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AZ CORP COMMISSION
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NOV - 3 2009

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Bryan Cave LLP
Two North Central Avenue, Suite 2200
Phoenix, Arizona 85004-4406
(602) 364-7000

IN THE MATTER OF THE APPLICATION OF MESQUITE POWER LLC, OR THEIR ASSIGNEES(S), IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES 40-360 ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING CONSTRUCTION OF A NATURAL GAS-FIRED, COMBINED CYCLE GENERATING FACILITY ("MESQUITE PROJECT") LOCATED SOUTH OF ELLIOT ROAD, APPROXIMATELY ONE MILE EAST OF WINTERSBURG ROAD AND APPROXIMATELY 37 MILES WEST OF THE PHOENIX METROPOLITAN AREA, NEAR ARLINGTON IN MARICOPA COUNTY, ARIZONA

DOCKET NO. L-00000S-00-0101

(Case No. 101)

**MESQUITE POWER LLC'S
REQUEST FOR REVISION TO ITS
CERTIFICATE OF
ENVIRONMENTAL
COMPATIBILITY UNDER
A.R.S. §40-252**

This request by Mesquite Power LLC ("Mesquite Power") is for a revision to Mesquite Power's Certificate of Environmental Compatibility for its Mesquite Generating Station (the "Mesquite Generating Station CEC"). It is submitted pursuant to A.R.S. § 40-252. This request seeks an amendment to Commission Decision No. 63232, docketed

AD

1 December 5, 2000, under which the Mesquite Generating Station CEC was issued to
2 Mesquite Power and subsequently assigned to SEP-II, LLC.

3 **I. INTRODUCTION.**

4 Mesquite Power owns and operates a 1,250 megawatt natural gas-fired combined
5 cycle generating facility near Arlington, Maricopa County, Arizona. This facility, the
6 Mesquite Generating Station, is located approximately one mile east of Wintersburg Road,
7 just south of the Palo Verde Nuclear Generating Station, and is approximately 37 miles west
8 of the Phoenix metropolitan area. Following an October 10, 2000 decision of the Arizona
9 Power Plant and Transmission Line Siting Committee approving a CEC for the Mesquite
10 Generating Station, the Commission made additional findings of fact and issued the
11 Mesquite Generating Station CEC in Decision No. 63232 on December 5, 2000.

12 The Mesquite Generating Station CEC contained 12 conditions. Several of these
13 conditions mirrored land use conditions imposed by Maricopa County concerning the plant
14 site and an approximately 3,000 acre property located two miles west of the plant site that
15 was acquired for its water rights (the "Water Property"). Specifically, condition 11(ii)
16 provides as follows:

17
18 11. Applicant will implement its Comprehensive Land Use
19 Management Plan as presented to the Committee in hearing
20 Exhibit A-13 for the plant site and the 3,000 acre Water
Property that includes:

21 (ii) Implementation of a comprehensive
22 revegetation program designed to restore portions of
23 the water property with plant communities similar to
the adjacent desert lands.

24 The intent of this condition, which mirrored Maricopa County land use stipulations,
25 was for Mesquite Power to revegetate the Water Property, since the majority of that
26 property had previously been graded and leveled for use in farming operations.

27 In 2008, Sempra Generation, parent of Mesquite Power, began undertaking the
28 development of an approximately 500 megawatt photovoltaic solar energy project (the

1 “Mesquite Solar Project”) on a portion of the Water Property (the “Mesquite Solar Project
2 Property”). The Mesquite Solar Project was the subject of a line siting hearing before the
3 Arizona Power Plant and Transmission Line Siting Committee on August 13, 2009. *See*
4 Docket No. L-00000KK-09-0299-00147, Case No. 147. Although that case specifically
5 sought approval of a generation-tie power line between the photovoltaic solar energy facility
6 on the Mesquite Solar Project Property and the existing Mesquite Generating Station
7 switchyard approximately 2.5 miles to the east, extensive testimony was presented to the
8 Committee (and now to the Commission via transcript) detailing plans for the Mesquite
9 Solar Project. On October 20, 2009, by a 5-0 vote, the Commission approved the CEC for
10 this generation-tie power line (the “Solar Gen-Tie CEC”; Decision No. 71320, October 30,
11 2009) prompting the need to now request a modification to the Mesquite Generating Station
12 CEC insofar as it addresses a revegetation requirement. Accordingly, the reason for this
13 request is to amend condition 11(ii) in the Mesquite Generating Station CEC to eliminate
14 the revegetation condition, since that condition is incompatible with the installation and
15 operation of photovoltaic solar panels.

16 **II. CURRENT STATUS OF MARICOPA COUNTY LAND USE PERMITTING.**

17 **A. Modification of Mesquite Generating Station Special Use Permit** 18 **Stipulation.**

19 The Mesquite Solar Project will entail the installation of photovoltaic solar panels on
20 the Mesquite Solar Project Property. To allow for the effective and safe operation of the
21 solar panels, it is important to eliminate vegetation from the areas where panels are to be
22 located. Such vegetation would cast shadows on the panels and would subject the panels to
23 potential damage from any brush fire that might occur in the area.

24 As plans for the Mesquite Solar Project were developed, Sempra Generation applied
25 to Maricopa County for a Modification of Stipulation to the existing special use permit for
26 the Mesquite Generating Station in order to eliminate the revegetation requirement for the
27 Mesquite Solar Project Property (the “Stipulation Modification”). Following submittal of
28

1 that application and additional materials, notice to the public and a hearing before the
2 Maricopa County Board of Supervisors, Sempra Generation's requested Stipulation
3 Modification in Case No. Z-2008066 was unanimously approved on December 17, 2008.
4 The Board of Supervisors' approval was conditioned upon (i) compliance with the
5 Comprehensive Land Management Plan as amended by Exhibit 1 thereto dated June 13,
6 2008, and (ii) development of a solar energy facility on the Mesquite Solar Project Property.
7 In the event of such development, management of the Mesquite Solar Project Property
8 would instead be governed by the new special use permit approved by the Maricopa County
9 Board of Supervisors for the solar energy facility. The Board of Supervisors further
10 conditioned their approval upon the following provisions: (a) vegetation removal is
11 permitted as necessary for the construction of solar generation facilities; (b) measures to
12 protect Centennial Wash, including soil stabilization and drainage control features, shall be
13 implemented in accordance with such new special use permit; (c) measures to control
14 noxious weeds shall be implemented in accordance with such new special use permit; and
15 (d) measures to control blowing dust and wind erosion shall be implemented in accordance
16 with such new special use permit. A copy of the Maricopa County Board of Supervisors'
17 approval of the Stipulation Modification is attached as Exhibit A.

18 **B. Application for Comprehensive Plan Amendment and new Special Use**
19 **Permit.**

20 In conjunction with the requested Stipulation Modification, Sempra Generation also
21 applied for an amendment to Maricopa County's comprehensive land use plan to change the
22 designation of the Mesquite Solar Project Property from Open Space/and Rural Residential
23 to Industrial in order to make a solar energy facility an allowed land use on the site.
24 Following submittal of an application and additional materials, notice to the public and a
25 hearing before the Maricopa County Board of Supervisors, Mesquite Power's
26 comprehensive land use plan amendment in Case No. CPA-200807 was unanimously
27 approved on December 17, 2008. Currently, Mesquite Power has applied to, and is working
28

1 with, Maricopa County to obtain a special use permit to allow the construction and
2 operation of the Mesquite Solar Project on the Mesquite Solar Project Property and other
3 land.

4 A number of regulatory agencies have been involved in the Mesquite Solar Project
5 Property special use permit proceedings. Attached as Exhibit B is a Narrative Report
6 submitted to Maricopa County addressing the impact of the Mesquite Solar Project on such
7 issues as health and safety, fire protection, emergency management plans, land uses on the
8 Mesquite Solar Project Property and surrounding lands, access, traffic circulation, noise, air
9 quality, and water, visual, biological, cultural and soil resources, among other issues (the
10 voluminous supporting exhibits are omitted but are available should the Commission
11 request them). Attached as Exhibit C is a July 28, 2009 letter from the Arizona Game and
12 Fish Department (admitted as Exhibit SEP-8 in the Solar Gen-Tie Line Siting Case)
13 concerning Mesquite Power's work with the Department to identify and address impacts to
14 wildlife from the proposed solar project. The impact of the necessary vegetation removal
15 has been thoroughly addressed by Maricopa County and the agencies who have submitted
16 comments on the special use permit application, such as the Arizona Game and Fish
17 Department.

18 **III. CONCLUSION.**

19 For the foregoing reasons, the Mesquite Generating Station CEC needs to be
20 amended to reflect the development of the Mesquite Solar Project Property as a photovoltaic
21 solar energy project, to harmonize the Mesquite Generating Station CEC conditions with the
22 modified stipulation in the Maricopa County special use permit for the Mesquite Generating
23 Station, and in keeping with the fact that the Solar Gen-Tie CEC has now been approved.
24 For the portions of the Water Property not developed as a solar energy facility, the
25 revegetation program required under the Mesquite Generating Station CEC will continue to
26 be administered by Maricopa County under the Comprehensive Land Management Plan.
27
28

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1 Mesquite Power therefore respectfully requests an amendment to the Mesquite
2 Generating Station CEC granted in Decision No. 63232 (December 5, 2000) that would
3 delete in its entirety condition 11(ii). Mesquite Power believes this change can be
4 adequately considered at a Commission Open Meeting and does not justify a full evidentiary
5 hearing, and therefore requests placement of this request on the Open Meeting Agenda at
6 the Commission's earliest convenience. If the Commission desires that an evidentiary
7 hearing be held, Mesquite Power stands ready to cooperate fully to provide whatever
8 additional information is necessary.

9
10 RESPECTFULLY SUBMITTED this 3rd day of November, 2009.

11 BRYAN CAVE LLP

12
13 By St. A. Hirsch
14 Steven A. Hirsch, #006360
15 Andrew D. Gleason, #024394
16 Two N. Central Avenue, Suite 2200
17 Phoenix, AZ 85004-4406
Attorneys for Mesquite Power LLC

18 **ORIGINAL and 25 COPIES** of the foregoing
19 hand-delivered this 3rd day of November, 2009 to:

20 Docket Control
21 Arizona Corporation Commission
22 1200 W. Washington Street
Phoenix, Arizona 85007

23 **COPY** of the foregoing hand delivered
24 this 3rd day of November, 2009 to:

25 Janice Alward, Chief Counsel
26 Arizona Corporation Commission
27 1200 W. Washington Street
Phoenix, Arizona 85007

28 Cathy Tardy

A



**Planning & Development
Department**

**ONE
STOP
SHOP**

December 29, 2008

Joseph H. Rowley
SEP-II
101 Ash Street
San Diego, CA 92101

SUBJ: Maricopa County Zoning Case Number Z2008066

On December 17, 2008, the Maricopa County Board of Supervisors (BOS) approved your request for Modification of Stipulation of approval of a Special Use Permit for an electrical generating facility in the Rural-190 zoning district. The approximately 1,290 acre site is located at the southeast corner of 411th Avenue and Elliott Road in the Arlington area as shown on the attached case map.

Approval is subject to the following stipulations:

- a. Stipulation 'c' of Z2000071 shall read as follows:

Development and use of the power plant site and the water property that provides groundwater used by the power plant shall comply with the Land Management Plan entitled "Comprehensive Land Management Plan, Mesquite Power Project", consisting of 47 pages plus 2 sheets, dated September 2000 and stamped received October 3, 2000, plus the addendum entitled "Exhibit 1 - Comprehensive Land Management Plan Addendum", which consists of eleven (11) pages including one figure and one attachment, dated June 13, 2008, except as modified by the following stipulations.

- b. A new stipulation 'w' shall be added to Z2000071 as follows:

If a Special Use Permit (SUP) for any given portion of the water property is approved for use of that portion for solar energy generation facilities, the upon start of construction of such solar energy generation facilities, compliance with the Comprehensive Land Management Plan shall not require any past, existing, or future

re-vegetation of that portion except as provided under said SUP, and instead the following land management conditions shall take effect:

1. All re-vegetated areas within the given portion of the water property are permitted to undergo vegetation removal as necessary for construction and operation of the solar energy generation facilities.
2. Measures to protect Centennial Wash shall be implemented as provided in the approved SUP for the solar energy generation facilities. These measures shall include soil stabilization and drainage control features.
3. Measures to control noxious weeds shall be implemented as provided in the approved SUP for the solar energy generation facilities.
4. Measures to control blowing dust and wind erosion shall be implemented as provided in the approved SUP for the solar energy generation facilities.

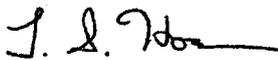
c. All other stipulations of Z2000071 shall remain intact.

Please call me if you have any questions at 602-506-6533.

Sincerely,



Robert H. Kuhfuss, AICP
Senior Planner



Terri S. Hogan, AICP, Principal Planner
Maricopa County Planning and Development

Enclosure

B

Maricopa County Special Use Permit, Case #Z2009022

Mesquite Solar Energy Project Project Narrative Report



Saddle Mountains, Arizona

Submitted by:



Prepared by:



Submitted March 19, 2009, Revised July 30, 2009

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Exhibits

Exhibit A: Detailed Site Plan, Sections, and Elevations
 Exhibit B: Emergency Response Plan
 Exhibit C: Traffic Impact Analysis
 Exhibit D: Biological Site Assessment
 Exhibit E: Cultural Resource Study
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 Exhibit H: Drainage Report

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1.0 Project Name and Location

1.1 Project Name

Mesquite Solar Energy Project, Special Use Permit Z2009022, hereafter referred to as the “project” or “facility” in this Narrative Report.

1.2 Location

The Vicinity Map and Figure 1 show the location and boundaries of the project site. The site comprises approximately 2,480 acres located at the southeastern corner of the intersection of the 411th Avenue alignment and Elliot Road, southwest of Wintersburg, Maricopa County, Arizona, approximately two miles west of the Mesquite Generating Station. The site includes portions of Sections 18, 19, and 20 of Township 1 South, Range 6 West, and portions of Sections 13 and 24 of Township 1 South, Range 7 West, Gila and Salt River base and meridian. The site is currently vacant with the exception of five groundwater wells that supply water to the Mesquite Generating Station. The Palo Verde Nuclear Generating Station, Arlington Valley Energy Facility, and Mesquite Generating Station are located within two miles of the project site.

2.0 Purpose of Request

2.1 Proposed Facility

This request for a Special Use Permit (SUP) is to allow the development of a photovoltaic (PV) solar energy generation facility on the project site. The facility will employ PV panels that absorb sunlight and directly produce electricity without use of heat transfer fluid or cooling water. The applicant and owner of the site is SEP II, LLC, a wholly owned subsidiary of Sempra Generation (hereinafter referred to as the applicant). The facility will operate year-round, producing electric power whenever the sun is shining. When fully developed, the facility will produce up to 400 megawatts (MW) of clean solar power, which would supply the energy needs of about 150,000 residences. Energy from the facility will be sold to utilities in the wholesale market. The facility is planned to be developed at rate of 50 to 100 MW per year, with procurement of long lead equipment beginning in the third quarter of 2009 and construction beginning in early 2010.

2.2 Facility Benefits

Solar energy economics are improving rapidly and the applicant expects that solar energy will soon become an electricity source of choice. Solar energy offers the opportunity to protect the environment by avoiding the production of greenhouse gases and other air emissions, decreasing our dependence on fossil fuels, and reducing the need for construction of fossil fueled power plants. Solar energy also benefits the economy generating jobs, business income, and tax revenue for Maricopa County and Arizona. Because solar energy is produced when demand for electricity is at its highest (during bright daylight hours), it helps to meet peak demand.

2.3 Site Suitability

Key to solar energy production is the availability and intensity of solar radiation. Arizona is particularly well suited for solar energy, with more than 300 days per year of sunshine and relatively intense solar radiation. As shown in Figure 2, the general area of the proposed project is highly suitable for solar energy production because it has some of the highest solar radiation levels in the United States. Other important criteria for determining the location of a solar energy generation facility include proximity to transmission facilities suitable for interconnection, land availability, flat terrain, and compatible adjacent land uses. As described herein, the project site has all of these characteristics.

3.0 Other Approvals

3.1 Previous Approvals

Of the 2,480 acres comprising the project site, 1,920 acres was originally acquired for its water rights, and such "water property" is subject to SUP Z2000071, the SUP permit governing the Mesquite Generating Station.

In December 2008, the Maricopa County Board of Supervisors approved (1) Comprehensive Plan Amendment CPA200807, which designated the planned land use of the project site as Industrial for solar energy generation facilities, and (2) Modification of Stipulations Z2008066, which modified a stipulation of approval of SUP Z2000071. The stipulation was modified to include the following provision:

If an SUP for any given portion of the water property is approved for use of that portion for solar energy generation facilities, then upon start of construction of such solar energy generation facilities, compliance with the Comprehensive Land Management Plan shall not require any past, existing, or future re-vegetation of that portion except as provided under said SUP, and instead the following land management conditions shall take effect:

1. All re-vegetated areas within the given portion of the water property are permitted to undergo vegetation removal as necessary for construction and operation of the solar energy generation facilities.
2. Measures to protect Centennial Wash shall be implemented as provided in the approved SUP for the solar energy generation facilities. These measures shall include soil stabilization and drainage control features.
3. Measures to control noxious weeds shall be implemented as provided in the approved SUP for the solar energy generation facilities.
4. Measures to control blowing dust and wind erosion shall be implemented as provided in the approved SUP for the solar energy generation facilities.

3.2 Concurrent Approval Processes

The subject project of this SUP application is limited to the solar energy generation facility. Other facilities associated with the project are the subject of concurrent approval processes.

A generation-tie power line is associated with the project, but it is not part of this SUP application because it falls under the permitting jurisdiction of the Arizona Corporation Commission. The new power line will operate at 230 kilovolts (kV) and will be approximately four miles long. The power line will consist of two circuits supported on a single set of steel lattice towers or tubular steel poles and will extend from the 230 kV bus of the new substation located on the project site to the existing 230 kV switchyard located at the Mesquite Generating Station. As shown on Figure 1, a preferred route and an alternate route for the power line are being considered, and the selected route will depend upon the availability of right-of-way.

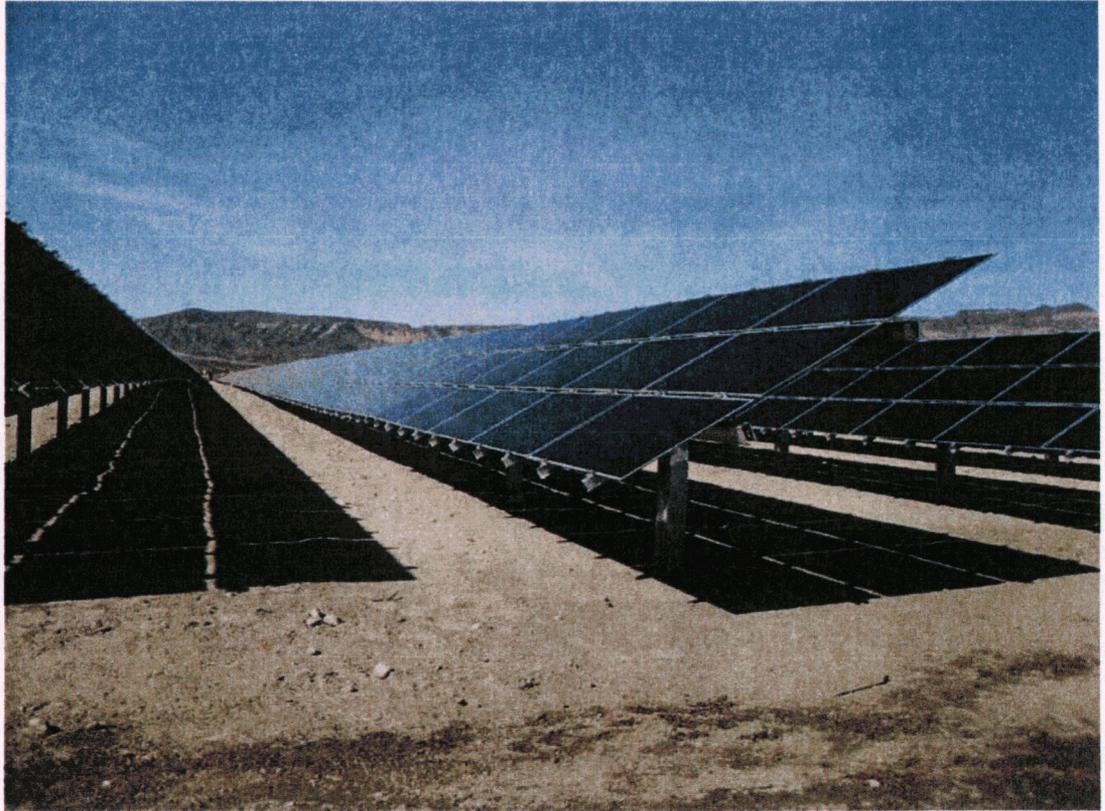
To accommodate interconnection of the new power line, the Mesquite Generating Station 230 kV switchyard will be modified to add new switching devices and termination structures. This modification, which will be confined to the existing switchyard area and not include additional impervious surface or otherwise affect drainage, is being addressed in a separate application for a minor amendment of SUP Z2000071 governing the Mesquite Generating Station. The minor amendment will also address the portion of the new power line that will be located on the site of the Mesquite Generating Station.

4.0 Facility Description

4.1 Overview

The proposed solar energy generation facility will employ PV panels that absorb sunlight and directly produce electricity. The facility will consist of (1) a solar field of PV panels mounted on steel structures, (2) an electrical collection system that aggregates the output from the PV panels and converts the electricity from direct current (DC) to alternating current (AC), (3) a substation where all of the facility output is combined and transformed to a voltage of 230 kV, and (4) civil infrastructure including driveways, drainage channels, a screening berm, and fencing.

Figure 1 provides a plot plan of the site in the context of surrounding land uses, and Exhibit A provides a detailed site plan, sections, and elevation drawings. Photograph 1 shows recently constructed PV panels at Sempra Generation's El Dorado Energy (Solar Expansion) facility in Nevada. The PV panels for the proposed project will be similar in general appearance to the panels shown in the photograph.



Photograph 1: Solar Panels in an Array (Photograph from Sempra's El Dorado Solar Expansion)

4.2 Solar Field

The solar field will consist of PV panels mounted on steel support structures. The supports will be either fixed or pivoting, depending on the specific PV panel manufacturer(s) selected. In either case, the assembled PV panels will have a typical height of about 6 feet and a maximum height of 8 feet. The PV panels will be arranged in rows with center-to-center spacing of 12 to 22 feet. In the case of fixed supports, the rows will be aligned east to west and the PV panels will be tilted to the south. In the case of pivoting supports, the rows will be aligned north to south and the PV panels will pivot, tracking the sun, east to west.

4.3 Electrical Collection System

The PV panels will be organized into electrical groups referred to as "blocks." Each block will encompass a minimum 8 acres of PV panels (producing about 1 MW) and will include one modular inverter enclosure. The size of each block will depend upon the capacity of the inverters housed in the block's associated inverter enclosure, which in turn will depend upon the type and size of inverters available for purchase and other such electrical design considerations.

Conductors, hung under the PV panels and extending underground, will feed DC to AC inverters and associated switchgear housed in each block's inverter enclosure. Each inverter enclosure is anticipated to be a 12-foot-by-34-foot pre-fabricated structure up to 15 feet in height and will be unoccupied except during inspection and maintenance. Each inverter enclosure will have an associated outdoor transformer to step up the electricity voltage from the inverter output level (e.g., 480 V to 34.5 kV). From each such transformer, electricity will be conveyed via an underground circuit to 34.5 kV switchgear housed in a modular collection enclosure that gathers the output of up to 30 MW of PV panels. Each collection enclosure is anticipated to be an 8-foot-by-60-foot pre-fabricated structure up to 12 feet in height and cannot be occupied.

From each collection enclosure, electricity will be conveyed via an underground 34.5 kV collector circuit to a common 34.5 kV bus within a substation to be located on the project site.

4.4 Substation

Figure 3 shows a conceptual one-line diagram of the electrical collection system and substation. The substation will be a central hub for the 34.5 kV collector circuits and will step up the electricity voltage from 34.5 kV to 230 kV. The substation site is approximately 10 acres in size and includes, but is not limited to, the following major components:

- 34.5 kV bus and associated switching devices
- 230 kV bus and associated switching devices
- 125 MVA, 34.5/230 kV transformers
- 34.5 kV capacitors
- Tubular steel support structures up to 40 feet in height
- Grounding grid
- Prefabricated modular control building (unoccupied except during inspection and maintenance)
- Perimeter fence

4.5 Driveways

As shown on Figure 1 and Exhibit A, driveways on the site will consist of a main access driveway, a perimeter driveway, and a series of internal driveways. The site will have two access points. The main access driveway to the site from Elliot Road is already in place and extends along the 399th Avenue alignment to the southern edge of the site. This existing driveway provides access to five water wells on the property and a distribution power line serving the well pumps. The main access driveway will be improved to 24 feet wide and paved from Elliot Road to the substation; this is the only pavement proposed anywhere on the site. The remainder of the main access driveway will be of unpaved engineered construction.

The other access point is an emergency access at the 411th Avenue alignment; this driveway will be 24 feet wide and of unpaved engineered construction. The perimeter driveway, which

will surround the entirety of the site, will also be 24 feet wide and of unpaved engineered construction. Four lateral driveways running east-west, perpendicular to the main access driveway, will provide access into the solar field for maintenance. These lateral driveways will be 12 feet wide and of unpaved engineered construction.

As used herein, the phrase "unpaved engineered construction" refers to an unpaved driveway surfaced with gravel or aggregate base and having a design based on engineering considerations including native soil characteristics, traffic frequency and weight, drainage, and dust control.

4.6 Drainage Design

The site was historically used for flood-irrigated agriculture, so the site is generally planar and dips slightly to the southeast at an approximately constant slope of 0.6 percent. Off-site storm water flows approach the site from the northwest and these flows, along with the flows that are generated on site, flow to Centennial Wash to the south and southeast of the site. The project's drainage design will preserve the existing locations and characteristics of flows entering and exiting the site. The project Drainage Report is provided as Exhibit H.

As shown on Figure 1 and Exhibit A, a system of new drainage channels will mitigate the effects of storm water flows on the facility. Perimeter channels along the north, east, and west boundaries of the site will divert off-site flows around the site and into the Centennial Wash floodplain. Five interior channels (running east-west along each lateral driveway and a southerly segment of the perimeter driveway) will intercept flows generated on site and divert these flows to a collection channel to prevent flows from accumulating across the entire site. The resulting reduction in runoff depths and velocities, together with the more uniform site contours that will result from grading the areas between the interior channels, will promote sheet flows, diminish concentrating flows, and lessen the occurrence of localized ponding and soil saturation. The collection channel carrying on-site flows will be located along the eastern boundary of the site, parallel to and separate from the perimeter channel carrying off-site flows. The collection channel will convey on-site flows to a retention basin located at the southeastern corner of the site. The perimeter and interior channels will be sized for 100-year peak runoff flows, and the retention basin will be sized at 103 acre-feet to meet the Maricopa County first flush requirements.

There will be a very small increase in the percentage of the site covered with impervious surface (i.e., the paved portion of the main access driveway and the modular enclosures). The rows of PV panels will canopy narrow strips of the site, and the ground surface under the PV panels and between the rows will remain open. On-site runoff will have full access to the ground surface and will infiltrate at a similar rate as existing conditions. The PV panels will not introduce pollutants to storm water. Transformers, which will contain insulating mineral oil, are the only facility equipment that could present the potential for introducing pollutants to storm water. To eliminate such potential, each transformer will be provided with secondary

containment consisting of a concrete basin having sufficient volume for 100 percent of its liquid contents plus retention of the 24-hour volume from a 100-year storm event.

4.7 Grading Design

As shown on Exhibit A, grading between the lateral channels will generally follow the existing topography except in a southerly area of the site that is located within the designated flood fringe of the Centennial Wash floodplain. To raise the existing topography above flood levels, grading in this southerly area will include the placement of clean earthen fill. These grading activities will not involve dredging or filling Centennial Wash and will not trigger U.S. Army Corps of Engineers (USACE) permitting requirements. Grading will also include constructing a screening berm along Elliot Road, filling two relatively small existing basins previously used for agricultural purposes, and removing an abandoned house, remnants of concrete irrigation ditches, and other such structures. The intent of the project's grading design will be to minimize the amount of earthwork performed.

4.8 Screening Berm and Landscaping

As shown on Figure 1 and Exhibit A, a screening berm will be constructed in the open space area along Elliot Road, on the site side of the perimeter drainage channel. Figure 4 provides a cross section of the berm and shows sight lines and landscaping details. The berm will extend for approximately 1.5 miles along Elliot Road and vary between 6 and 8 feet in height.

The purpose of the screening berm and associated landscaping is to provide an aesthetically pleasing buffer between (1) the proposed facility and (2) Elliot Road and the residences located north of Elliot Road. The top and northern side of the berm, facing Elliot Road, will be contoured with horizontal meanders and height variations to simulate natural terrain. At the northwestern corner of the project site, the berm and landscaping will turn south to blend into the existing native grade and landscape, thereby softening the termination of the berm as viewed from the west and northwest. The southern side of the berm, facing the project site interior, will have a constant 3:1 slope angle and be stabilized with a native seed mix and/or soil stabilizer.

Native and drought-tolerant trees, shrubs, and ground cover will be included in the landscaping on the top and northern side of the berm to enhance the screening and add visual interest. These plants will include strong native trees and evergreen shrubs with seasonal accent flowers to provide color. The intent of the design will be to imitate the native desert with organic and natural groupings. The landscaping will be irrigated with a drip system until the plants are established, which is expected to require three to five years. Once the plants are established, the irrigation will be gradually reduced until it is used only for occasional watering during extreme drought conditions.

4.9 Fencing

As shown on Exhibit A, the site perimeter will be enclosed by a 6-foot-high chain link fence topped with a one-foot barbed wire section. The fence posts will be at 10-foot intervals. The two site access points will be gated and have swinging or rolling chain link gates. So that off-site storm water flows may enter the proposed perimeter channels without hindrance, the fence will be located on the site side of the channels. To provide an open presentation of the screening berm and associated landscaping as viewed from Elliot Road, the fence will be located on the site side of the berm. The fence will be designed to prevent wildlife from entering the site for the reasons explained in section 9.5 "Biological Resources".

5.0 Construction

5.1 Project Phases and Schedule

Initial construction will consist of establishing site infrastructure including (1) perimeter drainage channels, (2) collection channel for on-site storm water flows and associated retention basin, (3) main access driveway and perimeter driveway, (4) screening berm along Elliot Road and associated landscaping, (5) fencing, and (6) substation. In this initial construction, no substantial grading or other work will be performed in the interior of the site except constructing the main access driveway, filling two relatively small existing basins previously used for agricultural purposes, and conducting activities associated with construction of the site infrastructure items listed above. To provide for balanced cut-and-fill quantities, such activities may include placement and compaction of excess materials in low elevation areas of the site interior. The site infrastructure is shown on Figure 5, except for fencing which is shown on Exhibit A.

As shown on Figure 6, construction of the solar energy generation facility will occur in five phases progressing from north to south, with each phase corresponding to a specific area of the site. If a partial phase is constructed, construction will proceed from east to west across the phase area. If more than one phase is constructed simultaneously, completion of such simultaneous work will result in contiguous development of the site from north to south without intervening undeveloped areas. During the construction of each phase, equipment will be placed in service at the completion of each block of PV panels. This in-service timing is critical because PV panels become energized as soon as they are exposed to sunlight, and a delay in power flow may result in damage.

Construction of the site infrastructure is planned to begin in early 2010 and be completed by mid-2010. Construction of Phase 1 of the solar energy generation facility is planned to begin immediately after or concurrent with construction of the site infrastructure, and Phase 1 is planned to be completed in 2011. Construction of subsequent phases is planned to take place over three to eight years and will depend upon market conditions and PV panel manufacturing rates.

5.2 Construction Workforce and Workspace

Construction of the facility is expected to require a peak workforce of approximately 300 management, supervisory, and craft workers. Parking, temporary office trailers, and equipment laydown areas will be located (1) immediately adjacent to the site perimeter during construction of the site infrastructure and (2) within or immediately adjacent to each respective phase area during construction of that phase.

5.3 Site Preparation and Grading Activities

The site is generally bare land and was historically used for agriculture. Existing vegetation includes sparse desert grasses, shrubbery, and some scattered desert trees. Most of the vegetation exists in narrow strips with intervening broad areas of bare ground as a consequence of drip-irrigated revegetation efforts. Vegetation will be removed from the areas where site infrastructure and PV panels will be placed. No vegetation is permissible among the PV panels in order to avoid shading and brush fire hazard. However, vegetation will remain in place in each phase area until start of grading on that area. Site preparation will include removing an abandoned house, remnants of concrete irrigation ditches, and other such structures.

Grading for site infrastructure (perimeter drainage channels, main access and perimeter driveways, screening berm, fencing, and substation) will be focused on the perimeter of the site. Construction of each phase will include (1) grading of the phase area and (2) construction of the interior drainage channel and lateral driveway located immediately south of the phase area.

Gravel or aggregate base material will be imported to the site for construction of the driveways. For a 6-inch aggregate base course (ABC) road section, approximately 36,000 cubic yards of ABC material will be required for construction of all driveways on the site. Water will be used during grading to control dust and to achieve proper moisture content in the soil being graded. The water will be provided from the existing wells located on site.

5.4 Equipment Installation

Construction of each phase will include (1) installation of the electrical collection system for that phase, (2) installation of PV panel supports, and (3) installation of PV panels. The installation of PV panels at Sempra Generation's El Dorado Energy (Solar Expansion) is shown in Photographs 2 through 9.

6.0 Operation

6.1 Operation Workforce

Operation of the facility will be managed, remotely monitored, and controlled by the existing staff of the Mesquite Generating Station, which is owned by an affiliate of the applicant. When fully developed, maintenance of the facility is expected to require three additional full-time employees.

6.2 Facility Maintenance

PV facilities contain virtually no moving parts and have limited maintenance requirements. Maintenance activities will consist of checking electrical performance parameters that are not transmitted to the Mesquite Generating Station for remote monitoring, performing periodic inspections and maintenance of transformers and inverters, responding to any problems detected by remote monitoring, conducting weed abatement and dust control activities, cleaning PV panels, and maintaining driveways. Water will be used for cleaning PV panels and controlling dust, but no water will be used by the facility for the production of electricity. No major equipment is anticipated to be required for maintenance of the facility except as necessary for periodic re-grading of driveways.

6.3 Site Security

Site security will be provided by cameras monitored at the Mesquite Generating Station and by periodically driving along the site perimeter security fence.

6.4 Weed Management and Dust Control

The installation of the solar energy generation facility and site infrastructure will result in the complete removal of vegetation. Areas where PV panels, other electrical equipment, and site infrastructure are placed will be maintained free of vegetation through use of herbicides.

Dust control is critical to the successful operation of a solar energy generation facility because dust diminishes the power output of PV panels, increases their cleaning requirements, and reduces the reliability of electrical equipment. The primary measures to control dust will be (1) establishing and maintaining a crust on the soil surface using water and possibly dust palliative, (2) avoiding disturbance of the established crust by either vehicles or foot traffic, (3) limiting the speed of maintenance vehicles, and (4) using water during periodic re-grading of driveways. The specifics of effective dust control parameters (e.g., type and quantity of dust palliative, if used, appropriate maximum vehicle speed, etc.) will be determined by empirical testing performed on-site prior to installing PV panels.

7.0 Health and Safety

7.1 Health and Safety Program

Safety issues are primarily related to project construction and relate to the following potential hazards:

- The movement of construction vehicles, equipment, and materials
- Falls into open excavations
- Electrocutation

These issues are most relevant to construction personnel who will be working in close proximity to construction vehicles, equipment, and materials and who would be potentially exposed to such hazards on a daily basis. Risk of construction-related injury will be minimized through careful safety planning, regular safety training, and use of appropriate safety equipment.



**Photograph 2: Posts To Be Installed in an Array
(at the El Dorado Solar Expansion)**



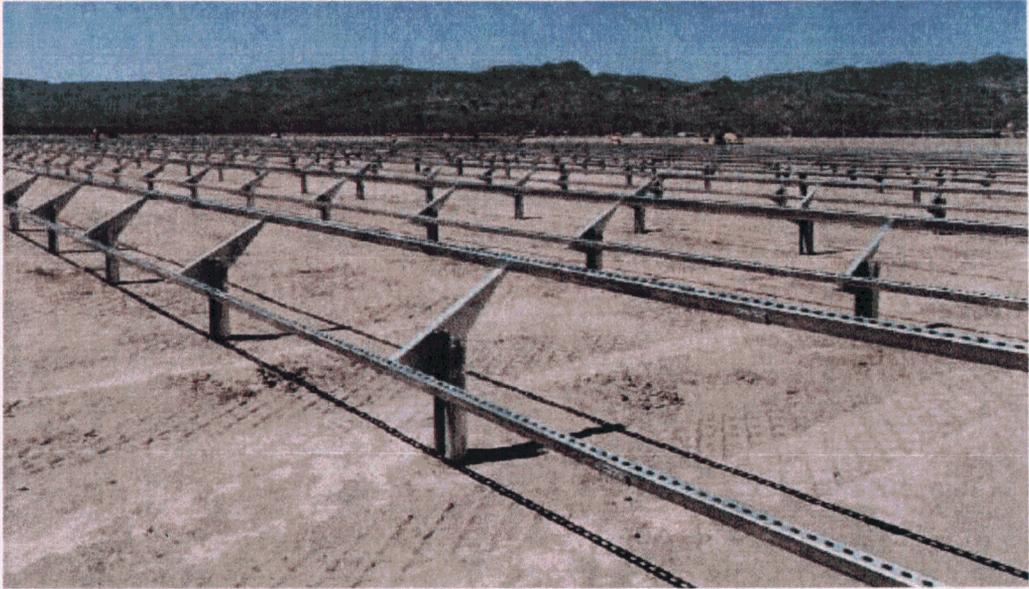
Photograph 3: Close-up of Post-Driving Activity



Photograph 4: Installation of Tilt-Brackets to Posts



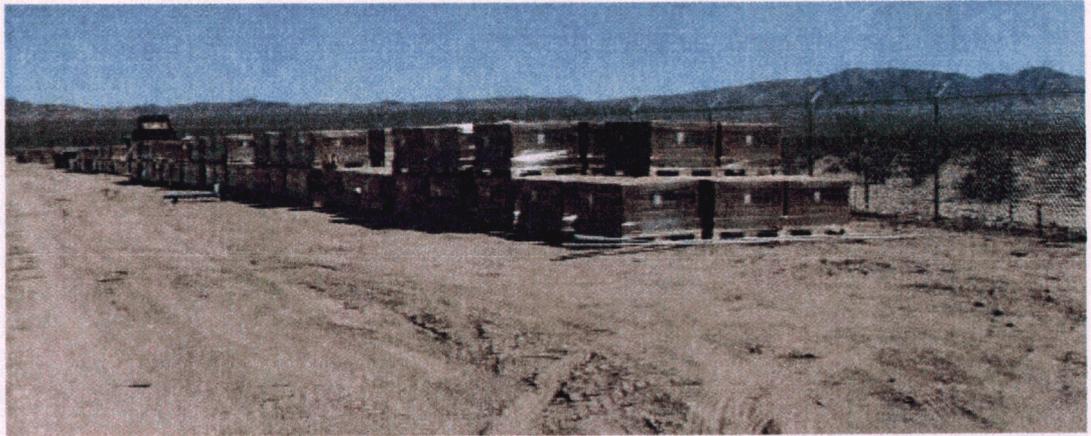
Photograph 5: Installation of Horizontal Mounting Rails to Tilt Brackets



Photograph 6: Installed Horizontal Mountings Rails in an Array



Photograph 7: Installation of Vertical Mounting Rails in an Array



Photograph 8: A Module (Solar Panel) Shipment Arrives On Site



Photograph 9: Installation of Modules in an Array

Operation of a solar PV facility is safer than other forms of energy production, because the electricity generation process does not involve combustible fuel, high temperature, or high pressure. In addition, the only potentially toxic or hazardous material that will be present on-site is the mineral oil contained in the transformers, and each transformer will be provided with full secondary containment.

7.2 Fire Protection

No permanent fire protection system is proposed for the facility, because PV panels are constructed of glass and their support structures are constructed of steel, which are not subject to combustion. All oil-filled transformers will be located outdoors with proper setback from adjacent structures. Areas where PV panels, other electrical equipment, and site infrastructure are placed will be maintained free of vegetation. The two site access driveways will serve for emergency egress and fire department access.

7.3 Emergency Management Plans

Prior to project construction, the applicant will prepare an emergency management plan addressing construction of the project based on discussion with jurisdictional emergency response providers.

Operation of the facility will be managed by the staff of the Mesquite Generating Station, which is owned by an affiliate of the applicant. The staff is trained for emergency management and response under the existing Mesquite Generating Station Integrated Contingency Plan (ICP), and such training will be provided to new employees added in association with operation of the Mesquite Solar project. To supplement the ICP, an Emergency Response Plan has been prepared for the Mesquite Solar project and is provided as Exhibit B.

Both the Mesquite Generating Station and the Mesquite Solar site are located within the 10-mile Plume Exposure Pathway Emergency Planning Zone (EPZ) for the Palo Verde Nuclear Generating Station (PVNGS). The EPZ has been established to address the potential for radioactive contamination in the event of a major emergency at PVNGS. In the event of such an emergency, the staff of the Mesquite Generating Station and Mesquite Solar project will implement the applicable evacuation plan specified in the ICP.

8.0 Land Use and Community Resources

8.1 Land Use on the Project Site and Surroundings

The project site consists of former farmland and desert in the process of being revegetated with desert flora pursuant to the Mesquite Generating Station's Comprehensive Land Management Plan administered by Maricopa County under SUP Z2000071. The site is currently vacant except for five groundwater wells that provide water to the Mesquite Generating Station. In December 2008, the Maricopa County Board of Supervisors approved a Comprehensive Plan Amendment to change the project site's land use designation from

Dedicated Open Space and Rural Residential to Industrial for solar energy generation facilities.

Existing land uses surrounding the project site consist of vacant desert/grazing land to the west, south, and east; several rural single-family residences and a 400-acre open space area to the north across Elliot Road; an 80-acre wildlife area to the immediate northeast; and a 320-acre wildlife area to the immediate southeast. The open space area and both wildlife areas are owned and maintained by the applicant pursuant to the Comprehensive Land Management Plan under SUP Z2000071. Centennial Wash runs adjacent to the southwestern corner of the project site. Three major power generation facilities (designated Industrial land use) are located within two miles of the project site, including the Palo Verde Nuclear Generating Station, Arlington Valley Energy Facility, and Mesquite Generating Station.

Figure 1 shows existing land uses adjacent to the project site. Figure 7 shows the individual residential properties located to the north, across Elliot Road, and provides identifying information for each parcel. Table 1 summarizes the surrounding land uses and Comprehensive Plan land use designations.

**Table 1:
Surrounding Land Use**

Property Location	Existing Use	Comprehensive Plan Designation
Project Site	Vacant	Industrial
West	Vacant/Grazing	Rural Densities
Southwest	Vacant/Grazing	Dedicated Open Space, Other Open Space, and Rural Densities
Southeast	Wildlife Habitat	Dedicated Open Space
East	Vacant/Grazing	State Land
Northeast	Wildlife Habitat	Dedicated Open Space
North	Rural Single-Family Residential and Vacant	Rural Densities and Dedicated Open Space

8.2 Site Access

Access to the project site will be provided off Elliot Road via Wintersburg Road. Elliot Road is a two-lane paved roadway. Primary access off Elliot Road will be paved and will be located approximately on the alignment of the existing site access driveway along the western edge of the 80-acre wildlife habitat area (399th Avenue alignment). A second access off Elliot Road, for emergency ingress and egress only, will be located at the northwestern corner of the project site (411th Avenue alignment).

Each of the two access points will cross the Designated Open Space along Elliot Road within a right-of-way having the same land use designation as the project site, as provided in Comprehensive Plan Amendment CPA 200807, and having a width of 50 feet. The Comprehensive Plan Amendment included dedication of the Elliot Road frontage to Maricopa County, extending 100 feet south from the monument line.

8.3 Traffic Circulation

A Traffic Impact Analysis is provided as Exhibit C. The 2007 average daily traffic (ADT) on Elliot Road at Wintersburg Road (383rd Avenue, about 1.5 miles east of the project site) is 932 vehicles per day. The analysis concluded that there will be negligible impacts on the existing area roadway system.

Construction of the proposed facility is estimated to require materials deliveries that will add approximately 10 to 12 semi trucks per day to Elliot Road. Construction is expected to require a peak construction workforce of approximately 300 workers. Parking will be provided for approximately 100 personal vehicles, and it is estimated that the construction workforce will add 100 vehicles per day to Elliot Road. Minimal traffic will be generated by the mobilization and demobilization of equipment used for earthwork including scrapers, graders, water wagons, and compactors. Likewise, minimal traffic will be generated by the mobilization and demobilization of other equipment used in constructing the facility, including truck-mounted post drivers, skid loaders, forklifts, etc.

Operation of the proposed facility is estimated to add up to 12 vehicles per day to Elliot Road. It is expected that the majority of trips will consist of employee and equipment maintenance trips.

8.4 Community Facilities and Services

Construction of the facility is expected to require a peak workforce of approximately 300 workers. As this workforce is expected to draw upon the existing labor pool in western Maricopa County, construction will not significantly affect area facilities and services.

Operation of the facility will be managed, remotely monitored, and controlled by the existing staff of the Mesquite Generating Station. When fully developed, maintenance of the facility is expected to require three additional full-time employees, which will not affect community facilities and services.

8.5 Public Utilities and Services

The project site is not currently served by utilities, except for an Arizona Public Service electric distribution circuit providing power to groundwater well pumps. No utility extensions are planned for the project, and no new or additional public services are anticipated as a result of the project.

Basic utilities are present in the project vicinity to support scattered rural residences. Potable water in the project vicinity is generally supplied via private wells. No sewer services exist in the project vicinity, and sanitary waste is managed predominantly by the use of private septic systems.

The Maricopa County Sheriff Department provides police protection to the area. The project site is located within the District II patrol area, and the nearest substation is located at 920 E. Van Buren Avenue in Avondale. The Buckeye Valley Fire Department provides fire protection and emergency response services to the area.

9.0 Environmental Resources

9.1 Noise

The source of noise discernible off site during construction will primarily be the heavy equipment used during earthwork for the drainage channel and screening berm along Elliot Road. There will be no discernable noise off site during operation of the facility.

9.2 Air Quality

The project will not produce discernible levels of any odors. Dust will be controlled during construction as described in Section 5.3, *Site Preparation and Grading Activities*, and during operation as described in Section 6.4, *Weed Management and Dust Control*.

9.3 Visual Resources

PV panels absorb light and do not cause glare. As shown on Figure 1 and Figure 4, the project includes construction of a context-sensitive, landscaped berm along Elliot Road. The berm will screen the proposed facility and provide an attractive amenity along Elliot Road. The proposed facility will be located in an area that does not provide recreational opportunities and does not generate an abundance of public attention. The closest residence to the project site is less than 0.10 mile away to the north, across Elliot Road. However, visual impacts of the proposed facility will be mitigated by the landscaped screening berm along Elliot Road.

9.4 Water Resources

Water will be used during construction as described in Section 5.3, *Site Preparation and Grading Activities*, and during operation as described in Section 6.2, *Facility Maintenance*, and Section 6.4, *Weed Management and Dust Control*. All water except potable water will be provided from the existing wells located on site. The wells are associated with the applicant's water rights, totaling about 8,000 acre-feet/year, of which 7,500 acre-feet/year is typically delivered to the Mesquite Generating Station and 500 acre-feet/year is allocated for use on the project site. It is expected that the project construction and operation will use less than 500 acre-feet/year.

Potable water will be delivered to the site in coordination with potable water deliveries to the Mesquite Generating Station, located two miles east of the project site.

9.5 Biological Resources

A desktop assessment of the project vicinity was performed to characterize environmental conditions within the project site and to identify and analyze special status species that would require surveys, mitigation, or additional permits under federal or Arizona State law. The Biological Site Assessment is provided as Exhibit D.

A half-day site reconnaissance was performed on the project site in April 2008 by Steve Yarbrough, a senior biologist from EDAW AECOM. The sparse vegetation present was primarily creosote bush arranged in narrow, parallel strips with an expanse of bare ground between each strip, as the result of drip irrigation used in revegetation efforts. Hawks were the only wildlife observed during the site visit. These raptors were at too great a distance to positively identify the species. A significant amount of the reconnaissance was spent evaluating Centennial Wash, which is located adjacent to the site. The discernible, vegetated portion of this desert wash is a major physiographic feature in an otherwise very flat, arid, Sonoran Desert landscape. The wash was lined with velvet mesquite and foothills paloverde trees. Soils at the wash were mineral in nature (i.e., sands). The wash was dry at the time of the site reconnaissance, appeared likely to flow only in response to large precipitation events, and did not contain a prevalence of hydrophytic vegetation. No features observed in other parts of the project site or its immediate vicinity were indicative of wetlands or "waters of the U.S." as defined by USACE.

Consultation was completed over the telephone and in writing with the U.S. Fish and Wildlife Service (USFWS), Arizona Department of Agriculture (AZDA), and Arizona Game and Fish Department (AZGFD). USFWS, the agency that has regulatory authority over federally listed threatened and endangered species, migratory birds, and bald and golden eagles, did not identify any plants or animals of concern or suggest surveys in the project area. AZDA indicated a notice of intent must be filed if straw-top cholla is present on the site because of its designation as a salvage-restricted species.

Initial consultation with AZGFD identified western burrowing owl and straw-top cholla as species of concern in the project vicinity. In a subsequent consultation, AZGFD made a general recommendation that surveys be performed for western burrowing owl, kit fox, LeConte's thrasher, and Sonoran desert tortoise. These four animal species are not protected by state statute, and only the Sonoran desert tortoise is considered a species of concern by AZGFD. A meeting was held with AZGFD staff on July 1, 2009, to discuss wildlife habitat issues and survey recommendations. At the request of AZGFD, additional review was then conducted to assess the likelihood of occurrence of western burrowing owl, kit fox, LeConte's thrasher, and Sonoran desert tortoise at the project site. This review concluded that, based on the site characteristics and published studies, there is significant potential for the occurrence of western burrowing owl on the site and lesser potential for the occurrence of

LeConte's thrasher. The review also concluded that kit fox, if found on site, would likely only be passing through the area because past farming has limited suitable breeding habitat. Similarly, the review concluded that there is very low probability of the occurrence of Sonoran desert tortoise on the site due to lack of suitable habitat.

Based on the review's conclusions, a combined survey for western burrowing owl and LeConte's thrasher will be conducted prior to construction of each phase of development. The surveys will be performed by a certified biologist, within 30 days of construction, and in accordance with the requirements outlined in the Burrowing Owl Project Clearance Protocol (AZGFD 2007). Were surveys to identify breeding populations during the nesting season (March through mid-July for owl, February through June for thrasher), a buffer area would be staked and flagged, and heavy machinery activity and foot traffic within the buffer area would be avoided until the appropriate conservation action is determined and completed.

Because the developed site will lack vegetation to sustain wildlife, at the July 1, 2009, meeting AZGFD recommended that the project fencing be designed to prevent wildlife from entering the site. Such fencing will direct wildlife to Centennial Wash, which provides a wildlife habitat connectivity corridor adjacent to the project area. Centennial Wash will not be affected by construction of the project.

9.6 Cultural Resources

A Class I cultural resources study was performed for the project vicinity, including a one-mile radius around the project site and generation-tie power line routes, and is provided as Exhibit E. The study identified several previous archaeological surveys performed in the vicinity. No archaeological sites are recorded on the project site, but 14 archaeological sites are recorded in the vicinity. Because archeological sites have been recorded in the vicinity, the Class I study recommended that a Class III archaeological survey of the project site be performed prior to development.

Subsequent to completion of the Class I study, several Class III surveys of adjacent and nearby areas were reviewed in detail. The survey areas included the preferred and alternate routes for the generation-tie power line across State Lands, the Mesquite Generating Station site, and portions of the Arlington Valley Energy Facility site. No significant cultural resources near the project site were identified in the surveys. Based on the absence of significant findings in surveys performed closest to the project site, and the fact that most of the site has been repeatedly disturbed over multiple years of farming, it is unlikely that cultural resources eligible for inclusion on the National Register of Historic Places would be found within the project site boundaries. Thus, the applicant will perform a Class III archaeological survey of specific areas only if artifacts are discovered during project construction. In accordance with Arizona state law, if human remains or burial goods are encountered during any ground disturbing activities, work in the immediate vicinity will cease and the Director of the Arizona State Museum will be notified.

9.7 Soil Resources

As described in Section 5.1, Project Phases and Schedule, and Section 5.3, Site Preparation and Grading Activities, construction of the project will require that 2,480 acres of land be disturbed by clearing and grading in stages. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented to address construction activities. Best management practices will be adapted to site conditions and employed to avoid soil erosion and off-site impacts during construction.

As described in Section 4.6, Drainage Design, new drainage channels will manage off-site and on-site storm water flows such that the existing locations and characteristics of flows entering and exiting the site will be preserved. On-site flows will be segregated from off-site flows and conveyed to a retention basin sized at 103 acre-feet to meet the Maricopa County first flush requirements. The project's drainage design will result in no adverse effects on Centennial Wash or other adjacent lands. The project Drainage Report is provided as Exhibit H.

Under existing conditions, on-site runoff is generally characterized by shallow and slow flows. Because of the site's flat topography (approximately constant slope of 0.6 percent), runoff generally flows slower than scouring velocities of the soil (i.e., under 2.5 feet per second). However, previous modeling by Maricopa County indicates the potential for greater runoff depths than are generally evidenced by indications on the site. Were flows to concentrate in association with such greater depths, velocities might increase and exceed the scouring limits of the soils.

The primary erosion control features of the project will be the system of new drainage channels. Perimeter channels will reduce on-site flows by preventing off-site flows from entering the interior of the site. Interior channels extending across the site at regular intervals will intercept flows generated on site and divert these flows to a collection channel located along the eastern boundary of the site, thereby preventing flows from accumulating across the entire site. The resulting reduction in runoff depths and velocities, together with the more uniform site contours resulting from grading the areas between the interior channels, will promote sheet flows, diminish concentrating flows, and lessen the occurrence of localized ponding and soil saturation. The perimeter and interior channels will be sized for 100-year peak runoff flows.

Detailed design of the drainage channels may include the use of riprap to protect the channels from erosion. At a minimum, riprap protection will be provided in the perimeter channels and collection channel at bends and at connections points with interior channels. Detailed design may also include riprap along portions of the perimeter channels that receive off-site flows. However, consideration will be given to alternatives to riprap. For example, drop structures within the channels could be used to flatten channel slopes and slow velocities sufficiently to make riprap generally unnecessary.

9.8 Waste and Hazardous Materials Management

A preliminary Spill Prevention, Control and Countermeasure (SPCC) Plan for project construction and facility operation is provided as Exhibit F. The SPCC Plan addresses fuels, lubricants, and hydraulic fluids expected to be used for construction equipment. Such equipment will be properly maintained to minimize leaks, and all vehicle maintenance will be performed off site at an appropriate facility. The SPCC Plan elements applicable to facility operation address the mineral oil contained in each transformer, which is the only aspect of facility operation that is subject to the federal requirement for an SPCC Plan. Each transformer will be provided with full secondary containment as described in Section 4.6, Drainage Design. The preliminary SPCC Plan will be updated as necessary to reflect practices employed during project construction and facility operation.

The mineral oil contained in each transformer does not normally require replacement, and any such replacement will be accomplished by either transporting the entire transformer off-site or by transferring the mineral oil to a tanker truck for transport off-site. Mineral oil disposal will be managed in accordance with the Waste Management Plan provided as Exhibit G.

The PV panels and inverters produce no waste during operation. However, the PV panels may include solid materials that are considered to be hazardous, such as cadmium telluride. To address management of such materials, the applicant's contract with the selected PV panel manufacturer will include a provision requiring the manufacturer to receive and recycle or dispose of any broken or defective PV panels. Because such materials are in a solid and non-leachable state, broken PV panels will not be a source of pollution to storm water. Dust palliative, if used, and herbicides will be transported to the site for immediate application and will not be stored on site. The facility will not present significant potential for introducing pollution to storm water, and operation of a solar PV facility is typically exempt from storm water discharge permitting based on Standard Industrial Code.

All use, storage, transport, and disposal of hazardous materials used in construction or operation of the facility will be in strict accordance with federal, state, and county laws, ordinances, and regulations. No extremely hazardous materials (i.e., governed under 40 Code of Federal Regulations 335) are anticipated to be produced, used, stored, transported, or disposed of as a result of the project. During construction and operation of the project, Material Safety Data Sheets (MSDS) for all applicable materials present on-site will be made readily available to on-site personnel.

During construction of the facility, non-hazardous construction debris will be generated. Such debris will be disposed in local landfills. During construction and operation of the facility, sanitary waste will be managed using portable toilets located at reasonably accessible on-site locations.

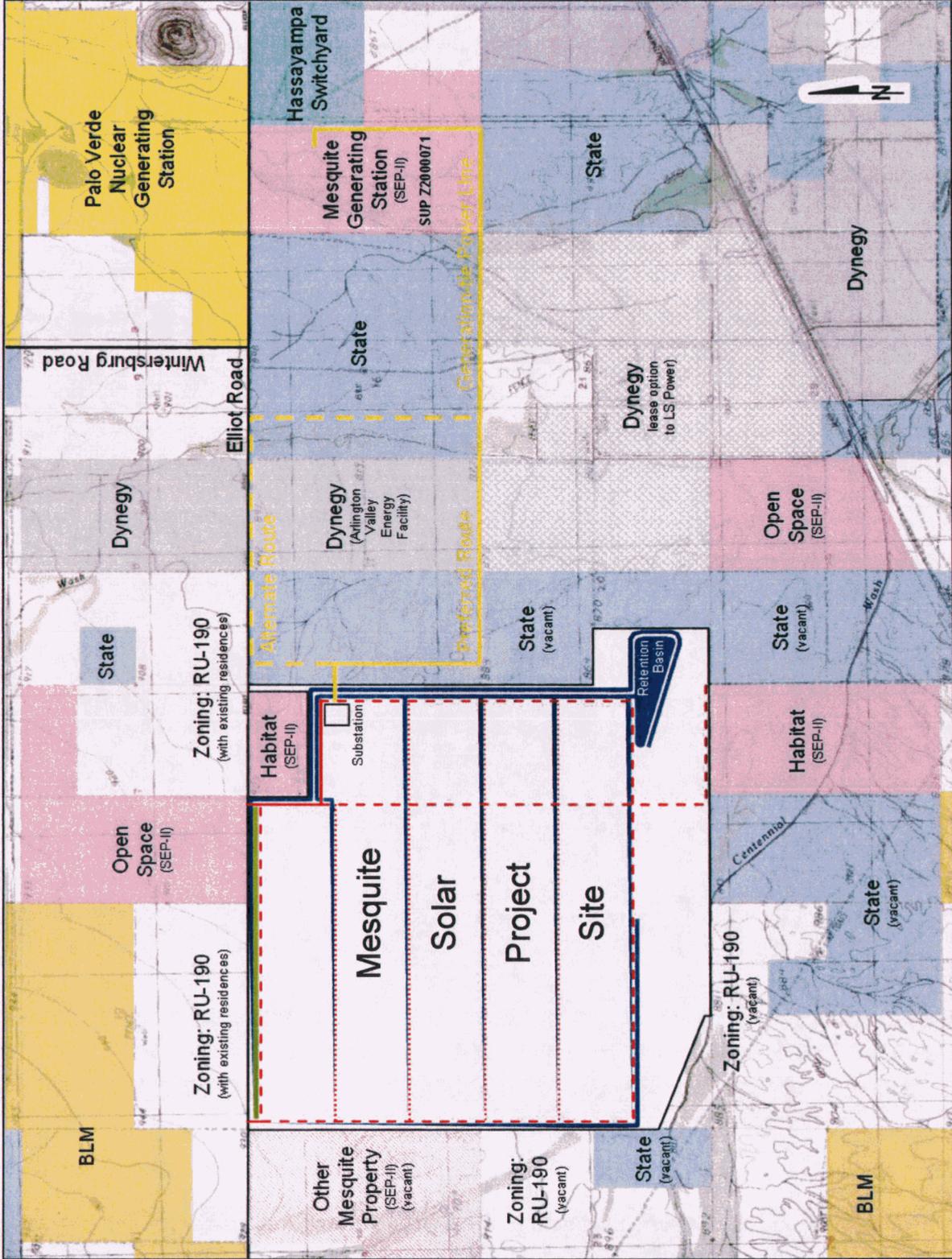
**Figure 1
Plot Plan
and
Surrounding Land Uses**

Legend

-  Drainage Channels
-  Screening Berm (63 ft wide)
-  Paved Driveways (24 ft wide)
-  Unpaved Driveways (24 ft wide)*
-  Unpaved Driveways (12 ft wide)*
-  Areas in CPA 200005 (in addition to project site)

* Unpaved Driveways will be surfaced with gravel or aggregate base

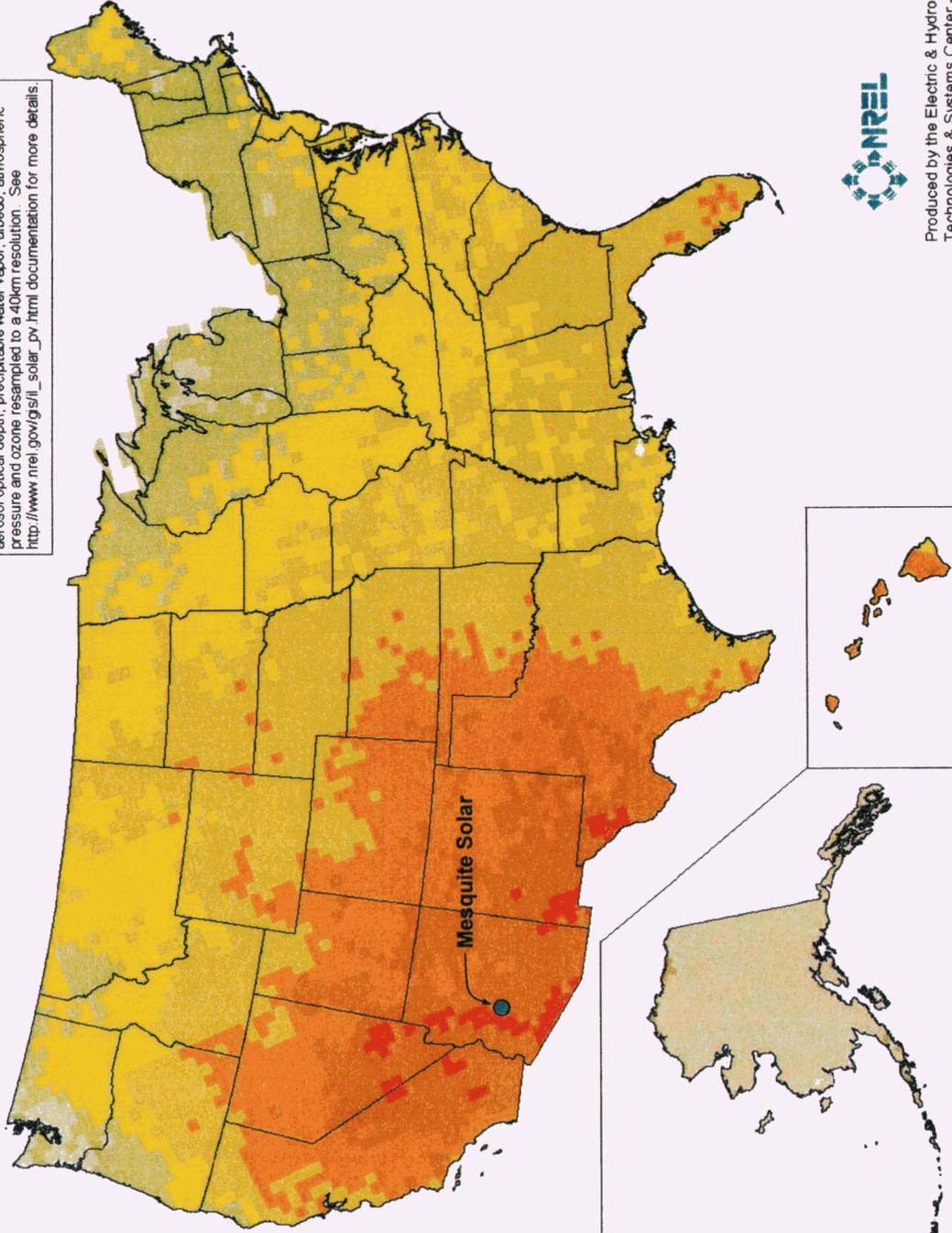
Scale (miles)



PV Solar Radiation (Flat Plate, Facing South, Latitude Tilt)

Annual

Model estimates of monthly average daily total radiation using inputs derived from satellite and/or surface observations of cloud cover, aerosol optical depth, precipitable water vapor, albedo, atmospheric pressure and ozone resampled to a 40km resolution. See http://www.nrel.gov/gis/ii_solar_pv.html documentation for more details.



Produced by the Electric & Hydrogen
Technologies & Systems Center - May 2004

MESQUITE SOLAR

Figure 2

Solar Radiation and Project Location

Legend

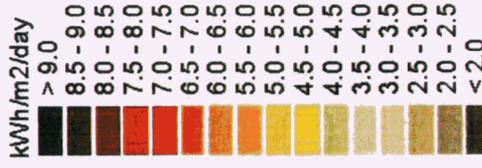
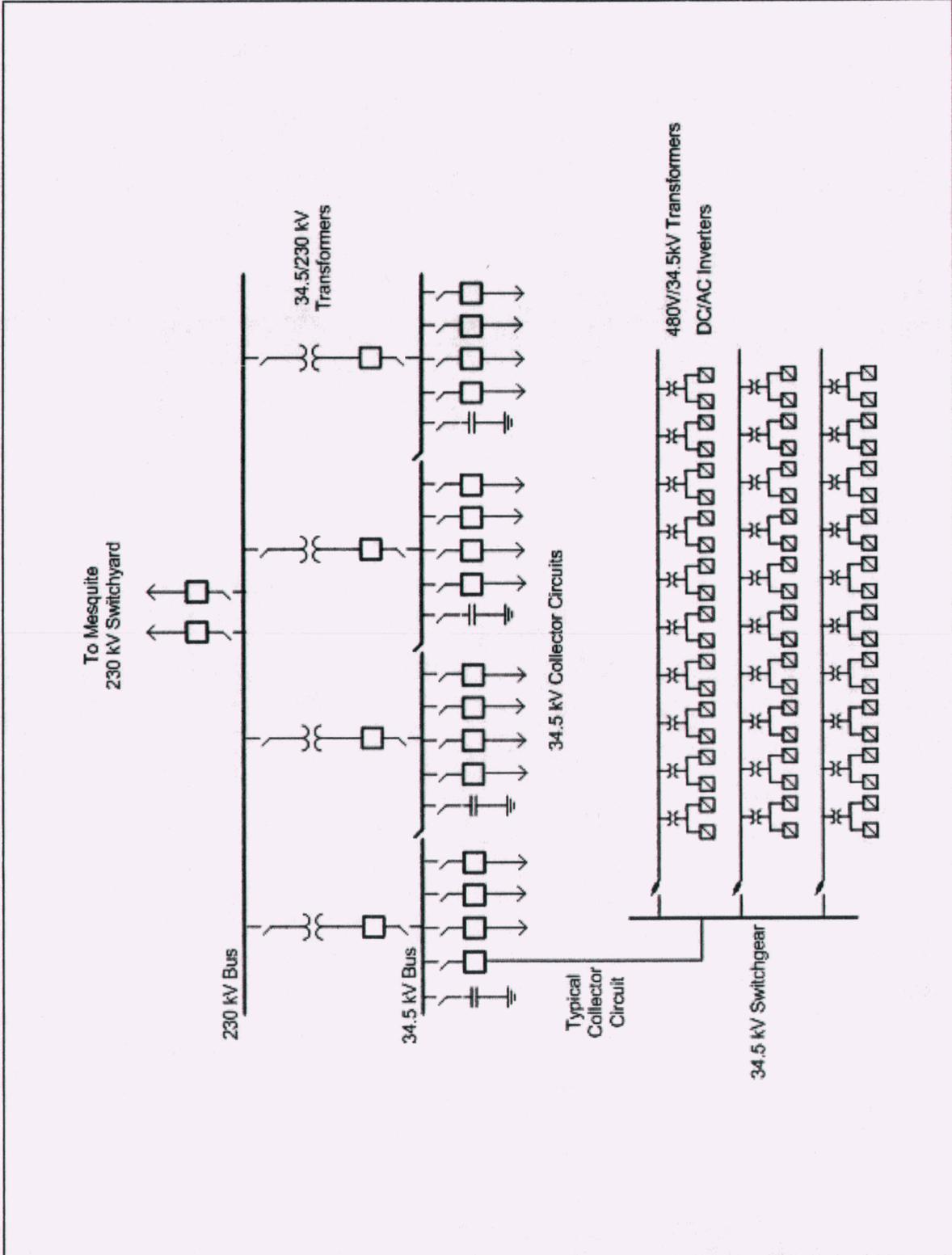


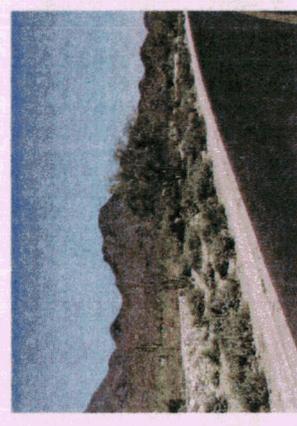
Figure 3
Electrical Collection
System and Substation
One-Line Diagram



MESQUITE SOLAR

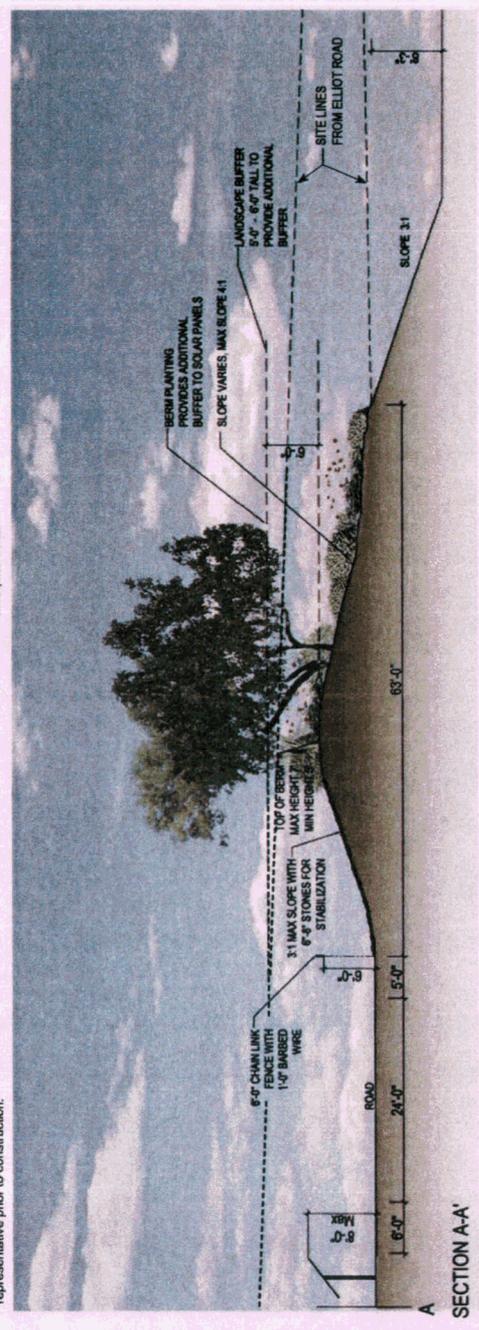
Figure 4

Screening Berm and Landscape Plan

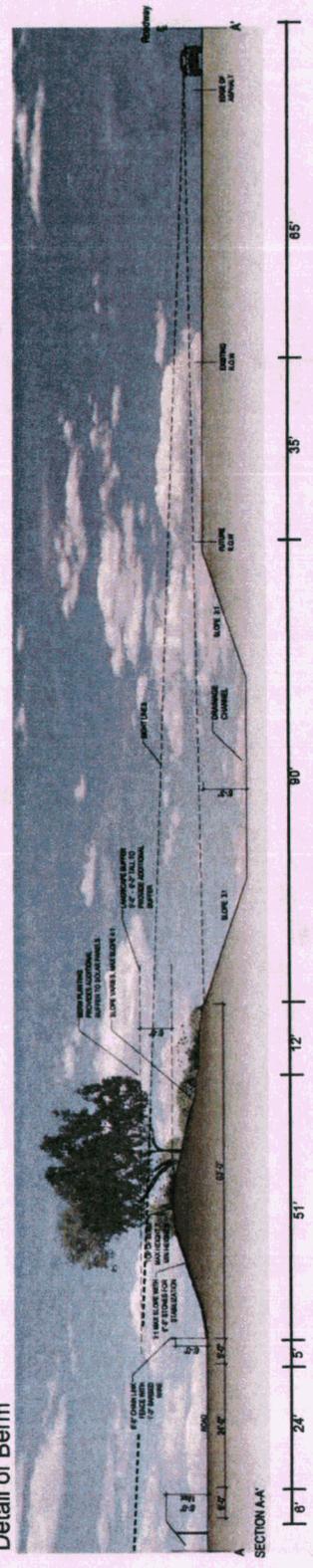


Pictures are representative of desert planting to be achieved at Mesquite Solar.

- LANDSCAPE NOTES:**
1. All materials for desert rock surfacing shall be obtained from on-site as available, off-site as necessary directed by landscape architect.
 2. Desert rock surfacing aggregates shall be scattered over all disturbed soil surfaces in an uneven layer no greater than 1/2" depth. Approximately 80% of the disturbed area shall receive desert rock surface stone. Soil stabilizer will be applied to entire surface for dust control. Contractor shall coordinate with landscape architect for application prior to installation.
 3. Size of desert rock surface stone material shall include a mix of % size of Aggregate: 20%, 4"-6", 30%, 1"-3", 50%, 1" to minus.
 4. Aggregate 4" and greater shall be half buried and blended to create a naturalistic desert floor.
- Irrigation:**
1. The irrigation system will be serviced from an existing potable water meter located on the north end of the site near the proposed buffer area.
 2. The total PSI and GPM will be evaluated to meet the landscape design flow and water demand.
 3. The system will be designed to provide low flow drip irrigation to 100% of the trees and ground cover shown on the landscape plan.
 4. A complete irrigation system should be designed, evaluated and approved by the owners representative prior to construction.



Detail of Berm



Expanded Section: Site Lines From Elliot Road

Figure 5
Site Infrastructure

To be completed prior to
or concurrent with Phase 1

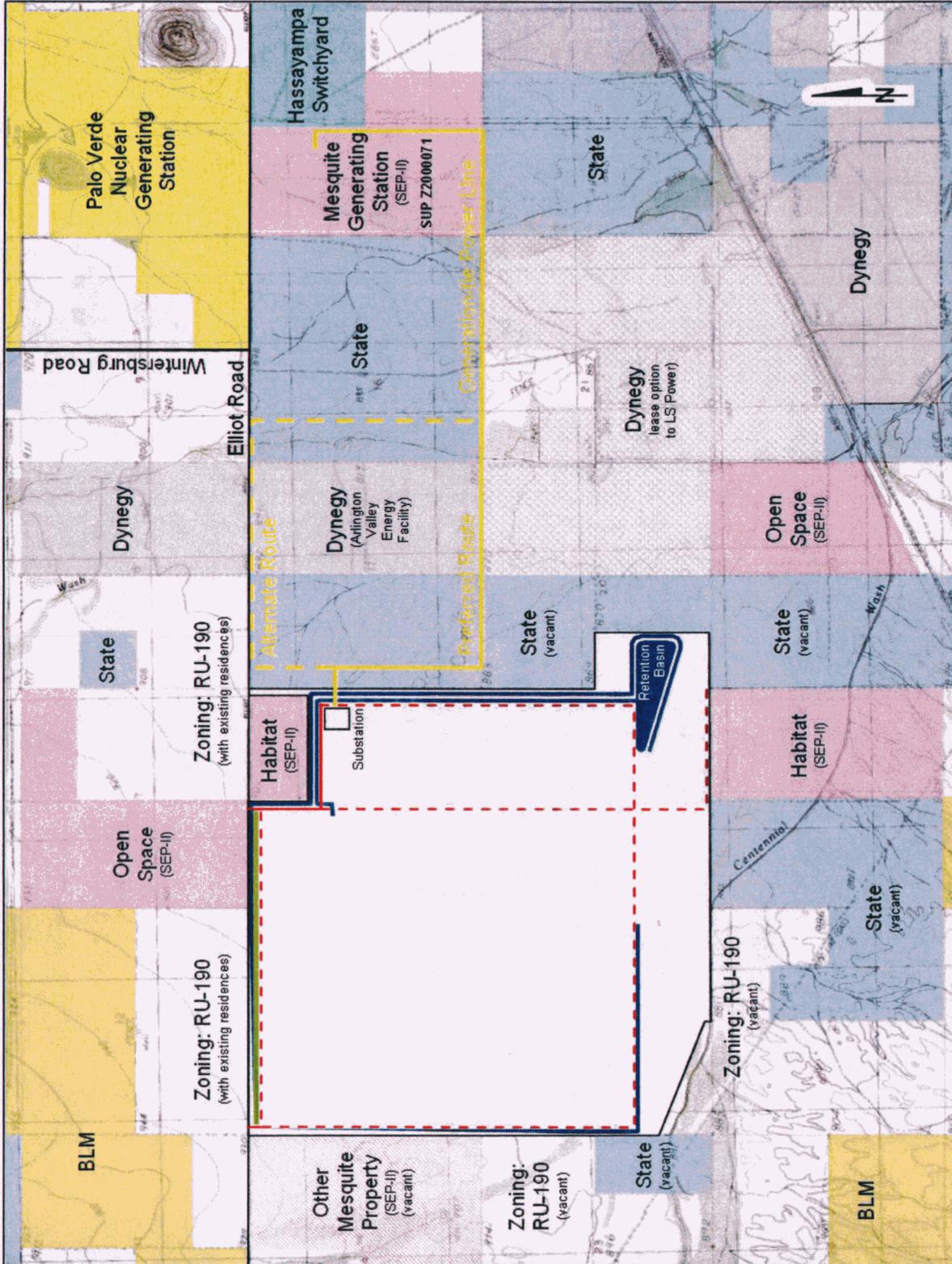
Legend

-  Drainage Channels
-  Screening Berm (63 ft wide)
-  Paved Driveways (24 ft wide)
-  Unpaved Driveways (24 ft wide)*
-  Unpaved Driveways (12 ft wide)*

Areas in CPA 200005
(in addition to project site)

* Unpaved Driveways will be surfaced
with gravel or aggregate base

Scale (miles)



MESQUITE SOLAR

Figure 6
Project Phases

Legend

-  Drainage Channels
-  Screening Berm (63 ft wide)
-  Paved Driveways (24 ft wide)
-  Unpaved Driveways (24 ft wide)*
-  Unpaved Driveways (12 ft wide)*
-  Areas in CPA 200005 (in addition to project site)

* Unpaved Driveways will be surfaced with gravel or aggregate base

Scale (miles)

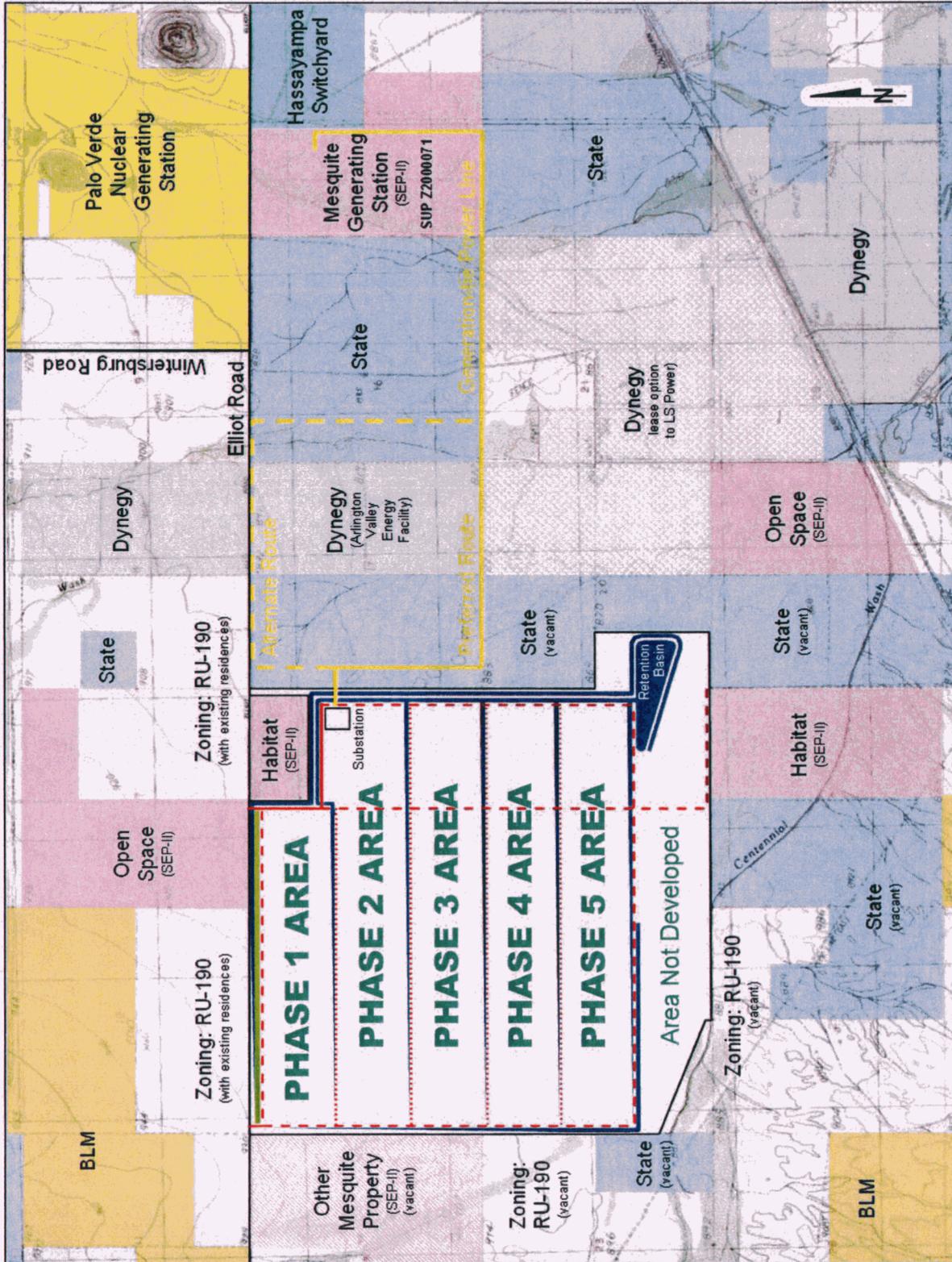
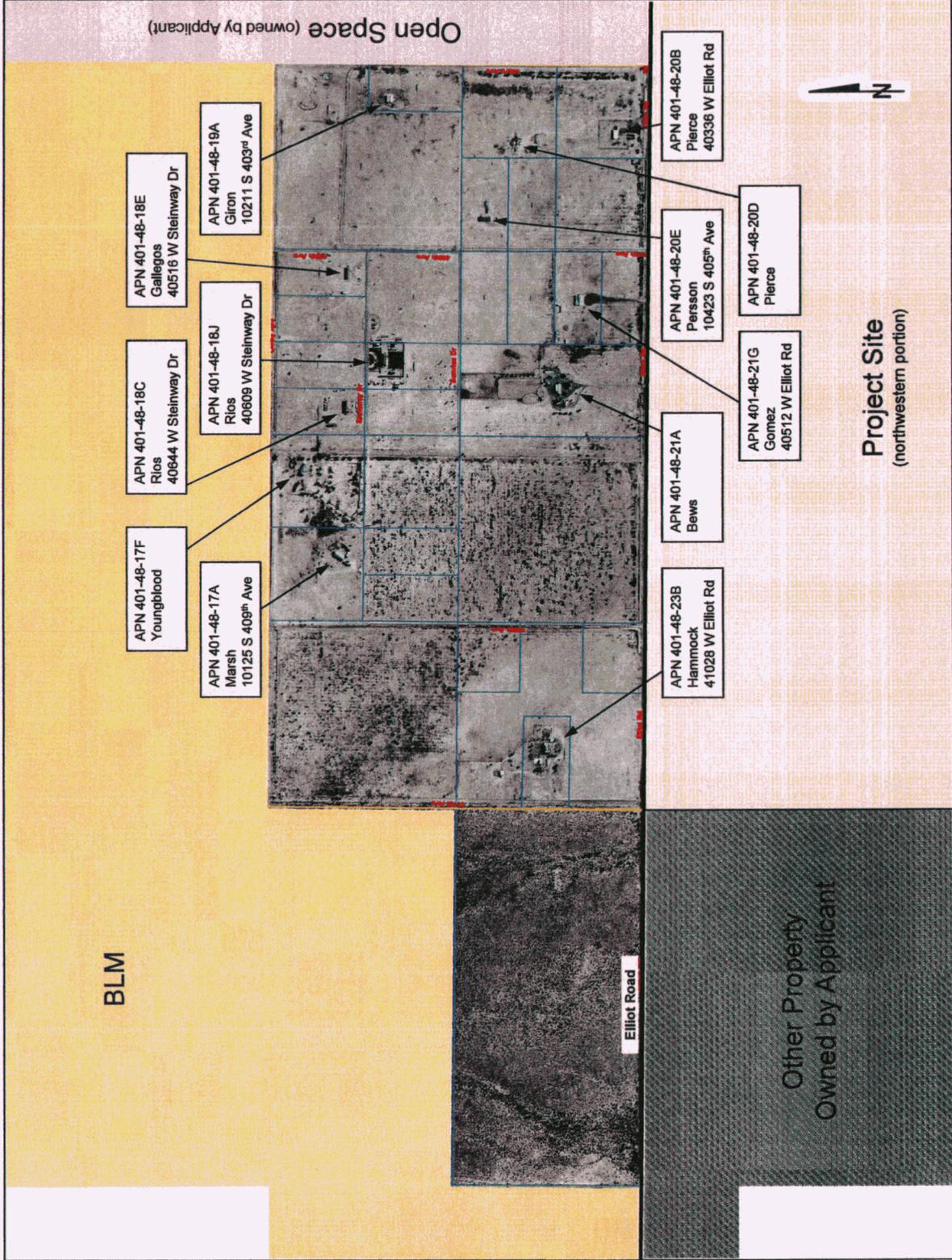


Figure 7
Residences Located
North of the Project Site

Scale (miles)



**Exhibit A:
Detailed Site Plan, Sections, and Elevations**

**Exhibit B:
Emergency Response Plan**

**Exhibit C:
Traffic Impact Analysis**

**Exhibit D:
Biological Site Assessment**

**Exhibit E:
Cultural Resource Study**

**Exhibit F:
Spill Prevention, Control and Countermeasure Plan**

**Exhibit G:
Waste Management Plan**

**Exhibit H:
Drainage Report**

C



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

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July 28, 2009

Ms. Terri Hogan
Senior Planner
Department of Planning and Development
Maricopa County
501 N. 44th Street Suite 100
Phoenix, Arizona 85008

Re: Comprehensive Plan Amendment No. CPA2008007 and Modification of Stipulation No. Z2008066 for Mesquite Solar Energy Production Facility, Maricopa County

Dear Ms. Hogan:

The Arizona Game and Fish Department (Department) met with the Maricopa County Department of Planning and Development Technical Advisory Committee and representatives for the Mesquite Solar Energy Production Facility to discuss the above referenced comprehensive plan amendment and stipulation modification. The Department submitted a letter, dated July 18 2008, addressing our concerns. The Department also reviewed project information provided by SEP II (a subsidiary of Sempra Generation), through their environmental consultants, and provided our analysis in letters dated February 18, 2009 and May 11, 2009. Department staff met with representatives of SEP II on July 1, 2009 to further discuss our concerns. We would like to take this opportunity to apprise you of the status of our mutual efforts to minimize the impacts to wildlife from the proposed solar project.

As a result of our discussions, the Department understands that SEP II has agreed to the following design revisions for the Mesquite Solar Energy Facility:

- to address wildlife connectivity concerns, the site entrance at the 395th Avenue alignment entrance has been eliminated, providing wildlife a movement corridor to Centennial Wash.
- the area adjacent to Centennial wash will remain undisturbed, except for the proposed retention basin and drainage channels. Re-vegetation efforts will continue in this portion of the project site per the Mesquite Generating Station Special Use Permit (Z2000071).

In addition to the project design revisions, the Department and SEP II agreed on which species of concern should be surveyed and the survey protocols. In addition, there was an agreement to

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Terri Hogan
July 28, 2009
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continue to discuss habitat enhancement opportunities along Centennial Wash, independent of the Mesquite Solar project.

Thank you again for the opportunity to review and comment on this project. We look forward to continuing to being involved in this project. If you have any questions, please contact me at 928-341-4047.

Sincerely,



William C. Knowles
Habitat Specialist
Region IV, Yuma

cc: Troy Smith, Habitat Program Manager, Region IV
Laura Canaca, Proj. Eval. Prog. Supervisor, Habitat Branch
Marilyn Teague, P.E. Sempra Global
Ginger Ritter, Project Evaluation, Habitat Branch

AGFD # M09-07160400