the Basin and Range Province. The Basin and Range Province is characterized by isolated, roughly parallel mountain ranges that are oriented north to south, separated by closed desert basins (EPG, Inc., 2010). The mountain ranges exhibit bajadas of eroded material at their bases, which provide a gentle transition between the angular mountains and flat valley floors. The vegetation community that occurs within the Mojave Desert is characterized by dominant stands of low-growing desert scrub plant species such as creosote bush and white bursage.

The Project is located in the Amargosa Valley, a basin loosely surrounded by the Yucca Mountains to the north, the Spring Mountains to the east, and the Funeral Mountains stretching from the south to the west. The Amargosa Valley encompasses approximately 500 square miles (EPG, Inc., 2010).

The topographic nature of the valley is flat with subtle elevation change. The valley generally slopes from the north to the south, following the Amargosa River.

There are residences and related community facilities within a 2-mile radius of the Project site. Clusters of residential buildings are south of the Project site and dispersed residences are located to the north and east. These populated areas contain denser vegetation that is not native to this portion of the Mojave Desert. Lands to the south and southwest of the Project site are undeveloped as they are located within or immediately adjacent to Death Valley National Park.

Cultural modifications that have affected the regional setting are predominantly associated with the Town of Amargosa Valley (and commercial land uses), industry related to farming (including center-pivot irrigated agricultural fields) and ranching, mining (gravel pits to the south and a large volcanic cider mine to the north), and community/commercial facilities to the northeast, east, and southeast of the Project site.

The local setting within, and immediately adjacent to the Project site, has been modified by several utility lines including single-pole, wooden distribution lines (one crossing the Project site east to west and one crossing north to south), the existing Valley Electric substation, two cell phone towers, underground communication lines, and a radio transmission tower directly east of the site. Regional modifications (within 5 miles) include one double-circuit wooden pole transmission line, approximately 2 miles to the south; two substations (one 2 miles to the south and one 5 miles southeast of the Project site); and a single-circuit transmission line running parallel to NV 373 on the east side. Other regional cultural modifications include major transportation corridors US 95, NV 373, and numerous local paved and unpaved roads that border the Project site on three sides.

Existing or potential sources of nighttime light in the vicinity of the Project include the residences of Amargosa Valley and several industrial or commercial operations, including mining facilities, commercial businesses on US 95, and agricultural facilities. Another source of lighting is the traffic along US 95 and Highway 373.

US 95 is not a designated scenic highway and there are no designated scenic corridors in the Project area; however, the Nevada Department of Transportation (NDOT) has determined that the highway is eligible as a scenic corridor called Mojave Desert Vista (from Clark County to the NV 266 junction, south of Goldfield, Nevada). It is not anticipated that the Project will be visible from Hwy 95, as it is located approximately 9 miles to the south.

Scenic Quality

The Project site is located on terrain and vegetation characterized by flat to slightly rolling plains, with low vegetative diversity associated with desert scrub (primarily creosote). Lands in this area also exhibit a high amount of cultural modification, including buildings, agriculture, transmission lines, and mining activities. In the distant background are alluvial fans (bajadas) and mountain ranges typical of the Basin and Range province. Unimproved and dirt roads cross the area. The center-pivot irrigated fields create a strong contrast in geometric form and color in comparison to the soft brown and green palette of the surrounding native soil and vegetation.

While the Project would be located on lands administered by Nye County, other lands in the vicinity are managed by the Bureau of Land Management (BLM). BLM lands in the vicinity of the Project are classified as Visual Resource Management (VRM) Class IV, which is the lowest value of scenic quality (EPG, Inc. 2010). The mix of developed and natural views in the Project area is consistent with a Class IV rating. The objective of a

Class IV rating is to provide for management activities that allow major modification of the existing character of the landscape (BLM, 1986).

Sensitivity Levels

Sensitivity levels are a measure of public concern for scenic quality. Residences, travel routes, or trails are examples of locations where viewers typically are sensitive to visual modifications of the landscape. Visual sensitivity varies with the type of user. Recreational users are typically highly sensitive to changes in the landscape based on their expectation for a particular recreational experience, whereas commuters are typically moderately sensitive because they are more focused on getting to a destination in a timely manner. Residences typically have the highest sensitivity because of high use and viewing duration.

Potential sensitive receptors identified within 5 miles of the Project site include residents, and motorists traveling along local roads and Highway 373. Motorists traveling along Highway 373 include recreationists who are traveling to and from Death Valley National Park.

The Death Valley National Park boundary is located 1.5 miles south of the Project site. However, this area of the park is very remote and receives very low visitation. The majority of recreationists in this area of the park are backcountry four-wheel-drive motorists traveling from the west side of the Funeral Mountains to Lee's Camp, a ghost town located near the park border 9 miles northwest of the Project site.

3.9.2 Environmental Consequences

The Project is not anticipated to have an adverse impact on visual resources. As described above, the area is classified as having low scenic quality due to previous manmade modifications to the landscape. While the Project would be visible to residents and motorists, it would be set back approximately 500 feet from the section line on Powerline and Roberts Roads, and approximately 350 feet from the section line on Casada Road. It would also be located in an area that has existing development from residential and agricultural uses. The Project would be consistent with existing land uses and the BLM VRM classification for surrounding public lands.

3.9.3 Environmental Protection Measures

To address the potential for impacts to visual resources, the following environmental protection measures will be implemented.

As depicted on Exhibit C of the Application, the solar arrays and substation will be set back approximately 500 feet from the section line on Powerline and Roberts Roads, and approximately 350 feet from the section line on Casada Road.

The Applicant will develop a Lighting Management Plan to be reviewed and approved by the County (Nye County, 2013; Exhibit I of the Application). To the extent feasible, exterior lighting will be directed downward and designed to minimize its impact on the

dark-sky visual environment. Night lighting used during construction, operation, and maintenance of the Project will be controlled or reduced using directed lighting, shielding, and/or reduced lumen intensity. Permanent lighting will be provided at the O&M building and at the main plant access road entrance.

Where feasible, the Applicant will utilize colors to emulate the natural colors found in the surrounding area (a color palette of browns, tans, etc.) for the O&M building, if determined necessary, and PCS shelters. Materials, coatings, or paints having little or no reflectivity shall be used whenever possible. PCS shelters shall be treated the same way to reduce visual complexity and color contrast (Nye County, 2013; Exhibit I of the Application).

3.10 Noise

The following section describes the existing noise environment in the Project area. Noise refers to unwanted sound that interferes with normal activities or reduces the quality of the environment. Response to noise varies according to its type, its perceived importance, its appropriateness in the setting, time of day, and the sensitivity of the individual receptor.

A decibel (dB) is a unit of measurement used to define sound levels. Sound measurement is further defined by using an A-weighted decibel (dBA) scale that describes how an individual perceives sound. There are differing sensitivities to noises relative to the time of day. Therefore, the day-night average noise level (Ldn), which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises), is used to characterize noise in residential areas where people are more sensitive to nighttime noise.

Noise can be a public concern associated with construction and operational activities. Some of the factors to consider when assessing an acceptable level for a specific area are distance from major thoroughfares and airports, population density, and time of day. Noise-sensitive receptors are defined as the occupants of a facility or a location where a state of quietness is a basis for use or where excessive noise interferes with the normal use of the facility or location. Typical noise sensitive receptors include schools, hospitals, churches, libraries, homes, and parks.

3.10.1 Existing Setting

The Project site is located within a rural, sparsely populated area of Nye County. The existing ambient noise environment in the vicinity of the Project site is mainly made up of: natural sounds, such as those caused by wind and birds; vehicle noise associated with local roadways (e.g., Roberts Road, Casada Road, T&T Ranch Road, Powerline Road, and Smith Lane); limited residential activity in the vicinity of the southern border of the Project site along Roberts Road; and limited agricultural activities. In addition, occasional aircraft overflight noise occurs in the Project site. Rural areas such as the

Project site tend to have relatively low ambient Ldn values that range from 35 dBA to 50 dBA (US EPA, 1974).

The only noise-sensitive receptors in the Project area are scattered rural residences, the closest of which are along Roberts Road, approximately 500 feet south of the southern Project boundary.

3.10.2 Environmental Consequences

Construction of the Project is expected to take up to 15 months to complete, beginning in the fourth quarter of 2015. Construction would generally occur during typical County-approved construction hours, Monday through Friday. Once construction is complete, the Project would be in operation for at least 25 years with the possibility of additional years of operation.

Construction of the proposed Project would result in temporary increases in ambient daytime noise levels for up to approximately 15 months. A variety of construction equipment, such as graders, backhoes, trenchers, jackhammers, vibratory hammers for driving piles, cement trucks, dump trucks, and delivery trucks, would generate noise intermittently during daylight hours. Noise levels from large active construction sites can measure up to 90 dBA at a distance of 50 feet from the operating equipment. Areas such as the Project site that are flat-lying with ground surfaces that are absorptive, such as soft dirt, grass, or scattered bushes, experience noise attenuation at a rate of approximately 7.5 dBA for each doubling of distance between the source and the receptor.

Receptors located 500 feet and 2,000 feet away from Project construction activities could experience short-term daytime noise levels of up to 65 dBA and 50 dBA, respectively. As there are no applicable local policies or standards available to judge the effects of short-term daytime construction noise levels, this analysis uses the Federal Transit Administration (FTA) threshold, which comprises a daytime 1-hour average level of 90 dBA. The FTA identifies this as a noise level where adverse community reaction to short-term construction noise could occur (FTA, 2006). Short-term construction noise levels that would be associated with the Project would likely be audible at the closest residences; however, they would not exceed the FTA threshold.

Operational noise from the Project site would be negligible and would likely be inaudible at the closest residences. Performing outdoor maintenance, repositioning test equipment, and using tools in the Project site as part of operations and maintenance activities would temporarily increase ambient noise levels at the Project site, but residences would not be negatively impacted.

3.10.3 Environmental Protection Measures

To address the potential for noise related impacts, the following environmental protection measures will be implemented.

Heavy equipment would generate noise that could adversely affect the on-site workers during construction. Construction equipment typically emits noise in the 85 to 100 dB range. The Applicant will require all individuals working around construction equipment emitting high levels of noise to wear hearing protection in accordance with Occupational Safety and Health Administration (OSHA) regulations.

To minimize impacts to adjacent residences, the Project site plan includes a setback of approximately 500 feet from the section line on Powerline and Roberts Roads, and approximately 350 feet from the section line Casada Road. In addition, to reduce impacts to adjacent residences, access roads depicted along Roberts Road will be used for operations only.

3.11 Waste Management and Hazardous Materials

The following section describes the existing setting and potential generation of hazardous materials associated with the Project. Hazardous materials consist of substances that may be hazardous to human health as a result of toxicity, chemical hazard, reactivity, or flammability, as well as fuels, lubricants, and other liquid materials that may be used at the site during construction. Nonhazardous solid waste used on the site may include construction debris, landscaping waste, and household waste.

URS conducted a Phase 1 Environmental Site Assessment (ESA) of the Project site in conformance with the scope and limitations of American Society of Testing Materials Practice and the US EPA's procedures for conducting Phase 1 ESAs. The Phase 1 ESA was conducted in order to identify hazardous materials or conditions indicative of Recognized Environmental Conditions (RECs) affecting the property. The Phase I ESA was accomplished through a site reconnaissance survey, a site vicinity perimeter survey (one-half mile), and review of agency databases, as well as other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site. The complete Phase 1 ESA is provided in Appendix A-7.

3.11.1 Existing Setting

A consideration for hazardous materials analysis is the proximity of residential and other sensitive receptors, such as schools, daycare centers, emergency response facilities, and long-term care facilities. The nearest sensitive receptor to the Project site includes residences immediately adjacent to the southern boundary of the Project. The nearest school is the Horizon Academy (private boarding school for troubled adolescents), located 4 miles southeast of the site.

Results from the Phase 1 ESA concluded that there are no existing RECs within the Project site. The probability of past use of agricultural chemicals was noted; however, it did not change the findings.

The nearest landfill to the Project site is the Pahrump Valley Landfill (Class I) located north of Pahrump, approximately 33 miles southeast of the Project site. In addition, the Wells Cargo Industrial Landfill (Class III) is located approximately 73 miles southeast of the Project site.

3.11.2 Environmental Consequences

Components of the Project have the potential to create small amounts of waste and hazardous materials. **Table 6** provides a list of wastes typically generated during the construction of a solar energy facility and the proposed methods for proper disposal.

TABLE 6
POTENTIAL WASTES GENERATED DURING CONSTRUCTION

Waste	Origin	Composition	Classification	Disposal
Scrap wood, steel, glass, plastic, paper	Construction activities	Normal refuse	Nonhazardous	Recycle and/or dispose of in industrial or municipal landfill
Scrap metals	Construction activities	Parts, containers	Nonhazardous	Recycle and/or dispose of in industrial or municipal landfill
Empty hazardous material containers	Operation and maintenance of plant	Drums, containers, totes*	Hazardous and nonhazardous solids	Containers <5 gal will be disposed as normal refuse; Containers >5 gal will be returned to vendors for recycling or reconditioning
Waste oil filters	Construction equipment and vehicles	Solids	Used Oil	Recycle at a permitted TSDF
Oily rags, oil sorbent excluding lube oil flushes	Cleanup of small spills	Hydrocarbons	Used Oil	Recycle or dispose at a permitted TSDF
Spent lead acid batteries	Construction machinery	Heavy metals	Hazardous	Store no more than 10 batteries (up to 1 year)–recycle off site
Spent alkaline batteries	Equipment	Metals	Universal waste solids	Recycle or dispose offsite at a Universal Waste Destination Facility
Waste oil	Equipment, vehicles	Hydrocarbons	Used Oil	Dispose at a permitted TSDF
Sanitary waste	Portable toilet holding tanks	Solids and liquids	Nonhazardous liquid	Remove by contracted sanitary service

*Containers include <5-gallon containers and 55-gallon drums or totes
Note: TSDF = Treatment, Storage, and Disposal Facility

In addition, solid waste consisting of wood, cardboard, cement, aggregate, and office waste will be generated during installation of the PV modules, substation, transmission lines, the O&M building (if determined necessary), roads, and parking areas. Solid waste will be recycled where possible. The remainder will be transported for disposal at a licensed waste management facility.

The construction and operation of the Project is not expected to require use, generation, or transportation of large quantities of hazardous materials that would create a significant hazard to the public or environment. In addition, no known recognizable hazardous conditions were identified during the Phase 1 ESA.

3.11.3 Environmental Protection Measures

To address the potential for impacts related to waste and hazardous materials, the following environmental protection measures will be implemented.

The Applicant will prepare a Waste Management Plan for the Project that will describe the storage, transportation, and handling of wastes and would emphasize the recycling of wastes. The Plan would also identify the specific landfills that would receive wastes that could not be recycled.

All employees and contractors are expected to adhere to appropriate health and safety plans and emergency response plans. All construction and operation contractors will be required by the Applicant to operate under a health and safety program that is approved by the Applicant and that meets industry standards. All contractors will be required to maintain and carry health and safety materials including the Material Safety Data Sheets of hazardous materials used on site (Nye County, 2013; Exhibit I of the Application).

The Applicant will prepare an Emergency Response Plan for the Project which will contain a section that presents the results of a comprehensive facility hazard analysis and, for each identified hazard, a Response Plan. Emergencies may include brush or equipment fires, and transformer oil leaks or spills. The Emergency Response Plan will assign roles and actions for on-site personnel and responders and will designate assembly areas and response actions

3.12 Socioeconomics

The following section describes the existing socioeconomic setting in the Project area. Socioeconomics describe the local economy, employment, and demographics that may be impacted by construction and operation of the Project.

3.12.1 Existing Setting

The Project is located in the Town of Amargosa Valley, an unincorporated portion of Nye County. The Amargosa Valley, which has a small, rural population, is spread over a large geographic area of approximately 500 square miles.

The Nevada State Demographer's Office (NSDO) is responsible for conducting annual population estimates for Nevada's counties, cities, and towns. According to the NSDO, the 2013 population estimate for the Town of Amargosa Valley was approximately 1,342, and the 2013 population estimate for Nye County was approximately 44,749 (NSDO, 2012). The 2020 population projection for Nye County is 55,167, which projects an average growth increase of 2.3 percent each year (NSDO, 2013).

According to the US Bureau of Labor Statistics (BLS), the civilian labor force in Nye County as of January 2014 is 17,220, the number of employed people is 15,535, while

the number of unemployed people is 1,685, or 9.8 percent of the labor force (BLS, 2014).

3.12.2 Environmental Consequences

Construction of the Project would take 12 to 15 months to complete, beginning in the fourth quarter of 2015 and being completed by the end of the fourth quarter of 2016. Once construction is complete, the Project would be in operation for at least 25 years with the possibility of additional years of operation.

The Project is expected to generate an average construction workforce of 310, many of which will be temporary employment opportunities consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. Construction would generally occur during typical County-approved construction hours, Monday through Friday. To the extent commercially feasible, the Applicant will hire local residents for construction.

The operation and maintenance of the solar facility may require up to 8 FTE employees consisting of plant operators, maintenance technicians, and site security personnel. Maintenance and administrative staff will typically work during regular business hours, Monday through Friday. During periods when non-routine maintenance or major repairs are in progress, the maintenance workforce will typically work nights when the solar facility is not generating power to the grid. To the extent commercially feasible, the Applicant will hire local residents for operations and maintenance.

Because the workforce is expected to consist primarily of local residents, the Project is not anticipated to substantially increase the population or change the local demographic character. Any impacts to population or changes the local demographic character will be temporary and short-term. As described, there is a high unemployment rate in Nye County, and the Project is expected to have a beneficial effect on the local economy through job development and the use of local goods and services. Furthermore, in order to support the local economy in the long-term, the Applicant shall make a good faith effort to purchase a reasonable amount of goods related to operation of the facility from Nye County vendors.

3.12.3 Environmental Protection Measures

To minimize potential socioeconomic related impacts in the local area, the following environmental protection measures will be implemented (Nye County, 2013; Exhibit I of Application).

Employment

To the extent feasible, the Applicant will hire local or county residents for both construction and operations of the project.

The Applicant will conduct two public meetings in the Town of Amargosa Valley to provide information about employment opportunities relating to the Project and will

assist the appropriate Nye County agency(s) in providing training for potential employees prior to the start of construction.

The Applicant will also make a good faith effort to purchase a reasonable amount of goods related to operation of the facility from Nye County vendors to the extent commercially feasible; the Applicant will conduct a vendor information session in Nye County to educate vendors regarding SVS's procurement process prior to start of construction.

Medical and Emergency Services

The Applicant will make quarterly payments to the County for the duration of Project construction for the benefit of community medical services during the Project construction period.

Prior to commencement of construction within the boundaries of the Project, the applicant will work with the County to prepare and provide to the County a Facility Emergency Plan no later than 90 days prior to commencement of construction.

Throughout the construction period and during Project operations, the Applicant will reimburse the Nye County Sheriff's Office (NCSO) for any overtime hours charged by the NCSO directly associated with law enforcement services the NCSO provides to the Project.

The Applicant will annually, for as long as the Project is operating, provide emergency and fire protection training for up to two individuals identified by the County; the County will give priority to individuals who serve in the Amargosa Valley Volunteer Fire Department.

The Applicant will provide the County and the Amargosa Valley Volunteer Fire Department, for as long as the Project is operating, access to a water holding tank on the property for use in responding to fires on the property and in the area. The County and Amargosa Valley Volunteer Fire Department agree to use the water supply only for such purposes.

4.0 LIST OF PREPARERS AND REVIEWERS

3.1 Applicant

Sunshine Valley Solar, LLC
Principle address:
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Tempe, AZ 85281
Mailing address:
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135 Main St., 6th Floor
San Francisco, CA 94105

3.2 Consultants

The following is a list of the consultants who prepared this ES and a description of their qualifications, as required by NAC 703.423 (7)(b)(i-ii). The consultants listed did not conduct original site surveys or evaluations, but relied upon information provided by the Applicant and relevant references.

Environmental Science Associates
626 Wilshire Blvd
Los Angeles, CA 90017

Michael Manka, Project Director
Michael is a Senior Project Manager with more than 19 years of experience specializing in energy project management, resource management planning, and National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analysis. His energy project work involves serving as project director, project manager, and resource analyst for the siting and analysis of utility-scale solar projects and substation and transmission line projects as well as geothermal, hydroelectric, and other energy projects in California, Nevada, and New Mexico.

Shannon Stewart, Project Manager
Shannon has 17 years of professional experience in land use planning and environmental documentation covering most regions of the western United States (including Nevada). Shannon has managed and authored land use planning and environmental documents for a variety of energy and natural resource projects and has extensive experience interpreting federal, and state laws, regulations, and policies. She has worked as a senior-level analyst for both the Department of Energy and the Department of the Interior specializing in controversial and complex projects as well as strategic policy development. Shannon is recognized as a leader in the field of NEPA.

Shannon led the BLM's efforts to develop a comprehensive Solar Energy Program in Arizona, California, Colorado, New Mexico, Nevada, and Utah.

Michelle Williams, Deputy Project Manager
Michelle serves as a CEQA/NEPA analyst with 4 years experience analyzing a wide variety of impacts on the physical environment for an array of projects, including renewable energy projects, and preparing CEQA/NEPA documents. Michelle recently assisted with preparation of Plans of Development for eight separate solar facilities (30–120MW) in Nevada, located on Bureau of Land Management and Bureau of Reclamation lands. She also recently served as the Deputy Project Manager and provided technical support for an Environmental Impact Report for a solar facility on private lands located in unincorporated Fresno County, CA.

Matthew Fagundes, Noise and Air Quality
Matt is an environmental scientist with more than 16 years of experience evaluating potential impacts to the physical environment, particularly with regard to air quality, greenhouse gases, hazards, noise, and transportation for compliance with CEQA and NEPA. Matt has vast experience with the review of energy infrastructure and other industrial projects and has several years of experience serving as project manager and deputy project manager for such clients as the U.S. Forest Service (USFS), California Public Utilities Commission (CPUC), California State Lands Commission (CSLC), the Los Angeles Unified School District (LAUSD), Sonoma County Waste Management Agency (SCWMA), and Contra Costa County, CA.

Tim Rimpo, M.S., Noise and Air Quality
Tim Rimpo has 28 years of experience evaluating air quality and greenhouse gas impacts for public and private clients. His areas of expertise include point, area, and mobile-sourced air quality impact studies; health risk assessments; air quality permitting; analyses of air quality regulations; emissions inventory development; and development and modification of air quality computer models. Tim also manages preparation of CEQA and NEPA documents that include residential, commercial, industrial, energy, and transportation projects.

Allisa Carlson, PLA, LEED AP, Visual Resources
Allisa is a licensed Landscape Architect with over 10 years of experience in scenic management. Allisa's expertise encompasses visual/aesthetic evaluations and assessments, scenic resource inventories, visual simulations, and GIS analysis for public agency projects. She has performed scenic evaluations following Bureau of Land Management (BLM) and U.S. Forest Service (USFS) techniques and requirements. Allisa has participated in extensive and large-scale visual resource inventories for the BLM for the purposes of classifying scenic resources in the landscape. She has led the visual evaluations and assessments for alternative energy projects in California in the context of CEQA and NEPA. Allisa is highly skilled in creating and leading the development of computer visual simulations through the use of Adobe Creative Suite, ArcGIS, AutoCAD, and 3D visualization software.

5.0 REFERENCES

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6.0 LISTOF ACRONYMS

AADT	Annual Average Daily Traffic
AC	alternating current
af/y	acre-feet per year
AVAPC	Amargosa Valley Area Plan Committee
BLM	US Bureau of Land Management
BLS	US Bureau of Labor Statistics
BMP	Best Management Practice
BAPC	Bureau of Air Pollution Control
CO	carbon monoxide
CSP	concentrating solar power
dB	Decibel
dBA	A-weighted decibel
DC	direct current
EPA	Environmental Protection Agency
ES	Environmental Statement
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
FTE	full-time equivalent
kV	Kilovolts
Ldn	average noise level
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NAHC	Native American Heritage Commission
NCSO	Nye County Sheriff's Office
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NRHP	National Register of Historic Places
NSDO	Nevada State Demographer's Office
O&M	operation and maintenance
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration
NDOT	Nevada Department of Transportation
NOx	oxides of nitrogen
PCS	Power Conversion Stations
PM10	inhalable particulate matter (less than 10 microns in diameter)
	fine particulate matter (less than 2.5 microns in diameter)

PM2.5	
PUCN	Public Utility Commission of Nevada
PV	Photovoltaic
PVCS	Photovaltic Combining Switchgear
REC	Recognized Environmental Conditions
SCADA	Supervisory Control and Data Acquisition
SCC	site control center
SLF	sacred land files
SO_2	sulfur dioxide
SUT--	Step up transfomer
SVS	Sunshine Valley Solar, LLC. (Applicant)
TCP	Traditional Cultural Properties
UEPA	Utility Environmental Protection Act
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Services
USGS	US Geological Survey
VEA	Valley Electric Association
VOC	volatile organic compounds
VRM	Visual Resource Management

7.0 APPENDICES

A Technical Studies, Reports, and Correspondence with Regulatory Agencies

A-1 Jurisdictional Delineation Report, Prepared for the US Army Corps of Engineers

A-2 Jurisdictional Determination and Correspondence from US Army Corps of Engineers

A-3 Desert Tortoise and Burrowing Owl Survey Report, Prepared for the US Fish and Wildlife Service

A-4 U.S. Fish and Wildlife and Nevada Department of Wildlife Correspondence

A-5 Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region

A-6 Cultural Pedestrian Survey

A-7 Phase 1 Environmental Site Assessment

APPENDIX A

Technical Studies, Reports and Correspondence with Regulatory Agencies

A-1 Jurisdictional Delineation Report, Prepared for the US Army Corps of Engineers
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Appendix A-1

Jurisdictional Delineation Report, prepared for the US Army Corps of Engineers

JURISDICTIONAL WATERS DELINEATION REPORT FOR THE SUNSHINE VALLEY SOLAR POWER PROJECT

Prepared for

United States Army Corps of Engineers, Sacramento District; St. George Regulatory Office

October, 2013

Prepared and Submitted By

Sunshine Valley Solar, LLC

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1.0 Introduction

This jurisdictional delineation report is provided in support of the Sunshine Valley Solar (SVS) Project, located in the Amargosa Valley, NV, on recovered agricultural lands that support sparse creosote scrub habitat. The proposed Project Area is approximately 745 acres, located entirely on private land, and includes a proposed transmission line that may extend approximately a half mile in length within private land as well. The Project Area elevation ranges from 2,306 feet above mean sea level in the southern portion of the Project Area to 2,331 feet in the northern portion of the Project Area, situated within the western portion of the Basin and Range physiographic province. The Basin and Range province is characterized by broad, relatively flat basins surrounded by several mountain ranges. The Project is located approximately 90 miles northwest of Las Vegas, Nevada, in Amargosa Valley in Nye County. More specifically, the SVS Project is within Section 36, T16S, R48E of USGS 7.5' Leeland quadrangle and Sections 30 and 31, T16S, R49E of USGS 7.5' South Amargosa Valley quadrangle.

1.1 Project Description

The SVS Project consists of an approximately 65-megawatt (MW) alternating current (AC) solar photovoltaic (PV) power generating facility on approximately 745 acres of private land. The power produced by the SVS Project would be conveyed to the local power grid via an approximately 0.5 mile 138-kV generation-tie transmission line (Gen-tie) that will connect to the Valley Electric Association's (VEA) Valley Substation.

The Project will be constructed using First Solar cadmium telluride thin-film solar modules mounted on either fixed-tilt and/or single-axis, horizontal tracker structures. The mounting system for the modules will be supported by steel posts driven into the ground. The fixed-tilt arrays, which do not track the sun, are positioned in a south-facing orientation at an angle from horizontal (ground surface) to receive optimal solar energy throughout the year. The rows in each array are oriented in an east-west direction. On the single-axis, horizontal trackers, the PV modules are mounted horizontally (not tilted to the south). The tracking units are arranged into north to south-oriented rows, and are powered by a drive motor to track the east-west path of the sun on a single axis throughout the day.

The Project arrays will include Power Conversion Stations (PCS) which contain inverters that convert the direct current (DC) to alternating current (AC) as well as transformers. Electrical collection system will run from PCS to the on-site Project substation. The substation will contain one or more transformers to step up the voltage to 138 kV as well as plant controls. Concrete foundations will be required for the PCS, Project substation and other electrical equipment.

1.2 Regulatory Background

Wetlands and other jurisdictional / navigable waters are regulated by the US Army Corps of Engineers (USACE) through Section 404 of the Clean Water Act (CWA). The United States Environmental Protection Agency (EPA) enforces the regulations of the CWA, and the USACE can claim jurisdiction over wetlands and require permitting activities for any disturbance if the wetlands or waters meet criteria set forth in Section 404 of the CWA.

The USACE can also claim jurisdiction over stream channels and ephemeral washes that connect to jurisdictional/navigable waters. Stream channels are ecologically important because they convey flood flows, perform floodplain functions, serve as travel corridors and provide habitat for wildlife species. The USACE's jurisdiction on a stream channel or ephemeral wash is limited to the Ordinary High Water Mark (OHWM). The OHWM for non-tidal streams is defined as:

> The line on the shore established by the fluctuations of water and is indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter or debris, or other appropriate means that consider the characteristics of the surrounding area (33 CDF Part 328.3).

Pursuant to Section 404 of the Clean Water Act, project activities that result in the placement of structures or dredged or fill materials into waters of the United States requires a permit from the USACE prior to construction. USACE permit thresholds are based on the type of project and amount of potential disturbance. If the impacts are less than 0.5 acre per crossing, a nationwide permit can be used to permit the project. If a project creates a greater amount of impacts to jurisdictional waters (greater than 0.5 acre per crossing), an individual permit would be required.

2.0 Methodology

On August 28, 2013, and again September 10-13, 2013 the project site was investigated to determine the extent of USACE-jurisdictional waters occurring on the approximately 745-acre SVS Project site and the associated Gen-tie line.

Potential Waters of the U.S. (WUS) were first identified through examination of aerial photographs of the Project area. After reviewing the aerial photographs, Theresa Miller of Fontana Energy visited the site and checked each area in question based on the aerial photographs. During the week of September 10-13, the entire site was surveyed at 10-meter intervals while conducting desert tortoise surveys; at that time, the site was examined again to determine the drainage patterns, and if ordinary high water marks (OHWM) exist on the Project site. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 2008) was used to identify OHWMs if they were present.

3.0 Results

The SVS Project occurs in the Creosote bush scrub habitat community, which is upland habitat within the Mojave Desert. The Amargosa River is located approximately 3 miles to the west of the Project site and flows above and below ground through the Amargosa Valley in California and Nevada.

No non-wetland water features, which are defined through observation of bed and bank morphology and other indicators of OHWM were observed and no wetland waters were identified within the SVS Project area. Vegetation remained constant throughout the site; no changes in vegetation occurred that would characterize a flow path that continued through the SVS Project site. There are remnant blue-line streams that appear on topographic and USACE HD maps; however, no characteristics of a blue-line stream were detectable on the Project site, likely due to the past agricultural use and the lack of topography.

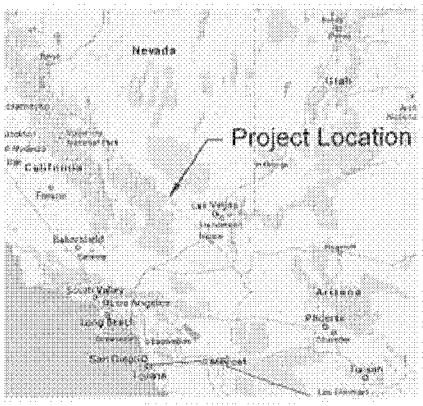
Drainage throughout the project site was observed to be primarily sheet flow, with a few areas that demonstrated a slightly higher level of flow that resulted in slight flow patterns. However, no areas had strong enough flow to result in defined drainages or washes that exhibited OHWM, and the areas that appeared to be washes on the aerial photographs were observed to be old agricultural roads, tractor tire tracks, or ATV trails within the upland habitat. Based on the lack of topography and OHWMs, and the agricultural history of the vicinity, the water that moves across the SVS Project site as sheet flows would not reach the Amargosa River even during large storm events. Photographs of the SVS Project site are provided in Appendix A.

4.0 Conclusions

The Project site lacks topographical variation and the sheet flow patterns on the site do not exhibit continuous OHWMs that reach downstream jurisdictional waters of the U.S. Therefore, the drainage features on the Project site would not be considered jurisdictional under the guidelines of Section 404, or the guidance from the USACE Arid West Delineation Manual (USACE 2008).

5.0 References

U.S. Army Corps of Engineers (USACE). 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual. Cold Regions Research and Engineering Laboratory. ERDC/CRREL TR-08-12. August.



Location Map
Not to Scale

Key Plan
Not to Scale

Legend

Lease Boundary
Section Line

First Solar

Sunshine Valley Solar

NORTH

0 2500 5000 ft

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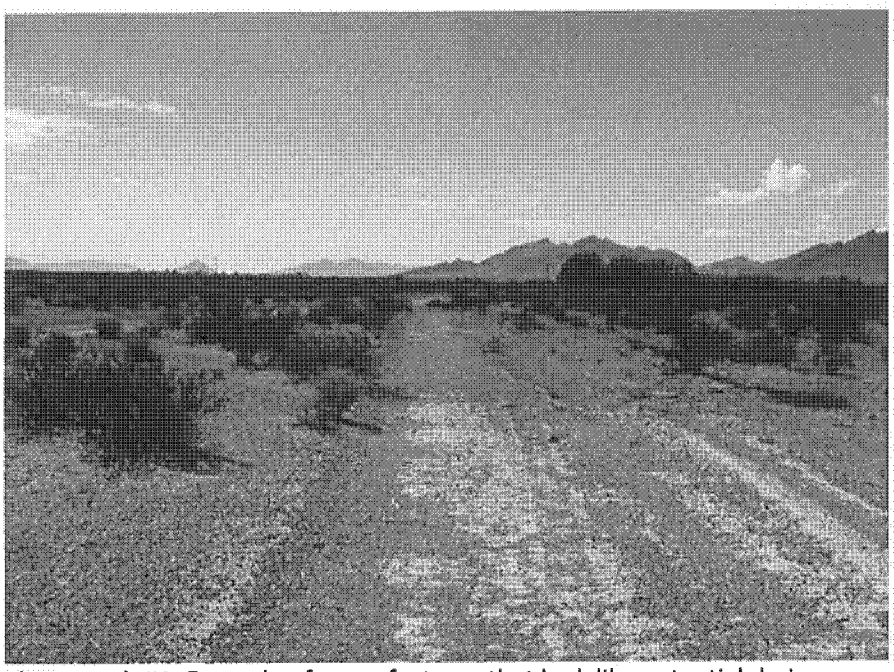
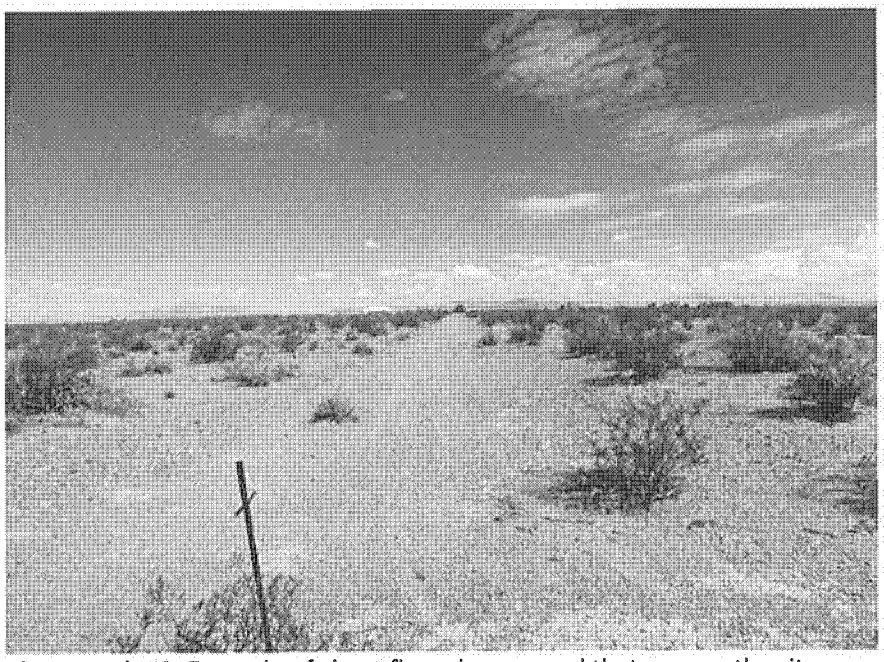
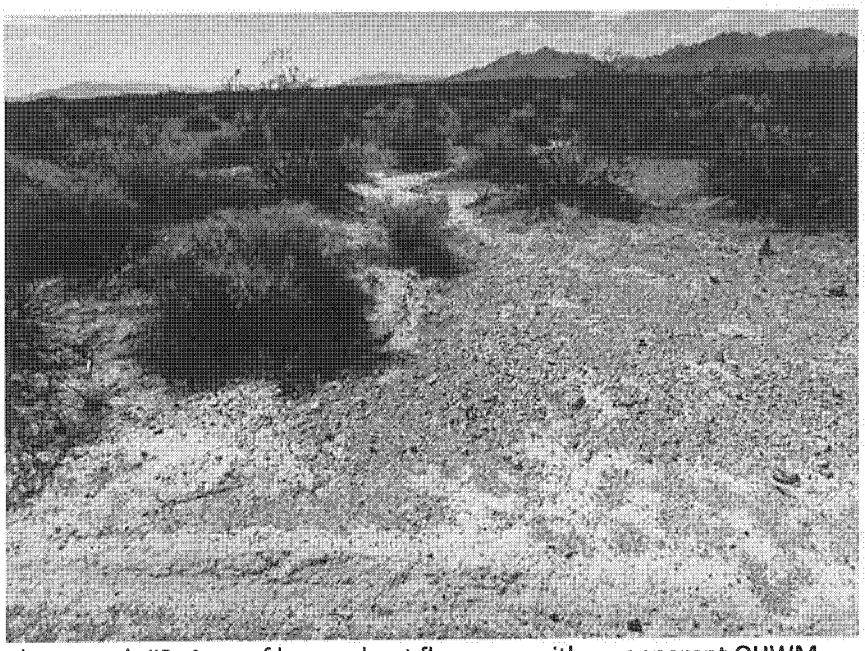
Appendix A – Site Photographs



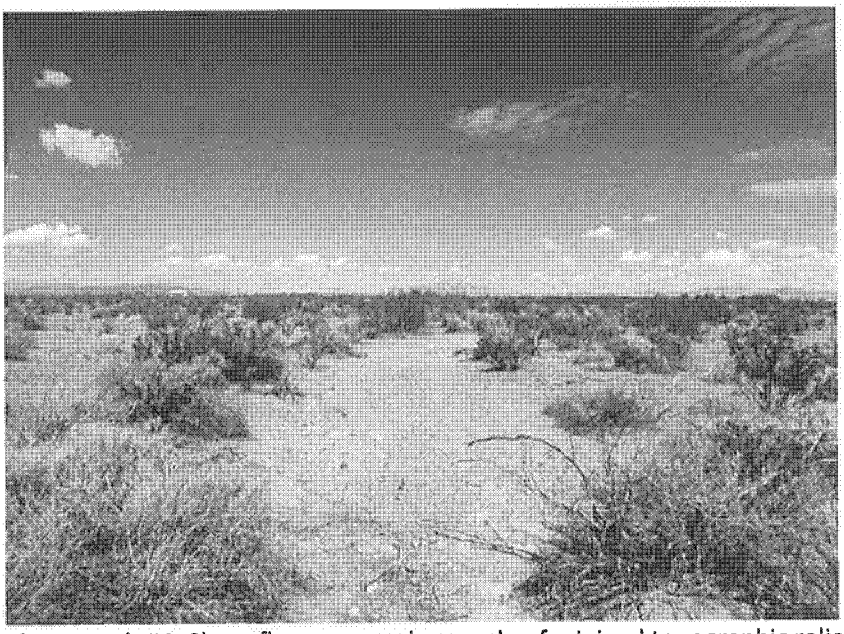
Photograph #1: Example of many features that look like potential drainages on Aerial photograph, which are in fact roads that do not have an OHWM.



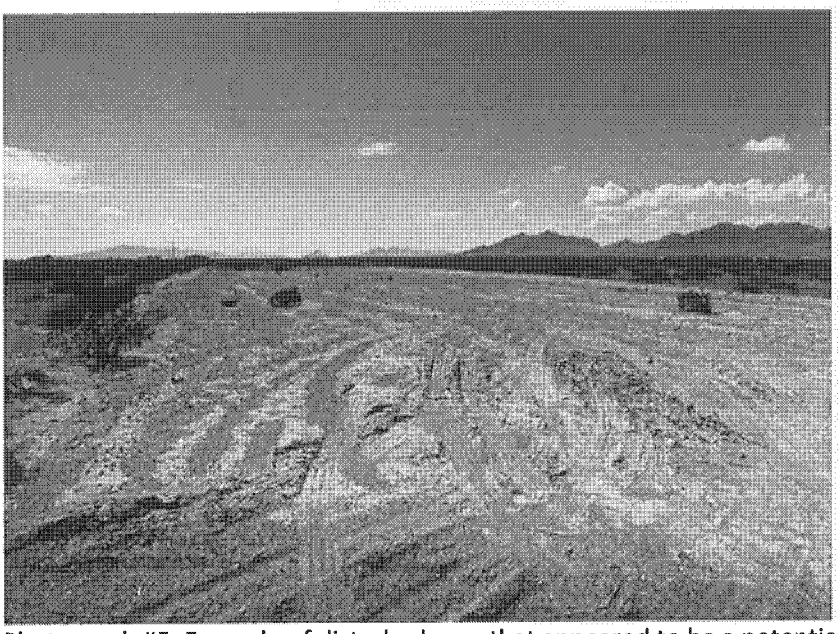
Photograph #2: Example of sheet flow along a road that crosses the site.



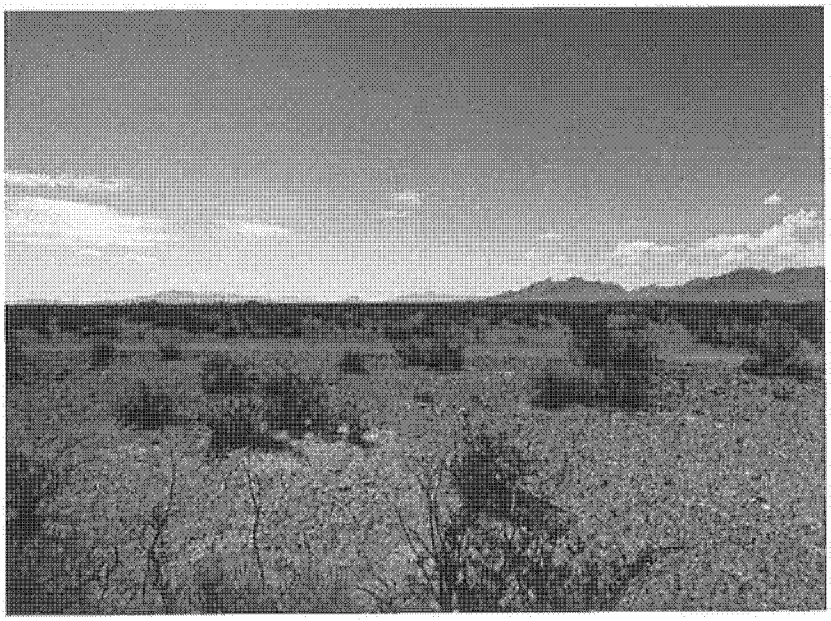
Photograph #3: Area of heavy sheet flow area with no apparent OHWM.



Photograph #4: Sheet flow area and example of minimal topographic relief on the site.



Photograph #5: Example of disturbed area that appeared to be a potential drainage path on aerial photographs.



Photograph #6: Overall view of the project site.

Appendix A-2

Jurisdictional Determination and Correspondence from the US Army Corps of Engineers

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

October 30, 2013

Regulatory Division SPK-2013-00798-SG

Mr. Ken Borngrebe
First Solar, Inc.
135 Main Street 6th floor
San Francisco, California 94105

Dear Mr. Borngrebe:

We are responding to your consultant's request for an approved jurisdictional determination for the Sunshine Valley Solar Site project. The approximately 745-acre site is located in the Amargosa Valley, Section 35, Township 16 S, Range 48 E, Mount Diablo Meridian, Latitude 36.5215920°, Longitude -116.5066695°, Amargosa Valley, Nye County, Nevada.

Based on available information, **we concur with the October 2013 "Jurisdictional Waters Delineation Report for the Sunshine Valley Solar Project" that there are no jurisdictional waters located on the 745-acre site.**

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331.

A Notification of Appeal Process (NAP) and Request for Appeal (RFA) form is enclosed. If you request to appeal this determination you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPD-PDO, 1455 Market Street, 2052B, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 60 days from the date of this letter. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

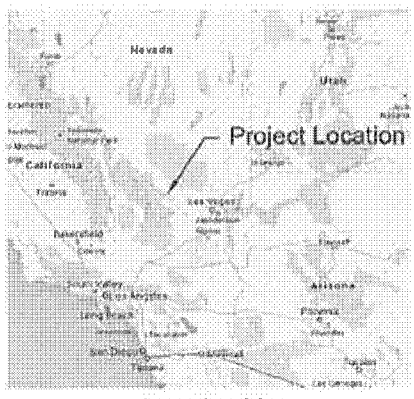
Please refer to identification number SPK-2013-00798-SG in any correspondence concerning this project. If you have any questions, please contact me at 196 E Tabernacle Street Room 30, St. George, Utah 84770, email *Patricia.L.McQueary@usace.army.mil*, or telephone 435-986-3979. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

Sincerely,

Patricia L. McQueary
Senior Regulatory Project Manager
St. George Regulatory Office
Sacramento District

Enclosures

CC:
Ms. Theresa Miller



Location Map
Not to Scale

Key Plan
Not to Scale

Legend

Lease Boundary
Section Line

First Solar

Sunshine Valley Solar

NORTH

0 2500 5000 ft

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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

October 30, 2013

Regulatory Division SPK-2013-00798-SG

Mr. Ken Borngrebe
First Solar, Inc.
135 Main Street 6th floor
San Francisco, California 94105

Dear Mr. Borngrebe:

This concerns your proposed Sunshine Valley Solar Site project which would consist of an approximately 65-megawatt (MW) alternating current (AC) solar photovoltaic (PV) power generating facility on approximately 745 acres of private land. The power produced by the SVS Project would be conveyed to the local power grid via an approximately 0.5 mile 138- kV generation-tie transmission line (Gen-tie) that will connect to the Valley Electric Association's (VEA) Valley Substation. The project is located in Amargosa Valley, Section 35, Township 16 S, Range 48 E, Mount Diablo Meridian, Latitude 36.521592082°, Longitude -116.50666952°, Amargosa Valley, Nye County, Nevada (Enclosure 1).

Based on the information you have provided, we have determined that the proposed work will not result in the discharge of dredged or fill material within waters of the United States. Therefore, a Department of the Army Permit is not required for this work. Measures should be taken to prevent construction materials and/or activities from entering any waters of the United States. Appropriate soil erosion and sediment controls should be implemented onsite to achieve this end.

Our disclaimer of jurisdiction is only for this activity as it pertains to Section 404 of the Federal Clean Water Act and does not refer to, nor affect jurisdiction over any waters present on site. Other Federal, State, and local laws may apply to your activities. Therefore, in addition to contacting other Federal and local agencies, you should also contact state regulatory authorities to determine whether your activities may require other authorizations or permits.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2013-00798-SG in any correspondence concerning this project. If you have any questions, please contact me at 196 E Tabernacle Street Room 30, St. George, Utah 84770, email *Patricia.L.McQueary@usace.army.mil*, or telephone 435-986-3979. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

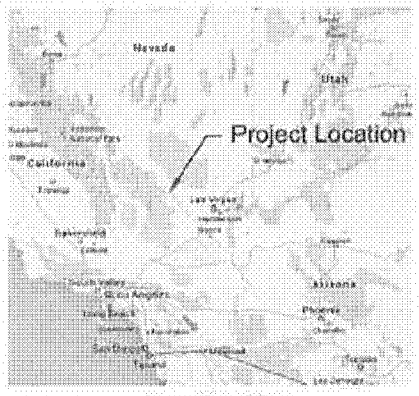
Sincerely,

Patricia L. McQueary

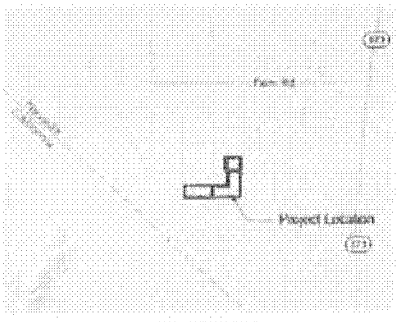
Patricia L. McQueary
Senior Regulatory Project Manager
St. George Regulatory Office
Sacramento District

Enclosures

CC:
Ms. Theresa Miller,
Ms. Jean Stone, NDEP
Mr. Jason Ferrin, NDEP



Location Map
Not to Scale



Key Plan
Not to Scale

Legend

Lease Boundary
Section Line

19
20
Existing Substation
Anvil Road
30
29
26
25
Smith Lane
(Private)
Cascade Road
T&T Ranch Road
(Private)
Power Line Road
35
36
31
32
Roberts Road
Michele Lane
Weiss Road
2
Cottonwood Road
1
6
5

First Solar

Sunshine Valley Solar

NORTH

0 2500 5000 ft

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Appendix A-3

Desert Tortoise and Burrowing Owl Survey Report, prepared for the US Fish and Wildlife Service

DESERT TORTOISE (*GOPHERUS AGASSIZII*) AND BURROWING OWL (*ATHENA CUNICULARIA HYPUGAEA)* SURVEY REPORT for the SUNSHINE VALLEY SOLAR POWER PROJECT

Prepared for

United States Fish and Wildlife Service, Las Vegas, Nevada Field Office

October, 2013

Prepared and Submitted By

Sunshine Valley Solar, LLC

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- 3.1 Vegetation
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- 3.3 Burrowing Owl
- 3.4 Other Wildlife Species

4.0 Conclusions

5.0 References

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Burrowing Owl Burrows in Project Area

APPENDIX A Resumes of Biologists that Conducted Surveys

APPENDIX B Photographs of the Project Site

1.0 Introduction

This report on desert tortoise surveys is provided in support of the Sunshine Valley Solar Project, located in the Amargosa Valley, NV, on recovered agricultural lands that support sparse creosote scrub habitat. The proposed Project Area is approximately 745 acres, located entirely on private land, and includes a proposed transmission line that may extend approximately a half mile in length (refer to Figure 1). The Project Area elevation ranges from 2,306 feet above mean sea level in the southern portion of the Project Area and 2,331 feet in the northern portion of the Project Area. The Project Area is situated within the western portion of the Basin and Range physiographic province, which is characterized by broad, relatively flat basins surrounded by mountain ranges. Vegetation in the area consists of low shrubs of creosote (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). The Project Area is approximately 90 miles northeast of Las Vegas, Nevada, located in Amargosa Valley in Nye County. More specifically, the Project Area is within Section 36, T16S, R48E of USGS 7.5' Leeland quadrangle and Section 30 and 31, T16S, R49E of USGS 7.5' South Amargosa Valley quadrangle.

1.1 Project Description

The Sunshine Valley Solar Project consists of an approximately nominal 65-megawatt (MW) alternating current (AC) solar photovoltaic (PV) power generating facility on approximately 745 acres of private land located in Nye County, Nevada. The power produced by the Project would be conveyed to the local power grid via an approximately 0.5 mile 138 kV generation-tie transmission line (gen-tie) that will connect to the Valley Electric Association's (VEA) Valley Substation.

The Project will be constructed using First Solar cadmium telluride thin-film solar modules mounted on either fixed-tilt and/or single-axis, horizontal tracker structures. The mounting system for the modules will be supported by steel posts driven into the ground. The fixed-tilt arrays, which do not track the sun, are positioned in a south-facing orientation at an angle from horizontal (ground surface) to receive optimal solar energy throughout the year. The rows in each array are oriented in an east-west direction. On the single-axis, horizontal trackers, the PV modules are mounted horizontally (not tilted to the south). The tracking units are arranged into north to south-oriented rows, and are powered by a drive motor to track the east-west path of the sun on a single axis throughout the day.

The Project arrays will include Power Conversion Stations (PCS) which contain inverters that convert the direct current (DC) to alternating current (AC) as well as transformers. Electrical collection system will run from PCS to the on-site Project substation. The substation will contain one or more transformers to step up the voltage to 138 kV as well as plant controls. Concrete foundations will be required for the PCS, Project substation and other electrical equipment.

1.2 Regulatory Background

The Project is located entirely on private property, including the transmission gen-tie line to the Valley Electric Association's Valley Substation. A Development Agreement with Nye County Planning Department is the approach for permitting, which includes most of the discretionary permits that are required for the project, except for permits from state and federal agencies that may be necessary based on survey results.

The site is located within low quality desert tortoise habitat in southern Amargosa Valley. The Mojave population of the desert tortoise (*Gopherus agassizii*) was listed by the U.S. Fish and Wildlife Service (USFWS) as threatened on April 2, 1990. Proposed actions within the range of the desert tortoise, whether on federal or private lands, are regulated by the Endangered Species Act 1973, as amended, in addition to any applicable state requirements (Nevada Division of Wildlife). Because the site is located on private

property, there is no federal nexus that would indicate a Section 7 Consultation if federally listed species are found on the project site. Therefore, a Section 10 Consultation with USFWS would be necessary if desert tortoise or their sign, or other federally listed species, are found on the project site, or if the habitat is of adequate quality to support desert tortoise. Protocol-level surveys were conducted to determine presence/absence of desert tortoise on the project site.

2.0 Methodology

Desert tortoise surveys following the 2010 Pre-project Survey Field Survey Protocol (USFWS 2010) were conducted September 10 – 13, 2013. A team of four qualified biologists performed ten-meter (~30-foot) wide belt transect surveys across the entire Sunshine Valley Solar project site, including the buffer areas between Robert Road and Powerline Road and the project boundary, where temporary staging areas will be located. The resumes of the biologists that conducted the surveys were reviewed by USFWS prior to beginning surveys, which included two Authorized Biologists (Matt Villaneva, Justin Streit, and Jennifer Edwards) and two biologists (Theresa Miller and Jason Lundquist) with substantial experience in searching for and detecting desert tortoise and their sign (Appendix A). Surveys occurred between the hours of 8am and 4pm each day, and temperatures were within the range of 75 to 95 degrees Fahrenheit, with clear to partly cloudy skies and one day of intermittent light rain.

All wildlife and plant species that were observed were documented during the surveys. Any burrows or sign of desert tortoise, burrowing owl (*Athene cunicularia hypugaea)*, or other listed species were recorded using hand-held GPS if encountered during the surveys.

3.0 Results

3.1 Vegetation

The vegetation on the site is dominated by creosote bush with less frequent bursage in Sections 30 and 31, and in the western portion of Section 36 only creosote bush was present. Two species of annual herbaceous species were present (*Chorizanthe rigida* and *Camissonia boothii*) and were uncommon throughout the site. Fine soils are present on the site, with a gravel top layer. Photographs of the Project site are included in Appendix B.

3.2 Desert Tortoise

No live or dead desert tortoise, tortoise burrows, or their sign were observed during the surveys. All burrows that were detected were carefully reviewed by Authorized Biologists to ensure correct identification as canid or burrowing owl burrows. No scat, scutes, shells, or any other sign of present or past tortoise use of the site or surrounding habitat were detected on the project site.

3.3 Burrowing Owl

Four active burrowing owl burrows were detected on the project site, one of which is located on the property between Powerline Road and the project boundary. Their locations are shown on Figure 2, and listed in Table 1, below.

3.4 Wildlife Species Detected

Common reptile species that were observed included side-blotched lizards (*Uta stansburiana nevadensis)*, western whiptail (*Aspidoscelis tigris*), zebra-tailed lizard (*Callisuarus draconoides*), desert horned lizard (*Phrynosoma platyrhinos*), and sidewinder rattlesnake (*Crotalus cerastes*). Common mammal species included black-tailed jackrabbits (*Lepus californicus*), kangaroo rat and other small mammal burrows, coyote scat (*Canis latrans*) and desert kit fox (*Vulpes macrotis*) scat and dens (see Table 1). Active burrowing owl (*Athene cuniculari hypugaea*) burrows were detected, but no burrowing owls were observed. Common bird species included turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*),

common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), lesser nighthawk (*Chordeiles acutipennis*), ferruginous hawk (*Buteo regalis*), and American kestrel (*Falco sparverius*).

Table 1. Survey Transects and Results

Transect #	Length	Start	End	Tortoise Sign	Other Species / GPS Location (UTM NAD 83)
9/10/13 Sections 30 and 31; North/South parcels. MV, JE, TM, JL					
1	1.6 miles (2.58 km)	8:55am	9:35am	0	0
2	1.6 miles (2.58 km)	9:40am	10:21am	0	0
3	1.6 miles (2.58 km)	10:23am	11:04am	0	BUOW burrow 545664N, 4041347E
4	1.6 miles (2.58 km)	11:05am	11:45am	0	0
5	1.6 miles (2.58 km)	12:40pm	1:25pm	0	BUOW burrow 5454502N, 4042538E
6	1.6 miles (2.58 km)	1:30pm	2:11pm	0	0
7	1.6 miles (2.58 km)	2:30pm	3:15pm	0	BUOW burrow 545269N, 4042949E
9/11/13- Sections 30 and 31, North/South Parcels. JS, JE, TM, JL					
1	1.6 miles (2.58 km)	8:22am	8:55am	0	0
2	1.6 miles (2.58 km)	8:58am	9:37am	0	0
3	1.6 miles (2.58 km)	9:38am	10:15am	0	0
4	1.6 miles (2.58 km)	10:32am	11:12am	0	0
5	1.6 miles (2.58 km)	12:00pm	12:41pm	0	0
6	1.6 miles (2.58 km)	12:47pm	1:27pm	0	0
9/12/13 - Sections 30 and 31, North/South Parcels. MV, JE, TM, JL					
1	1.6 miles (2.58 km)	7:58am	8:25am	0	0
Section 36; East/West Parcel					
1	1.4 miles (2.25 km)	8:48am	9:19am	0	0
2	1.4 miles (2.25 km)	9:20am	9:52am	0	0
3	1.4 miles (2.25 km)	10:07am	10:42am	0	0
4	1.4 miles (2.25 km)	10:44am	11:16am	0	0
5	1.4 miles (2.25 km)	12:11pm	12:53pm	0	0
6	1.4 miles (2.25 km)	12:14pm	1:27pm	0	0
9/13/13- Section 36; East/West Parcel. MV, JE, TM, JL					
1	1.4 miles (2.25 km)	8:25am	9:11am	0	0
2	1.4 miles (2.25 km)	9:13am	9:43am	0	0
3	1.4 miles (2.25 km)	10:00am	10:29am	0	0
4	1.4 miles (2.25 km)	10:31am	11:01am	0	0
5	1.4 miles (2.25 km)	11:46am	12:23pm	0	BUOW burrow 544450N, 4041087E
6	1.4 miles (2.25 km)	12:24pm	12:57pm	0	0
7	1.4 miles (2.25 km)	1:00pm	1:31pm	0	0
8	1.4 miles (2.25 km)	2:01	2:33pm	0	0

Other Species Detected:	Side-blotched lizard, western whiptail, zebra-tailed lizard, desert horned lizard, sidewinder rattlesnake American kestrel, northern harrier, turkey vulture, common raven, mourning dove, horned lark, red-tailed hawk, Ferruginous hawk, lesser night hawk Coyote scat, desert kit fox scat, black-tailed jackrabbit, antelope squirrel

*MV – Matt Villaneva; JE – Jennifer Edwards; JS – Justin Streit; TM – Theresa Miller; JL – Jason Lundquist

4.0 Conclusions and Discussion

Based on the project location, the existing habitat on the site and adjacent lands and the surrounding land uses, desert tortoise are not expected to be present on the project site, and are not expected to use the project site for foraging or as a corridor to other habitat. Prior to construction, desert tortoise fencing will be installed surrounding the project site to further prevent any tortoise from being impacted by the project.

The project site is located within the Desert Tortoise Eastern Mojave Recovery Unit, but is not designated as critical habitat and has been identified as low quality habitat for desert tortoise in the USGS model. The site was under active agriculture up until 30 years ago, and is currently surrounded by active agriculture to the north, paved and gravel roads transecting the site and on the perimeters, and residential development. Currently the 745-acre Sunshine Valley Solar project site is comprised of creosote bush scrub habitat with low diversity and low productivity, in an area known to provide little to no habitat for desert tortoise. In 2009, USFWS protocol desert tortoise surveys were conducted on 4,350 acres of low quality desert tortoise habitat for the Amargosa Farm Road project; approximately 2.7 miles northeast of the Sunshine Valley Solar project site. Those surveys resulted in the detection of four old Class 4 burrows, and no live or dead tortoises were detected (BLM 2010).

The protocol desert tortoise surveys conducted for the Sunshine Valley Solar Project did not result in the detection of live or dead tortoises, nor were any burrows of any class detected. The surveys were conducted well within the active season by a skilled team of desert tortoise surveyors, and desert tortoise have been very active so far this season. The recent rains in the project area, along with the rains and cloudy weather that occurred during the survey effort also increased the potential for detection of desert tortoise.

Impacts to burrowing owl and other migratory birds will be avoided to the extent practicable. The owl burrow that is located within the property between Powerline Road and the project boundary will be entirely avoided by the project. The other 3 burrows will be avoided by limiting construction activities during the breeding season to the extent possible. If the project must start construction during the breeding season, biologists will check the breeding status of each burrow that was identified. If owls are breeding, the Sunshine Valley Solar project will coordinate with USFWS and NDOW to avoid or buffer breeding owls or other migratory birds, or birds' nests that may be present during construction.

5.0 References

Bureau of Land Management (BLM). 2010. Final Environmental Impact Statement for the Amargosa Farm Road Solar Project. October, 2010.

United States Fish and Wildlife Service (USFWS). 2010. Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*); Pre-Project Field Survey Protocol for Potential Desert Tortoise Habitats. 2010 Field Season.

Figures

LEGEND

- LEASE BOUNDARY
- PROPOSED 138kV PRELIMINARY GEN-TIE
- PROPOSED 34.5kV PRELIMINARY ELECTRICAL COLLECTION LINE
- PERIMETER FENCE
- EXISTING PARCEL LINE
- EXISTING POWER LINE

NORTH

NOTES

1. NOT FOR CONSTRUCTION.
2. ARRAY, COLLECTION AND GEN-TIE LINE CONFIGURATION SUBJECT TO CHANGE DURING DETAIL DESIGN.
3. EXACT FENCE ALIGNMENT TO BE DETERMINED DURING DETAIL DESIGN.

ANVIL ROAD

EXISTING SUBSTATION CUT OFF

APN 09-131-06

EXISTING POWER LINES

PROJECT ONSITE SUBSTATION

50' PROPOSED ACCESS EASEMENT

APN 09-131-11

LEASE AREA

PHOTOVOLTAIC INTERCONNECTION SWITCHGEAR (PVIS) #1

(PRIVATE ROAD) SMITH LANE

(PRIVATE ROAD) T & R RANCH ROAD

POWER LINE ROAD

ACCESS ROAD (TYP)

APPROXIMATE LOCATION OF EXISTING WELL

POWER CONVERSION STATION (PCS) (TYP)

TEMPORARY CONSTRUCTION STAGING AREA (TYP)

APN 09-131-11

CASADA ROAD

PHOTOVOLTAIC INTERCONNECTION SWITCHGEAR (PVIS) #3

PHOTOVOLTAIC (PV) ARRAY (TYP)

PERIMETER CHAIN LINK FENCE (TYP)

LEASE AREA

50' PROPOSED ACCESS EASEMENT

PHOTOVOLTAIC INTERCONNECTION SWITCHGEAR (PVIS) #2

50' PROPOSED ACCESS EASEMENT

APN 09-131-06

50' PROPOSED ACCESS EASEMENT ROBERTS ROAD

APN 09-131-11

50' PROPOSED ACCESS EASEMENT

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WWW.FIRSTSOLAR.COM

SUNSHINE VALLEY SOLAR

AMARGOSA VALLEY
NYE COUNTY
NEVADA

REV.	DATE	DESCRIPTION

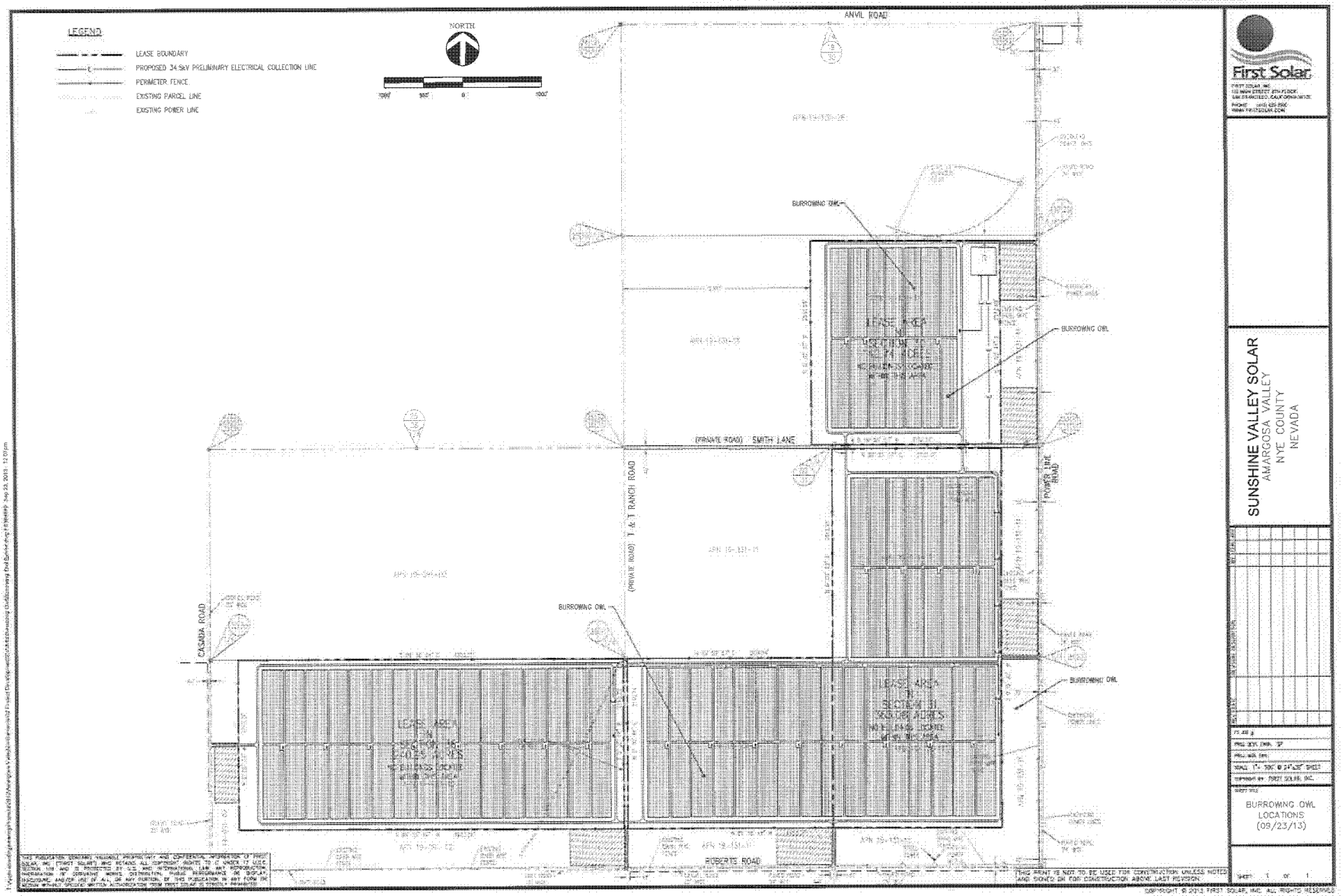
FILE #:
PRELIM. SCPT. CHKD: SP
PRELIM. MDS CHKD:
SCALE: 1"= 500' @ 24"x36" SHEET
COPYRIGHT BY: FIRST SOLAR, INC.

SHEET TITLE:

SITE PLAN
(09/23/13)

SHEET 1 OF 1

Y:\Application\Engineering\Projects\2012\Amargosa Valley\Conference\02 Project Development\Active Drawing Files\PO-100-SP-SV.dwg PS104549 Sep 25, 2013 - 11:57am


LEGEND
LEASE BOUNDARY
PROPOSED 34.5kV PRELIMINARY ELECTRICAL COLLECTION LINE
PERIMETER FENCE
EXISTING PARCEL LINE
EXISTING POWER LINE
NORTH
ANVIL ROAD
BURROWING OWL
LEASE AREA
(PRIVATE ROAD) SMITH LANE
(PRIVATE ROAD) T & T RANCH ROAD
POWER LINE ROAD
CASADA ROAD
ROBERTS ROAD
First Solar
SUNSHINE VALLEY SOLAR
AMARGOSA VALLEY
NYE COUNTY
NEVADA
BURROWING OWL
LOCATIONS
(09/23/13)
SHEET 1 OF 1
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APPENDIX A – RESUMES OF BIOLOGISTS

Overview

Ms. Theresa Miller is a USFWS-permitted wildlife biologist and ESA Certified Ecologist with more than 13 years of experience. She possesses expertise in managing multiple large-scale projects that include intensive protocol surveys and biological resource assessments of California common and special status species, especially in southern and central California and Nevada, including:

- desert tortoise
- burrowing owl
- flat-tailed horned lizard
- blunt-nosed leopard lizard
- California gnatcatcher **(Permit No. TE-135968-1)**
- California fairy shrimp **(Permit No. TE-135968-1)**
- least Bell's vireo; riparian bird surveys
- Southwestern Arroyo toad
- common birds, mammals and reptiles and amphibians.

Education

BA, University of San Diego, 1999. Major in Biology, Minor in Marine Science

Supplemental Training

Workshop: How to Prepare a Quality Biological Assessment - by USFWS (2009)
Flat-tailed horned lizard Tracking and Identification Workshop by BLM (2007)
Blunt-nosed leopard lizard Identification Training by The Wildlife Society (2007)
California Fairy Shrimp Identification Class by Mary Belk (2006)
Federal Wetland/Waters Regulatory Policy Training by Wetland Training Institute (2006)
SW Willow Flycatcher Training By Mary J. Whitfield, Kern River Preserve, CA (2002)
Desert Tortoise Survey and Handling Workshop by HDR (2001)
Wetland Delineation Training by Richard Chan (2001)

Registration/Certification

Certified Ecologist, Ecological Society of America, 2009-Present
U.S. Fish and Wildlife Service Recovery/Permit No. TE-135968-2

- California Gnatcatcher (Presence/Absence Surveys)
- California Fairy Shrimp

Blunt-nosed leopard lizard - Level II Surveyor

Specific Desert Tortoise Survey Experience:

Calico Solar Energy Facility AFC and EIS, San Bernardino County, CA. 2006-2010. Biology team leader on surveys in support of an Application for Certification for an 800MW thermal generating facility located within San Bernardino County. Coordinated and led over 30 biologists in desert tortoise and burrowing owl survey efforts on approximately 26,000 acres of suitable habitat. Desert tortoise, Mojave fringe-toed lizard, western burrowing owl, vegetation mapping, and rare plant surveys were conducted over the project area over a 4-year period. Observed tortoise and identified tortoise burrows and sign. Prepared, in close cooperation with the USFWS and BLM, the Biological Assessment for Section 7 Consultation, the Desert Tortoise Translocation Plan, and several technical and compliance reports for the Project. Recently supported the client as an expert

witness on desert tortoise translocation and biological assessment documents at California Energy Commission Evidentiary Hearings in August 2010.

Fort Mojave Photovoltaic Power Plant, Laughlin, Nextlight Renewable Power, LLC. Laughlin, NV. 2010. Biological Resources Task Manager for biological surveys and impacts analysis in support of a 2,000 acre photovoltaic solar power project site and 18 mile transmission line to be permitted through the Bureau of Indian Affairs. Project work includes habitat assessment and vegetation mapping, general wildlife surveys and focused surveys for desert tortoise, burrowing owl, and focused botany surveys, as well as delineation of jurisdictional waters.

Nautilus Solar Project - North Muroc and Cantil Sites, Nautilus Solar Energy, LLC. Kern County, CA. 2010. Biological resources task manager and biologist tasked to conduct surveys and impacts analysis of 2, 80-acre photovoltaic solar power project sites in Kern County in support of a Conditional Use Permit through Kern County. Project work included coordination with Kern County, USFWS, CDFG, and RWQCB, and preparation of an Incidental Take Permit and analysis of impacts for take of Mohave ground squirrel individuals and habitat. Coordinated work with subconsultants to conduct focused surveys for desert tortoise, burrowing owl, and focused botany surveys, as well as delineation of jurisdictional waters.

Kinder Morgan California-to-Nevada Pipeline. 2008-2010. Biologist and task/team leader for pipeline project from Colton, CA to Las Vegas, NV. Tasks included vegetation, jurisdictional waters, and sensitive species surveys and impact assessments. Coordinated and led over 25 biologists in desert tortoise, Mohave ground squirrel, vegetation mapping and jurisdictional delineations along a 500-and 1000-foot buffer of 234 miles of pipeline ROW. Observed tortoise and identified tortoise burrows and sign.

Nursery Products Composting Facility Initial Study (IS)/Mitigated Negative Declaration (MND)/Environmental Impact Assessment (EIR), San Bernardino, CA. 2006. Biology Task Manager for the proposed development of a 160-acre biosolids/green waste composting facility in San Bernardino County. Coordinated and lead field team for USFWS protocol desert tortoise surveys and rare plant surveys, and prepared biotechnical report as well as biology section of EIR. Observed tortoise and identified tortoise burrows and sign.

Meadow Valley Generating Project EIS, Southern Nevada (1997). Biologist conducting desert tortoise surveys for 1,000 MW, gas-fired combined cycle power plant and associated transmission line proposed in Southern Nevada. Observed tortoise and identified tortoise burrows and sign.

Colorado River Aqueduct Operations and Management Habitat Conservation Plan, MWD of Southern California 2004-2006. - Field coordinator and field biologist on team performing 2 seasons of desert tortoise and rare plant surveys along the length of the Colorado River Aqueduct from western Riverside County, California to Parker, Arizona. Field coordinator for 12 biologists and subcontractors from several offices during second year of surveys which focused on rare plant surveys for 41 sites. Observed tortoise and identified tortoise burrows and sign. Compiled and analyzed several years of data collection including 2 years of survey data, and prepared HCP document and appendices.

Experience Leading Surveys for Other Special Status Species:

Imperial Valley Solar Facility AFC and EIS, Imperial County, CA. 2006-2010. Biologist/team leader for biological surveys in support of an Application for Certification for an 800MW thermal generating facility located within Imperial County. The project will cover 6,500 acres and will include approximately 30,000 solar dishes. Project tasks included focused flat-tailed horned lizard surveys, burrowing owl surveys, vegetation mapping, and rare plant surveys, as well as analysis of impacts and preparation of and supervision of Flat-tailed horned lizard Relocation/Management Plan.

CESF 180MW Solar Power Plant AFC, San Luis Obispo County, CA. 2007-2009. Biology Task Manager for biological surveys in support of Application for Certification for an 180MW solar power generating facility located within San Luis Obispo County. Coordinated and led field team of over 18 biologists from several offices and subcontractors to conduct surveys for blunt-nosed leopard lizard and San Joaquin antelope squirrel, rare plant surveys and vegetation mapping of the 1,300 acre site. Wetland/Waters of the U.S. delineation and coordination with the ACOE to obtain a 404 Permit, and coordinated directly with Agencies to obtain ESA Section 7 and CDFG Incidental Take Permits. Expert witness during CEC hearings.

SunPower California Valley Solar Ranch, CA. 2009. Biologist/field leader for blunt-nosed leopard lizard survey team in support of a Conditional Use Permit for a photovoltaic facility located within San Luis Obispo County. The project survey effort covered 19,000 acres. Other species observed included San Joaquin kit fox.

San Joaquin Solar 1&2 Hybrid Power Plant, Coalinga CA AFC. 2008-2009. Biology Task Manager and field coordinator for biological surveys in support of an Application for Certification for a solar thermal and biofuels hybrid power plant project. Surveys include blunt-nosed leopard lizard, San Joaquin antelope squirrel, kangaroo rat, and general wildlife and vegetation mapping of a 640-acre site and 6- mile transmission line alignment in Fresno County, CA. Tasks also include coordination with the FWS, CDFG, and CEC to obtain Section 10 and 2081.1 Concurrence.

Jennifer M. Edwards

11787 Magliana St. Las Vegas, NV 89183
Phone#: (702)756-8376/ jmeghanedwards@gmail.com

Education:

May 2013: Master of Arts degree in Environmental Leadership from Naropa University in Boulder, CO.

May 2006: Bachelor of Arts Degree from the University of Nevada, Las Vegas (UNLV) in Anthropology with a minor in Biology (Ecology emphasis).

Professional Experience:

June 2012- August 2012
Biological Monitor, Applied Biological Consulting, Inc.

- Provided biological consulting services to construction crews working on public lands to help them stay in compliance with the endangered species act

September 2011- May 2012
Volunteer with The Nature Conservancy: Boulder, CO Office

- Assisted with designing a birding trail system at one of the Conservancy ranches.
- Assisted Conservancy scientists with data presentation
- Assisted with various other projects in the office

July 11- July 29, 2011
Teaching Assistant for Summer Ecology, UNLV SAGE Academy

- Co-facilitated with the course instructor for teaching and review activities
- Prepared and gave lectures to the class on some key topics (scientific method, proper field notes, survey methodology, etc.)

February 2009 to April 2011
Forestry Extension Agent, U.S. Peace Corps

- Lived with a rural community in the Zambian bush for two years to increase environmental awareness and increase knowledge of sustainable practices and resource management
- Organized and taught workshops on tree nurseries, crop rotation, and soil conservation
- Demonstrated Bio-intensive Perma-gardens and conservation farming techniques
- Facilitated discussions on the biology, behavior, and roles of some animals (snakes, frogs, etc.) with members of the community

July 2006 to January 2009
Senior Field Biologist: Southern Nevada Environmental, Inc.

- United States Fish and Wildlife Service Authorized Biologist to handle the Desert Tortoise in Nevada and California.
- Conducted construction monitoring and clearance surveys

- Supervised other biologists and conducted training exercises
- Conducted plant surveys, including rare and invasive species and assisted with writing Invasive Weed Management Plan proposals

February 2006 to July 2006
Intern: University of Nevada, Las Vegas Public Lands Institute (PLI)

- Worked with National Park Service at the Lake Mead National Recreation Area
- Assisted the botanist with rare plant conservation, plant surveys, seed collection, field experiments, herbarium preservation, and weather station data collection
- Worked with the Exotic Plant Management Team (EPMT) and Native Plant Nursery Crew

Jason Blaine Lundquist
PO Box 640
New Harmony, Utah 84757
(435) 592-5269
jb.lundquist@yahoo.com

Education:

Southern Utah University: Graduation December 2012
Major: Biology with Zoology emphasis
High School: Dixie High School, St. George, Utah
Degree Received: High School Diploma, May 2004

Work Experience:

Biologist I (Adam's Ecology, Pahrump Nevada)
Duties: Conduct desert tortoise present-absent surveys for Nellis Air Force Base range; initial surveys for reptiles, plants, and birds on the range; various office duties including data entry, field photograph sorting, writing and critical review of field reports; general office maintenance. (October 2010 - Present)

Wildlife Technician II (Division of Wildlife, Cedar City Utah)
Duties: Washing boats as they came out of the mussel contaminated Sand Hollow reservoir, educate boaters coming into southern Utah reservoirs about the harmful effects of the invasive zebra and quagga mussels, give them a survey to help determine if they have been in mussel infested waters, than if necessary provide a decontamination service to insure they do not spread the invasive animals. Signs were installed at each major reservoir that educate boaters and to provide them with a survey when we were not available. Occasional help was provided to the fisheries crew. (April 2008 - October 2010)

Wildlife Technician I (Division of Wildlife, St. George, UT)
Duties: Native, non-native and endangered fish monitoring; removal of non-native fish species from the Virgin River as well as ponds, washes, and streams draining into the Virgin River; conservation of endangered and native fish species; native Spotted Frog monitoring; maintain records; and write field reports and data entry. (October 2004 - March 2005)

Wildlife Technician I (Division of Wildlife Cedar City, UT)
Duties: trapping, weighing, sexing, monitoring, ear-tagging Utah Prairie Dogs for translocation projects in Iron and Garfield Counties; maintain records of captures, traps and release data; locating and surveying locations of Pygmy Rabbit. (May 2004 - October 2004, August 2007)

Other Activities:

Desert Tortoise: Activities include radio telemetry, tortoise clearances for the Utah Division of Wildlife Resources in Washington County, Utah(October 2008, May 2010); tortoise clearances, present/absent surveys, and monitoring of wild tortoise populations for the Red Cliffs Desert Reserve; population surveys for Adams Environmental on Nellis Air Force Base, Clark County, Navada (Oct 2010 - present). Total days of tortoise experience ___(8 outside of Nellis see other attachment).

Attended the IUCN Iguana Specialist Group annual meeting in Western Cuba. The main focus of the meeting was to collaborate on ideas to further improve species survival plans, present recent conservation work, and to helping native herpetologists with their conservation efforts. - November 2010

Grand Cayman Iguana conservation: volunteered my time to help with the efforts to save the critically endangered iguana *Cyclura lewisi*. Activities included collecting data on the wild populations of iguanas, general care of the breeding project's 100+ iguanas, collecting food for captive iguanas, excavating iguana nests to remove eggs for incubation, and constructing about 100 wooden retreats to aid in releases of captive iguanas into the wild. Activities involved working in hot and humid conditions and at times walking through rough limestone karst landscape. (June 2010)

Exuma Rock Iguana: Exuma Islands, Bahamas researching the impact of tourism on the endangered iguana *Cyclura cychlura figginsi* with Dr. Chuck Knapp of the University of Florida. Activities included long hours on remote islands netting iguanas and taking blood and fecal samples for later analysis. We also took measurements and weights of each iguana and inserted PIT tags in unknown iguanas for later identification. (March 2010)

Beetle BioBlitz: Studying the beetle diversity in Great Basin National Park. Beetle where collected from many locations around the park. The beetles were later identified as close to species as possible and kept in the insect collection for the park. We covered all types of habitat some of which included hiking for several miles. (September 2009)

Mountain Kingsnake: Great Basin National Park searching for kingsnakes for an extensive post-graduate project for Dr. Brian Hamilton of Brigham Young University. Finding these snakes required many man hours in the field over rough terrain (May 2009)

Invertebrate Study: San Salvador, Bahamas studying invertebrate diversity. Activities included going to several locations on the island of San Salvador and recording larger individuals in the area and taking vegetation samples for identifying smaller specimens under the microscope. After collecting our data we

put what we found in a pie chart showing the percentage of each type of invertebrate. (March 2009)

University animal care and public cooperative education. Activities include caring for the various species owned by Southern Utah University, presenting these animals to school groups around the area some of which involved recruiting high school seniors for attendance at Southern Utah University - August, (2007 - 2011)

Full series of Pre-Rabies Vaccination

Eagle Scout: Boy Scouts of America - Awarded in fall of 2003

L.D.S. Missionary: Ohio Cleveland Mission - March 13, 2005 - March 23, 2007

References:

Lynn Kitchen - Adams Ecology (Tortoise/Reptile Work)
901 Bunarch Pahrump, NV 89060
210-858-6873
lkitchen@adamsenvironmental.com

Cameron Rognan - Red Cliffs Desert Reserve
10 N. 100 E. St. George, UT 84770
435-256-6310
Cameron.Rognan@washco.utah.gov

Ann McLuckie - Utah Division of Wildlife (Tortoise Work)
451 North SR-318 Hurricane, Utah 84737
435-879-8694
annmcluckie@utah.gov

Crystal Stock - Division of Wildlife (Invasive mussel/ General public work)
1407 N. Airport Rd. Cedar City, Utah 84720
435-865-6100
crystalstock@utah.gov

Kevin Wheeler - Division of Wildlife (Virgin River native fish/ amphibian work)
344 E. Sunland Dr. #8 St. George, Utah 84770
435-688-1426
kevinwheeler@utah.gov

Keith Day - Division of Wildlife (Prairie Dog work)
1407 N. Airport Rd. Cedar City, Utah 84720
435-865-6100
keithday@utah.gov

DESERT TORTOISE AUTHORIZED BIOLOGIST REQUEST FORM

This form should be used to provide your qualifications to agency officials if you wish to undertake the duties of an authorized biologist with regard to desert tortoises during construction or other projects authorized under Sections 7 (Biological Opinions) or 10(a)(1)(B) (i.e. Habitat Conservation Plans) of the Endangered Species Act.

(If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required. Application for a recovery permit requires completion of Form 3200-55, which can be downloaded at http://www.fws.gov/forms/3-200-55.pdf.)

1. Contact Information:

Name	Jason Lundquist
Address	791 E. 670 S.
City, State, Zip Code	New Harmony, UT 84757
Phone Number(s)	435-592-5269
Email Address	jlundquist@adamsecology.com

2. Date: June 19, 2012

3. Areas in which authorization is requested (check all that apply):

- San Bernardino, Kern, Inyo and Los Angeles Counties, California (Ventura office)
- Riverside, San Diego, and Imperial Counties, California (Carlsbad office)
- ☒ Nevada ☐ Utah ☐ Arizona

4. Please provide information on the project:

USFWS Biological Opinion or HCP No. When Applicable		**Date: June 19, 2012**
Project Name	Callville Bay Wastewater Treatment Lagoon USFWS BO File No. 84320-2011-F-0322	
Federal Agency	National Park Service	
Proponent or Contractor	MarCon Engineering, Inc./BEC Environmental, Inc.	

5. Permits: If you hold, or have held, any relevant state or Federal wildlife permits provide the following:

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
	None		

6. Education: Provide up to three schools, listing most recent first:

Institution	Dates attended	Major/Minor	Degree received
Southern Utah University	2007-2012	Biology / (none)	BS Degree Dec. 2012
Dixie High School	2000-2004		High School Deploma

7. Desert Tortoise Training:

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Classes	N/A		
2. Field Training			
3. Translocation			
4.			

8. Experience – Include only those positions relevant to the requested work with desert tortoises. Distinguish between wild Mojave desert tortoise and other experience. Include only your experience, not information for the project you worked on (e.g., if 100 desert tortoises were handled on a project and you handled 5 of those desert tortoises, include only those 5. List most recent experience first. Handling a Mojave desert tortoise must be authorized by a biological opinion or other permit and reported to the USFWS. Information proved in this section will be used by the USFWS to track the numbers of desert tortoises affected by previous projects (baseline). **Be sure to include a project supervisor or other contact that can verify your skills and experience in relation to your job performance.** Attach additional sheets as necessary.

Experience by project and activity:

Project Name, Job Title, Dates	Project Contact name, phone no., & Email address	Conduct Clearance Surveys (Hrs/Days)	Excavate DT burrows (No.)	Locate DT No. < 100mm ≥ 100mm	Handled for Relocation DTs (No.)	Excavate, and relocate DT nests (No.)
1. Nevada Test and Training Range: 2010, 2011, 2012	Lynn Kitchen 210-317-7167 lkitchen@adamsecology.com	0	0	0 / 3	0	0
2. Nevada Test and Training Range: Reptile surveys 2011, 2012	Lynn Kitchen 210-317-7167 lkitchen@adamsecology.com	0	0	0 / 0	0	0
3. Desert Tortoise Monitoring Red Cliffs Desert Reserve 2012	Cameron Rognan Red Cliffs Desert Reserve Cameron.Rognan@washco.utah.com	0	0	0 / 4	0	0
4. Desert Tortoise Present/Absence Transect surveys Red Cliffs Desert Reserve 2011, 2012	Cameron Rognan Red Cliffs Desert Reserve Cameron.Rognan@washco.utah.com	0	0	0 / 0	0	0
5. Desert Tortoise Clearances Red Cliffs Desert Reserve 2011,2012	Cameron Rognan Red Cliffs Desert Reserve Cameron.Rognan@washco.utah.com	8	0	0 / 1	0	0
6. Desert Tortoise Telemetry Utah Division of Wildlife 2008, 2010	Ann McLuckie Utah Division of Wildlife annmcluckie@utah.gov	0	0	0 / 14	0	0
7. Desert Tortoise Clearances Utah Division of Wildlife 2010	Ann McLuckie Utah Division of Wildlife annmcluckie@utah.gov	10	0	0 / 0	0	0
8.		0	0	0 / 0	0	0
9.		0	0	0 / 0	0	0
10.		0	0	0 / 0	0	0

Experience by project and activity (continued): Each project number should correspond with the project listed on the previous page.

	Construct Artificial Burrows (No.)	Monitor project equipment and activities (Hrs/Days)	Oversee project compliance (Hrs/Days)	Supervise DT field staff (Hrs/Days)	DT fence Installation and inspection (Hrs/Days)	Present DT Awareness Training (No.)
1.	0	0	0	0	0	0
2.	0	0	0	0	0	0
3.	0	0	0	0	0	0
4.	0	0	0	0	0	0
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0

9. Summary of experience:

Total time spent for all desert tortoise-related field activities (referenced above):

Specify total number of hours: _____

OR total number of 8-hour days: 34

Total number of miles/kilometers walked conducting survey transects: 61 miles

Total number of wild, free-ranging desert tortoises you personally handled:

<100 mm: ___

≥100 mm: 1

Additional supervisory experience other than with desert tortoise work:

Project	Hours	Staff (No.)
Aquatic Invasive Species Program, Quagga mussels, Utah Division of Wildlife Resources - Wildlife Technician II	900	6 Staff 3-4 Volunteers

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch. 47, Sec. 1001.

Signed: _____ **Date:** **June 19, 2012**

Amanda Northrup
<amandanorthrup@snei.com>

03/24/2009 02:59 PM

To Larry_LaPre@ca.blm.gov
cc
bcc
Subject A Northrup USFWS Authorization

>
>
> -----Original Message-----
> From: Larry_LaPre@ca.blm.gov [mailto:Larry_LaPre@ca.blm.gov]
> Sent: Wednesday, February 14, 2007 3:07 PM
> To: Joan_Patrovsky@ca.blm.gov; Charles_Sullivan@ca.blm.gov
> Cc: MDay2@semprautilities.comMDay2
> Subject: Fw: SoCal Gas Company biologist approvals
>
>
> For your information.
>
> Dr. Larry LaPre
> District Wildlife Biologist
> California Desert District
> Bureau of Land Management
> 22835 Calle San Juan de los Lagos
> Moreno Valley, CA 92553
> Phone: (951) 697-5218
> Fax: (951) 697-5299
> E-mail: llapre@ca.blm.gov
> ----- Forwarded by Larry LaPre/CASO/CA/BLM/DOI on 02/14/2007 03:02 PM
> -----
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>
>
> Robert
>
> McMorran/VFWO/R1/
>
> FWS/DOI@FWS To
> Larry
> LaPre/CASO/CA/BLM/DOI@BLM
> 02/14/2007
> 02:42 cc
> PM Ray
> Bransfield/VFWO/R1/FWS/DOI@FWS
>
> Subject
> SoCal Gas Company
> biologist
> approvals(Document link:
> Larry
>
> LaPre)
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> Larry,
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> On February 7, 2007, we received your request via electronic mail for
> our
> approval of Ronald Ganzon, Jennifer Edwards, Amanda Northrup, and
> Elizabeth
> Rocha to conduct activities involving the federally threatened desert
> tortoise in accordance with the Biological Opinion for ongoing
> maintenance
> activities on Southern California Gas Company's Pipeline System in
> Southern
> California deserts (1-8-95-F-28). We have determined that Jennifer
> Edwards
> and Amanda Northrup have sufficient training and experience to handle
> desert tortoises and perform the other duties required of an authorized
> biologist. We therefore approve Jennifer Edwards and Amanda Northrup
> as
> authorized biologists to handle desert tortoises under the subject
> biological opinion. We have also determined that Ronald Ganzon and
> Elizabeth Rocha have sufficient training and experience to monitor
> desert
> tortoises and perform the other duties required of a biological
> monitor. We
> therefore approve Ronald Ganzon and Elizabeth Rocha as biological
> monitors
> under the subject biological opinion.
>
> We will enter this email into our files along with the request.
>
> If you have any questions regarding this matter, please contact Robert
> McMorran at (805) 644-1766, extension 232.
>
> Thanks,
> Robert
> ==========
> Robert McMorran
> U.S. Fish and Wildlife Service
> 2493 Portola Rd. Suite B
> Ventura, CA 93003
> Phone: 805.644.1766 ext. 232
> Fax: 805.644.3958
> Robert_McMorran@fws.gov
> ==========
>
>
>
>
>
> Larry
>
> LaPre/CASO/CA/BLM

>
> /DOI@BLM To
> Robert
> McMorran/VFWO/R1/FWS/DOI@FWS
> 02/08/2007
> 02:20 cc
>
> PM
>
> Subject
> request to Carl
> Benz
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>
>
> (See attached file: BLM request for biologist approval 2.07.07.pdf)
> Dr. Larry LaPre
> District Wildlife Biologist
> California Desert District
> Bureau of Land Management
> 22835 Calle San Juan de los Lagos
> Moreno Valley, CA 92553
> Phone: (951) 697-5218
> Fax: (951) 697-5299
> E-mail: llapre@ca.blm.gov

BLM request for biologist approval 2.07.07.pdf
>

DESERT TORTOISE AUTHORIZED BIOLOGIST REQUEST FORM

This form should be used to provide your qualifications to agency officials if you wish to undertake the duties of an authorized biologist with regard to desert tortoises during construction or other projects authorized under Sections 7 (Biological Opinions) or 10(a)(1)(B) (i.e., Habitat Conservation Plans) of the Endangered Species Act.

(If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required. Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at http://www.fws.gov/forms/3-200-55.pdf.)

1. Contact Information

Name	Justin Streit
Address	7210 Placid Street
City, State, Zip Code	Las Vegas, Nevada 89119
Phone Number(s)	702-248-3880
Email Address	jstreit@swca.com

2. Date: 03-11-2013

3. Areas in which authorization is requested (check all that apply):

☐ San Bernardino, Kern, Inyo and Los Angeles Counties, California (Ventura office)
☐ Riverside, San Diego, and Imperial Counties, California (Carlsbad office)
X Nevada ☐ Utah ☐ Arizona

4. Please provide information on the project:

USFWS Biological Opinion or HCP No. When Applicable		**Date:** 1/2/2013
Project Name		
Federal Agency		
Proponent or Contractor		

5. If you hold, or have held, any relevant state or federal wildlife permits, provide the following:

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
Gopherus agassizii	2/6/2012	84320-2012-TA-0079	Mead to Searchlight 69-kV Transmission Line –Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	6/30/2011	File No. 84320-2011-TA-	Kern River Operations and

		0320	Maintenance Projects – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	4/1/2011	File No. 84320-2011-TA-0204, 84320-2008-F-0066, and 84320-2010-F-0391	Southwest Intertie Project – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	10/30/2009	File No. 84320-2010-TA-0033	Reid Gardner Waste Management Project and Power Plant Project-Authorized Biologist- clearance, monitoring, handling, relocation
Gopherus agassizii	09/09/2009	File No. 84320-2009-TA-0487	Harry Allen Combined Cycle 500kV Transmission Interconnection Project and Performance Ready-Mix Project- Authorized Biologist- clearance, monitoring, handling, relocation
Gopherus agassizii	07/27/2009	File No. 84320-2008-F-0054	Reid Gardner Power Plant Expansion- Authorized Biologist- clearance, monitoring, handling, relocation
Gopherus agassizii	5/21/2009	File Nos. 84320-2009-TA-0342 and 1-5-90-F-62	SW Gas Apex Reroute- Authorized Biologist- clearance, monitoring, handling, relocation
Gopherus agassizii	4/10/2009	File No. 84320-2009-TA-267 and 84320-2009-F-239	2009 Primm Off-Raod Races – Authorized Biologist – Monitoring, handling, relocation, excavation, and fence-building
Gopherus agassizii	12/29/2008	NV State permit for BO 84320-2009-TA-0081	Anthem Trails - Authorized Biologist – Monitoring, handling, excavation, relocation
Gopherus agassizii	12/12/2008	NV State permit for BO 84320-2009-TA-0080	Bat Gate and Cupola Mine Closure – Authorized Biologist - Clearance, monitoring, handling, excavation, relocation
Gopherus agassizii	10/30/2008	CA State permit for BO 22410-2007-F-0230 and BO 22410-1996-F-0226	CA Quarry – Authorized Biologist – Presence/Absence Surveys
Gopherus agassizii	10/27/2008	NV State permit for BO 84320-2009-TA-0026	Southern NV Heliport – Authorized Biologist – Survey, monitor, and handle
Gopherus agassizii	12/12/2007	NV State permit for BO 84320-2008-TA-0077	Searchlight Exploratory Wells – Survey and monitor for tortoises, present the tortoise training program, oversee project compliance, and supervise field staff
Gopherus agassizii	3/21/2007	NV State permit for BO 1-5-07-TA-494	South Edge R-37 Reservoir – Authorized Biologist – Survey, handling, relocation
Gopherus agassizii	8/14/2006	NV State permit for BO 1-5-06-TA-547	General Approval – Authorized Biologist, Survey, handling, relocation

6. **Education:** Provide up to three schools, listing most recent first:

Institution	Dates attended	Major/Minor	Degree received
Northland College	Aug 2000 – May 2003	Natural Resources	Bachelor of Science

7. **Desert Tortoise Training.**

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Desert Tortoise Surveying, Monitoring, and Handling Workshop	October 22-23, 2005	Ridgecrest, CA	Desert Tortoise Council

8. **Experience** – Include only those positions relevant to the requested work with desert tortoises. Distinguish between wild Mojave desert tortoise and other experience. Include only your experience, not information for the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first. Handling a Mojave desert tortoise must be authorized by a Biological Opinion or other permit and reported to the USFWS. Information proved in this section will be used by the USFWS to track the numbers of tortoises affected by previous projects (baseline). **Be sure to include a project supervisor or other contact that can verify your skills and experience in relation to your job performance.** Attach additional sheets as necessary.

Experience by Project and Activity

Project Name, Job Title, Dates	Project Contact (name, phone, email)	Clearance Surveys (hrs/days)	Monitor Equipment/ Activities (hrs/days)
1. Goodsprings Compressor Station Warehouse, April – May 2012	George Jones 307.354.6291	5 days	5 days
2. EPNG Dutch Flats Tortoise Survey, March 2012	Amy Moore 719.520.4813 Amy.Moore@ElPaso.com		
3. Reid Gardner Background Wells, December 2011 – March 2012	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	6 days	6 days
4. Kern River Gas Pipeline Maintenance, October 2011-November 2011	Fran Cherry 801.937.6259 Fran.Cherry@kernrivergas.com	6 days	6 days
5. McCullough Hills Trail Tortoise Surveys, October 2011	Michael Colety 702-862-3609 Mike.Colety@kimley-horn.com		
6. Mountain View Solar Tortoise Surveys, October 2011	Jennifer Field 561-691-2232 jennifer.field@NextEraEnergy.com		
7. NV Energy Reid Gardner Power Plant Expansion,	Stanton Rolf 702.402.2838	5 days	5 days

August 2009, January 2010	SRolf@nvenergy.com		
8. Middleton/Red Butte Transmission Line, November 2009	Greg Sharp 435.668.1787 gsharp@jbrenv.com	2 days	2 days
9. Reid Gardner Waste Management Unit-7 Geotechnical Sampling, November 2009	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	3 days	3 days
10. NV Energy Kidwell Substation Expansion, September 2009	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	3 days	3 days
11. SW Gas Apex Reroute Tortoise Monitoring, May 2009	Randy Tyler 702-596-0277 Randy.tyler@swgas.com		
12. Dry Lake Solar EA, May 2009	Paul Aguirre 702-367-5769 PAguirre@nvenergy.com		
13. Best in the Desert Terrible's 250 OHV Race Tortoise Surveys	Casey Folks 702-457-5775 bitd@bitd.com		
14. Anthem Trails Construction Monitoring, Jan – May 2009	Kit Stokes 702-507-1816 kstokes@aagmail.com	3 days	3 days
15. Heliport Drilling and Test Pit Monitoring, November – December 2008	Jonathon Lehman-Svoboda 702-736-2936 jlehman@kleinfelder.com	10 days	10 days
16. Agnes Wilson Quarry, November 2008	Chet Scott 928-923-8650 Mars.hodge@verizon.net	1 day	
17. Whitney Mesa Park Trails and Trailhead Project, August 2007	Cassie Ridenour 702-990-8300 Cassie.ridenour@wrgdesign.com		
18. Brown and Caldwell Gravel Pit Tortoise Survey, July 2007	Michael Young 602-567-3968 myoung@brwncald.com		
19. El Paso Natural Gas Pipeline Repair Monitoring, July 2007	Linda Abernathy 505-831-7786	2 days	2 days
20. Lower Moapa Valley Collection Systems, July 2007	Brian J. Christ 702-804-2028		
21. Landtek R37 Reservoir, March 2007	Steve Kevish 702-777-1221 skevish@landteklv.com	1 day	
22. Virgin Valley Water District Well #34, November 2006	Michael Johnson 702-346-5731 boomer@vvh20.com		
23. Southern Nevada Regional Heliport Utility Corridors, October – November 2006	Lynne Madera 415-547-1930 L_Madera@ricondo.com		
24. Sunrise Tap Biological Surveys, May – June 2006	Terrence Enk 208-685-6341 tenk@powereng.com		
25. Kern River Desert Tortoise Surveys, May 2006	Brent Arnold 801-209-7017 Brent.arnold@kernrivergas.com		
26. Mesquite BLM Gravel Pit	Mark Slaughter		

Expansion, April 2006	702-515-5095 Mark_Slaughter@nv.blm.gov		
27. Legacy Communications Biological Surveys, December 2005	Richard Murphy (no longer available) 702-293-8171 rmurphy@lc.usbr.gov		
28. Oliver Ranch, December 2005	Kate Schwarzler 970-618-7246 Kate.schwarzler@otak.com		
29. Kern River Washes Tortoise Monitoring, December 2005	Brent Arnold 801-209-7017 Brent.arnold@kernrivergas.com	4 hrs	4 hrs
30. SNWA Searchlight Exploratory Wells, October – November 2005	Derek H. Babcock 702-862-7442 Derek.babcock@SNWA.com		
31. Wetlands Park Tortoise Surveys, October 2005	Bruce Sillitoe 702-455-8287 sillitbl@co.clark.nv.us		
32. Red Rock Canyon Visitor Center, September 2005	Kate Schwarzler 970-618-7246 Kate.schwarzler@otak.com		
33. Pearl Creek Desert Tortoise Surveys, August 2005	Melody Maccarone 702-853-6394 mmaccarone@astoriahomes.com		
34. BLM Land Disposal Project, October 2003 – April 2004	Southern Nevada Environmental, Inc. 702-248-5370 info@snei.com		
Are you seeking to permit this activity for the current project?		Yes	Yes

Experience by Project and Activity (continued)

Project Name	Oversee Project Compliance (hrs/days)	Present DT Awareness Training (number of sessions)	Locate Tortoises No<180mm No>180mm	Excavate Tortoise Burrows (number)
1. Goodsprings Compressor Station Warehouse	5 days			
2. EPNG Dutch Flats				
3. Reid Gardner Background Wells	6 days			
4. Kern River Gas Pipeline Maintenance	6 days			
5. McCullough Hills Trail				
6. Mountain View Solar			0<180mm 1>180mm	
7. Reid Gardner Power Plant Expansion	5 days			
8. Middleton/Red Butte Transmission Line	2 days			
9. Reid Gardner Waste Management Unit-7	3 days	1 session/ 8 people		
10. Kidwell Substation Expansion	3 days	1 session/ 8 people	0<180mm 3>180mm	
11. SW Gas Apex Reroute Tortoise Monitoring		1 session / ~30 people		
12. Dry Lake Solar EA			0<180mm	

			3>180mm	
13. Best in the Desert OHV Race		1 session / ~400 people		
14. Anthem Trails Construction Monitoring	3 Days	1 session / 1 person		
15. Heliport Drilling and Test Pit Monitoring	10 days			
16. Agnes Wilson Quarry	1 day			
17. Whitney Mesa Park Trails and Trailhead Project				
18. Brown and Caldwell Gravel Pit Tortoise Survey			0<180mm 2>180mm	
19. El Paso Natural Gas Pipeline Repair Monitoring	1 day			
20. Lower Moapa Valley Collection Systems				
21. Landtek R37 Reservoir				2
22. Virgin Valley Water District Well #34				
23. Southern Nevada Regional Heliport Utility Corridors			0<180mm 3>180mm	
24. Sunrise Tap Biological Surveys			0<180mm 5>180mm	
25. Kern River Desert Tortoise Surveys			0<180mm 1>180mm	
26. Mesquite BLM Gravel Pit Expansion			0<180mm 7>180mm	
27. Legacy Communications Biological Surveys				
28. Oliver Ranch			1<180mm 0>180mm	
29. Kern River Washes Tortoise Monitoring				
30. SNWA Searchlight Exploratory Wells				
31. Wetlands Park Tortoise Surveys				
32. Red Rock Canyon Visitor Center			0<180mm 1>180mm	
33. Pearl Creek Desert Tortoise Surveys				
34. BLM Land Disposal Project			4<180mm 45>180mm	
Are you seeking to permit this activity for the current project?	Yes	Yes	Yes	Yes

Experience by Project and Activity (continued)

Project Name	Excavate and Relocate Tortoise Nests (number)	Handle Tortoises for Relocation No<180mm No>180mm	Construct Artificial Burrows (number)	Tortoise Fence Installation and Inspection (hrs/days)
1. Goodsprings Compressor Station Warehouse				
2. EPNG Dutch Flats				4 hrs
3. Reid Gardner Background Wells				
4. Kern River Gas Pipeline Maintenance				
5. McCullough Hills Trail				
6. Mountain View Solar				
7. Reid Gardner Power Plant Expansion				5 days
8. Middleton/Red Butte Transmission Line				
9. Reid Gardner Waste Management Unit-7				
10. Kidwell Substation Expansion		0<180mm 1>180mm		
11. SW Gas Apex Reroute Tortoise Monitoring				
12. Dry Lake Solar EA				
13. Best in the Desert OHV Race				
14. Anthem Trails Construction Monitoring				
15. Heliport Drilling and Test Pit Monitoring				
16. Agnes Wilson Quarry				
17. Whitney Mesa Park Trails and Trailhead Project				
18. Brown and Caldwell Gravel Pit Tortoise Survey				
19. El Paso Natural Gas Pipeline Repair Monitoring				
20. Lower Moapa Valley Collection Systems				
21. Landtek R37 Reservoir				
22. Virgin Valley Water District Well #34				
23. Southern Nevada Regional Heliport Utility Corridors				
24. Sunrise Tap Biological Surveys				
25. Kern River Desert Tortoise Surveys		0<180mm 1>180mm		2 hrs

Project Name	Excavate and Relocate Tortoise Nests (number)	Handle Tortoises for Relocation No<180mm No>180mm	Construct Artificial Burrows (number)	Tortoise Fence Installation and Inspection (hrs/days)
26. Mesquite BLM Gravel Pit Expansion				
27. Legacy Communications Biological Surveys				
28. Oliver Ranch				
29. Kern River Washes Tortoise Monitoring				
30. SNWA Searchlight Exploratory Wells				
31. Wetlands Park Tortoise Surveys				
32. Red Rock Canyon Visitor Center				
33. Pearl Creek Desert Tortoise Surveys				
34. BLM Land Disposal Project				
Are you seeking to permit this activity for the current project?	Yes	Yes	Yes	Yes

Experience by Project and Activity (continued)

Project Name	Supervise Tortoise Field Staff (hrs/days and number of staff)	Collect data on tortoise sign and activity (hrs/days)	Handle, Measure, Weigh, and/or Sex No<180mm No>180mm	Radiotelemetry (days/hrs)
1. Goodsprings Compressor Station Warehouse				
2. EPNG Dutch Flats		4 hrs		
3. Reid Gardner Background Wells				
4. Kern River Gas Pipeline Maintenance	6 days and 1 staff			
5. McCullough Hills Trail	1 day and 1 staff	1 day		
6. Mountain View Solar	2 days and 2 staff	2 days		
7. Reid Gardner Power Plant Expansion	4 days and 3 staff			
8. Middleton/Red Butte Transmission Line				
9. Reid Gardner Waste Management Unit-7	1 day and 1 staff			
10. Kidwell Substation Expansion	1 day and 1 staff	1 day	0<180mm 1>180mm	
11. SW Gas Apex Reroute Tortoise Monitoring				
12. Dry Lake Solar EA	1 day and 2 staff	1 day		
13. Best in the Desert	2 days and 5 staff	2 days		

Project Name	Supervise Tortoise Field Staff (hrs/days and number of staff)	Collect data on tortoise sign and activity (hrs/days)	Handle, Measure, Weigh, and/or Sex No<180mm No>180mm	Radiotelemetry (days/hrs)
OHV Race				
14. Anthem Trails Construction Monitoring				
15. Heliport Drilling and Test Pit Monitoring		10 days		
16. Agnes Wilson Quarry	1 day and 1 staff			
17. Whitney Mesa Park Trails and Trailhead Project	1 day and 1 staff	1 day		
18. Brown and Caldwell Gravel Pit Tortoise Survey	2 days and 2 staff	2 days		
19. El Paso Natural Gas Pipeline Repair Monitoring				
20. Lower Moapa Valley Collection Systems	1 day and 1 staff	1 day		
21. Landtek R37 Reservoir	1 day and 1 staff			
22. Virgin Valley Water District Well #34		1 day		
23. Southern Nevada Regional Heliport Utility Corridors	5 days and 4 staff	5 days		
24. Sunrise Tap Biological Surveys	10 days and 5 staff	10 days		
25. Kern River Desert Tortoise Surveys		2 hrs	0<180mm 1>180mm	
26. Mesquite BLM Gravel Pit Expansion		4 days		
27. Legacy Communications Biological Surveys		1 day		
28. Oliver Ranch		2 days		
29. Kern River Washes Tortoise Monitoring		4 hrs		
30. SNWA Searchlight Exploratory Wells		5 days		
31. Wetlands Park Tortoise Surveys	2 days and 4 staff	2 days		
32. Red Rock Canyon Visitor Center		2 days		
33. Pearl Creek Desert Tortoise Surveys		1 day		
34. BLM Land Disposal Project		60 days		
Are you seeking to permit this activity for the current project?	Yes	Yes	Yes	Yes

Summary of Experience
Total time spent for all desert tortoise-related field activities (referenced above):

Total Number of Hours: _____
OR Total Number of 8 Hour Days: 143

Total number of miles/km walked conducting survey transects: ~715 miles

Total number of wild, free-ranging desert tortoises you personally handled:
<180mm: 0
>180mm: 2

Additional supervisory experience other than with desert tortoise work:

Project	Hours	Staff (No.)
1. Spring Valley Wind Bird and Bat Surveys	1050	7
2. Table Mountain Wind Bird and Bat Surveys	950	8
3. Clark County Shooting Park Jurisdictional Determination	50	5

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief.

I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch.47, Sec. 1001.

Signed: _____ **Date**: 3-11-2013

DESERT TORTOISE AUTHORIZED BIOLOGIST REQUEST FORM

This form should be used to provide your qualifications to agency officials if you wish to undertake the duties of an authorized biologist with regard to desert tortoises during construction or other projects authorized under Sections 7 (Biological Opinions) or 10(a)(1)(B) (i.e., Habitat Conservation Plans) of the Endangered Species Act.

(If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required. Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at http://www.fws.gov/forms/3-200-55.pdf.)

1. Contact Information

Name	Matt Villaneva
Address	7210 Placid Street
City, State, Zip Code	Las Vegas, Nevada 89119
Phone Number(s)	702-248-3880 x6510
Email Address	mvillaneva@swca.com

2. Date: 3-11-2013

3. Areas in which authorization is requested (check all that apply):

☐ San Bernardino, Kern, Inyo and Los Angeles Counties, California (Ventura office)
☐ Riverside, San Diego, and Imperial Counties, California (Carlsbad office)
X Nevada ☐ Utah ☐ Arizona

4. Please provide information on the project:

USFWS Biological Opinion or HCP No. When Applicable		**Date:** 1/2/2013
Project Name		
Federal Agency		
Proponent or Contractor		

5. If you hold, or have held, any relevant state or federal wildlife permits, provide the following:

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities
Gopherus agassizii	2/6/2012	84320-2012-TA-0079	Mead to Searchlight 69-kV Transmission Line –Authorized Biologist– clearance, monitoring, handling, relocation

Gopherus agassizii	11/30/2011	File No 84320-2012-TA-0053	Reid Gardner Background Wells Project – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	11/2/2011	File No 84320-2012-TA-0377	NV Energy Silver Flag Project – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	7/29/2011	File No 84320-2011-TA-0353	NV Energy Tower Removal Project – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	6/30/2011	File No. 84320-2011-TA-0320	Kern River Operations and Maintenance Projects – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	6/28/2011	File No 84320-2011-TA-0318	Clark County Renewable Energy Project – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	5/24/2011	File No. 84320-2011-TA-0272 and 84320-2011-F-0126	InSite Cellular Communication Tower – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	4/1/2011	File No. 84320-2011-TA-0204, 84320-2008-F-0066, and 84320-2010-F-0391	Southwest Intertie Project – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	3/18/2011	File No. 84320-2011-TA-0189 and 1-5-97-F-251	Ritchie Brothers Distribution Line – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	1/4/2011	File No. 84320-2011-TA-0112 and 84320-2010-F-0417	Cottonwood Cove Power Distribution Line Project, Lake Mead NRA – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	11/22/2010	File No. 84320-2011-TA-0071, and 84320-2008F-0485	Hidden Valley and Lower Apex Communication Tower Projects – Authorized Biologist– clearance, monitoring, handling, relocation
Gopherus agassizii	10/30/2010	File No. 84320-2010-TA-0033	Reid Gardner Waste Management Unit 7 and Power Plant Projects - Authorized Biologist- clearance, monitoring, handling, relocation
Gopherus agassizii	03/26/2010	File No. 84320-2010-F-0145	Kidwell substation expansion- Authorized Biologist- clearance, monitoring, handling, relocation
Gopherus agassizii	09/09/2009	File No. 84320-2009-TA-	Harry Allen Combined Cycle

		0487	500kV Transmission Interconnection Project and Performance Ready-Mix Project- Authorized Biologist-clearance, monitoring, handling, relocation
Gopherus agassizii	10/31/2008	CA22410-2007-F-0230 CA22410-1996-F-0226	CA Quarry - Presence/absence surveys
Gopherus agassizii	3/21/2007	NV 1-5-07-TA-494	South Edge R37 Reservoir – All Approved Monitor activities including conducting tortoise surveys, and handling and relocating tortoise under the supervision of an approved biologist
Gopherus agassizii	12/12/2007	NV84320-2008-TA-0077	Searchlight Exploratory Wells - All Approved Monitor activities including locating desert tortoise and monitoring project equipment and activities
Gopherus agassizii	08/28/2006	File No. 1-5-06-F-515	Clark County Wetlands Park-Authorized Biologist-clearance, monitoring, handling, relocation

6. **Education:** Provide up to three schools, listing most recent first:

Institution	Dates attended	Major/Minor	Degree received
Humboldt State University	Jan 2001 – May 2004	Environmental Biology/Botany	Bachelor of Science

7. **Desert Tortoise Training.**

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Desert Tortoise Survey Techniques Workshop	November 2-4, 2007	Ridgecrest, CA	Desert Tortoise Council

8. **Experience** – Include only those positions relevant to the requested work with desert tortoises. Distinguish between wild Mojave desert tortoise and other experience. Include only your experience, not information for the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first. Handling a Mojave desert tortoise must be authorized by a Biological Opinion or other permit and reported to the USFWS. Information proved in this section will be used by the USFWS to track the numbers of tortoises affected by previous projects (baseline). **Be sure to include a project supervisor or other contact that can verify your skills and experience in relation to your job performance.** Attach additional sheets as necessary.

Experience by Project and Activity

Project Name, Job Title, Dates	Project Contact (name, phone, email)	Clearance Surveys (hrs/days)	Monitor Equipment/ Activities (hrs/days)
1. Mountain View Solar			
2. Pahrump Valley Solar			

3. Desert Tortoise Center Volunteer	Angie Covert 702.526.3436 acovert@sandiegozoo.org	0	0
4. Goodsprings Compressor Station Warehouse, April – May 2012	George Jones 307.354.6291	0	40 hours/4 days
5. Kern River Gas Transmission Project, April 2012.	Fran Cherry 801.937.6259 Fran.Cherry@kernrivergas.com	0	10 hours/1 day
6. Southwest Intertie Project, Authorized Biologist, December 2011	Paul Aguirre 702-367-5769 PAguirre@nvenergy.com	30hrs/3 days	150 hours/15 days
7. Silver Flag Distribution Line, Authorized Biologists, November 2011	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	40 hours/5 days
8. NV Energy MET Tower Removal Project	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	20 hours/2 days
9. Clark County Landfill Project	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	40 hours/5 days
10. InSite Communications Towers	Michael Nibert 702.597.9393 mknibert@terracon.com	0	30 hours/3 days
11. Ritchie Brothers Distribution Line	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	24 hours/3 days
12. Cottonwood Cove Distribution Line, Authorized Biologist, September 2011	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	8 hrs/1 day
13. Lathrop Wells Solar Facility Survey, October 2010	Scott Firer 760-962-9200 scott.frier@solar.abengoa.com	0	0
14. Clark County Wetlands Park, Biologist, June 2010 – September 2010	Kety M.J. Allred 455-2689 allred@co.Clark.nv.us	0	32 hrs/4 days
15. Mesa Evaporation Ponds (Reid Gardner), Biologist, May 2010 – June 2010	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	50 hrs/5 days
16. Reid Gardner Power Plant Expansion Project, November 2009-December 2009	Stanton Rolf 702.402.2838 SRolf@nvenergy.com	0	24 hrs/3 days
17. Harry Allen Combined Cycle 500kV Transmission Interconnection Project, November 2009-December 2009	Maria Raso 702.402.2185 MRaso@nvenergy.com	0	60hrs/ 10 days
18. Performance Ready Mix – September 2009	Greg Coats (702) 933-5428 GCOATS@PerformanceReadyMix.com	4 hrs	0
19. Times Gulch Quarry Surveys	Chester D. Scott 760-272-7013 Mars.hodge@verizon.net	0	0
20. Dry Lake Solar EA, April 2009 – May 2009	Paul Aguirre 702-367-5769 PAguirre@nvenergy.com	0	0
21. Kramer Junction Solar Project	Mike Pappalardo	0	0

Tortoise Surveys, May 2009	541-302-1345 mike.pappalardo@nexteraenergy.com		
22. BITD Off-Road Race Tortoise Surveys, April 2009	Casey Folks 702-457-5775 bitd@bitd.com	12 hrs	10 hrs
23. Agnes Wilson Quarry Tortoise Surveys, November 2008	Chet Scott 928-923-8650 Mars.hodge@verizon.net	8 hrs	0
24. SNWA Searchlight Exploratory Wells EA and BA, August 2007	Derek H. Babcock 702-862-7442 Derek.babcock@verizon.net	0	0
25. Brown and Caldwell Gravel Pit Tortoise Survey, July 2007	Michael Young 602-567-3968 myoung@brwncald.com	0	0
26. Landtek R37 Reservoir, March 2007	Steve Kevish 702-777-1221 Skevish@landteklv.com	8 hrs	0
27. Southern Nevada Regional Heliport Utility Corridors, October 2006 – November 2006	Lynne Madera 415-547-1930 L_Madera@ricondo.com	0	0
28. Sunrise Tap Biological Surveys, May 2006 – June 2006	Terrence Enk 208-685-6341 tenk@powereng.com	0	0
29. Legacy Communications Biological Surveys, December 2005	Richard Murphy (no longer available) 702-293-8171 rmurphy@lc.usbr.gov	2 hrs	120 hrs
30. Wetlands Park Biological Assessment and Tortoise Surveys, October 2005	Bruce Sillitoe 702-455-8287 sillitbl@co.clark.nv.us	0	0
Are you seeking to permit this activity for the current project?		Yes	Yes

Experience by Project and Activity (continued)

Project Name	Oversee Project Compliance (hrs/days)	Present DT Awareness Training (number of sessions)	Locate Tortoises No<180mm No>180mm	Excavate Tortoise Burrows (number)
1. Mountain View Solar				12
2. Pahrump Solar Facility			1<180mm 1>180mm	
3. Desert Tortoise Center Volunteer	0	0	0	0
4. Goodsprings Compressor Station Warehouse, April 2012.	40 hours/4 days	0	0	0
5. Kern River Gas Transmission Project, April 2012.	190 hours/16 days	0	1>180mm	0
6. Southwest Intertie Project, December 2011	150 hours/15 days	0	1<180mm	18
7. Silver Flag Distribution Line, November 2011	40 hours/5 days	0	0	0
8. NV Energy MET Tower Removal Project	20 hours/2 days	0	0	0
9. Clark County Landfill Project	40 hours/5 days	1	0	0
10. InSite Communications Towers	30 hours/3 days	0	0	0

11. Ritchie Brothers Distribution Line	24 hours/3 days	0	0	0
12. Cottonwood Cove Distribution Line, Authorized Biologist, September 2011	8 hrs/1 day	0	0	0
13. Lathrop Wells Solar Facility	0	0	0	0
14. Clark County Wetlands Park	32 hrs		0	0
15. Mesa Evaporation Ponds (Reid Gardner)	50 hrs	2	0<180mm 1>180mm	0
16. Reid Gardner Power Plant Expansion Project	24 hrs		1>180mm 0<180mm	0
17. Harry Allen Combined Cycle 500kV Transmission Interconnection Project	60 hrs	3	0	0
18. Performance Ready Mix	0	0	0	4
19. Times Gulch Quarry Surveys	0	0	0	0
20. Dry Lake Solar EA	0	0	0<180mm 4>180mm	0
21. Kramer Junction Solar Project	0	0	0<180mm 1>180mm	0
22. BITD Off-Road Race Tortoise Surveys	0	0	2<180mm 2>180mm	15
23. Agnes Wilson Quarry Tortoise Surveys	0	0	0	0
24. SNWA Searchlight Exploratory Wells EA and BA	0	0	0	0
25. Brown and Caldwell Gravel Pit Tortoise Survey	0	0	0<180mm 2>180mm	0
26. Landtek R37 Reservoir	0	0	0	2
27. Southern Nevada Regional Heliport Utility Corridors	0	0	0<180mm 3>180mm	0
28. Sunrise Tap Biological Surveys	0	0	0<180mm 5>180mm	0
29. Legacy Communications Biological Surveys	0	0	0	0
30. Wetlands Park Biological Assessment and Tortoise Surveys	0	0	0	0
Are you seeking to permit this activity for the current project?	Yes	Yes	Yes	Yes

Experience by Project and Activity (continued)

Project Name	Excavate and Relocate Tortoise Nests (number)	Handle Tortoises for Relocation No<180mm No>180mm	Construct Artificial Burrows (number)	Tortoise Fence Installation and Inspection (hrs/days)
1. Mountain View Solar				

Project Name	Excavate and Relocate Tortoise Nests (number)	Handle Tortoises for Relocation No<180mm No>180mm	Construct Artificial Burrows (number)	Tortoise Fence Installation and Inspection (hrs/days)
2. Pahrump Valley Solar				
3. Desert Tortoise Center Volunteer	0	7<180mm 17>180mm	0	2 hours
4. Goodsprings Compressor Station Warehouse, April 2012.	0	0	0	0
5. Kern River Gas Transmission Project, April 2012.	0	0	0	0
6. Southwest Intertie Project, December 2011	0	0	0	0
7. Silver Flag Distribution Line, November 2011	0	0	0	0
8. NV Energy MET Tower Removal Project	0	0	0	0
9. Clark County Landfill Project	0	0	0	0
10. InSite Communications Towers	0	0	0	0
11. Ritchie Brothers Distribution Line	0	0	0	0
12. Cottonwood Cove Distribution Line, Authorized Biologist, September 2011	0	0	0	0
13. Lathrop Wells Solar Facility	0	0	0	0
14. Clark County Wetlands Park	0	0	0	32 hours
15. Mesa Evaporation Ponds (Reid Gardner)	0	0<180mm 1>180mm	0	50 hours
16. Reid Gardner Power Plant Expansion Project	0	0	0	0
17. Harry Allen Combined Cycle 500kV Transmission Interconnection Project,	0	0	0	0
18. Performance Ready Mix	0	0	0	0
19. Times Gulch Quarry Surveys	0	0	0	0
20. Dry Lake Solar EA	0	0	0	
21. Kramer Junction Solar Project	0	0	0	0
22. BITD Off-Road Race Tortoise Surveys	0	1<180mm 0>180mm	0	1 day
23. Agnes Wilson Quarry Tortoise Surveys	0	0	0	0
24. SNWA Searchlight Exploratory Wells EA and BA	0	0	0	0
25. Brown and Caldwell Gravel Pit Tortoise Survey	0	0	0	0

Project Name	Excavate and Relocate Tortoise Nests (number)	Handle Tortoises for Relocation No<180mm No>180mm	Construct Artificial Burrows (number)	Tortoise Fence Installation and Inspection (hrs/days)
26. Landtek R37 Reservoir	0	0<180mm 1>180mm	0	0
27. Southern Nevada Regional Heliport Utility Corridors	0	0	0	0
28. Sunrise Tap Biological Surveys	0	0	0	0
29. Legacy Communications Biological Surveys	0	0	0	0
30. Wetlands Park Biological Assessment and Tortoise Surveys	0	0	0	0
Are you seeking to permit this activity for the current project?	Yes	Yes	Yes	Yes

Experience by Project and Activity (continued)

Project Name	Supervise Tortoise Field Staff (hrs/days and number of staff)	Collect Data on Tortoise Sign and Activity (hrs/days)	Handle, Measure, Weigh, and/or Sex No<180mm No>180mm	Radiotelemetry (hrs/days)
1. Mountain View Solar				
2. Pahrump Valley Solar				
3. Desert Tortoise Center Volunteer	0	0	7<180mm 42>180mm	0
4. Goodsprings Compressor Station Warehouse, April 2012.	0	0	0	0
5. Kern River Gas Transmission Project, April 2012.	0	0	0	0
6. Southwest Intertie Project, December 2011	20 hours/ 2 days, 1 staff	12 hours/6 days	0	0
7. Silver Flag Distribution Line, November 2011	0	0	0	0
8. NV Energy MET Tower Removal Project	0	0	0	0
9. Clark County Landfill Project	0	0	0	0
10. InSite Communications Towers	0	0	0	0
11. Ritchie Brothers Distribution Line	0	0	0	0
12. Cottonwood Cove Distribution Line, Authorized Biologist, September 2011	0	0	0	0
13. Lathrop Wells Solar Facility	64 hours/8days 3 staff	64 hours/8days	0	0
14. Clark County Wetlands Park			0	0

Project Name	Supervise Tortoise Field Staff (hrs/days and number of staff)	Collect Data on Tortoise Sign and Activity (hrs/days)	Handle, Measure, Weigh, and/or Sex No<180mm No>180mm	Radiotelemetry (hrs/days)
15. Mesa Evaporation Ponds (Reid Gardner)	0	0	0	0
16. Reid Gardner Power Plant Expansion Project	0	0	0	0
17. Harry Allen Combined Cycle 500kV Transmission Interconnection Project	0	0	0	0
18. Performance Ready Mix	0	6 hrs	0	0
19. Times Gulch Quarry Surveys	0	4 hrs	0	0
20. Dry Lake Solar EA	0	90 hrs	0	0
21. Kramer Junction Solar Project	0	20 hrs	0	0
22. BITD Off-Road Race Tortoise Surveys	0	30 hrs	1<180mm 0>180mm	0
23. Agnes Wilson Quarry Tortoise Surveys	0	8 hrs	0	0
24. SNWA Searchlight Exploratory Wells EA and BA	0	40 hrs	0	0
25. Brown and Caldwell Gravel Pit Tortoise Survey	0	16 hrs	0	0
26. Landtek R37 Reservoir	0	8 hrs	0<180mm 1>180mm	0
27. Southern Nevada Regional Heliport Utility Corridors	0	40 hrs	0	0
28. Sunrise Tap Biological Surveys	0	80 hrs	0	0
29. Legacy Communications Biological Surveys	0	8 hrs	0	0
30. Wetlands Park Biological Assessment and Tortoise Surveys	0	16 hrs	0	0
Are you seeking to permit this activity for the current project?	Yes	Yes	Yes	Yes

Summary of Experience
Total time spent for all desert tortoise-related field activities (referenced above):

Total Number of Hours:
OR Total Number of 8 Hour Days: 120 days

Total number of miles/km walked conducting survey transects: 385 miles

Total number of wild, free-ranging desert tortoises you personally handled:
<180mm: 4
>180mm: 1

Additional supervisory experience other than with desert tortoise work:

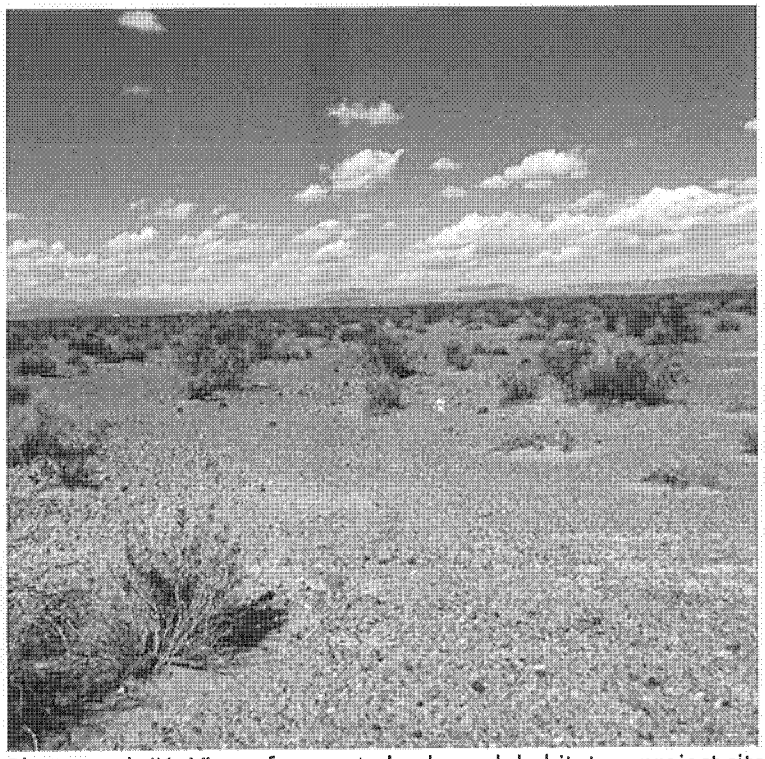
Project	Hours	Staff (No.)
1. Yavapai Rare Plant Surveys	60	8
2. Perrin Ranch Vegetation Surveys	80	5
3. Pahranagat Vegetation Surveys	180	3
4. Lathrop Wells Vegetation Surveys	240	5
5. UNEV pipeline rare plant surveys	240	2
6. Clark County Pilot Project #4	120	4
7. Dry Lake Solar Project rare plant surveys	50	3

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief.

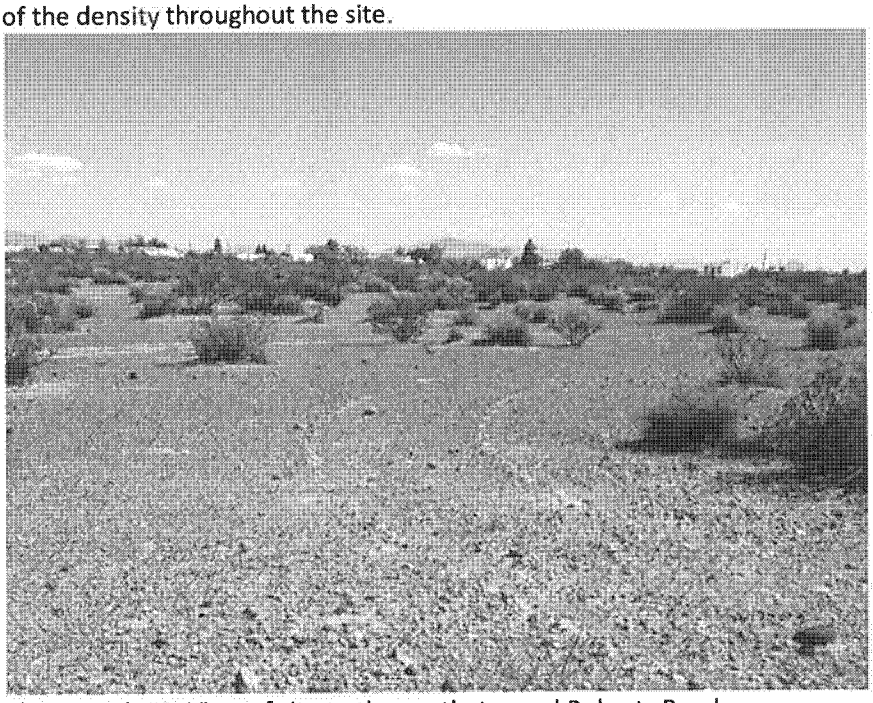
I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch.47, Sec. 1001.

Signed: Matt Villa **Date:** 3-11-2013

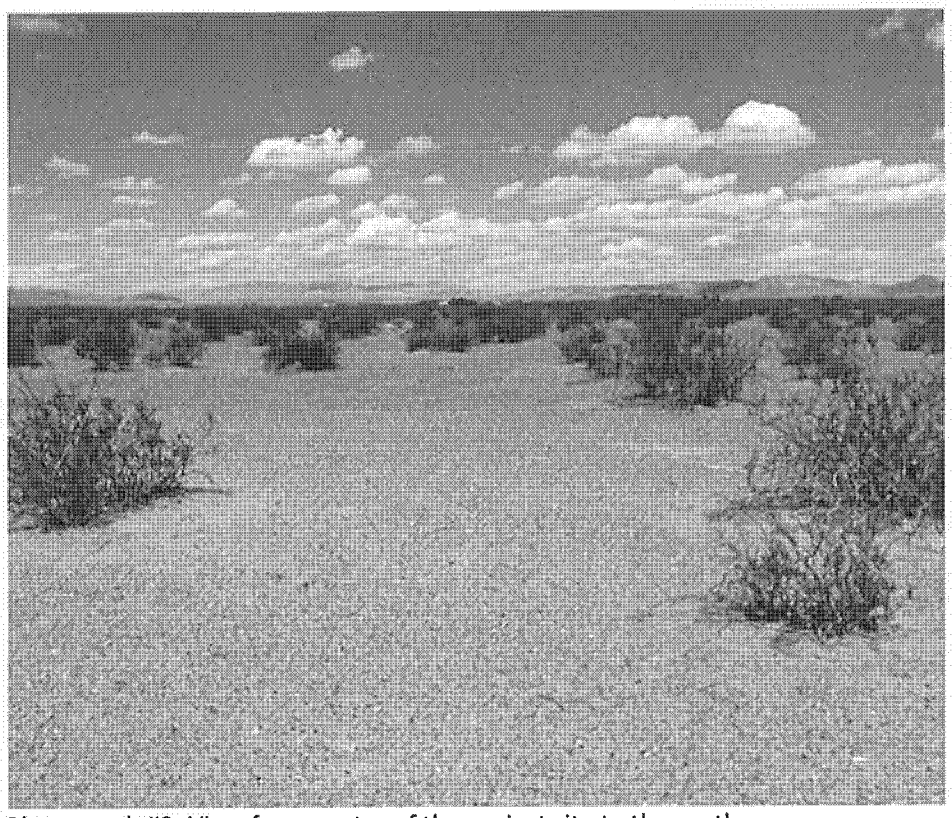
APPENDIX B – PROJECT SITE PHOTOGRAPHS



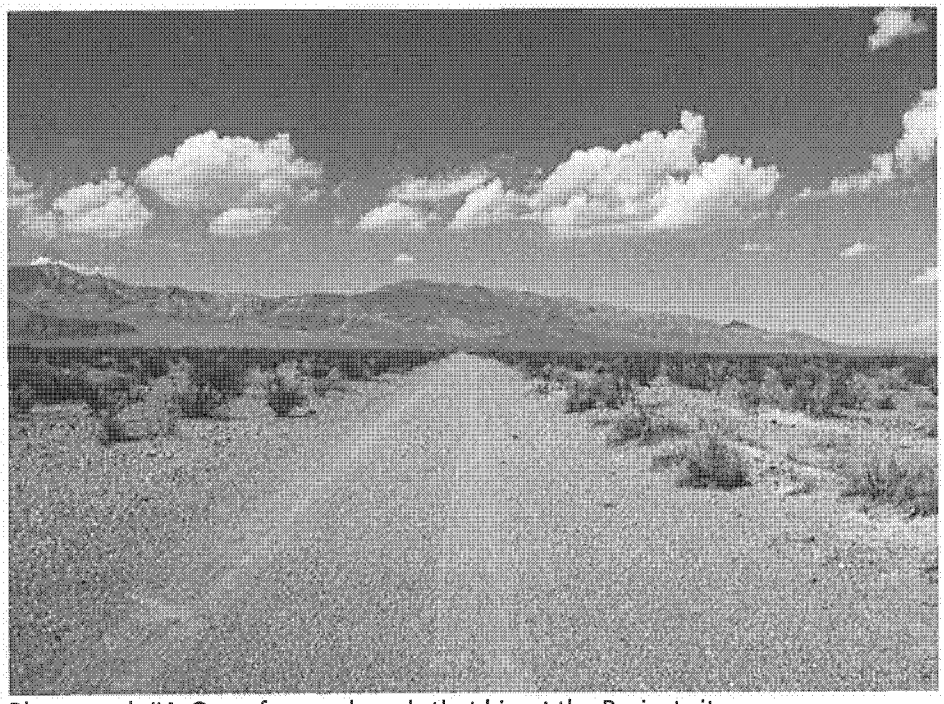
Photograph #1: View of creosote bush scrub habitat on project site. This is representative of the density throughout the site.



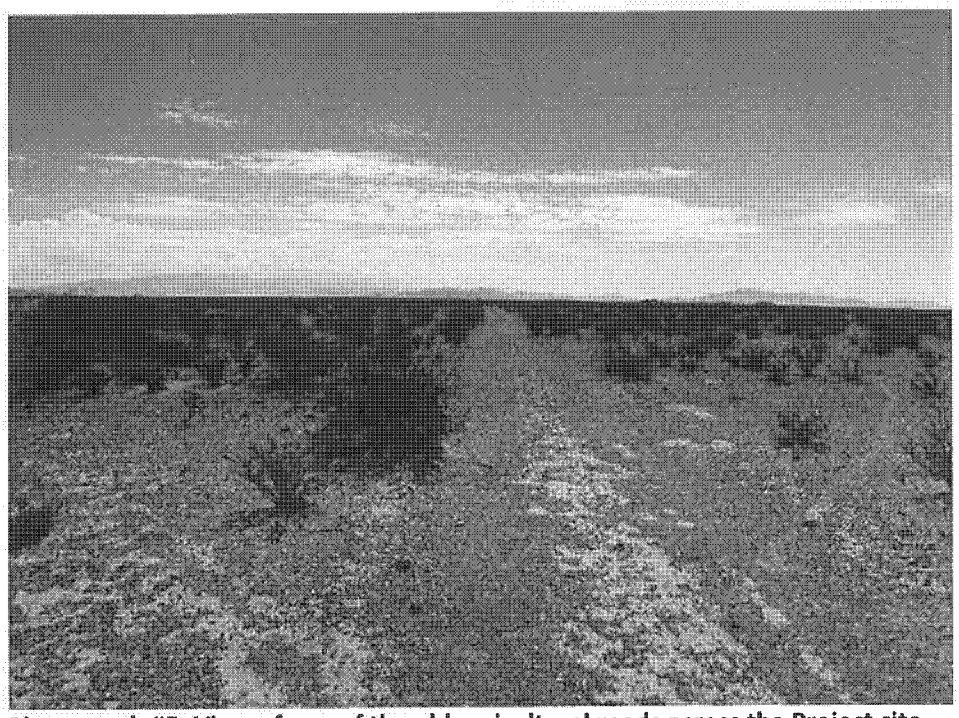
Photograph #2: View of site to the south, toward Roberts Road.



Photograph #3: View from center of the project site to the north.



Photograph #4: One of several roads that bisect the Project site.



Photograph #5: View of one of the old agricultural roads across the Project site.

Appendix A-4

U.S. Fish and Wildlife and Nevada

Department of Wildlife Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

Date: November 20, 2013
File No. 84320-2014-TA-0022

Mr. Ken Borngrebe
First Solar, Inc.
135 Main Street, 6th Floor
San Francisco, California 94105

Received
NOV 25 2013
First Solar

Dear Mr. Borngrebe:

Subject: Technical Assistance for Sunshine Valley Photovoltaic Solar Project in Amargosa Valley, Nye County, Nevada

This letter summarizes the technical assistance the U.S. Fish and Wildlife Service (Service) provided to First Solar, Inc. (First Solar) regarding potential impacts from construction and operations of the subject project to the Mojave desert tortoise (*Gopherus agassizii*), a species listed as threatened under the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*). The proposed project would occur on approximately 745 acres of private lands and would include a 0.5-mile long, 138-kV transmission line that would connect to a Valley Electric Association substation, which also occurs on private lands. Because the entirety of the project would occur on private lands, First Solar considered development of a Habitat Conservation Plan to support an application for an incidental take permit for desert tortoise pursuant to section 10(a)(1)(B) of the Act. No critical habitat would be affected by the proposed action.

Habitat in the project area consists of Mojave desert scrub vegetation, with the primary species being creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), and herbaceous species, such as *Chorizanthe rigida* and *Camissonia boothii*, being less common. Fine soils are present on the site with a gravel top layer.

First Solar conducted desert tortoise surveys following the Service's 2010 protocol (Service 2010) on September 10 through 13, 2013 (Sunshine Valley Solar, LLC 2013). First Solar recorded all burrows or sign of desert tortoise and western burrowing owl (*Athene cunicularia hypugaea*). No live or dead desert tortoise, tortoise burrows, or tortoise sign were observed during the surveys. Four active burrowing owl burrows were detected on the project site.

Service personnel conducted a site visit of the project area on October 23, 2013. The Service documented two class 5 burrows (Service 2010) that were likely desert tortoise burrows based on shape, size, and apron mounding. The Service also documented one additional active burrowing owl burrow not previously documented (545315N, 4042642E, UTM NAD83). The Service considered the overall habitat quality within the proposed project site to be poor for desert tortoises.

Surveys conducted in other locations near the project site have documented low to very low desert tortoise densities. Surveys near Beatty, Nevada, approximately 30 miles northwest of the proposed project, conducted by Knight and Leavitt (2006) and Converse Consultants (2008) indicate tortoise population densities of 0 to 10 tortoises per square mile. Extensive surveys on the Nevada Test Site, located approximately 20 miles northeast of the proposed project, indicated low densities of desert tortoise (Tierra Data 2009). Surveys for the Amargosa Farm Road Solar Project, approximately 3 miles northeast of the proposed project, resulted in the detection of four Class 4 burrows, but no live or dead tortoises were detected (Bureau of Land Management 2010). These results are similar to those documented by First Solar on the proposed project site.

Based on the information from desert tortoise surveys for the proposed project and other nearby projects, and the habitat quality in the proposed project area, we concur with First Solar's assessment that the likelihood of a desert tortoise occurring on the project site is very low. Furthermore, during a conference call between First Solar and the Service on October 31, 2013, First Solar proposed to further reduce their risk of encountering a desert tortoise on the project by installing desert tortoise fencing around the project site prior to construction to prevent tortoises that may occur in the surrounding area from accessing the site, and conducting desert tortoise and burrowing owl surveys prior to initiating construction activities. In addition, the Service recommends that First Solar should conduct construction activities during periods of desert tortoise low activity (generally November through February) and should inspect all burrows for desert tortoise using a video scope prior to the burrowing being collapsed.

This correspondence does not authorize any incidental take, defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct," of desert tortoises and does not provide any regulatory assurances to First Solar if a desert tortoise is encountered on the project. In the unlikely event that a desert tortoise is encountered on the project, all work must stop and the Service's Nevada Fish and Wildlife Office in Las Vegas should be immediately notified at (702) 515-5230.

As a reminder, migratory birds are a Service Trust Resource. Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918, as amended (MBTA; 16 U.S.C. 703.), we recommend that any land-clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season (approximately March through July). If this is not feasible, we recommend a qualified biologist survey the area prior to

land clearing or other surface disturbance. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying of nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active. Additionally, a small percentage of burrowing owls continue to actively use burrows throughout the year in Nevada and may be present onsite during winter months. Therefore, the Service recommends that all burrows be investigated using a video scope to ensure no burrowing owls or desert tortoises are entombed when the burrow is collapsed.

If you have any questions or comments regarding this letter, please contact Susan Cooper in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230.

Sincerely,

Michael Senn
Assistant Field Supervisor

Literature Cited

Bureau of Land Management. 2010. Biological assessment for the Amargosa Farm Road Solar Energy Project. Prepared for Bureau of Land Management. 594 pp.

Converse Consultants. 2008. Canyon Resources Reward Mine biological assessment, Nye County, Nevada. Prepared for Bureau of Land Management. 24 pp.

Knight and Leavitt Associates. 2006. A biological report on the Mojave desert tortoise for a proposed 4.8 acre material pit, Nye County, Nevada. Prepared for Bureau of Land Management.

Service (U.S. Fish and Wildlife Service). 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). Revised for the 2010 Field Season. Desert Tortoise Recovery Office. Reno, Nevada. 18 pp.

Sunshine Valley Solar, LLC. 2013. Desert tortoise (*Gopherus agassizii*) and burrowing owl (*Athena cunicularia hypugaea*) survey report for the Sunshine Valley Solar Power Project. Prepared for U.S. Fish and Wildlife Service, Las Vegas, Nevada. 51 pp.

Tierra Data. 2009. Biological resources surveys for Amargosa Farm Road Solar Project. Prepared for Bureau of Land Management. 174 pp.

cc:
Supervisory Biologist- Habitat, Nevada Department of Wildlife, Las Vegas, Nevada
Theresa Miller, Fontana Energy Associates, San Francisco, California
Melanie Falls, First Solar, Inc., melanie.falls@firstsolar.com

Gmail by Google

Theresa Miller <theresa@fontanaenergy.com>

RE: Sunshine Valley Solar

1 message

Brad Hardenbrook <bhrdnbrk@ndow.org> Fri, Dec 6, 2013 at 4:42 PM
To: Theresa Miller <theresa@fontanaenergy.com>

Good Afternoon, Theresa

Thank you for contacting me today. Based on review of the October 2013 survey report[1] and the U.S Fish & Wildlife Service's (USFWS) Technical Assistance letter dated November 20, 2013 (USFWS File No. 84320-2014-TA-0022), the Nevada Department of Wildlife (NDOW) is in agreement with the USFWS's assessment and is supportive of the stated recommendations.

[1] Sunshine Valley Solar, LLC. 2013. *Desert Tortoise (Gopherus agassizii) and Burrowing Owl (Athena cunicularia hypugaea) Survey Report for the Sunshine Valley Solar Power Project.* October, 2013. Prepared and submitted to the U.S. Fish and Wildlife Service, Las Vegas, Nevada Field Office. 51 pp.

In anticipation that the project will go forward, NDOW would like to explore the possibility of two additional requests. The project location is within the geographic range of the Gila monster, a rarely observed lizard, even less encountered than desert tortoises elsewhere in Nevada. The Gila monster is a State protected species and NDOW developed encounter protocols to encourage reports of observations made by chance. I've also attached a pdf copy and these protocols are found online at: http://www.ndow.org/uploadedFiles/ndoworg/Content/public_documents/Nevada_Wildlife/Gila%20Monster%20Status,%20Identification%20and%20Reporting%20Protocol%20for%20Observations.pdf.

While potential for the Gila monster's presence in the project area is low, reporting of any sightings would be helpful in understanding habitat affinities and geographic distribution.

The second possibility is salvaging of tissue specimens from small-sized terrestrial wildlife that have been found dead by chance during the course of construction activities, examples being lizards or snakes on roads. The purpose is purely scientific in affording an opportunity for collection of genetic material that would help ascertain a better understanding on local and regional relationships about wildlife population diversity. The suggestion is conceptual at this time, is not a regulatory requirement of Project, and we understand gaining the cooperation of the landowner, Project-related personnel and logistical considerations needs further thought.

I will follow-up with you on this latter topic in the next two weeks.

Thank you,

Brad

D. Bradford Hardenbrook

Supervisory Habitat Biologist

Southern Region

Nevada Department of Wildlife

4747 Vegas Drive

Las Vegas, Nevada 89108

702.486.5127 x3600

702.486.5133 FAX

bhrdnbrk@ndow.org

"Do you not know that when in the service, one must always choose the lesser of two weevils?" - Capt. "Lucky" Jack Aubrey

---

From: Theresa Miller [mailto:theresa@fontanaenergy.com]
Sent: Friday, December 06, 2013 12:43 PM
To: Brad Hardenbrook
Subject: Sunshine Valley Solar

Good afternoon,

I hope you had a great holiday last week. I wanted to check in on whether your team has had a chance to review the biological resources report for the Sunshine Valley Solar Project, and whether you have comments on the document, or additional recommendations for avoidance measures? I'm also attaching the advice letter that we received from USFWS for your review/use.

Thanks!

Theresa

--

Theresa C. Miller

Director, Permitting

Fontana Energy Associates

649 Mission Street, Suite 500

San Francisco, CA 94105

510-828-3714

theresa@fontanaenergy.com

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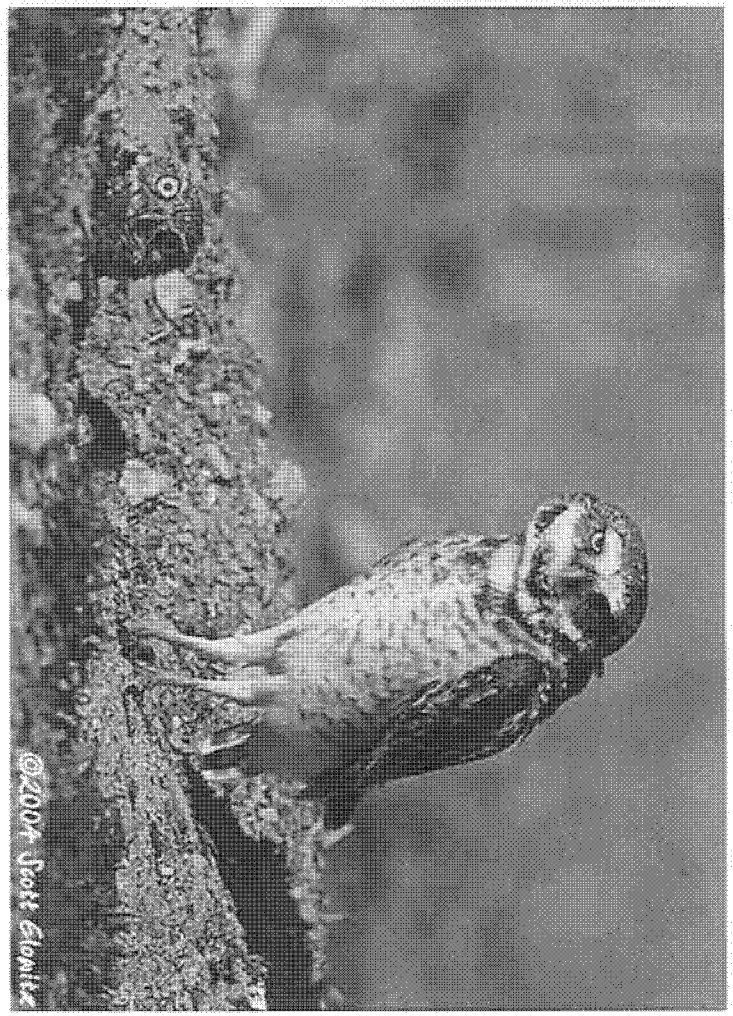
2012_NDOW_Gila_Protocol_3718.pdf
93K

Appendix A-5

Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region



U.S. Fish and Wildlife Service
Nevada Fish and Wildlife Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
Phone: 702-515-5230
Fax: 702-515-5231

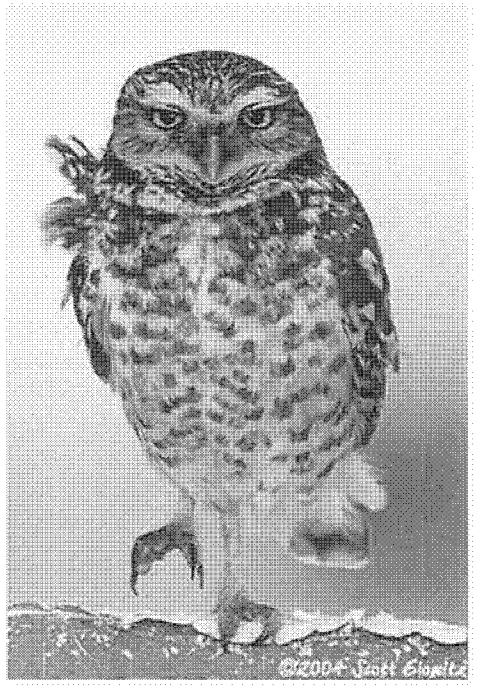
http://www.fws.gov/nevada

Nevada Fish and Wildlife Office

Conserving the Biological Diversity of Great Basin, Eastern Sierra & Mojave Desert

PROTECTING BURROWING OWLS AT CONSTRUCTION SITES IN NEVADA'S MOJAVE DESERT REGION

(June 2007)



Burrowing owl numbers are declining despite protection under the Migratory Bird Treaty Act. Killing or possessing these birds or destruction of their eggs or nest is prohibited.

Be part of the solution; help these owls!

Though burrowing owls are capable of digging their own burrows, they often will use burrows of other animals for shelter and nesting. They will even adopt pipes or culverts 6" to 8" in diameter.

Tips for Protecting Burrowing Owls, Their Eggs and Young at Construction Sites:

Even though burrowing owls are often active during the day, always check burrows, cracks, and crevices for owls before beginning construction. Use of a fiber-optic scope or remote mini-camera to look into a burrow can help determine the presence of owls or nests. Ensure owls and eggs are not present in burrows when grading begins, to avoid burying them.

In southern Nevada, owls breed from about mid-March through August. If a burrow has an active nest, the site must be avoided until the chicks have fledged. To ensure that birds will not abandon the nest, a buffer of at least a 250-foot radius should be placed around the burrow, within which no construction should occur. It takes a minimum of 74 days from when eggs are laid until chicks are able to fly (fledge). After the young have fledged, check the nest burrow for any owlets before resuming construction.

The following owl behaviors may help determine breeding or the presence of an active nest:

- **A pair of owls is initially observed at a site, then only one owl is observed.** This may indicate that the pair has chosen a nest burrow, and the female has gone down into the burrow to lay and incubate eggs. Once incubation begins the female rarely leaves the burrow.
- **An owl is frequently observed carrying food to the burrow.** The male provides food for the female while she is incubating eggs. The best time of day to observe owls is dawn and dusk, but they may be active throughout the day. The male will most likely leave the food in front of the burrow and the female will come to the entrance to take the food. This is probably the best indication that the owls have an active nest.
- **Only one owl has been seen for a period of time; then, two owls are observed.** This may indicate that either the nest has failed, or the eggs have hatched, and the female has emerged from the burrow to assist the male in hunting for food to feed the chicks. The chicks will appear at the burrow entrance when they are about 10 days old.

If you are unsure of breeding status, seek the assistance of a professional biologist or other knowledgeable person. Should breeding behavior be observed, presence of an active nest should be assumed and the area avoided until the chicks have fledged or the nest is no longer occupied.

IMPORTANT! In the Mojave Desert portions of Clark, southern Lincoln and Nye counties, owls may use desert tortoise burrows for nesting and shelter. Desert tortoises are protected under the Endangered Species Act. Killing, harming, or harassing desert tortoises, including destruction of their nests with eggs, without prior authorization is prohibited by Federal law.*

*** IF YOUR PROJECT IS IN CLARK COUNTY, PLEASE READ ON:**

Clark County holds a permit from the U.S. Fish & Wildlife Service authorizing "take" of desert tortoises during the course of otherwise legal activities on non-federal lands. **In Clark County only**, discouraging burrowing owls from breeding in the construction site on private property is allowed by collapsing tortoise burrow's during the owl's non-breeding season (September through February). This may help avoid construction delays. Prior to collapsing a burrow, always check for owls or other protected wildlife occupying the burrow for the winter. Call the Nevada Department of Wildlife at 702-486-5127 if a Gila monster is found as this is a State protected species.

Thank you for your assistance in protecting migratory birds and Nevada's endangered and threatened species!

Appendix A-6

Cultural Pedestrian Survey

URS

September 18, 2013

Melanie Falls
Project Developer
First Solar Development
135 Main Street
San Francisco, CA 94105

Subject: Amargosa Cultural Resources Pedestrian Survey Results
Amargosa Valley, Nevada
URS Project Number: 27653098

Dear Ms. Falls:

In August 2013, URS Corporation, at the request of First Solar Development, completed an archaeological Pedestrian Survey of the Amargosa Project Area, in Nye County, Nevada. This letter report briefly describes the Project Area, Pedestrian Survey and Reporting Methods, and a Summary of Results.

In summary, earth disturbing activities associated with the Project Area are not anticipated to have an adverse effect on National Register of Historic Places (NRHP) eligible cultural resources. This conclusion is based on the survey data and archival (desktop) research completed for the Project Area.

The desktop analysis for the Project Area was found to be negative for previously recorded cultural resources and previous surveys within a 3-mile search radius (refer to Attachment A). However, background research did identify two previously unrecorded cultural resources within a 3-mile search radius. Historical maps and research indicates that the T&T Ranch is approximately 1-mile northeast of the Project Area, which was established in 1915 and is still an active ranch today. The T&T Ranch historically provided food to the Tonopah and Tidewater Railroad which is approximately 1.5 miles west of the Project Area and has been dismantled and no longer operational (refer to Attachment B - Memorandum of Desktop Study for the complete results of the desktop analysis completed July 2013). Neither of these two resources have been previously recorded or evaluated, and are located outside of the Project Area.

A cultural resources Pedestrian Survey was completed August 2013 for the Project Area and found seven isolated artifacts (one prehistoric and six historic), modern trash dumps, a modern transmission line, and modern dirt roads in the Project Area.

Project Area

The proposed Project Area is approximately 800 acres located entirely on private land, and includes a proposed transmission line that may extend less than a mile in length (refer to Figure 1 and 2). The Project Area elevation ranges from 2,306 feet above mean sea level in the southern portion of the Project Area and 2,331 feet in the northern portion of the Project Area. The Project Area is

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situated within the western portion of the Basin and Range physiographic province, which is characterized by broad, relatively flat basins surrounded by mountain ranges. Vegetation in the area consists of creosote, white bursage, and low shrubs. The Project Area is approximately 90 miles northeast of Las Vegas, Nevada located in Amargosa Valley, Nye County. More specifically the Project Area is within Section 36, T16SS, R48E of USGS 7.5' Leeland quadrangle and Section 30 and 31, T16S, R49E of USGS 7.5' South Amargosa Valley quadrangle (Figure 1 and 2).

Pedestrian Survey and Reporting Methods

A Pedestrian Survey was completed of the Project Area on August 26, 2013 through August 29, 2013. Visibility was very good across the Project Area ranging from 90-100%. The Project Area can be described as relatively undisturbed with some dirt access roads, adjacent agricultural crop circles, a transmission line, and some modern trash present. The Pedestrian Survey was consistent with Bureau of Land Management (BLM) Nevada State Office Guidelines and Standards for Archaeological Inventory (2012), and was supervised by individuals who meet the Secretary of Interior Professional Qualifications Standards (36 CFR Part 61). Methods included a team of three archaeologists surveying the Project Area in intervals no greater than 30 meters wide. The Pedestrian Survey inspected the surface of the Project Area for prehistoric and historic cultural resources. Linear routes within the Project Area were surveyed within the right-of-way on either side of the route. A Global Positioning System unit with 3-5 meter accuracy was utilized to conduct the survey and document findings. Digital photographs were taken and documented on a photographic log. The Pedestrian Survey assessed the context and integrity of cultural resourced encountered during the survey. Per BLM standards and guidelines, isolates encountered were documented in tabular form that included an identifying number, brief description, and UTMs.

Summary of Results

The Pedestrian Survey identified seven isolates and noted modern trash and other modern features within the Project Area. No previously unrecorded archaeological sites or historic resources were identified during the survey. The seven isolates observed consist of one prehistoric basalt flake, four historic cans, remnants of a historic metal capped well, and remnants of a historic car hood and roof. Sparse modern refuse and small trash dumps were noted within the Project Area. The trash dumps were observed in Section 36 and consisted of intermingled trash from the late 1960s, 1970s, and later. A single wooden transmission line and dirt roads within the Project Area were closely inspected and showed no evidence of being historic-period resources. Because the dumps and modern features are less than 45 years in age they do not warrant formal recordation and/or evaluation for NRHP. The isolates identified were displaced, lack context and integrity, therefore all seven isolates are not considered eligible under any criterion for listing on the NRHP. Refer to Attachment A – Isolate Report and Attachment B - Memorandum of Desktop Study for further information.

URS

URS appreciates the opportunity to provide our services and we valued assisting you with this project. If you require additional information, please contact us.

Sincerely,

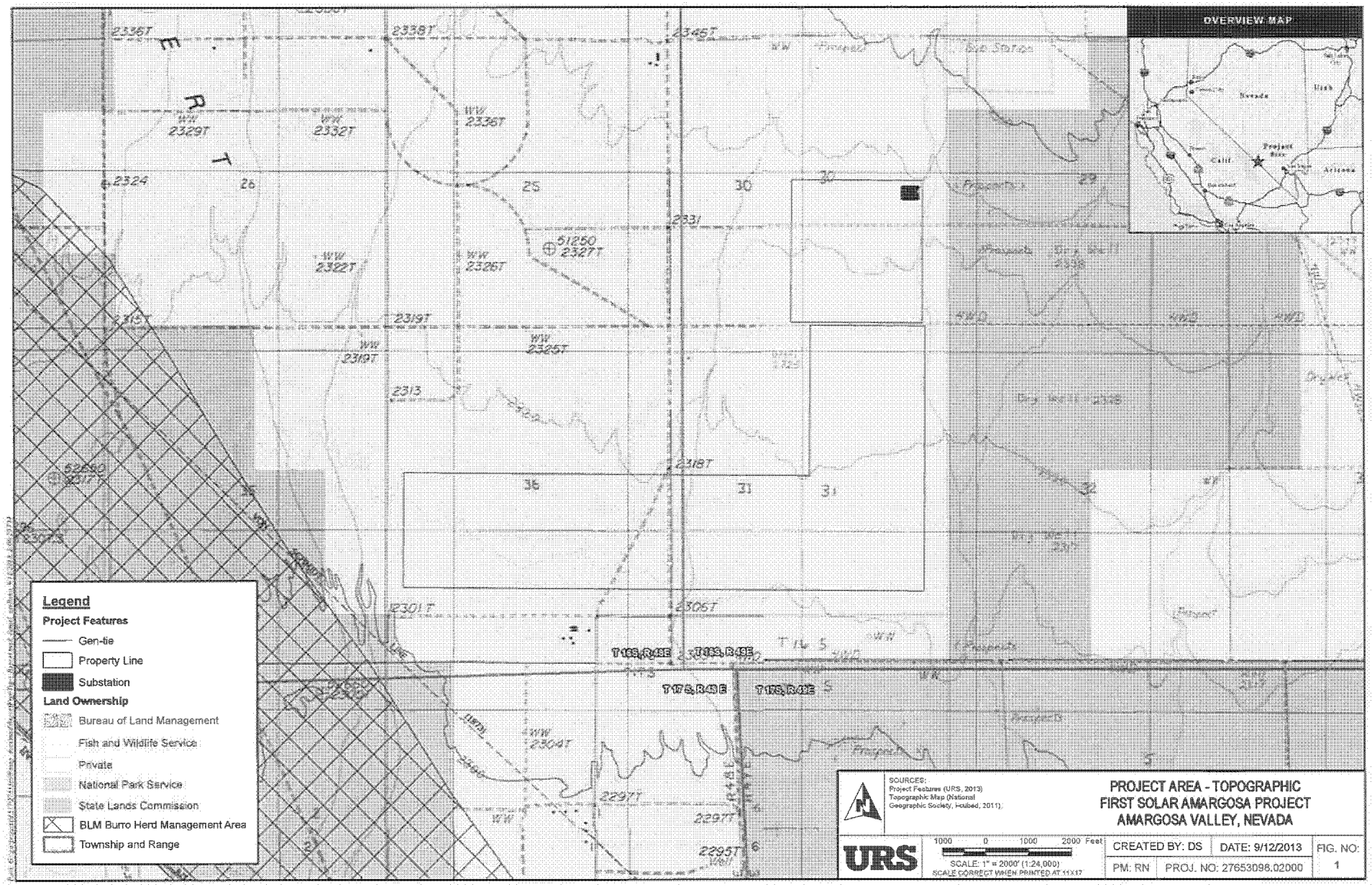
URS CORPORATION

Rachael Nixon
Senior Archaeologist/Project Manager

RN:mv

Attachment A
Attachment B

FIGURES



PROJECT AREA - TOPOGRAPHIC
FIRST SOLAR AMARGOSA PROJECT
AMARGOSA VALLEY, NEVADA

OVERVIEW MAP
Nevada
Utah
Calif
Arizona
Project Site
T 16S, R 48E
T 16S, R 49E
T 17 S, R 48 E
T 17S, R 49E
Legend
Project Features
Gen-tie
Property Line
Substation
Land Ownership
Bureau of Land Management
Fish and Wildlife Service
Private
National Park Service
State Lands Commission
BLM Burro Herd Management Area
Township and Range
SOURCES:
Project Features (URS, 2013)
Topographic Map (National Geographic Society, Iscubed, 2011)
PROJECT AREA - AERIAL
FIRST SOLAR AMARGOSA PROJECT
AMARGOSA VALLEY, NEVADA
URS
1000 0 1000 2000 Feet
SCALE: 1" = 2000' (1:24,000)
SCALE CORRECT WHEN PRINTED AT 11X17
CREATED BY: DS
DATE: 9/12/2013
FIG. NO:
2
PM: RN
PROJ. NO: 27653098.02000

ATTACHMENT A

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CULTURAL RESOURCES INVENTORY ISOLATE REPORT

BLM Office: Not Applicable, no Federal land, funding, or easements involved at this time. If Federal funding, land or easements becomes involved BLM permits, review, and approval may be necessary and require revisions to this document.

BLM Report Number: Not Applicable, no Federal land, funding, or easements involved at this time. If Federal funding, land or easements becomes involved BLM permits, review, and approval may be necessary and require revisions to this document.

Organization/Field Crew: URS Corporation/Rachael Nixon, Sarah Mattiussi, Justin Castells

Project Name and Description: Amargosa Project

Project Area: approximately 800 acres

Legal Description: Section 30, 31, and 36

County: Nye

Map References: T16S, R48E USGS 7.5' Leeland 1987 and T16S, R49E USGS 7.5' South of Amargosa 1984 Quadrangles

UTM Reference: 545445 mE/4042580 mN

Records Check: ____ BLM Records; X NVCRIS; X NR LIST; ____ State Museum; ____ Other

Results of Previous Inventories: None. No previous surveys/inventories conducted within the Project Area or within a 3-mile radius of the Project.

Recorded and Unrecorded Sites: None. No previously recorded or unrecorded sites within the Project Area or within 3-mile radius of the Project.

Expectation: Negative Findings

Inventory Dates (s): 8/26/2013 – 8/29/2013

Inventory Type: Pedestrian Survey in 30 meter wide intervals of the entire Project Area.

Findings: No cultural resources other than isolates were encountered during the survey.

{Attach table displaying isolate numbers, descriptions, and UTM's}

{Attach 7.5' map (s) showing locations of isolates recorded}

{Attach photos and photo log}

ATTACH CLEAN REPRODUCIBLE 15' OR 7.5' MAP (S) SHOWING AREA OF POTENTIAL EFFECT AND AREA INVENTORIED

Prepared By: Rachael Nixon

Date: September 11, 2013

Approved By: BLM Approval not applicable see above.

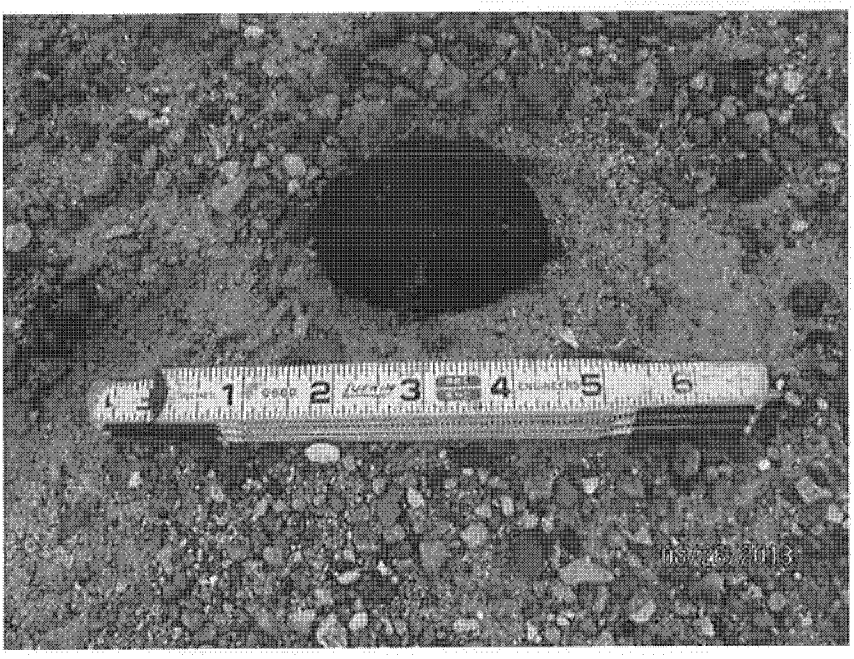
Date: None

Table 1

Isolates Identified within the Armagosa Project Area

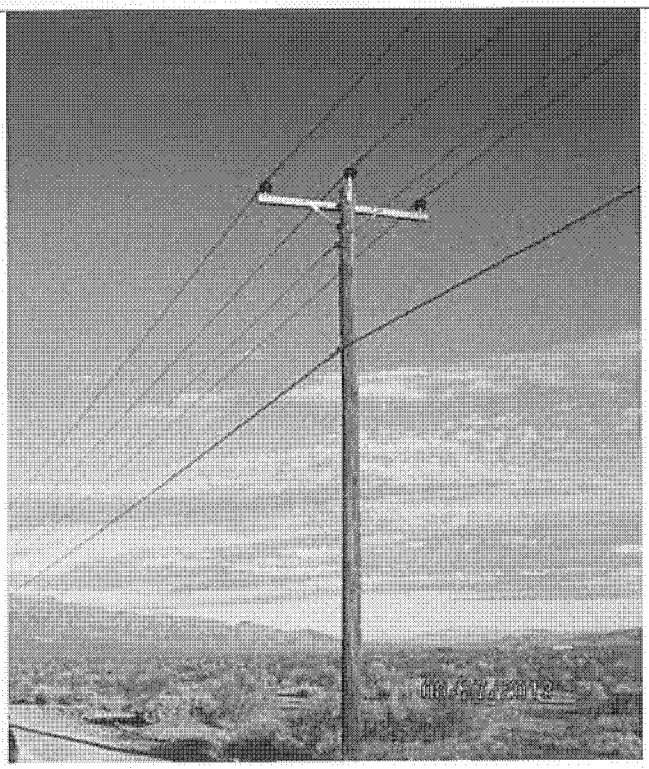
URS Site ID	Date Type	Description	UTM
AMA-RN-ISO-001	Prehistoric	Basalt decortication flake	Confidential Data - Available to Qualified Individuals
AMA-RN-ISO-002	Historic	Church key opened beverage can	Confidential Data - Available to Qualified Individuals
AMA-RN-ISO-003	Historic	Pull-tab opened beverage can	Confidential Data - Available to Qualified Individuals
AMA-RN-ISO-004	Historic	Pull-tab opened beverage can	Confidential Data - Available to Qualified Individuals
AMA-RN-ISO-005	Historic	Church key opened beverage can	Confidential Data - Available to Qualified Individuals
AMA-RN-ISO-006	Historic	Historic car parts (hood and roof) with a partial emblem "Lark…"	Confidential Data - Available to Qualified Individuals
AMA-RN-ISO-007	Historic	Possible historic capped well that has been back-filled with dirt	Confidential Data - Available to Qualified Individuals

Photographs and Log



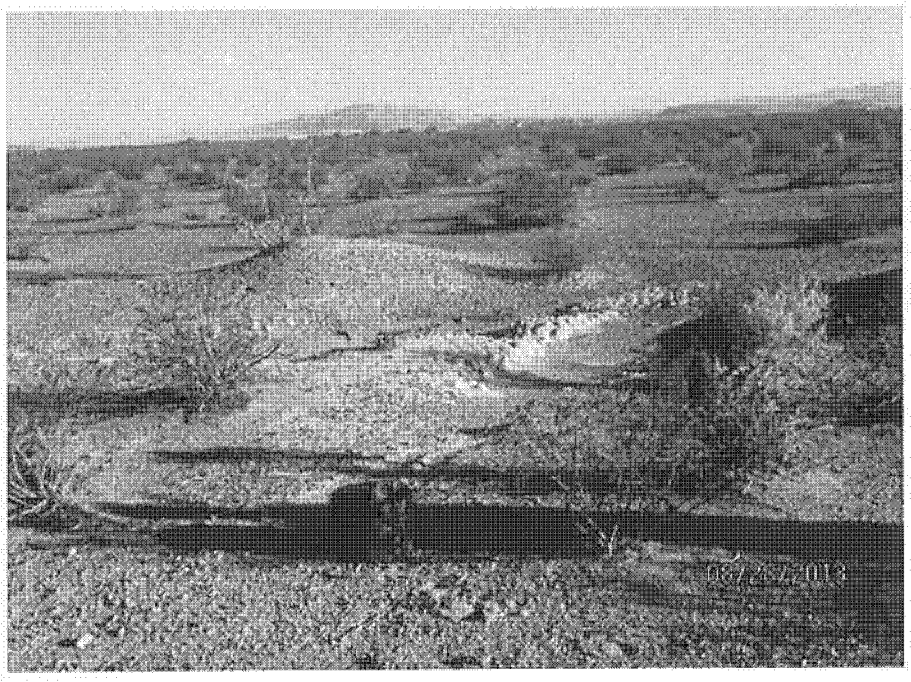
Photograph #1

Comments:
Single prehistoric isolate consisting of a basalt decortication flake (ventral surface).



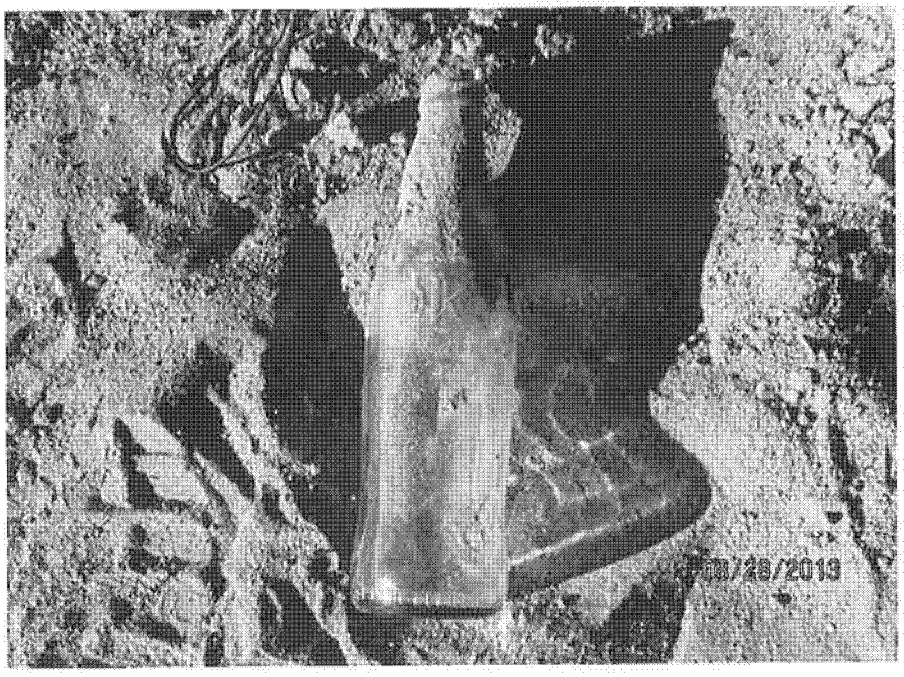
Photograph #2

Comments:
Modern transmission line along Smith Road within the Project Area.



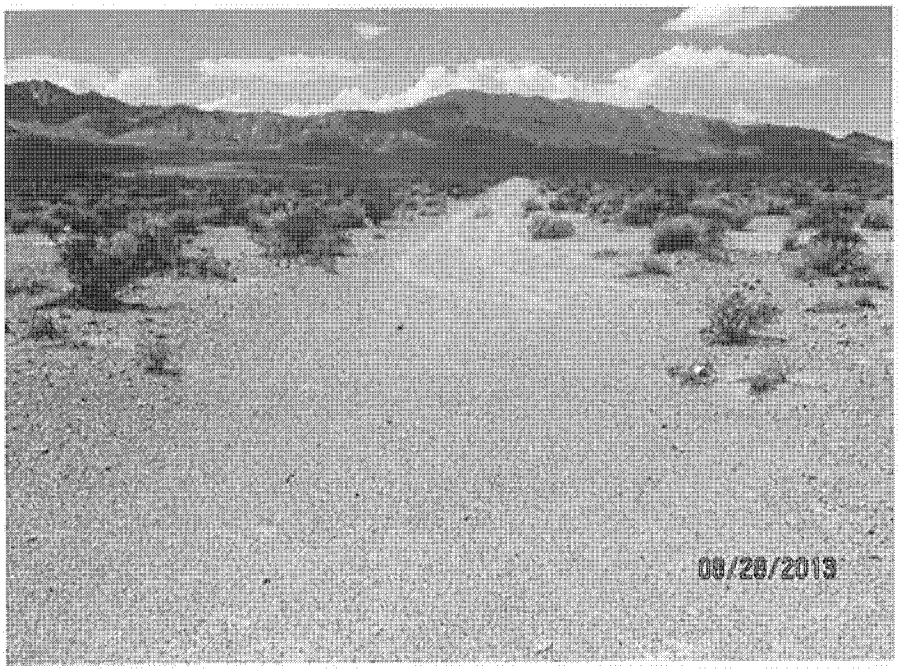
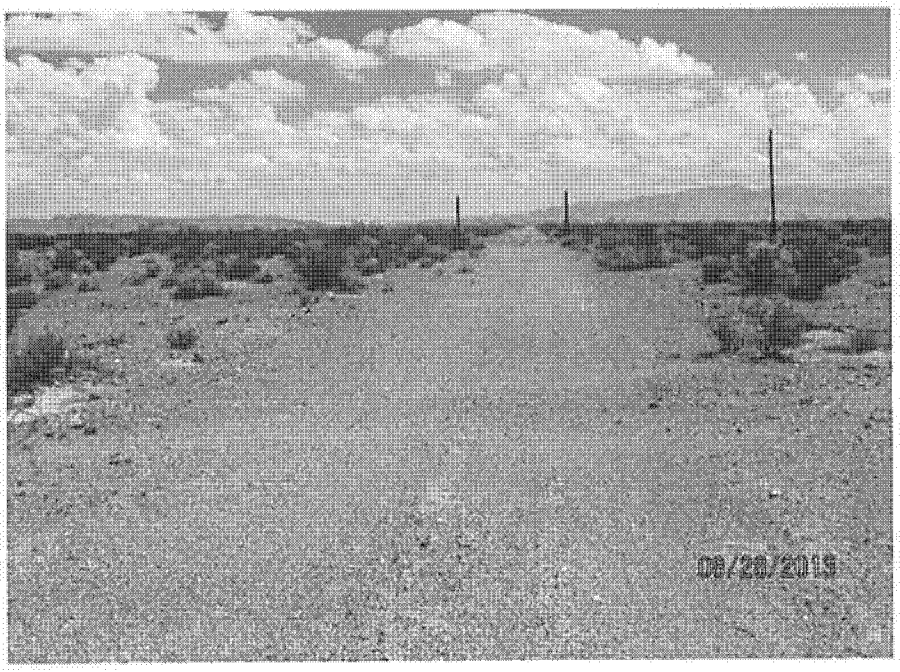
Photograph #3

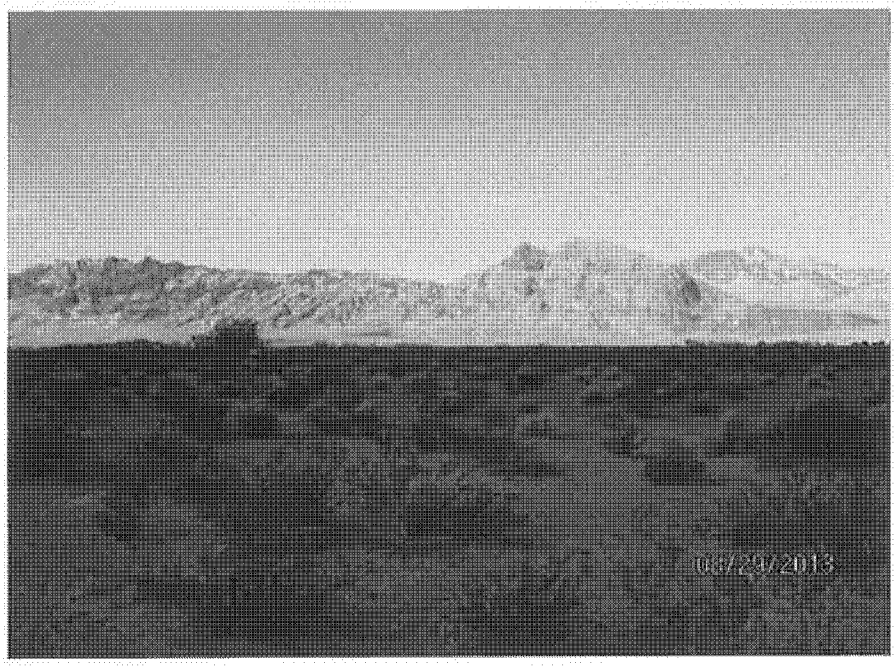
Comments:
Isolated historic well capped within the Project Area.



Photograph #4

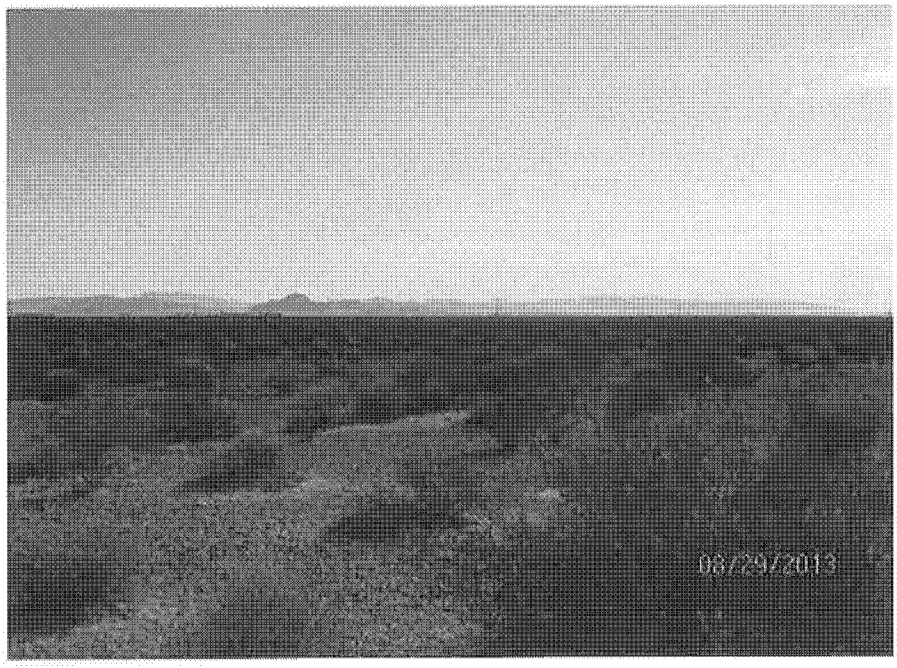
Comments:
Evidence of late 1960s early 1970s trash dumps observed within the Project Area. Coke bottle with a base mold mark of 1969, which indicates it was bottled, consumed and discarded on or after 1969.

	**Photograph #5** **Comments:** Direction facing west of dirt road within Project Area showing no signs of historical association.
	**Photograph #6** **Comments:** Direction facing east of dirt road within the Project Area showing no signs of historical association.



Photograph #7

Comments:
Overview of Project Area facing west.



Photograph #8

Comments:
Overview of Project Area facing south.
.

Confidential Locational Data (Figures and UTMs)

Available to Qualified Individuals

ATTACHMENT B

URS

Memorandum

Date: 7/18/2013

To: Melanie Falls

From: Rachael Nixon, RPA

Subject: Amargosa Valley Project – Cultural Resources Desktop Study

The following information summarizes the results of the Nevada Cultural Resources Information System, Desktop Research, and a Summary of Native American Interests.

Nevada Cultural Resources Information System

URS Corporation (URS) conducted a cultural resources record search for the Amargosa Valley Project (Project) Site (Project Area) and surrounding 1-mile radius through the online Nevada Cultural Resources Information System (NVCRIS). No previously conducted surveys or previously recorded resources were present within the search area. Due to the absence of information within the given search area, URS expanded the search radius to 3-miles, specifically seeking previously recorded linear resources potentially associated with the Project Area (ex. historic stage coach routes and/or railroads). These results indicated that two previous surveys were conducted within 2-miles of the Project Area; however both surveys also resulted in negative findings and no other resources were identified by the subsequent search.

Desktop Research

The desktop review of available sources identified one cultural resource and two potential cultural resources within the general vicinity of the Project, none of which occurred within the Project Area or within a 1-mile radius. These resources include T&T Ranch (closest to the Project Area at 1-mile to the northeast); the Tonopah and Tidewater Railroad (approximately 1-mile west); Stage Road to Las Vegas (7-miles to the west); and Historical Marker #173 (roughly 30-miles northeast of the Project Area). These results are described in detail below and summarized in Table 1.

T&T Ranch

The T&T Ranch was established in 1915, for the purpose of supplying food for the Tonopah & Tidewater Railroad construction crews. This ranch is currently located along T&T Road and Ranch Road. The "1953 Historic Topographic Map" from Nationwide Environmental Title Research (NETR) Online depicts the "T&T Ranch (Site)" approximately 1-mile northwest of the Project Area. The T&T Ranch website (http://www.tandtranch.com/) claims the ranch has been in operation since "the early 1900s" which indicates that it may have some historic built environment resources and/or archaeological resources associated with its historic-period use.

Tonopah and Tidewater Railroad

The Tonopah and Tidewater Railroad was a mid-sized freight-hauling railroad that extended 200-miles from the railhead at Ludlow, CA and terminating at the mining towns of Tonopah and Goldfield. The "State of Nevada, in Color" map from 1914 depicts the Tonopah and Tidewater Railroad passing through the Amargosa Desert in the general vicinity of the Project Area. The scale of the available maps makes it difficult to identify the exact distance from the track alignments; but some comparison

was made with historic maps and modern United States Geologic Survey topographic maps shows the alignment to be approximately 1.5-miles west of the Project Area. The railroad has been dismantled; however historic materials may still be extant within the area of the railroad alignment. There is no historic evidence depicting a historic stage couch route associated with this railroad traveling through the Project Area. However, on current maps a dirt road is depicted as traveling west towards this historic alignment of the railroad; towards the east this road terminates and splits into several other roads, none of which appear to travel towards a known town or city. Based on these findings it is unlikely that this road is of historic-age, but in order to ascertain an approximate age, significance, and integrity of the road, an on-the-ground assessment of the segments within the Project Area is recommended.

Stage Road to Las Vegas

According to 1905 Map of Tonopah, Goldfield and Bullfrog Districts and Region Adjacent a "Stage Road to Las Vegas" is depicted along with a proposed railroad line from Las Vegas to Bullfrog that traveled through the Amargosa Desert. The scale of this map did not allow for exact distances, but some features of were geo-referenced and indicated that this route was approximately 7-miles west of the Project Area. There is no historic evidence depicting this historic stage couch route within or near the Project Area.

Historic Marker #173-Beatty

Historical Marker #173– Beatty: Center of the Gold Railroads "The Chicago of the West" is located approximately 30-miles north of the Project Area. The marker commemorates the town of Beatty's role as the one-time nexus of railroads responsible for transporting gold. The marker is a considerable distance from the Project Area and as such, is not of concern with regards to this Project.

Table 1
Amargosa Valley Project Cultural Resources Desktop Results

Research Source	Cultural Resources Identified Near Project Area
National Register of Historic Places (NRHP) (http://nrhp.focus.nps.gov/natregadvancedsearch.do)	No NRHP listed cultural resources identified near the Project Area
Nevada State Register of Historic Places (NSRHP) (http://nvshpo.org/state-and-national-registers/state-register-listings.html)	No NSRHP listed cultural resources identified near the Project Area
State of Nevada Historical Markers (http://nvshpo.org/historical-markers-by-county/77-nye-county/323-nevada-historical-marker-173.html)	Historical Marker #173 – Beatty: Center of the Gold Railroads "The Chicago of the West" is located approximately 30-miles north of the Project Area. This Historical Marker #173 is the closest State of Nevada Historical Marker to the Project Area.
Nye County 2011 Comprehensive/ Master Plan (http://www.nyecounty.net/DocumentCenter/Home/View/14049)	No cultural resources identified near the Project Area
Perry-Castaneda Library Map Collection: Nevada Historical Topographic maps (www.lib.utexas.edu/maps/topo/nevada)	No potential cultural resources identified on available topographic maps
David Rumsey Map Collection (www.davidrumsey.com)	No potential cultural resources identified on available maps
1942 Bullfrog 1:125,000 Topographic Map (http://www.delamare.unr.edu/maps/digitalcollections/nvm	No potential cultural resources identified on map near the Project Area

Table 1
Amargosa Valley Project Cultural Resources Desktop Results

Research Source	Cultural Resources Identified Near Project Area
aps/)	
Map of the State of Nevada 1866 (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/search.html)	No potential cultural resources identified near the Project Area
Map of the State of Nevada 1876 (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/search.html)	No potential cultural resources identified near the Project Area
Cram's Railroad and Township Map of Nevada (1879) (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/search.html)	No potential cultural resources identified near the Project Area
Map of the State of Nevada 1881 (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/search.html)	No potential cultural resources identified near the Project Area
Railroad and County Map of the State of Nevada (1888) (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/search.html)	No potential cultural resources identified near the Project Area
State of Nevada, in Color (1914) (http://www.delamare.unr.edu/maps/digitalcollections/nvhistory/search.html)	Depicts Tonopah and Tidewater Railroad alignment passing through the Amargosa Desert approximately 1.5-miles west of Project Area. Any existing structural fabric of the Tonopah and Tidewater Railroad may be considered a cultural resource.
1953 Historic Topographic Map (http://www.historicaerials.com/)	Identifies "T&T Ranch (Site)" near Project Area. The T&T Ranch website (http://www.tandtranch.com/) claims the ranch has been in operation since "the early 1900s". The T&T Ranch is located approximately 1-mile northeast of the Project Area. Any associated feature, structure, and/or artifacts would be considered cultural resources.
Map of Tonopah, Goldfield and Bullfrog Mining Districts and Region Adjacent, 1905 (Atlas of the Goldfield Tonopah and Bullfrog Mining Districts of Nevada. San Francisco: W. H. Shearer, 1905.)	Depicts a 'Stage Road to Las Vegas' and a proposed 'R.R. Line from Las Vegas to Bullfrog' through the Amargosa Desert which is approximately 7-miles from the Project Area. Any associated features, structures, and/or artifacts would be considered a cultural resource.

NATIVE AMERICAN INTERESTS

URS contacted the California Native American Heritage Commission (NAHC) on July 15, 2013 to identify if they have any information regarding sacred land files (SLF) or Traditional Cultural Properties (TCPs) within the Project Area or surrounding vicinity. The NAHC houses California data, however they also house some Nevada information, specifically SLFs and TCPs near the California/Nevada border. On July 22, 2013 the NAHC responded that no SLF or TCPs are on file for the Project Area, however they did identify additional tribes affiliated with the area to contact for additional information. Those

tribes include, Las Vegas Paiute, Chemehuevi, Fort Mojave Indian, and Colorado River Tribe. The National Parks Services Native American Consultation Database identified the Western Shoshone affiliated with the Project Area, however no specific areas of concern were on file. Further coordination and research to identify all Tribes affiliated with this region has not been conducted. Should this Project move forward additional coordination with Tribes interested in this area is advised.

SUMMARY

The following list provides a concise summary of the NVCRIS, desktop research, and Native American interests search.

- Based on the NVCRIS search through their online database no previously cultural resources surveys have been conducted and no previously recorded cultural resources exist within the Project Area
- The desktop research found additional information showing no existing historic information and/or maps depicting an historic-route within the Project Area, however two historic-period resources are within 1-2 miles of the Project Area (T&T Ranch and the Tonopah and Tidewater Railroad).
- The Native American interest research conducted to date found no areas of concern, however additional coordination with Tribes affiliated is recommended to determine if they have interests and/or concerns with this area.

RECOMMENDATIONS

Considering the results of the NVCRIS, desktop research, Native American interests results, and because the area has not been previously surveyed, URS concludes that the overall cultural resources sensitivity within the Project Area is low to moderate. Therefore, URS recommends a cultural resources reconnaissance survey of the Project Area in order to assess the existing dirt road that travels through the Project Area, as well as conduct a reconnaissance survey to identify and assess if additional resources are present. Based on the available information, URS assumes that a reconnaissance survey would require 2 archaeologists approximately 2 days to complete. If First Solar chooses to conduct the reconnaissance survey URS can provide a scope and cost estimate to complete this work.

Please feel free to contact Rachael Nixon at 858-812-8284 if you have any questions.

Appendix A-7

Phase 1 Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

FOR THE
FIRST SOLAR AMARGOSA VALLEY PROJECT SITE

NYE COUNTY, NEVADA

PURCHASE ORDER 4800014502

Prepared for:

First Solar
135 Main Street, 6th Floor
San Francisco, California 94105

Prepared by:

URS
130 Robin Hill Road, Suite 100
Santa Barbara, California 93117
(805) 692-0600 ◆ Fax: (805) 964-0259

URS Project Number 28907465

August 1, 2013

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EXECUTIVE SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by URS Corporation (URS) of the First Solar Amargosa Valley Project Site, an approximately 1,280-acre property located in Nye County, Nevada (property). The purpose of the Phase I ESA was to gather information concerning the property and surrounding areas in order to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum or petroleum products, and controlled substances to identify and evaluate Recognized Environmental Conditions (RECs) affecting the property. This Phase I ESA was accomplished by, and limited to, a site reconnaissance, a site vicinity perimeter survey, and review of agency databases and other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the property.

The Scope of Services performed was in accordance with the Technical Services Agreement dated November 24, 2009 between First Solar and URS, URS' proposal/scope of work dated June 25, 2013 and First Solar Purchase Order 4800014502 dated July 9, 2013. The format and content of this Phase I ESA are in general accordance with the American Society of Testing Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase I Site Assessment Process E 1527-05* (ASTM 2005) and the U.S. Environmental Protection Agency All Appropriate Inquiries *Standards and Practices for All Appropriate Inquiries – Final Rule: [40 CFR Part 312],* approved November 1, 2005.

At the time of the site reconnaissance, the property was observed to be approximately 1,280 acres of undeveloped ranch land. The property is located in Amargosa Valley in an unincorporated area of Nye County, in Section 36, Township 16 South, Range 48 East, and Sections 29, 30, and 31, Township 16 South, Range 49 East (U.S. Geological Survey [USGS] Leeland, Nevada-California and South of Amargosa Valley, Nevada 7.5-minute quadrangles). The property is bounded by undeveloped and agricultural land to the north, Roberts Road and undeveloped, agricultural and residential land to the south, Powerline Road and undeveloped land to the east and Casada Road and undeveloped and residential land to the west. A substation is located in the northeastern portion of the property. The substation is not part of the property. URS was not provided access to the substation.

Historical data indicates that the property has remained primarily undeveloped land with some agricultural use on the northern portion of the property. An electrical substation (Valley Electric Association Substation) was observed within the property boundary in the northeastern portion of the property at the intersection of Powerline and Anvil Roads. The substation is not considered part of the property. URS was not provided access to the substation.

URS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 for the First Solar Amargosa Valley Project Site, located in Nye County, Nevada. Any exceptions to or deletions from this practice are described in Sections 1.3 and 1.5. Based on the scope of work conducted for this Phase I ESA, RECs were not identified in connection with the property.

This Executive Summary is not intended to be a "stand-alone" document, but a summary of findings as described in the Phase I ESA report. Its use is intended to be in conjunction with the findings and limitations described therein.

SECTION 1.0
INTRODUCTION

Presented in this report are the results of the Phase I Environmental Site Assessment (ESA) conducted by URS Corporation (URS) of the First Solar Amargosa Valley Project Site, an approximately 1,280-acre property located in an unincorporated area of Nye County, Nevada (property).

This assessment was accomplished by, and limited to, a reconnaissance of the site, a perimeter survey of the site vicinity, and review of agency databases and other reasonably ascertainable information regarding past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the property.

1.1 AMERICAN SOCIETY OF TESTING MATERIALS STANDARD AND ALL APPROPRIATE INQUIRY

The format and content of this Phase I ESA are in general accordance with the American Society of Testing Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase I Site Assessment Process E 1527-05* (ASTM 2005) and the U.S. Environmental Protection Agency (USEPA) All Appropriate Inquiries (AAI) *Standards and Practices for All Appropriate Inquiries – Final Rule: [40 CFR Part 312],* approved November 1, 2005.

1.1.1 All Appropriate Inquiry Standards

The USEPA Rule on AAI was developed to establish landowner liability protections to property owners under the Comprehensive Environmental Response, Compensation, and Liability Act as innocent landowners, bona-fide prospective purchasers, and/or contiguous property owners. The AAI Rule expands the records review requirements by increasing the search distances beyond the recently superseded ASTM Standard E 1527-05, incorporating mandatory searches for engineering and institutional controls, and mandatory review of local government and tribal records. The records review also requires a search of reasonably ascertainable land title and lien records to identify environmental liens or activity and use limitations, if any, which are recorded against the property. The historical sources review requires that a search of the property go as far back in history as it can be shown that the property contained structures or was first used for residential, agricultural, commercial, industrial, or governmental purposes. Data gaps for the property were identified and their significance reported herein. The AAI Rule also requires taking into account commonly known or reasonably ascertainable information within a local community. AAI requires that inquiries be conducted by an environmental professional as specifically defined within the Rule.

1.1.2 American Society of Testing Materials Standard

The ASTM Standard was approved November 18, 2005, and was established and updated to reflect industry requirements brought about by AAI.

The goal of the ASTM Standard is to identify Recognized Environmental Conditions (RECs) (see Section 5.0 of this Phase I ESA). Under the ASTM Standard, "recognized environmental condition" is defined as the presence, or likely presence, of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. RECs include hazardous substances or petroleum products even under conditions in compliance with laws. RECs are not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

1.2 PURPOSE

The purpose of the Phase I ESA is to gather information concerning the property and surrounding areas in order to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances.

1.3 SCOPE OF SERVICES

The Scope of Services performed was in accordance with the Technical Services Agreement dated November 24, 2009 between First Solar and URS, URS' proposal/scope of work dated June 25, 2013 and First Solar Purchase Order 4800014502 dated July 9, 2013. The format and content of this Phase I ESA are in general accordance with the ASTM Standard and the USEPA AAI.

The site reconnaissance included a driving and walking tour of the property and a perimeter survey of surrounding and accessible adjacent properties. To meet the objective of this Phase I ESA, URS completed the following tasks:

- Performed a reconnaissance survey of the property to make visual observations of existing site conditions and activities, and a perimeter survey of the area within 0.5 mile of the property (as practical) to observe types of general land use. Photographs of the property are provided in Appendix A.
- Reviewed and interpreted archival topographic maps of the property and the area within 0.5 mile of the property for information regarding historical land use potentially

involving the manufacture, generation, use, storage and/or disposal of hazardous substances. Environmental Data Resources (EDR) historical topographic maps are included in Appendix B.

- Reviewed and interpreted available historical aerial photographs of the property and vicinity for evidence of previous site activities and development that would suggest the potential presence of hazardous substances at the property. A copy of the USGS Aerial Photography Package is included in Appendix C.
- Reviewed pertinent, available documents and maps regarding local physiographic and hydrogeologic conditions in the property vicinity.
- Reviewed the federal, state, and local database list search provided by EDR of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations. The agency lists and area search results are provided in Appendix D.
- Reviewed and interpreted available documents regarding wells on the property and in the site vicinity, for evidence that would suggest the potential presence of hazardous substances at the property. A copy of the EDR DataMap Well Search Report is included in Appendix E.
- Conducted an environmental lien search through EDR databases to determine potential environmental liens or other activity and use limitations associated with the property. The EDR Environmental Lien Search Report is provided in Appendix F.
- Conducted inquiries in person, by telephone, or in writing to the appropriate regulatory agencies for information regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the property.
- Provided Mr. Kevin Peters of First Solar a copy of the *AAI User Questionnaire* to complete to obtain specialized knowledge of site conditions. A copy of the completed *AAI User Questionnaire* is included in Appendix G.
- Conducted an interview with Mr. Michael DeLee, owner and site representative for the property, to obtain specialized knowledge of site conditions. Mr. DeLee provided answers to the *AAI User/Site History Questionnaire*. A copy of the *AAI User/Site History Questionnaire* is included in Appendix G.
- Prepared this report describing the research performed and presenting URS' findings and professional opinions regarding the potential for adverse environmental impacts to the property.

1.4 USER RELIANCE

This report was prepared for use by First Solar, and shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of URS.

1.5 LIMITATIONS AND EXCEPTIONS

This report and the associated work were provided in accordance with the principles and practices generally employed by the local environmental consulting profession. This is in lieu of all warranties, expressed or implied.

Discussions of the ASTM Standard or AAI data gaps, if any, including sources reviewed, the significance of each data gap, and an opinion if the data gap inhibits the environmental professional's ability to reach an opinion about contamination at the property, are incorporated into the appropriate sections of the report.

It should be recognized that this Phase I ESA was not intended to be a definitive investigation of potential contamination at the property and the recommendations provided are not necessarily inclusive of all the possible conditions. This Phase I ESA is not a regulatory compliance audit or an evaluation of the efficiency of the use of any hazardous materials at the property. Soil and/or groundwater sampling was not undertaken as part of this investigation. Sampling for asbestos, radon, lead-based paint, and lead in drinking water was also not performed as part of this Phase I ESA. Given that the Scope of Services for this investigation was limited, it is possible that unobserved contamination might exist.

The conclusions presented are professional opinions based solely upon indicated data described in this report, visual site and vicinity observations, and the interpretation of the available historical information and documents reviewed, as described in this report. Unless URS has actual knowledge to the contrary, information obtained from interviews or provided to URS by the client was assumed to be correct and complete. URS does not assume any liability for information that was misrepresented to URS by others or for items not visible, accessible or present on the property during the time of the site reconnaissance. The conclusions are intended exclusively for the purpose outlined herein and the site location and project indicated. The executed Scope of Services may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Opinions and recommendations presented herein apply to the site conditions existing at the time of this assessment and cannot necessarily apply to site changes of which URS is not aware and has not had the opportunity to evaluate. Changes in the conditions of this property may occur with time due to natural processes or the works of man on the property or adjacent properties. Changes in applicable standards may also occur as a result of legislation or the

broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond URS' control. Opinions and judgments expressed herein are based on URS' understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

SECTION 2.0
SITE DESCRIPTION

2.1 LOCATION

The property is located in Amargosa Valley, in an unincorporated area of Nye County, Nevada. The property consists of approximately 1,280 acres of undeveloped ranch land in Section 36, Township 16 South, Range 48 East, and Sections 29, 30, and 31, Township 16 South, Range 49 East (U.S. Geological Survey [USGS] Leeland, Nevada-California and South of Amargosa Valley, Nevada 7.5-minute quadrangles) The property is bounded by undeveloped and agricultural land to the north, Roberts Road and undeveloped, agricultural and residential land to the south, Powerline Road and undeveloped land to the east and Casada Road and undeveloped and residential land to the west.

A topographic map and an aerial photograph of the Project Area are included as Figures 1 and 2, respectively.

2.2 INTERVIEWS AND SPECIALIZED USER KNOWLEDGE

URS provided Mr. Kevin Peters of First Solar a copy of the *AAI User Questionnaire* per AAI Standards in order to obtain specialized knowledge of site conditions. A copy of the completed *AAI User Questionnaire* completed on July 29, 2013 is included in Appendix G. Mr. Peters stated that, to his knowledge, there are no known environmental liens associated with the property. Mr. Peters was not aware of the historical use of the property.

Ms. Holly Woodward of URS conducted an interview with Mr. Michael DeLee, owner and site representative for the property on July 18, 2013 using the *AAI User/Site History Questionnaire*. Mr. DeLee stated that, to his knowledge, there are no known environmental concerns associated with the property. A copy of the *AAI User/Site History Questionnaire* is also included in Appendix G. Mr. DeLee provided information regarding the history and current conditions of the property. Mr. DeLee indicated that the property currently consists of undeveloped land with a small portion of agricultural use. The property has historically been undeveloped land.

2.3 SITE RECONNAISSANCE

On July 16, 2013, Ms. Holly Woodward of URS conducted an unescorted reconnaissance of the property. The reconnaissance consisted of the observation and documentation of existing site conditions and the nature of the neighboring property development within approximately 0.5 mile of the property. Photographs taken during the site reconnaissance are provided in Appendix A.

The property was accessed by Powerline Road and by unimproved roads throughout the property.

2.3.1 Site Conditions

The property was observed to be undeveloped desert land. No structures were observed on the property. The area was observed to be relatively flat with native desert vegetation and washes and some unimproved roads. A water supply well that appeared to not be in use and a small amount of solid waste (primarily metal and glass) were observed near the intersection of Powerline Road and Smith Lane. According to Mr. DeLee, during the 1970s or early 1980s, four mobile homes were removed from this location. No staining was observed in the area of the former mobile homes. A historic irrigation system and associated water supply well were observed on the property to the south of Smith Lane. The well and irrigation system were reportedly used for former alfalfa production in this area. Small amounts of household debris were observed north of Roberts Road across from the residential area. An area of agricultural use was observed in the northeastern portion of the property. An electrical substation (Valley Electric Association Substation) was observed within the property boundary in the northeastern portion of the property at the intersection of Powerline and Anvil Road. The substation is not considered part of the property. URS was not provided access to the substation but was able to view it from the fence line.

2.3.2 Hazardous Substances

Hazardous substances were not observed on the property during the site reconnaissance.

2.3.3 Storage Tanks

No aboveground or underground storage tanks were observed on the property during the site reconnaissance, nor were they reported to exist.

An aboveground storage tank was observed at the Valley Electric Association Substation located within the property boundary in the northeastern portion of the property, at the intersection of Powerline and Anvil Roads. The substation is located within the property boundary but is not considered part of the property.

2.3.4 Polychlorinated Biphenyls and Mercury

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain polychlorinated biphenyls (PCBs) as operating or dielectric insulating fluids within the units. The Federal Toxic Substances Control Act generally prohibited the domestic manufacture of PCBs after 1976; therefore, there is a potential for the dielectric fluid in electrical and hydraulic equipment manufactured prior to that date to contain PCBs.

Electric transmission lines were observed on the property. Pole-mounted transformers were observed within the property boundaries during the site reconnaissance. No leaks or stains were observed to be associated with the transformers.

Other equipment, such as capacitors, that may contain PCBs, was not observed on the property during the site reconnaissance.

Mercury was used in the mining industry to separate precious metals from crushed ore. In addition, mercury is used in analog timers and data loggers that are common in oil field production and other industrial operations. Based on the site reconnaissance, conditions for the use of mercury were not evident.

Transformers were observed at the Valley Electric Association Substation. URS was not provided access to the substation during the site reconnaissance.

2.3.5 Waste Disposal

Waste disposal was not observed on the property during the site reconnaissance.

2.3.6 Drums and Other Chemical Containers

Drums and other chemical containers were not observed on the property during the site reconnaissance.

2.3.7 Dumping

Evidence of minor dumping was observed on the property during the site reconnaissance north of Roberts Road where solid waste had accumulated and near the intersection of Powerline Road and Smith Lane where four mobile homes were historically located. Dumping consisted of metal, glass and plastic.

2.3.8 Pits, Ponds, Lagoons, Septic Systems, Cisterns, Sumps, Drains, and Clarifiers

No evidence of pits, ponds, lagoons, septic systems, cisterns, sumps, drains, and/or clarifiers was observed on the property during the reconnaissance.

2.3.9 Pesticide Use

Agricultural chemicals were not observed on the property. However agricultural use was observed on the northern portion of the property. Based on the historical agricultural use of the property, chemical retention in subsurface soils could be of concern in the areas of previous agricultural use. Most agricultural chemicals degrade rapidly in the presence of ultraviolet light from the sun and most newer-formulated chemicals have lower retention time especially at the lower application concentrations directed by regulatory agencies. There

is the potential for residual pesticide concentrations in the surface and subsurface soils in the areas of previous agricultural use.

2.3.10 Staining and Discolored Soil

Staining and discolored soil was not observed on the property during the site reconnaissance.

2.3.11 Stressed Vegetation

Stressed vegetation was not observed on the property during the site reconnaissance.

2.3.12 Unusual Odors

No unusual odors were detected on the property during the site reconnaissance.

2.3.13 On-site Wells

Two water supply wells were observed on the property. One well was located near four former mobile homes close to the intersection of Powerline Road and Smith Lane. The other well and former irrigation system was observed south of Smith Lane and was reportedly associated with an alfalfa field. Based on review of the EDR DataMap Well Search Report (see Appendix E), other water supply wells were identified on the property. Based on the site reconnaissance and interview with site representative, these wells appear to be mis-plotted.

No monitoring or oil and gas wells were observed on the property during the site reconnaissance.

URS reviewed the online well search database and the EDR DataMap Well Search Report (see Appendix E) to evaluate oil and gas exploration in the vicinity of the property. No oil, gas or geothermal wells were identified on the property.

2.3.14 Asbestos

An asbestos survey was not included in the Scope of Services performed for this Phase I ESA. The use of asbestos was primarily discontinued after the late 1970s. No structures were observed that would have the potential for asbestos containing material (ACM).

2.3.15 Lead-based Paint

A lead-based paint (LBP) survey was not included in the Scope of Services performed for this Phase I ESA. Concern for LBP is primarily related to older structures. No structures were observed that would have the potential to contain LBP.

2.3.16 Radon

A USEPA survey by state and county of indoor radon concentrations indicated the radon zone level for Nye County is Zone 2. Zone 2 areas are predicted to have an indoor radon screening potential of between 2.0 and 4.0 pCi/l. The USEPA action level for radon is 4.0 pCi/l. Further assessment for radon appears unwarranted based on regional background levels.

2.3.17 Other Concerns

No other environmental concerns were noted at the time of the reconnaissance.

2.4 SITE VICINITY AND ADJACENT PROPERTIES

The site is located within an area that is primarily undeveloped land used for grazing. In general prominent adjacent land uses are as follows:

- North: undeveloped/agricultural land
- South: Roberts Road, undeveloped/agricultural/residential land
- East: Powerline Road, undeveloped land
- West: Casada Road, undeveloped/residential land

URS did not observe activities that would indicate the potential for surface or subsurface impacts to the property from adjacent properties.

2.5 HISTORICAL USE

URS reviewed readily available historical data pertaining to the property. These references were reviewed for evidence of activities that would suggest the potential presence of hazardous substances at the property and to evaluate the potential for the property to be impacted by off-property sources of contamination. The following subsections present a summary of the review results.

2.5.1 Historic Topographic Maps

URS reviewed the following USGS 1:250,000, 1:62,500, 1:50,000, 1:125,000, and 1:24,000 scale topographic maps of Nevada provided in the EDR Historical Topographic Map Report: Amargosa Region (1906), Furnace Creek (1910), Bullfrog (1942), Skull Mountain (1942), Big Dune (1952), Lathrop Wells (1961), Amargosa Valley (1983), Leeland (1987), and South of Amargosa Valley (1984). These maps provide topographic map coverage of the property and site vicinity (see Appendix B).

The maps depict the property as undeveloped land within Nye County, Nevada. There are no structures apparent on the property. Unimproved roads are indicated on the property. No other structures or features are observed on the property. A well is indicated at elevation 2325 feet on Section 30, Township 16 South, Range 49 East, on the South of Amargosa Valley map. The location appears to be the former alfalfa irrigation system observed during the site reconnaissance.

2.5.2 Historic Aerial Photographs

The general type of activity and land use can often be discerned from the type and layout of structures visible in an aerial photograph; however, specific elements of a property operation cannot normally be determined from the photographs. Considering these conditions, URS reviewed historical aerial photographs dated 1948, 1952, 1968, 1982, 1994, and 2002 that were provided by EDR (see Appendix C). The following is a summary of the review:

1948 The property appears to be undeveloped land. No structures or other features are observed on the property. The adjacent properties and surrounding area appear to be undeveloped land.

1952 No significant changes are observed to the property, adjacent properties, or site vicinity.

1968 No significant changes are observed to the property. Agricultural use is now observed in the site vicinity. Unimproved roads are observed on the adjacent properties and in the site vicinity.

1982 The property remains primarily undeveloped land with agricultural use observed on the northern portion of the property. Some disturbance is observed on the eastern boundary of the property. Unimproved roads are observed on the property. No significant changes are observed to the adjacent properties, or site vicinity.

1994 No significant changes are observed to the property. The adjacent properties and the site vicinity appear as they currently do with a mix of undeveloped land, agricultural land and residential use.

2002 No significant changes are observed to the property, adjacent properties, or site vicinity.

2.5.3 Sanborn Fire Insurance Maps

URS contracted with EDR to obtain Sanborn Fire Insurance Maps for the property. Based on EDR's search, Sanborn Fire Insurance Maps were not available for the property.

2.5.4 Previous Environmental Investigations

URS was not provided previous environmental investigations for the property.

2.5.5 Title Records/Environmental Liens or Activity and Use Limitations

URS requested EDR to perform an Environmental Lien Search for the Project Site. Results of the EDR Lien Search indicate that there are no reported environmental liens or activity and use limitations associated with the property.

The property was reportedly vested in Morris DeLee Revocable Trust.

A Copy of the EDR Environmental LienSearch Report is included in Appendix F.

2.5.6 Valuation Reduction for Environmental Issues

URS was not provided information to indicate that the value of the property decreased due to environmental issues.

2.5.7 Data Gaps

No significant data gaps were encountered during the review of historical documentation for the property.

SECTION 3.0
PHYSICAL SETTING

URS reviewed pertinent maps and readily available literature for information on the physiography and hydrogeology of the property. A summary of this information is presented in the following subsections.

3.1 TOPOGRAPHY

The property is located in Section 36, Township 16 South, Range 48 East, and Sections 29, 30, and 31, Township 16 South, Range 49 East (U.S. Geological Survey [USGS] Leeland, Nevada-California and South of Amargosa Valley, Nevada 7.5-minute quadrangles). The elevation of the property is approximately 2,320 feet above mean sea level with a relatively flat topography. Figure 1 presents the site topography at a scale of 1:24,000 using recent USGS data.

3.2 AREA GEOLOGY

The property is located in the Amargosa Valley in the Amargosa Desert of Southern Nevada, which is within the southwestern part of the Basin and Range physiographic province of North America. The province is characterized by flat or gently sloping alluvium filled basins separated by north-south trending mountain ranges. The Amargosa Valley is a north to northwest trending valley made up of Quaternary alluvial deposits (BLM 2010)

The major geographic features in the area include Yucca and Shoshone Mountains and Calico Hills to the north, Devils Hole Hills and Spring Mountains to the east, and the Amargosa River, Death Valley National Park and the Funeral Mountains to the south and west (USGS 1984).

The Amargosa Desert is part of the Amargosa River drainage system, which is mostly ephemeral and includes the Amargosa River and its tributaries. The Fortymile Wash, a tributary of the Amargosa River, originates at Forty Mile Canyon within the Nevada National Security Complex and flows south through the Amargosa Valley (USGS 1984).

Soils on-site are primarily of the Yermo, hot-Yermo-Arizo association, which are deep, well-drained soils that formed from mixed rock alluvium and are found on alluvial fans (USDA 2004).

3.3 GROUNDWATER

The property is located within the Great Basin part of the Basin and Range Aquifer Systems and is part of Death Valley Hydrographic Region. The groundwater is inferred to generally follow the topography of the land, which would be to the south on and in the vicinity of the

property. Recharge to the groundwater-reservoir is mostly from channelized streamflow in the washes during rain events (BLM 2010). Groundwater in the area of the property is expected to be more than 70 feet below ground surface according to well logs available through the Nevada Division of Water Resources.

SECTION 4.0
AGENCY RECORDS REVIEW

URS reviewed readily available records regarding past and current property use, contacted applicable agencies regarding potential environmental concerns at the property, and reviewed the agency database list search for potential environmental concerns at surrounding properties. The information obtained during the records review is provided in the following sections.

4.1 DATABASE LIST SEARCH

URS contracted with EDR to conduct a search for facilities listed by regulatory agencies as potentially having environmental concerns. The complete list of databases reviewed is provided in the EDR DataMap Area Study, included as Appendix D, and is summarized in Sections 4.1.1 and 4.1.2. It should be noted that this information is reported as received by URS from EDR, which in turn reports information as provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

4.1.1 Property

The property was not identified on any of the databases searched by EDR. A summary of agency databases searched can be found in the EDR DataMap Area Study provided as Appendix D.

4.1.2 Site Vicinity

Facilities in the site vicinity were not identified on any of the databases searched by EDR.

4.1.3 Orphan Sites

URS reviewed EDR's Orphan Summary, which is a listing of sites that have not been geo-coded (coded and plotted on EDR maps) based on lack of sufficient data regarding their exact location within the general area. The property was not identified as an Unmapped Site. No additional Unmapped Sites identified on the Orphan Summary appear to be located within the ASTM-designated radii of the property, and, therefore, URS has no evidence that any orphan sites have had an impact on the property.

4.2 AGENCY CONTACTS

During the performance of an environmental assessment, state and local regulatory agencies having jurisdiction over the property are contacted to assess the following information: the

status of relevant environmental permits; whether there has been any violations, or other similar correspondence from such agencies; whether corrective action or remediation is planned, currently taking place, or was completed at the property; whether there were any reported violations or complaints that the property is not in compliance with environmental laws, regulations, or standards, and whether the property is under investigation for such non-compliance; whether the property is listed on any of the regulatory databases; and whether there is any other pertinent documentation on file with such regulatory agencies regarding the property or surrounding sites of concern. URS contacted the following agencies:

- URS reviewed the State of Nevada, Department of Conservation and Natural Resources, Division of Water Resources online database. Several irrigation wells were identified in the immediate vicinity of the property. A probable historic irrigation well and domestic production well were identified on the property, but were not found to be within the proposed lease area. No monitoring wells were identified on the property.
- URS reviewed the State of Nevada, Department of Conservation and Natural Resources, Nevada Division of Environmental Protection online database. No active cases were identified on or near the property. No registered tanks were identified on or near the property.
- URS reviewed the US EPA Enforcement and Compliance online database. No sites were identified on or near the property.
- URS contacted the Nye County, Amargosa Valley Fire Service. Based on a phone interview with Chief Daniel Mills, there have been no known incident responses on or near the property.
- URS contacted the Nye County Emergency Management. Based on a phone interview with Van Payne there have been no known incident responses on or near the property.

SECTION 5.0
CONCLUSIONS

URS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 for the First Amargosa Valley Project Site, located in Nye County, Nevada. Any exceptions to or deletions from this practice are described in Sections 1.3 and 1.5. Based on the scope of work conducted for this Phase I ESA, RECs were not identified in connection with the property.

5.1 RECOMMENDATIONS

Two water supply wells were observed on the property. If these wells are not planned for future use, they should be properly abandoned under the authority of the Nevada Division of Water Resources.

SECTION 6.0
PREPARER SIGNATURES AND QUALIFICATIONS

This section includes qualification statements of the environmental professionals responsible for conducting the Phase I ESA and preparing this report.

Ms. Tricia Winterbauer of the URS Santa Barbara, California office directed the site reconnaissance by qualified URS personnel, conducted the data review for the project, and wrote the Phase I ESA report. Ms. Winterbauer has 16 years of experience in environmental site investigations, characterizations, and assessments.

The work conducted and the report written by Ms. Winterbauer was reviewed by Mr. David Bernal, PG. Mr. Bernal has over 20 years of experience with Phase I Environmental Site Assessments.

Ms. Winterbauer declares that, to the best of her professional knowledge and belief, she meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Mr. Bernal declares that, to the best of his professional knowledge and belief, he meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Ms. Winterbauer has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of this property. With the assistance of Mr. Bernal, they have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Tricia Winterbauer

Tricia Winterbauer
Senior Environmental Specialist

David M. Bernal

David Bernal, PG #5554
Principal Geologist

SECTION 7.0
REFERENCES

American Society of Testing Materials (ASTM) International. 2005. Standard E 1527-05, "*Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process*." November 1.

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2013b. EDR Historical Topographic Map Report, Inquiry Number: 3667493.2. July 29.

2013c. EDR USGS Large Site Aerial Photography, Inquiry Number: 3670262.1. July 23.

2013d. EDR DataMap Well Search, Inquiry Number: 3667493.1w. July 29.

2013e. EDR Environmental LienSearch Report, Inquiry Number: 3667493.4. July 31.

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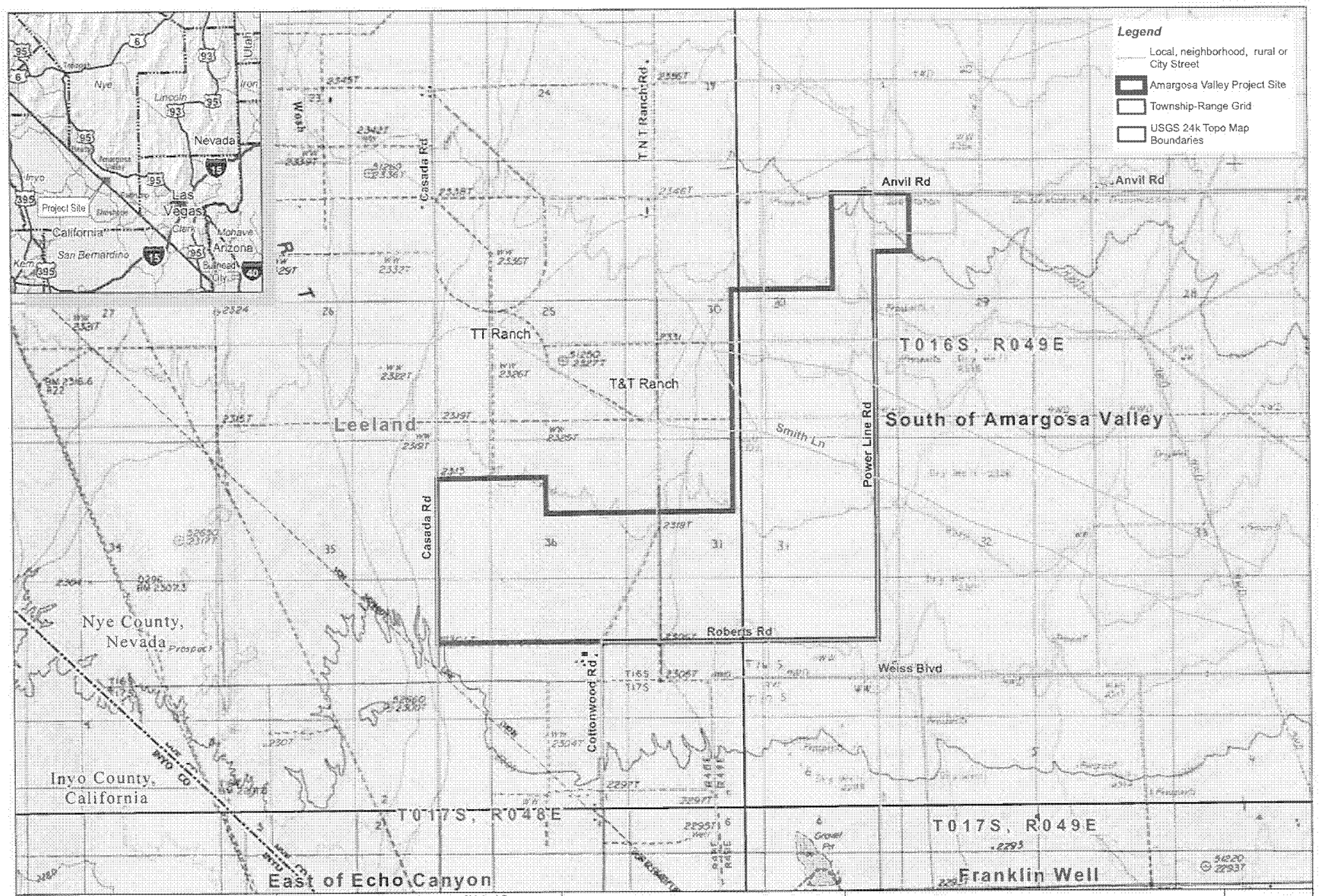
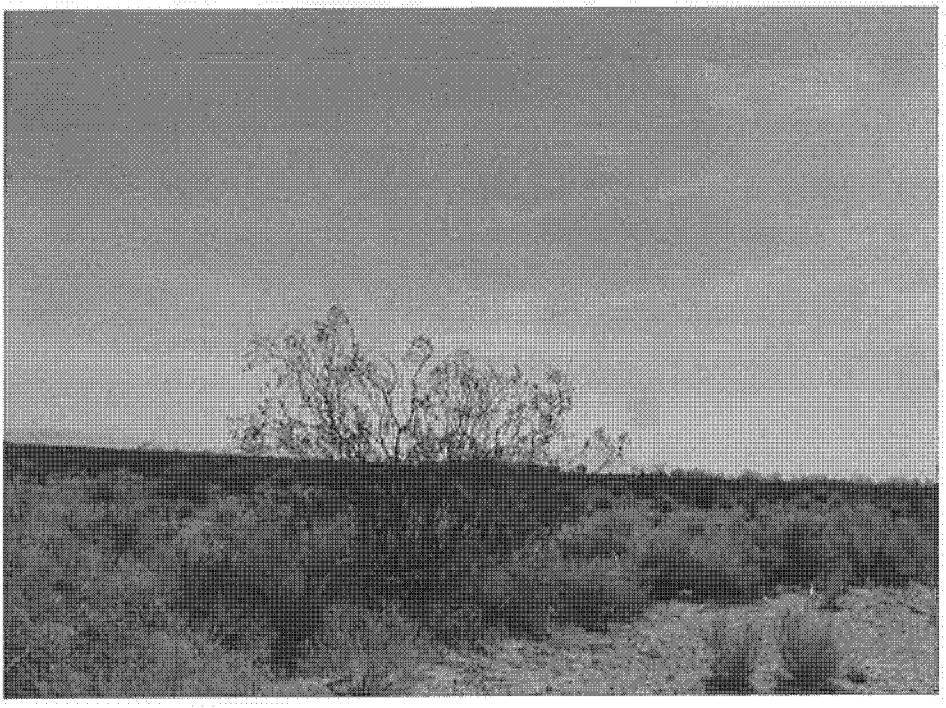
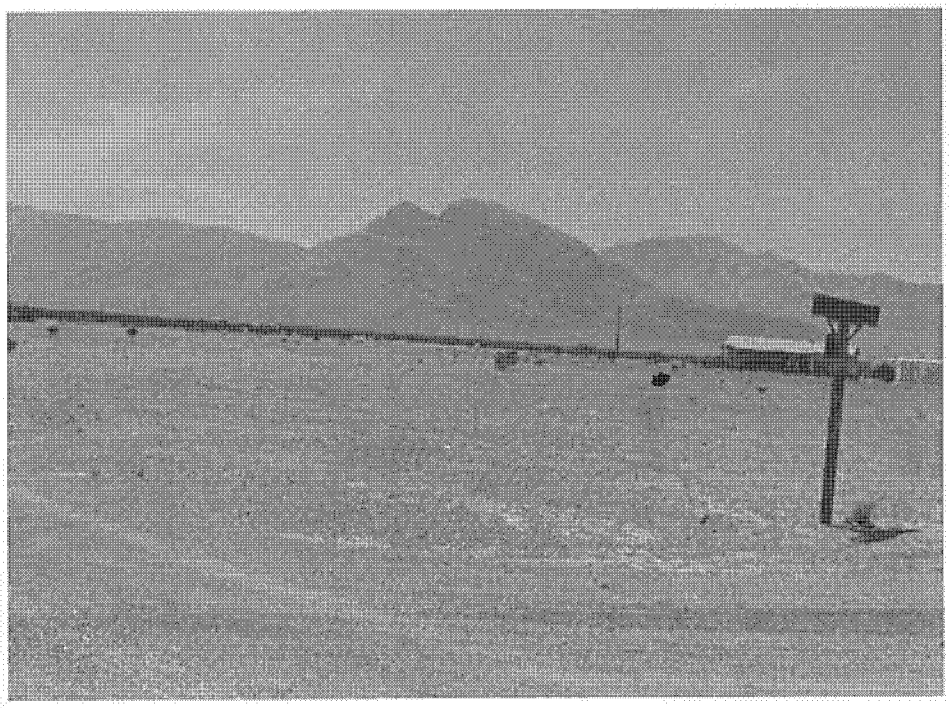
FIGURES

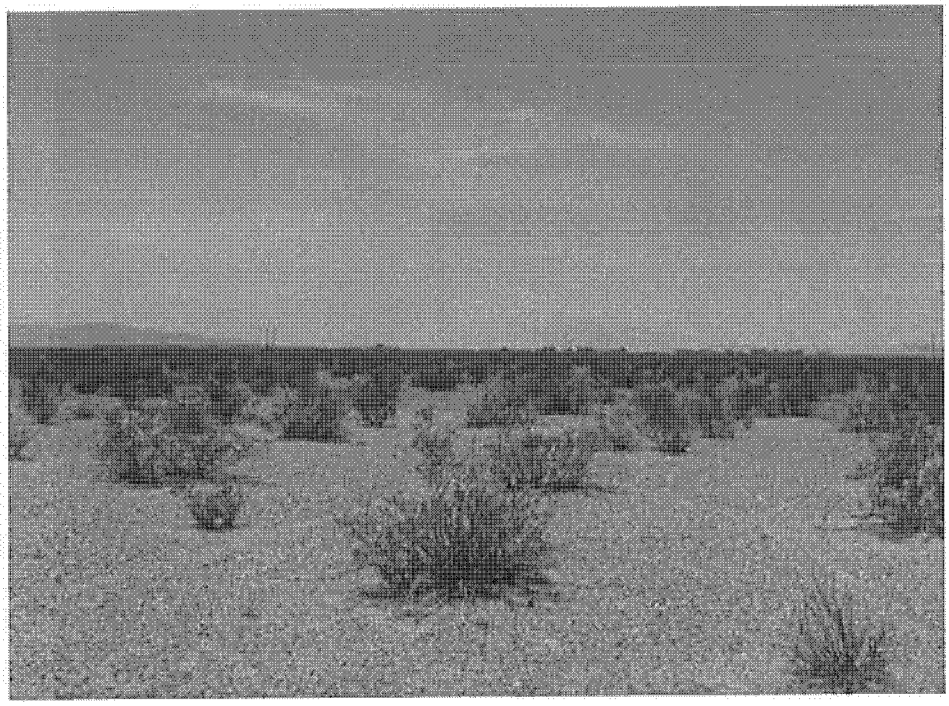


First Solar - Phase I ESA **Amargosa Valley Project Site** **Nye County, NV** **URS Corporation**	Source: [1] Seamless, scanned images of United States Geological Survey (USGS) paper topographic 1:24,000-scale maps: Leeland & South of Amargosa Valley ('85). Copyright:© 2013 National Geographic Society, i-cubed, [2] PLSS BLM GCDB Source Data from geocommunicator.gov, [3] North America Detailed Streets Esri Layer Package (11/29/2012).	0 0.5 1 Mile 0 2,000 4,000 Feet N	**Figure 1.** TOPOGRAPHIC MAP OF PROJECT AREA	2013

First Solar - Phase I ESA Amargosa Valley Project Site Nye County, NV URS Corporation	Source: [1] Bing Maps Aerial Imagery Web Mapping Service - (c) 2010 Microsoft Corporation and its data suppliers (Image Date Range: Jul. 2010 - Oct 2011). [2] PLSS BLM GCDB Source Data from geocommunicator.gov, [3] North America Detailed Streets Esri Layer Package (11/29/2012).	0 0.25 0.5 Mile 0 1,000 2,000 Feet N	Figure 2. AERIAL MAP OF PROJECT AREA	2013

APPENDIX A
SITE PHOTOGRAPHS

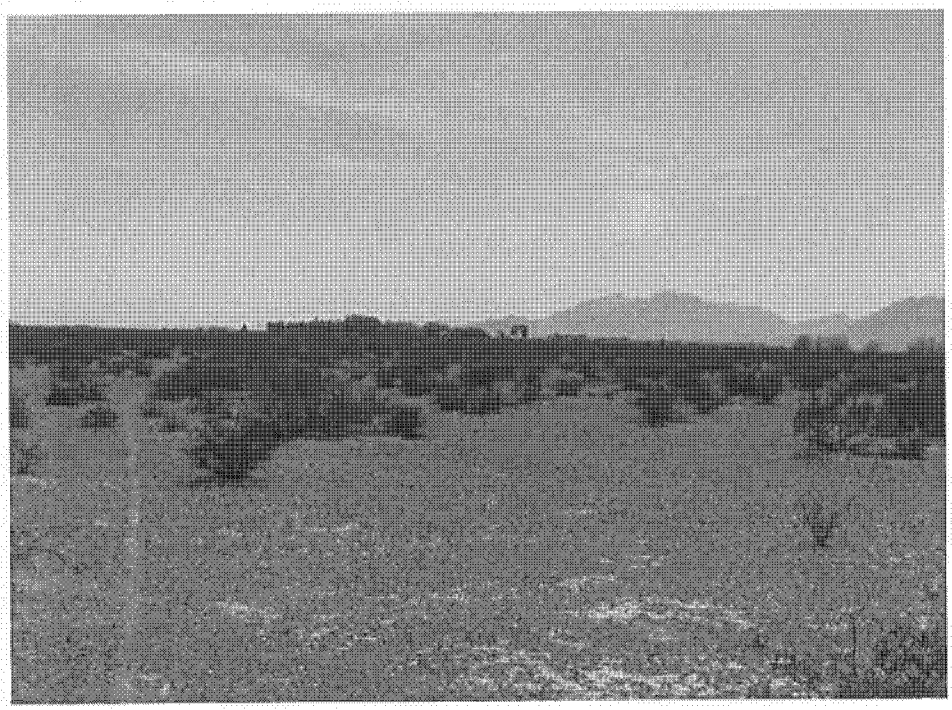
	**Photograph 1** **Comments:** View facing southeast toward the property from the intersection of Casada Way and West Coughlin Road.
	**Photograph 2** **Comments:** View facing southwest from the intersection of Casada Way and West Coughlin Road.



Photograph 3

Comments:

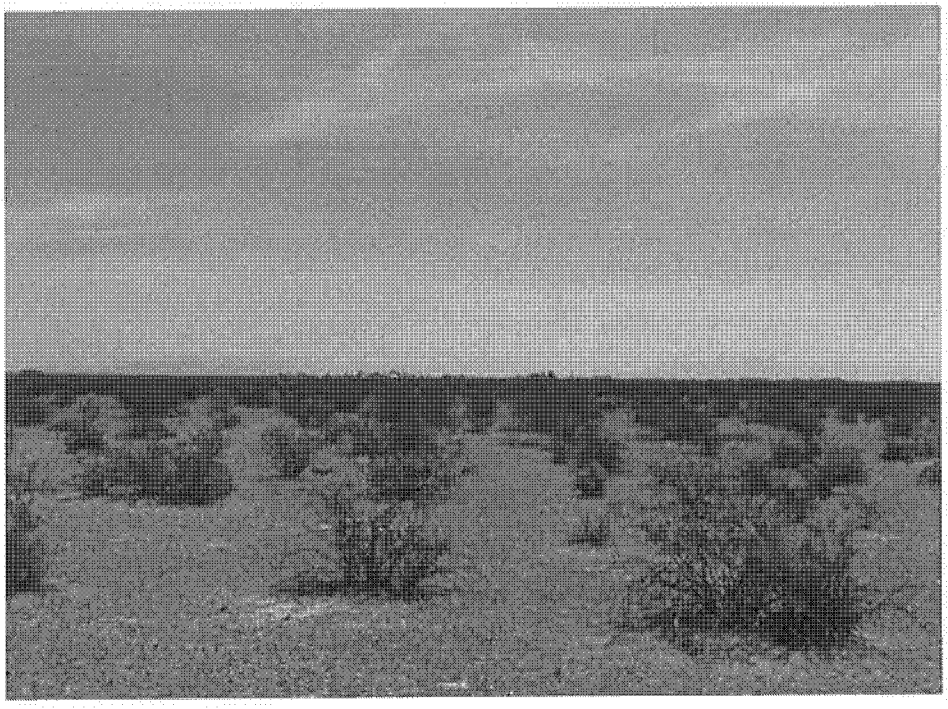
View northwest towards the intersection of West Smith Lane and Casada Road from South of West Smith Lane.



Photograph 4

Comments:

View of the property facing south towards Roberts Road from the south of West Smith Lane.



Photograph 5

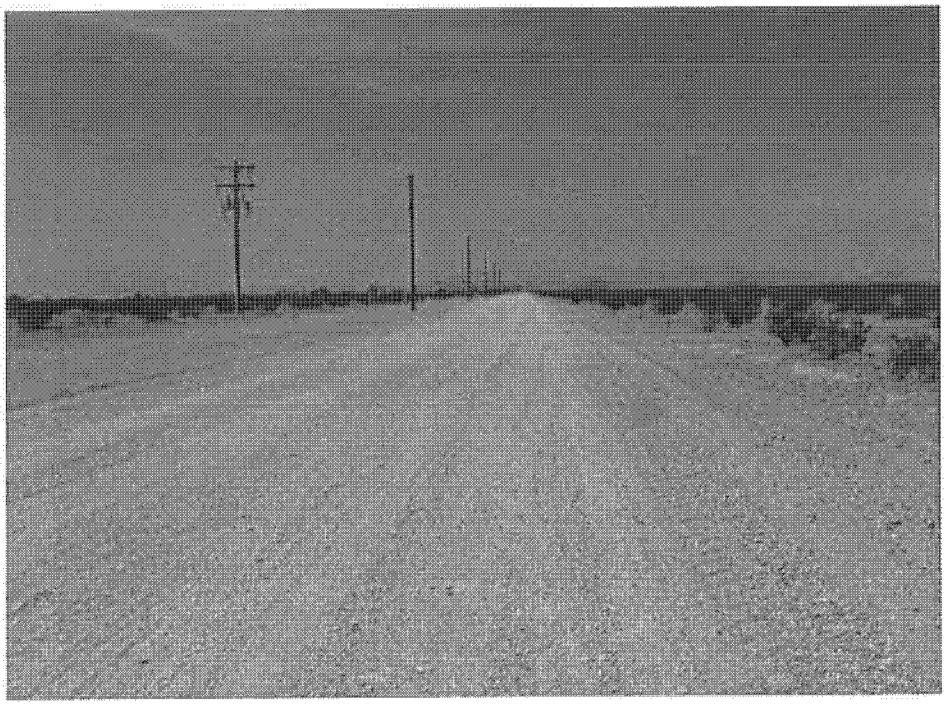
Comments:

View of property facing southeast from south of West Smith Lane.

Photograph 6

Comments:

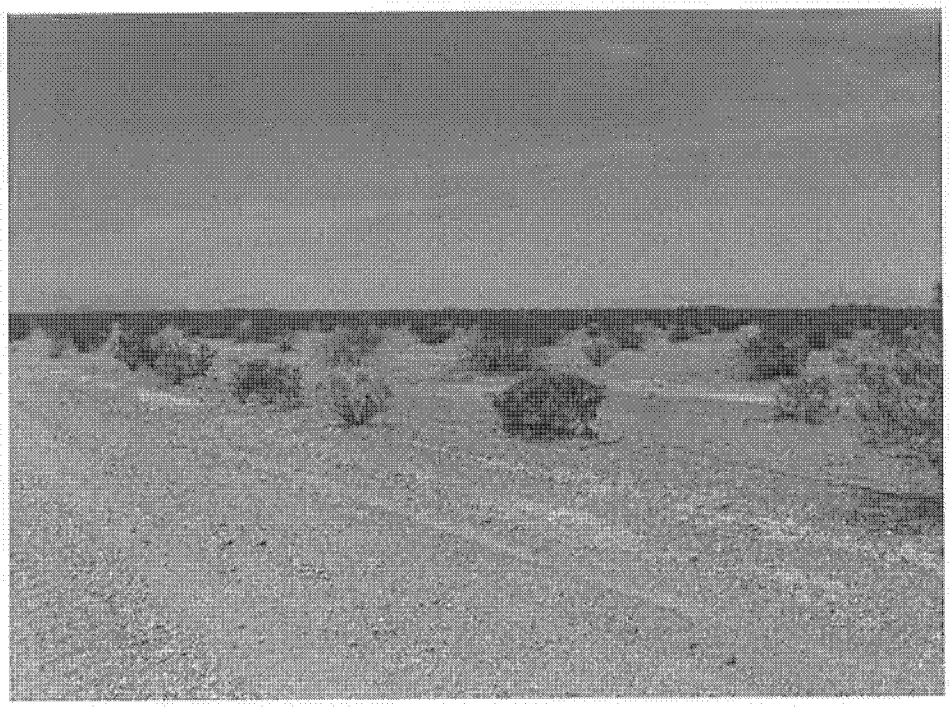
View facing east from the intersection of Roberts and Casada Roads.



Photograph 7

Comments:

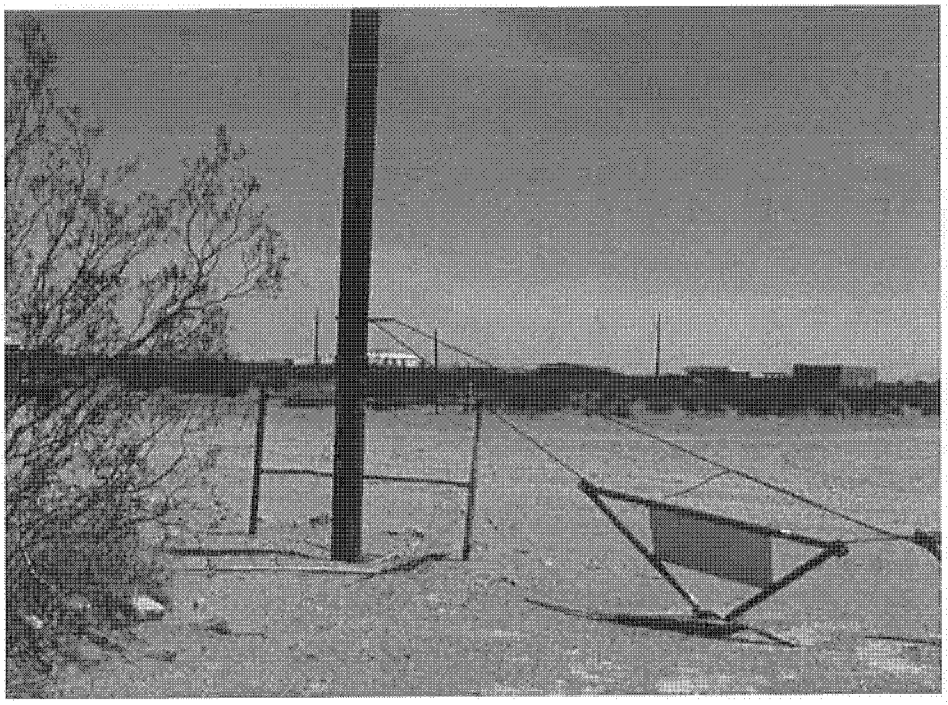
View facing north from the intersection of Roberts and Casada Roads.



Photograph 8

Comments:

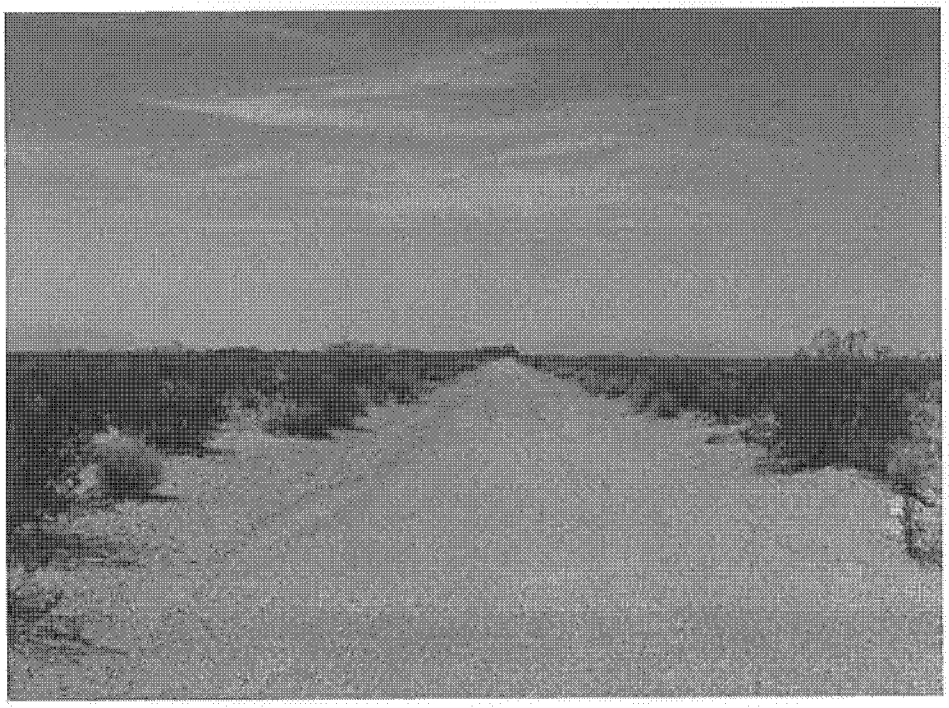
View facing northeast towards the property from the intersection of Roberts and Casada Roads.



Photograph 9

Comments:

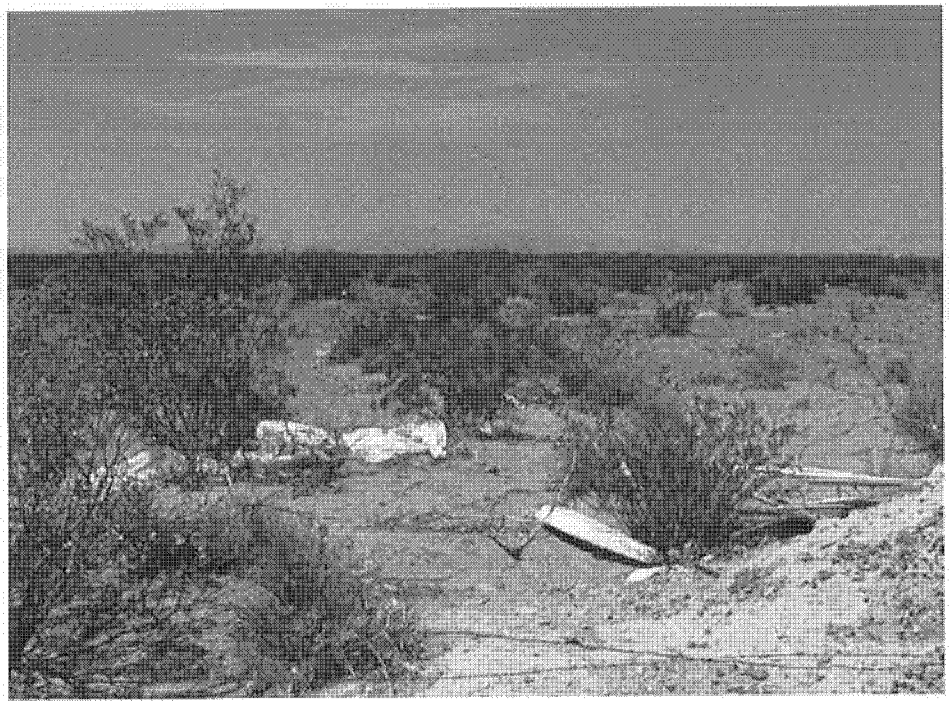
View southeast of Roberts Road and residential area from TNT Ranch Road.



Photograph 10

Comments:

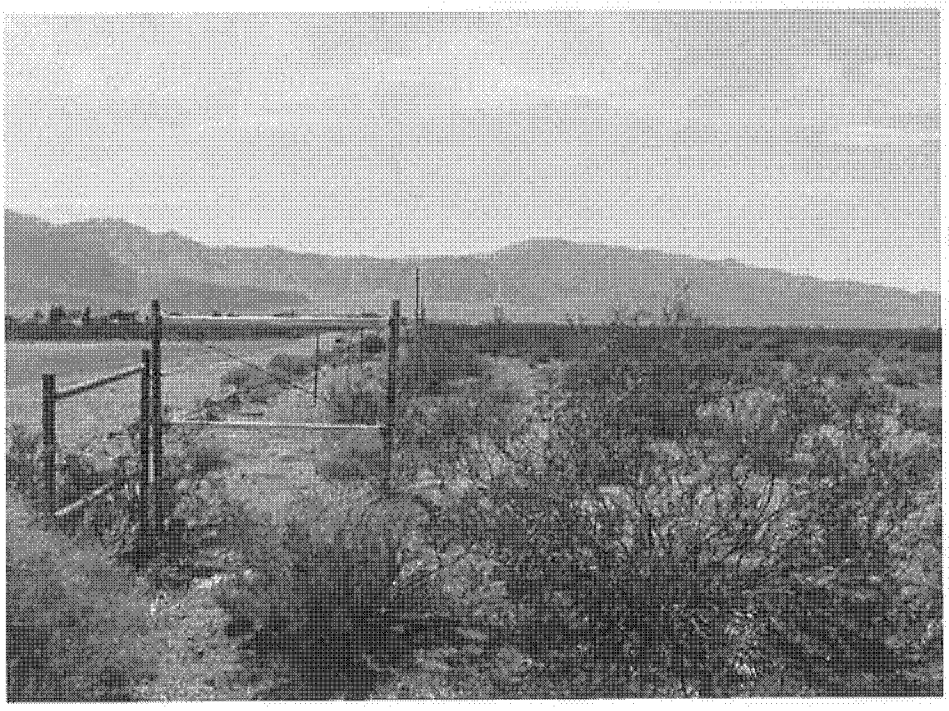
View north towards the property from Roberts Road.



Photograph 11

Comments:

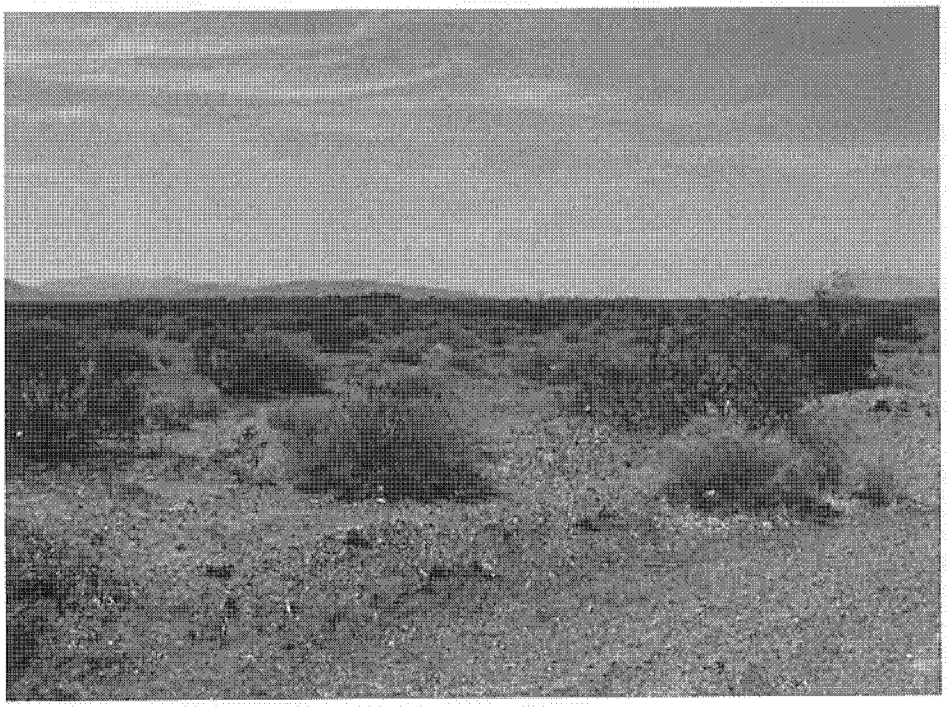
View of debris north of Roberts Road across the street from the residential area.



Photograph 12

Comments:

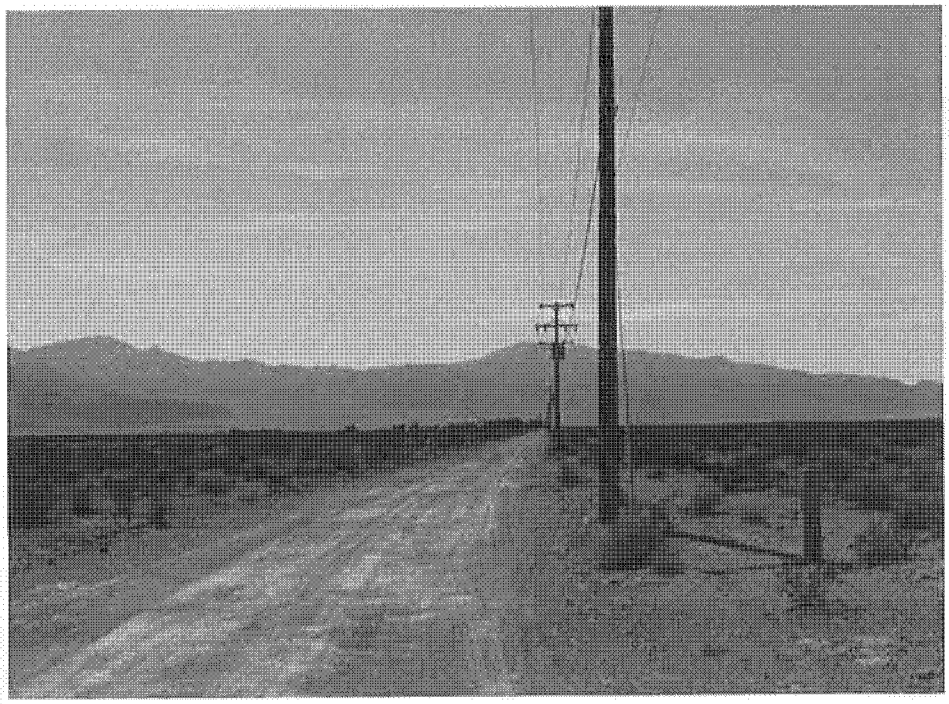
View west of Roberts Road from Power Line Road.



Photograph 13

Comments:

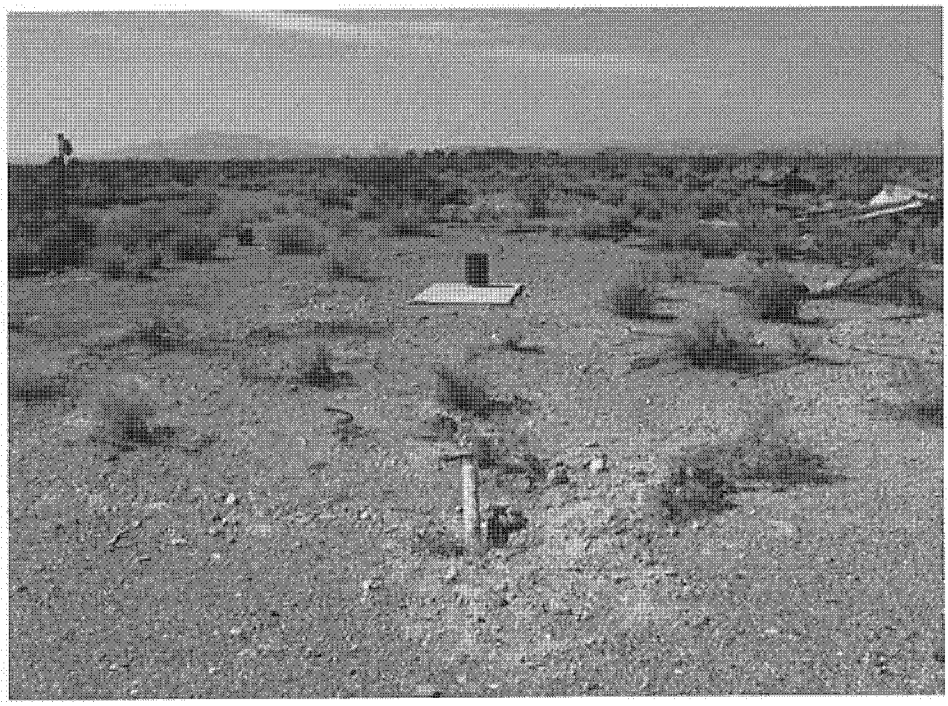
View of the property facing northwest from the intersection of Roberts and Power Line Roads.



Photograph 14

Comments:

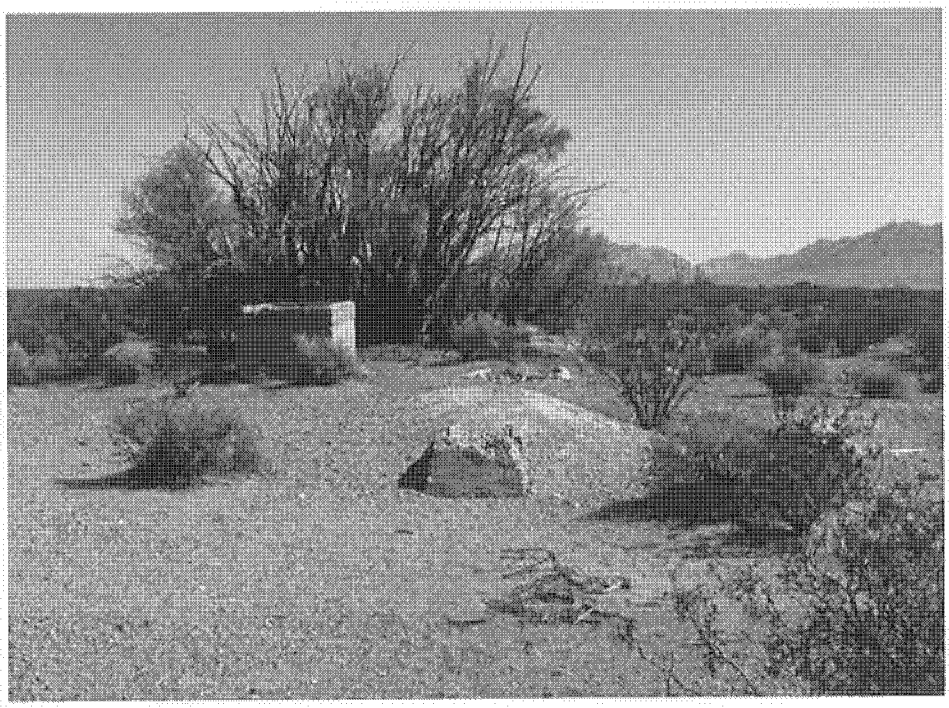
View facing west along Smith Lane from Power Line Road.



Photograph 15

Comments:

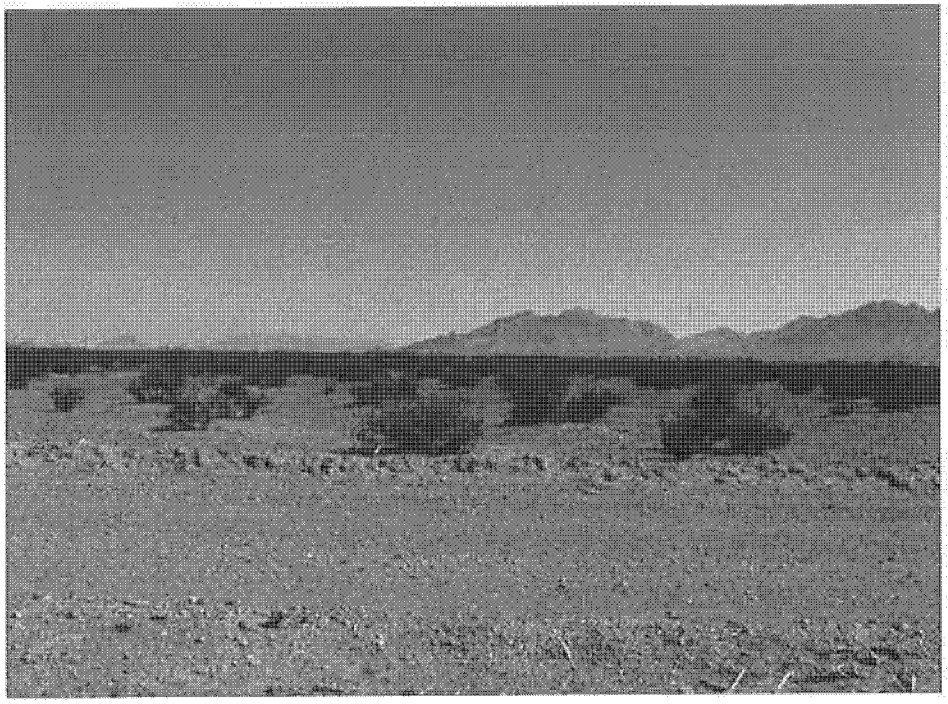
View of historic well and debris from former mobile home sites facing north.



Photograph 16

Comments:

View of historic irrigation system south of Smith Lane facing south.



Photograph 17

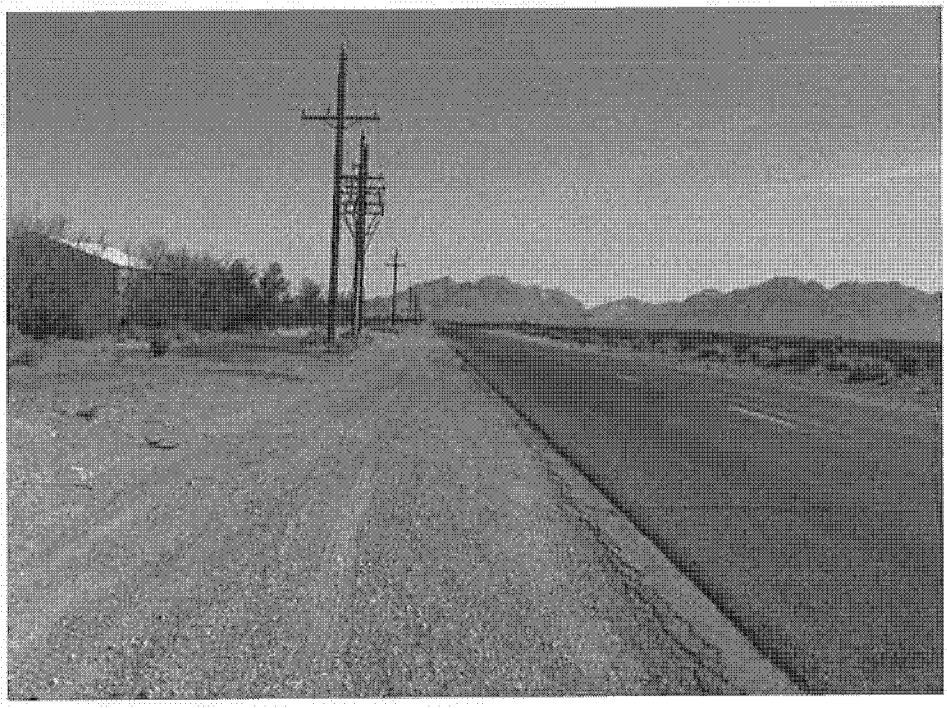
Comments:

View of property facing south from south of property agricultural area.

Photograph 18

Comments:

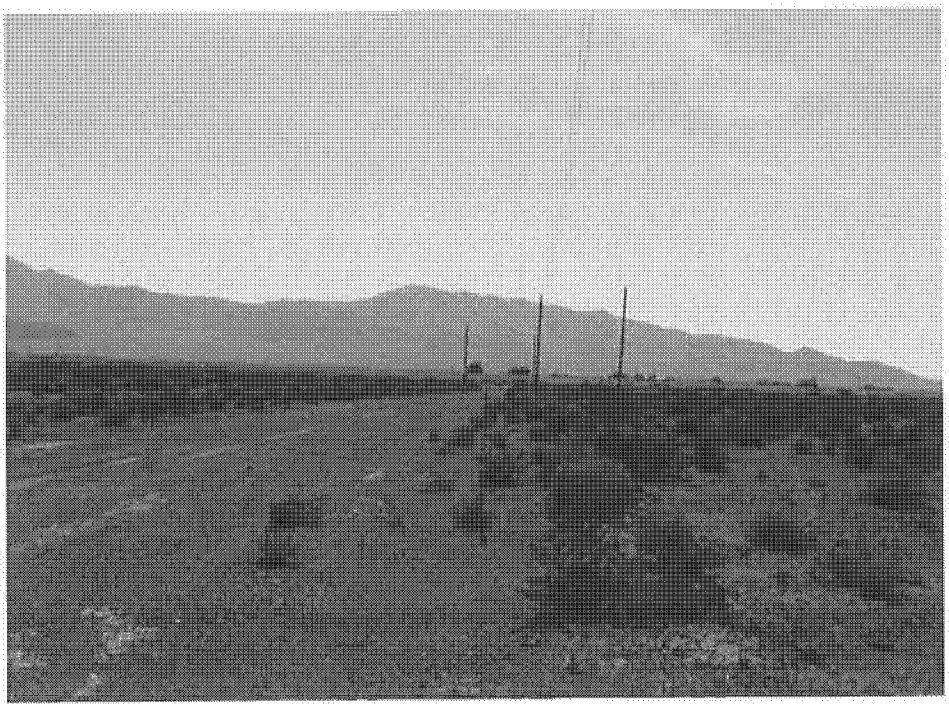
View facing north of agricultural fields north of property.



Photograph 19

Comments:

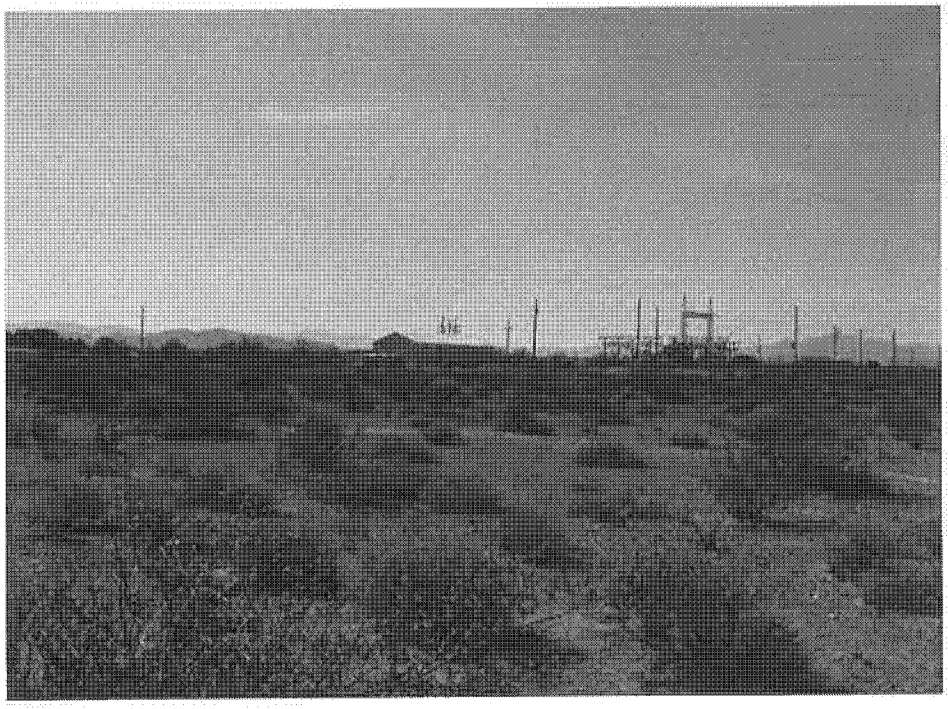
View of Power Line Road from south of Anvil Road.



Photograph 20

Comments:

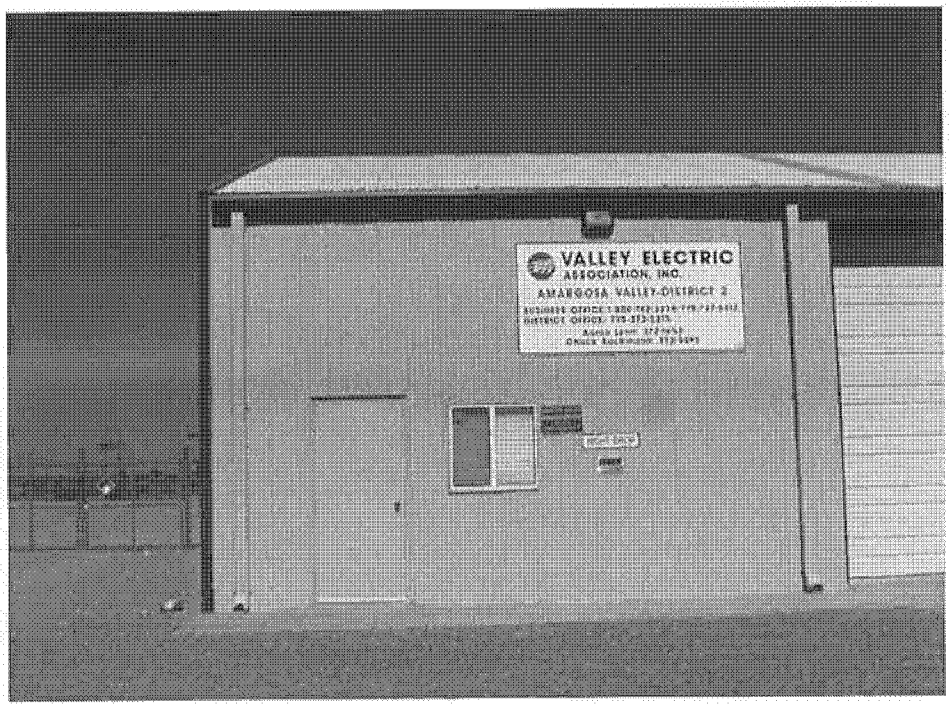
View facing west towards Power Line Road from south of the Valley Electric Association Substation.



Photograph 21

Comments:

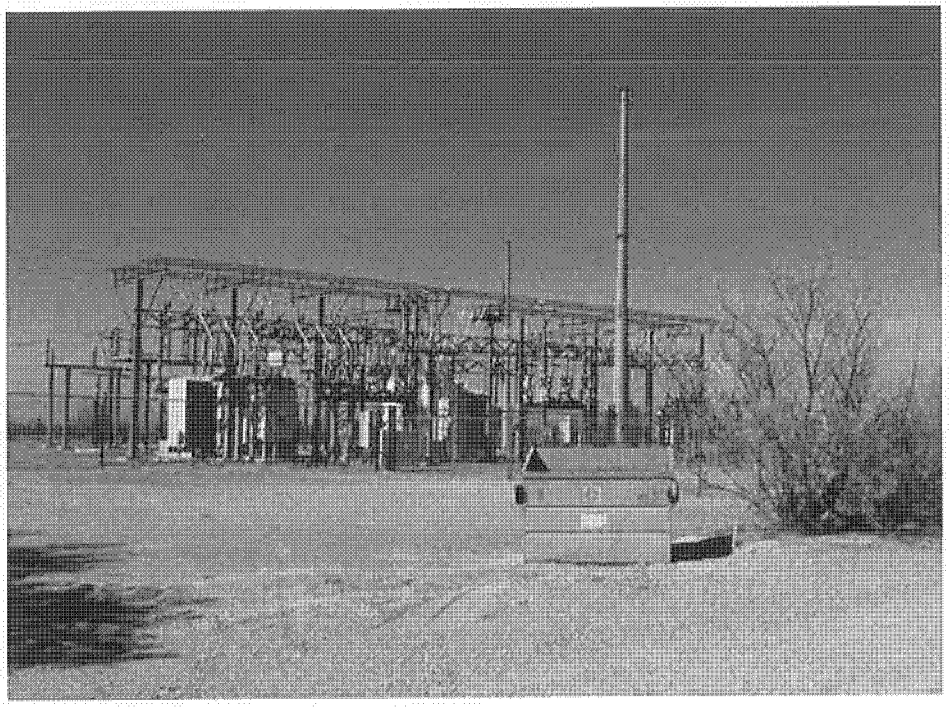
View northwest of the Valley Electric Association Substation



Photograph 22

Comments:

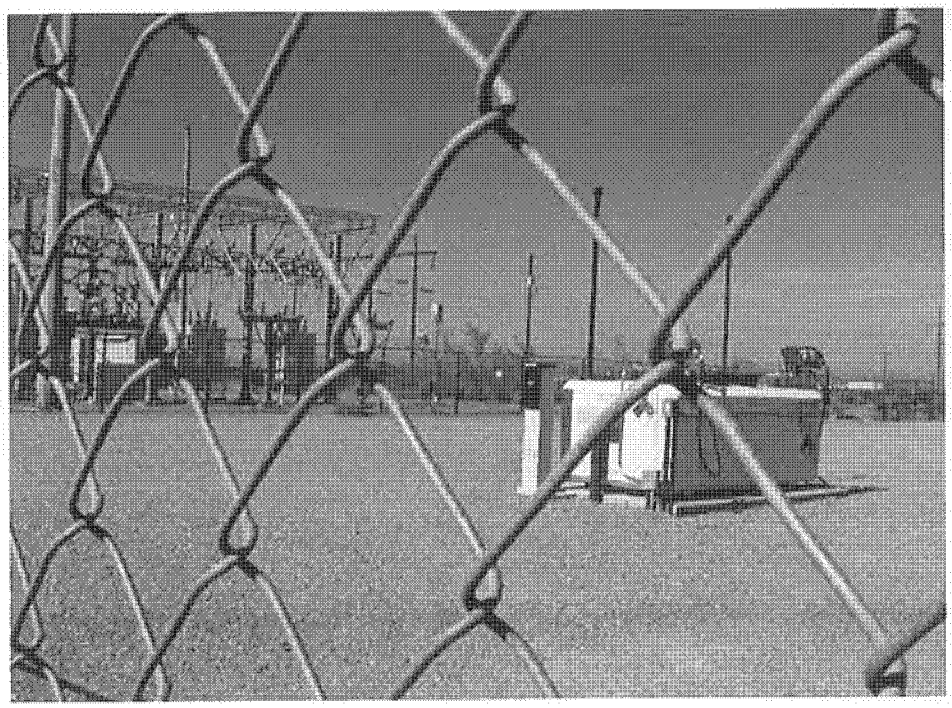
View of the Valley Electric Association Substation building.



Photograph 23

Comments:

View to the northeast of the Valley Electric Association Substation.



Photograph 24

Comments:

View to the northeast of the Valley Electric Association above ground fuel storage tank and substation.

APPENDIX B
EDR HISTORICAL TOPOGRAPHIC MAP REPORT

Exhibit F

Exhibit F

PUBLIC NOTICE

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT UTILITY FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

Sunshine Valley Solar LLC ("SVS") is submitting, pursuant to the Nevada Utility Environmental Protection Act ("UEPA"), an application to the Public Utilities Commission of Nevada (the "Commission") for authority to construct the Sunshine Valley Solar Project (the "Project"), under Nevada Revised Statutes, Chapter 704, §§ 820-900, and Nevada Administrative Code, Chapter 703, §§ 415-427. The Project will consist of a 110 MW AC solar photovoltaic ("PV") power plant to be located on approximately 745 acres in the Town of Amargosa Valley, Nevada, an unincorporated portion of Nye County approximately 30 miles northwest of Pahrump. The site is located west of Powerline Road, north of Roberts Road, and east of Casada Road. The Project will interconnect at Valley Electric Association's (VEA) 138 kV Valley Substation, located approximately 0.5 mile north of the Project via an approximately 0.5 mile generation-tie (gen-tie) transmission line. More specifically, the Project solar field and ancillary facilities will be located in a portion of Sections 30 and 31, Township 16S, Range 49E Mount Diablo Base and Meridian (M.D.M.) and portions of Section 36, Township 16S, Range 48E M.D.M.

The fundamental purpose of the SVS Project is to construct a clean, renewable source of solar electricity to help meet the Western United States' growing demand for power and to fulfill national and state renewable energy and greenhouse gas emission goals. Solar energy provides a sustainable, renewable source of power that helps reduce fossil fuel dependence and greenhouse gas emissions. The SVS Project is designed to utilize First Solar's thin film PV technology, mounted on single-axis trackers or fixed-tilt structures. The SVS Project will have minimal impacts to biological resources, cultural resources, water resources, and land use, and the Project has been designed to minimize impacts to visual resources, noise, and traffic.

Contents of the SVS UEPA Application include:

1. A general description of the location of the proposed utility facility, including:
   (a) A regional map that identifies the location of the proposed utility-scale facility;
   (b) Any alternative locations for the proposed utility facility; and
   (c) The reasons why the location identified in paragraph (a) is best suited for the proposed utility facility;

2. A general description of the proposed utility facility, including:
   (a) The size and nature of the proposed utility facility; and
   (b) The natural resources that will be used during the construction and operation of the proposed utility facility;

3. A summary of the environmental impact studies the applicant has made for the proposed utility facility, including a copy of all corresponding studies filed with the appropriate federal agencies;
4. A copy of the public notice of the application and proof of the publication of the public notice.
5. Proof that a copy of the application has been submitted to the Nevada State Clearinghouse within the Department of Administration to enable agency review and comment.

A copy of the application will be available on the Commission's website following SVS's filing of the Initial Application. Additional information about the UEPA process and a person's right to participate in that process can be found in the Nevada Revised Statutes and the Nevada Administrative Code.

Exhibit G

Exhibit G

Affidavit of Publication

STATE OF NEVADA)
COUNTY OF NYE) SS:

MCDONALD CARANO WILSON
10TH FLOOR
100 W LIBERTY ST
RENO NV 89501

Account # **22135**
Ad Number **0000195492**

Phyllis Trice, being 1st duly sworn, deposes and says: That she is the Legal Clerk for the Pahrump Valley Times, a bi-weekly newspaper regularly issued, published and circulated in the Town of Pahrump, County of Nye, State of Nevada, and that the advertisement, a true copy attached for, was published in said Pahrump Valley Times in 1 edition(s) of said newspaper issued from 05/23/2014 to 05/23/2014, on the following days:

05 / 23 / 14 Sunshine Valley Solar

SEE ATTACHED

/S/ Phyllis Trice
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 23rd day of May, 2014

Notary Holly Hernandez

HOLLY HERNANDEZ
NOTARY PUBLIC
STATE OF NEVADA
No. 07-4156-14 - NYE COUNTY
MY APPT. EXPIRES JULY 8, 2018

PUBLIC NOTICE
BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT UTILITY FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

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Contents of the SVS UEPA Application include:

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   (c) The reasons why the location identified in paragraph (a) is best suited for the proposed utility facility;
2. A general description of the proposed utility facility, including:
   (a) The size and nature of the proposed utility facility; and
   (b) The natural resources that will be used during the construction and operation of the proposed utility facility;
3. A summary of the environmental impact studies the applicant has made for the proposed utility facility, including a copy of all corresponding studies filed with the appropriate federal agencies;
4. A copy of the public notice of the application and proof of the publication of the public notice.
5. Proof that a copy of the application has been submitted to the Nevada State Clearinghouse within the Department of Administration to enable agency review and comment.

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PUBLISH: May 23, 2014.

Exhibit H

Exhibit H

CERTIFICATE OF SERVICE

I hereby certify that I have on this 28th day of May, 2014, caused to be served by either electronic mail, hand-delivery or U.S. Mail, a true and correct copy of the foregoing document on each of the persons identified on the following list:

Regulatory Staff
Public Utilities Commission of Nevada
1150 E William
Carson City NV 89701
pucn.sc@puc.nv.gov

Tammy Cordova, Staff Counsel
Public Utilities Commission of Nevada
101 Convention Center Dr, Ste 250
Las Vegas NV 89109
tcordova@puc.nv.gov

Misti Gower
Nevada Division of Environmental Protection
901 S Stewart St., Ste 4001.
Carson City NV 89701
mgower@ndep.nv.gov

Sandra L. Merlino
Nye County Clerk
1520 E. Basin Ave., Ste. 108
Pahrump, NV 89060
smerlino@co.nye.nv.us

Eric Witkoski
Chief Deputy Attorney General
Bureau of Consumer Protection
555 E Washington St, Ste 3900
Las Vegas NV 89101
bcpserv@ag.nv.gov
ewitkoski@ag.nv.gov

Nevada State Clearing House
209 E Musser St., Room 200
Carson City NV 89701
clearinghouse@budget.state.nv.us

Nevada Dept of Conservation and Natural Resources
c/o Nevada State Clearing House
901 S Stewart St., Ste 5001
Carson City NV 89701
clearinghouse@budget.state.nv.us

Candace Johnson
An employee of McDonald Carano Wilson LLP

Exhibit I

Exhibit I

Exhibit I. Permits The Applicant is in the Process of Obtaining to Commence Construction

I. State of Nevada Permits or Approvals

Nevada Department of Wildlife

- Special Purpose Permit

Nevada Division of Environmental Protection, Bureau of Air Pollution Control

- Dust Control Plan, Surface Area Disturbance Permit

Nevada Division of Environmental Protection, Bureau of Water Pollution Control

- Onsite Sewage Disposal Systems (OSDS) permit or Holding Tank General Permit

Nevada Division of Water Resources (State Engineer)

- Permit for Temporary Appropriation of Water (for construction)

II. Nye County Permits

Nye County Public Works Department

- Encroachment Permit
- Temporary Sign Permit
- Grading and Drainage Permit

III. Local Permits

Amargosa Valley Fire Department

- Emergency Response and Hazardous Materials Protocol Plan

Exhibit J

Exhibit J

Exhibit J. Permits the Applicant Has Already Obtained

I. Federal Permits or Approvals
United States Fish and Wildlife Service
• Endangered Species Act Section 7 Consultation Technical Assistance Letter
II. State of Nevada Permits or Approvals
Nevada Department of Wildlife
• Concurrence with USFWS Technical Assistance Letter: no Special Purpose Permit required
• Confirmation of payment for Recovery of Cost Fund
III. Nye County Permits
Nye County Planning Department
• Development Agreement

Exhibit K

Exhibit K

Application for Energy Projects
"Fund for the Recovery of Costs"

NRS Sections: 701.600 - 701.640 NAC Section: LCB R-038

Applicant:
- ☐ Self
- ☑ Private Company
- ☐ Government Agency
- ☐ Other _____

Project Name: Sunshine Valley Solar

Applicant: Sunshine Valley Solar, LLC

Mailing Address: 135 Main Street, 6th Floor

City: San Francisco State: CA Zip Code: 94105

Name of Contact: Melanie Falls Phone: (415) 730-3724 Email: melanie.falls@firstsolar.com

Name of Responsible Corporate Officer/Agency Rep.: Brian Kunz Title: Vice President Project Development

Type of Project

☒ Solar ☐ Wind ☐ Geothermal ☐ Fossil Fuel ☐ Powerline ☐ Biomass

Net Maximum Generation Capacity: 65 MW (ac) Estimated Design Voltage (if a powerline project): 138 kV

Proposed Project Size (in acres): 745 acres

Proposed Length of Powerline (in miles): approximately 0.5

Proposed Length of Fuel Lines (in miles for pipeline projects): N/A

Other notable infrastructure such as evaporation pond, electrical substation (in acres): Onsite substation (>1 ac), 0.5 mile (>1 ac) gen-tie, operation & maintenance building (>1 ac), up to 5 temporary construction areas

Project Description (use additional sheet if necessary)

The Sunshine Valley Solar Project is a 65 MW (ac) solar photovoltaic solar facility with an associated 138kV generation-tie transmission line located on private land in Nye County, Nevada.

Proposed County Location (map to accompany notice): Nye County, Nevada. See Exhibit 1.

Estimated Project Schedule (graphic attachment acceptable)

Planning and Development: July 2013- December 2015

Construction: January 2016 - December 2016

Commercial Operation Date: December 2016

Applicant Signature: Brian Kunz Date: 10-25-13

Enclose initial payment made out to : Nevada Department of Wildlife in the amount of **$5,000** for powerline projects greater than 50kV and less than 50 miles in length or Geothermal or Fossil Fuel power production projects, and **$10,000** for powerline projects greater than 50kV and more than 50 miles in length, Solar or Wind power production projects.

Submit payment with application to: Nevada Department of Wildlife
Habitat Division
1100 Valley Road
Reno, NV 89512

FIRST SOLAR DEVELOPMENT, INC. TEMPE, AZ 85281

15032

First Solar

First Solar Dev, Inc
1111 Broadway
Oakland, CA 94607
Tel: (510)625-7400
Fax: (510)835-1274
www.firstsolar.com

Nevada Department of Wildlife
1100 Valley Rd
Reno NV 89512

Check

Document / Date
2000018217 / 10/18/2013
Our accounting clerk

Telephone

Fax

Your account with us
1008721

15032

JPMORGAN CHASE BANK, N.A.
PHOENIX, ARIZONA 85073
91-2-1221

FIRST SOLAR DEVELOPMENT, INC.
350 WEST WASHINGTON STREET, SUITE 600
TEMPE, AZ 85281

October 18, 2013

********10,000.00*
US Dollar

**** 'TEN THOUSAND USD' and '00'/100 '

PAY

TO THE ORDER OF

Nevada Department of Wildlife
1100 Valley Rd
Reno NV 89512

DATE

AMOUNT

TWO (2) SIGNATURES REQUIRED FOR AMOUNTS OVER $100,000.00

FOR

AUTHORIZED SIGNATURE

Security Features. Details on back.

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FIRST SOLAR DEVELOPMENT, INC. TEMPE, AZ 85281

15032

Document	Invoice number	Invoice date	Gross amount	Cash discount	Payment amount	Curr
1900006778	C/R 10/10/2013	10/10/2013	10,000.00	0.00	10,000.00	USD
Sum total				0.00	10,000.00	

Payment document	Check number	Date	Currency	Payment amount
2000018217	15032	10/18/2013	USD	********10,000.00*

DELUXE CORP 1+800-328-0304

32737W

Brad Hardenbrook

From: Gabe Pincolini
Sent: Tuesday, November 05, 2013 8:21 AM
To: Brad Hardenbrook; Anthony Miller
Subject: Sunshine Valley Solar Project

Guys,

FSS received $10,000 and the code for that money is 6307-25.

It is a good day,

Gabe Pincolini
Federal Grant Coordinator
Fiscal Services Section
Nevada Department of Wildlife
4600 Kietzke Lane D-137
Reno, Nevada
Phone - 775.688.1570
Fax - 775.688.1577

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Nevada Department of Wildlife

STATE OF NEVADA

DEPARTMENT OF WILDLIFE

1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

BRIAN SANDOVAL
Governor

KENNETH E. MAYER
Director

RICHARD L. HASKINS, II
Deputy Director

PATRICK O. CATES
Deputy Director

November 6, 2013

Mr. Brian Kunz
Sunshine Valley Solar, LLC
135 Main Street, 6th Floor
San Francisco, CA 94105

Re: Sunshine Valley Solar Project – Nevada Revised Statutes 701.600-640 / Nevada Administrative Codes CLCB R-038
Certified Letter#: 7008 1830 0001 5776 3873

Dear Mr. Kunz:

The Nevada Department of Wildlife (NDOW) appreciates Sunshine Valley Solar, LLC cooperating with us through the energy development cost recovery fund (NRS 701.600-640/NACLCB R-038). We are writing to provide Sunshine Valley Solar, LLC with an estimate of anticipated costs associated with review of the Project as it relates to wildlife resources. Costs estimated for this Project include:

Labor	$ 1,759.66
Mileage	$ 254.25
Per Diem	$ 0.00
Lodging	$ 0.00
Overhead	$ 320.21
Total	$ 2,334.12

Please note that this is simply a pre-review estimate; the actual project review scenario may result in a greater encumbrance of costs. While we do not foresee it at this time, NDOW may, upon consideration of the activity and progress of a project, request payment from an applicant on a quarterly basis, applying installments toward reimbursement costs. In that case, the installments would be additional to the initial deposit accompanying the application submitted by the applicant.

Please be assured, NDOW will return any unused portion of the initial deposit or portions of additional payment upon completion of our project review or when we receive notice from the applicant that the energy development project has been cancelled. If there are any questions or need for additional information, please let me know.

Sincerely,

D. Bradford Hardenbrook
Supervisory Habitat Biologist
Nevada Department of Wildlife, Southern Region
4747 Vegas Drive, Las Vegas, Nevada 89108
702.486.5127 x3600
702.486.5133 FAX
bhrdnbrk@ndow.org

cc: Melanie Falls, Sunshine Solar, LLC

Ref. NDOW 6307-25