Initial Study/Mitigated Negative Declaration

West Antelope Solar Energy Project, Unincorporated Los Angeles County, California

Project No. R2012-01589-(5)
Permit No. Conditional Use Permit No. 201200086
Environmental Assessment No. 201200158

Prepared for

County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012

Prepared by

BonTerra Consulting
225 South Lake Avenue, Suite 1000
Pasadena, California 91101
T: (626) 351-2000 F: (626) 351-2030

October 2013

TABLE OF CONTENTS

Section **Page**

Section 1.0 Executive Summary 1-1
1.1 Introduction 1-1
1.2 Project Summary 1-1
1.3 Summary of Significant Environmental Impacts 1-2

Section 2.0 Introduction 2-1
2.1 Purpose of the Initial Study 2-1
2.2 Summary of Initial Study Findings 2-1
2.3 Project Approval 2-2
2.4 Organization of the Initial Study 2-2

Section 3.0 Environmental Setting and Project Description 3-1
3.1 Environmental Setting 3-1
3.1.1 Project Location 3-1
3.1.2 Project Site Characteristics 3-1
3.1.3 Surrounding Land Uses 3-2
3.2 Project Description 3-2
3.2.1 Project Components 3-2
3.2.2 Project Construction 3-8
3.2.3 Operational Characteristics 3-15
3.2.4 Decommissioning Plan 3-17
3.3 Project Water Demand 3-19
3.4 Regulatory Background for Solar Energy Projects 3-19
3.5 Anticipated Project Approvals/Responsible Agencies 3-20
3.5.1 Discretionary Permits 3-20
3.5.2 Ministerial Permits 3-20

Section 4.0 Environmental Checklist Form 4-1
4.1 Aesthetics 4-3
4.1.1 Environmental Setting 4-3
4.1.2 Project Impacts 4-4
4.1.3 Mitigation Measures 4-9
4.2 Agriculture and Forest Resources 4-10
4.2.1 Environmental Setting 4-10
4.2.2 Project Impacts 4-11
4.2.3 Mitigation Measures 4-13
4.3 Air Quality 4-14
4.3.1 Environmental Setting 4-14
4.3.2 Project Impacts 4-17
4.3.3 Mitigation Measures 4-22

4.4 Biological Resources 4-24

4.4.1 Environmental Setting 4-24
4.4.2 Project Impacts 4-26
4.4.3 Mitigation Measures 4-37

4.5 Cultural Resources 4-41

4.5.1 Environmental Setting 4-41
4.5.2 Project Impacts 4-44
4.5.3 Mitigation Measures 4-45

4.6 Energy 4-47

4.6.1 Environmental Setting 4-47
4.6.2 Project Impacts 4-47
4.6.3 Mitigation Measures 4-48

4.7 Geology and Soils 4-49

4.7.1 Environmental Setting 4-49
4.7.2 Project Impacts 4-50
4.7.3 Mitigation Measures 4-53

4.8 Greenhouse Gas Emissions 4-54

4.8.1 Environmental Setting 4-54
4.8.2 Project Impacts 4-55
4.8.3 Mitigation Measures 4-57

4.9 Hazards/Hazardous Materials 4-58

4.9.1 Environmental Setting 4-59
4.9.2 Project Impacts 4-59
4.9.3 Mitigation Measures 4-65

4.10 Hydrology and Water Quality 4-66

4.10.1 Environmental Setting 4-67
4.10.2 Project Impacts 4-69
4.10.3 Mitigation Measures 4-77

4.11 Land Use and Planning 4-78

4.11.1 Environmental Setting 4-78
4.11.2 Project Impacts 4-79
4.11.3 Mitigation Measures 4-83

4.12 Mineral Resources 4-84

4.12.1 Environmental Setting 4-84
4.12.2 Project Impacts 4-84
4.12.3 Mitigation Measures 4-85

4.13 Noise 4-86

4.13.1 Environmental Setting 4-86
4.13.2 Project Impacts 4-89
4.13.3 Mitigation Measures 4-93

4.14 Population and Housing 4-94

4.14.1 Environmental Setting 4-94
4.14.2 Project Impacts 4-94

4.14.3 Mitigation Measures *4-95*

4.15 Public Services 4-96

4.15.1 Environmental Setting *4-96*
4.15.2 Project Impacts *4-96*
4.15.3 Mitigation Measures *4-98*

4.16 Recreation 4-99

4.16.1 Environmental Setting *4-99*
4.16.2 Project Impacts *4-99*
4.16.3 Mitigation Measures *4-100*

4.17 Transportation/Traffic 4-101

4.17.1 Environmental Setting *4-101*
4.17.2 Project Impacts *4-102*
4.17.3 Mitigation Measures *4-105*

4.18 Utilities and Service Systems 4-106

4.18.1 Environmental Setting *4-106*
4.18.2 Project Impacts *4-107*
4.18.3 Mitigation Measures *4-111*

4.19 Mandatory Findings of Significance 4-112

4.19.1 Existing Conditions *4-112*
4.19.2 Project Impacts *4-112*
4.19.3 Mitigation Measures *4-121*

Section 5.0 References 5-1

TABLES

Table **Page**

3-1 Site Parcel Summary 3-1
3-2 Grading Quantities 3-9
3-3 Total Estimated Water for Project Construction 3-12
3-4 Total Estimated Water for Landscape Irrigation 3-13
3-5 Project Construction Schedule 3-13
3-6 Construction Equipment 3-14
3-7 Total Estimated Water for Operation and Maintenance 3-17
3-8 Total Estimated Water for Decommissioning 3-19
3-9 Total Estimated Project Water Use 3-19
4-1 FMMP Resources in Los Angeles County 2002–2010 4-12
4-2 California and National Ambient Air Quality Standards 4-15
4-3 Designations of Criteria Pollutants in the Antelope Valley Portion of the Mojave Desert Air Basin 4-16
4-4 AVAQMD Criteria Pollutant Significance Emissions Thresholds 4-18
4-5 Estimated Annual Construction Emissions (Tons) 4-19
4-6 Estimated Annual Operational Emissions (Tons) 4-20
4-7 Special Status Plant Species Known to Occur in the Vicinity of the Project Study Area 4-27
4-8 Special Status Wildlife Species Known to Occur in the Project Vicinity 4-30

4-9 Cultural Resources Sites Within One Mile of the Project Site 4-43
4-10 Cultural Resources Studies on the Project Site 4-43
4-11 Global Warming Potentials and Atmospheric Lifetimes..... 4-55
4-12 Potential Project Pollutants..... 4-71
4-13 Surrounding Land Uses Near the Project Site 4-78
4-14 Antelope Valley Areawide General Plan and Los Angeles County General Plan Consistency Analysis..... 4-80
4-15 County of Los Angeles Mobile Equipment Noise Limits 4-87
4-16 County of Los Angeles Stationary Equipment Noise Limits..... 4-87
4-17 County of Los Angeles Exterior Noise Standards 4-88
4-18 Typical Maximum Construction Noise Levels..... 4-89
4-19 Cumulative Projects Within Three Miles of the Project Site..... 4-114

EXHIBITS

Exhibit **Follows Page**

3-1 Regional Location..... 3-1
3-2 Local Vicinity and Aerial Photograph 3-2
3-3A Site Plan and Details 3-2
3-3B Site Details and Elevations..... 3-3
3-3C Electrical Details and Elevations..... 3-4
3-3D Proposed Path A Grid-Tie Transmission Line..... 3-5
3-3E Proposed Path B Grid-Tie Transmission Line..... 3-5
3-3F Retention Basins and Access Driveways..... 3-6
4-1 Views of North Portion of Project Site..... 4-3
4-2 Views of South Portion of Project Site 4-3
4-3A Photo Simulation - Viewshed Looking South on 110th Street West 4-5
4-3B Photo Simulation - Viewshed Looking West on West Avenue J..... 4-5
4-4 Pacific Crest Trail Viewshed Analysis..... 4-6
4-5 Potential Jurisdictional Drainage Features..... 4-25
4-6 Vegetation Map 4-26
4-7 Location of Burrowing Owl Burrows..... 4-31
4-8 Survey Results for Swainson's Hawk 4-33
4-9 Soil Types 4-50
4-10 Fire Hazard Severity Zone Map..... 4-59
4-11 Hydrology Map 4-68
4-12 Flood Hazard Map..... 4-68
4-13 Project Land Use Designations 4-79
4-14 Project Zoning 4-79
4-15 Los Angeles County Trail Map..... 4-99
4-16 Cumulative Projects - Unincorporated Los Angeles County..... 4-113

APPENDICES

Appendix

A Preliminary Landscape Plan
B Air Quality and Greenhouse Gas Worksheets
C-1 Jurisdictional Delineation Report
C-2 Burrowing Owl Letter Report
C-3 Swainson's Hawk Letter Report
C-4 Plant Letter Report
C-5 Post-Construction Biological Value of Project Site Memorandum
D Cultural Resources Technical Report
E Geotechnical Investigation Report
F Phase I Environmental Site Assessment
G-1 Preliminary Drainage Report
G-2 Low Impact Development/Water Quality Report
G-3 Preliminary Storm Water Pollution Prevention Plan (SWPPP)
H Mitigation Monitoring and Reporting Program (MMRP)

SECTION 1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An Initial Study/Mitigated Negative Declaration (IS/MND) is a public document designed to provide the public, responsible/trustee agencies, and other local and State governmental agencies with an analysis of the potential environmental consequences of implementing a project. This IS/MND has been prepared to address the environmental effects associated with implementing the proposed West Antelope Solar Energy Project (Project). The IS/MND indicates that, while the Project would have environmental impacts, modifications and/or mitigation measures have been incorporated into the Project to reduce its adverse impacts to levels considered less than significant (State CEQA Guidelines, Section 15070).

This Executive Summary presents a brief overview of the proposed Project; a tabular summary of the potential environmental effects of the Project; and the recommended mitigation program that would reduce potential impacts to a less than significant level. The reader is referred to the full text of this IS/MND and the attached technical appendices for a complete description and analysis of the Project's potential environmental effects.

1.2 PROJECT SUMMARY

The proposed Project site is located in unincorporated Los Angeles County, just outside the western boundaries of the City of Lancaster. The Project site consists of 15 contiguous parcels totaling approximately 263 acres. The Project site is bound by (but does not include) parcels 3267-004-014, 3267-004-015, 3267-004-030, and 3267-004-031 (just south of West Avenue I-8/Lancaster Boulevard) to the north, 110th Street West to the east, West Avenue J-8 to the south, and 115th Street West to the west. The Project site is bisected by West Avenue J, which divides it into a North Portion and a South Portion.

The Project would develop this currently vacant 263-acre site with a solar energy facility that could produce up to 20 megawatt alternating current (MWac) of renewable electric power during daytime hours. The electricity generated by the Project would be transmitted to Southern California Edison's (SCE) nearby Antelope Substation located at 95th Street West and West Avenue J. An off-site grid-tie transmission line (Grid-Tie) would run east from the Project site, parallel with West Avenue J, approximately 1.5 miles. The Grid-Tie would enter the Antelope Substation in order to connect the Project to the existing transmission infrastructure. This IS/MND addresses the potential environmental impacts from both the on-site build out of the Solar Energy Project and the off-site Grid-Tie and connection to the Antelope Substation. The proposed Project would consist of the following components:

- A solar field of approximately 1,600 north-south rows of crystalline silicon photovoltaic (PV) panels, mounted on single-axis tracking systems on steel support structures;
- An electrical collection and inverter system that aggregates the output from the PV panels and converts the electricity from direct current (DC) to alternating current (AC);
- A substation where all of the facility's output is combined and transformed to a voltage of 66 kilovolts (kV);
- A meteorological data collection system configured to collect meteorological information at the height of the PV panels;

- Construction of a trail as requested by the County Department of Parks and Recreation along the eastern boundary of the Project site, which would implement a portion of the proposed California Poppy Trail;
- Civil infrastructure, including driveways, internal access roads, drainage design, secure fencing, landscaping, and two water tanks; and
- An off-site 66-kV, 1.5-mile-long transmission line that runs from the Project site's eastern boundary to the Antelope Substation along West Avenue J.

The proposed Project is planned for construction in late 2013, with the facility in operation by mid-2014. The Project is expected to be in operation for at least 20 years or longer if the Project remains economically viable. At the end of the economically useful life of the Project, the Property would be restored to its pre-developed state in accordance with County requirements and an approved Decommissioning Plan.

1.3 SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS

Implementation of the proposed Project would result in potentially significant impacts to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Recreation, Utilities/Service Systems, and Mandatory Findings of Significance prior to implementation of mitigation measures. Mitigation measures (MMs) are detailed in each environmental analysis presented in Section 4.0, Environmental Checklist Form, of this IS/MND. With incorporation of the MMs into the Project, all potentially significant environmental impacts would be reduced to less than significant levels. A copy of the Mitigation Monitoring and Reporting Program (MMRP) is included in Appendix H of this document.

SECTION 2.0 INTRODUCTION

2.1 PURPOSE OF THE INITIAL STUDY

In accordance with the California Environmental Quality Act (CEQA) (*California Public Resources Code,* Sections 21000 et seq.) and its Guidelines (*California Code of Regulations,* Title 14, Sections 15000 et seq.), this Initial Study (IS) has been prepared as documentation for a Mitigated Negative Declaration (MND) for the proposed West Antelope Solar Energy Project (Project). This IS/MND includes a description of the proposed Project; location of the Project site; evaluation of the potential environmental impacts of Project implementation; and recommended mitigation measures to lessen or avoid impacts on the environment.

Pursuant to Section 15367 of the State CEQA Guidelines, the County of Los Angeles (County) is the lead agency for the Project. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project. In addition to addressing the potential environmental impacts that would result from the proposed Project, this IS/MND serves as the primary environmental document for future activities associated with the Project, including all discretionary approvals requested or required for Project implementation. This includes, but is not limited to, City of Lancaster approval for construction within their right-of-way for a proposed transmission line along West Avenue J from the Project site to the Antelope Substation; a County of Los Angeles utility crossing permit under West Avenue J to connect the North and South Portions of the Project site; and any other approvals required for the utility connection and Project development.

The County, as the lead agency, has reviewed and revised, as necessary, all submitted drafts and technical studies and has commissioned the preparation of this IS/MND to reflect its own independent judgment, including (1) reliance on applicable County technical personnel and (2) review of all technical subconsultant reports. Data for this IS/MND was obtained from on-site field observations; discussions with affected agencies; review of available technical studies, reports, guidelines, and data; and specialized environmental assessments prepared for the Project. The County has the authority for Project approval and adoption of this IS/MND.

2.2 SUMMARY OF INITIAL STUDY FINDINGS

Section 4.0, Environmental Checklist Form, discusses the potential environmental effects of the proposed Project and the recommended mitigation program, including mitigation measures (MMs) that would reduce all potential impacts to levels considered less than significant. According to Section 15370 of the CEQA Guidelines, “mitigation” includes the following:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

Implementation of the proposed West Antelope Solar Energy Project would result in potentially significant impacts to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Recreation, Utilities/Service Systems, and Mandatory Findings of Significance prior to mitigation. Implementation of the MMs, as detailed in each environmental analysis presented in Section 4.0 of this IS/MND, would reduce all potentially significant impacts to a less than significant level. According to the CEQA Guidelines, it is appropriate to prepare an MND for the proposed Project because, with incorporation of MMs, potentially significant environmental impacts would be eliminated or reduced to a less than significant level.

2.3 PROJECT APPROVAL

A Notice of Intent to Adopt (NOI) an MND was published in the *Antelope Valley Press* and *La Opinión* newspapers on September 26, 2013, and was submitted to the Los Angeles County Registrar-Recorder/County Clerk in the City of Norwalk for posting in accordance with Section 15072(a) of the CEQA Guidelines. The NOI and IS/MND have been submitted to potentially affected responsible and trustee agencies and are available for public review online at http://planning.lacounty.gov/. Hardcopies will be available for review during business hours at the Lancaster Public Library, 601 West Lancaster Boulevard, Lancaster, California, 93534 and at the Los Angeles County Department of Regional Planning, 320 W. Temple Street, 13th Floor (Room 1348), Los Angeles, California 90012. The IS/MND has also been submitted to the State Clearinghouse for review by potentially affected State agencies.

There will be a 30-day public review period for the IS/MND in accordance with Section 15073 of the State CEQA Guidelines, beginning Monday, October 21, 2013 through Wednesday, November 20, 2013. In reviewing the IS/MND, the reviewer should focus on the sufficiency of the document in identifying and analyzing the potential impacts on the environment and ways in which the potentially significant effects of the proposed Project are avoided or mitigated through components of the Project. Comments on the analysis contained herein may be sent to Mr. Anthony Curzi via email at acurzi@planning.lacounty.gov, or mailed to the County address listed below.

Mr. Anthony Curzi
County of Los Angeles
Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, California 90012

In accordance with Section 15074 of the State CEQA Guidelines, prior to approving the Project, the County of Los Angeles Regional Planning Commission and, if the Project entitlements are appealed, the County of Los Angeles Board of Supervisors would consider the proposed MND together with any comments received during the public review process. The Regional Planning Commission and potentially the Board of Supervisors would adopt the proposed MND only if it finds that that there is no substantial evidence that the Project would have a significant effect on the environment.

2.4 ORGANIZATION OF THE INITIAL STUDY

The IS/MND is organized into the following sections:

Section 1, Executive Summary: This section provides a summary of the Project description, Project impacts, and mitigation to reduce those impacts to less than significant levels.

Section 2, Introduction: This section provides an introduction to the IS/MND process and an outline of the IS/MND.

Section 3, Environmental Setting and Project Description: This section provides a description of the Project location, the existing environmental setting of the Project area, and the proposed Project Description (i.e., physical and operational characteristics).

Section 4, Environmental Checklist Form: The completed CEQA checklist form provides an overview of the potential impacts that may result from proposed Project implementation. The environmental checklist form also includes “mandatory findings of significance”, in accordance with CEQA requirements. This section contains the analysis of environmental impacts identified in the environmental checklist and identifies mitigation measures that would eliminate potential significant effects and/or reduce them to a less than significant level.

Section 5, References: This section identifies the references used in preparation of the IS/MND.

SECTION 3.0 ENVIRONMENTAL SETTING AND PROJECT DESCRIPTION

3.1 ENVIRONMENTAL SETTING

3.1.1 PROJECT LOCATION

The proposed Project is located in unincorporated Los Angeles County, just outside the western boundaries of the City of Lancaster in an area referred to as the Northwest Antelope Valley. The Project site is approximately 44 miles north of downtown Los Angeles and approximately 4.5 miles west of the nearest developed subdivision within the City of Lancaster. The San Gabriel Mountain Range is located to the south of the Project site.

Regional access to the Project site is provided from either (1) the Golden Gate Freeway (Interstate [I] 5), merging onto the northbound Antelope Valley Freeway (State Route [SR] 14), exiting 20th Street and traveling westward to connect with West Avenue J or (2) from the Mojave Freeway (I-15), merging onto SR-138, which transitions into SR-14. The regional location of the Project site is depicted on Exhibit 3-1, Regional Location.

3.1.2 PROJECT SITE CHARACTERISTICS

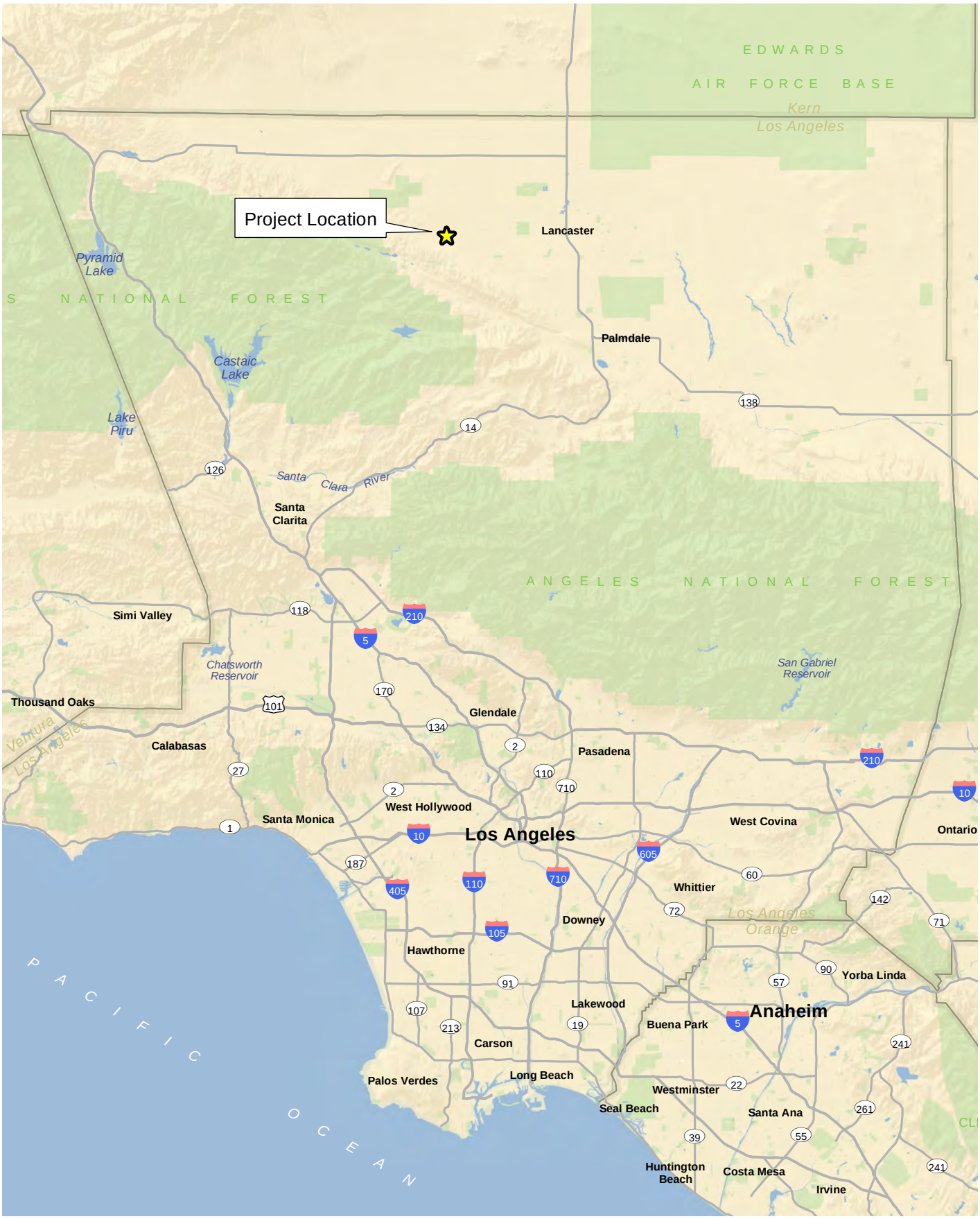
The Project site consists of 15 contiguous parcels totaling approximately 263 acres. The Project site is bound by (but does not include) parcels 3267-004-014, 3267-004-015, 3267-004-030, and 3267-004-031 (just south of West Avenue I-8/Lancaster Boulevard) to the north, 110th Street West to the east, West Avenue J-8 to the south, and 115th Street West to the west. Only 110th Street West and a portion of West Avenue J are paved; all other surrounding roads are dirt roads.

The Project site is bisected by West Avenue J, dividing it into a North Portion and a South Portion. The North Portion contains approximately 110 acres, and the South Portion contains approximately 153 acres. However, the Project site contains several utility, drainage, and slope easements, which reduce the available buildable area to approximately 220 acres. Table 3-1 lists the Assessor's Parcel Number (APN) and acreage for each Project parcel.

TABLE 3-1
SITE PARCEL SUMMARY

Assessor's Parcel Number	Gross Acreage	Net Acreage
North Portion		
3267-004-016 to 3267-004-018	30.00	24.48
3267-004-025 to 3267-004-029	50.00	46.95
3267-004-044 to 3267-004-046	30.00	17.70
South Portion		
3267-014-017 to 3267-014-020	153.00	131.58
Total Acres	**263.00**	**220.71**
Source: Los Angeles County Office of the Assessor 2012.		

The Project site contains no habitable buildings, structures or development of any kind, and mostly consists of sparse and dry vegetation. Southern California Edison's (SCE) Tehachapi Renewable Transmission Project (TRTP) transmission towers run across the western edge of the North and South Portions; they also run through the southern edge of the South Portion along West Avenue J-8. The topography is relatively flat with no major distinguishing features. On-site vegetation consists of annual grassland with small patches of native perennial grasses.



Regional Location

Exhibit 3-1

West Antelope Solar Project

N W E S

10 5 0 10 Miles

BonTerra CONSULTING

(Rev: 10-09-2013 CJS) Projects\TAAC\J001\Graphics\ISMND\Ex3-1_RL.pdf

D:\Projects\TAAC\J001\mxd\Ex_RL.mxd

The annual grassland includes a mix of native and non-native plant species and is dominated by Pacific fescue.

The Project site contains one on-site ephemeral drainage feature that would be under the jurisdiction of resource agencies (i.e., California Department of Fish and Wildlife[1] and Regional Water Quality Control Board). This drainage feature runs along the west side of 110th Street West and flows north, joining a northern ephemeral drainage before draining into a culvert, which then flows east.

The Project includes the installation of an off-site transmission line to connect the proposed Project to the SCE Antelope Substation. A grid-tie transmission line (Grid-Tie) transmission line would be located outside the Project site boundaries (in areas referred to as "off-site areas"). The Grid-Tie would run generally parallel with the southern edge of West Avenue J, approximately 1.5 miles to the Antelope Substation, located at West Avenue J and 95th Street West.

3.1.3 SURROUNDING LAND USES

The entire 263-acre Project site is located in unincorporated Los Angeles County; however, it is immediately adjacent to the western boundary of the City of Lancaster. As depicted in the aerial photograph in Exhibit 3-2, Local Vicinity and Aerial Photograph, the Project site is largely surrounded by undeveloped open space, with the exception of the SCE TRTP transmission lines, agricultural fields to the northwest, and sparse rural development. There are approximately 15 single-family residential properties located within an approximate 1-mile radius of the Project boundaries. The nearest residential property is located approximately 700 feet east of the Project site along West Avenue J in unincorporated Los Angeles County. A small alfalfa farm is located approximately 0.5 mile to the northwest from the Project site's western boundary. There are no industrial or manufacturing land uses in the Project vicinity, with the exception of the Antelope Substation, which is located approximately 1.5 miles to the east of the Project site.

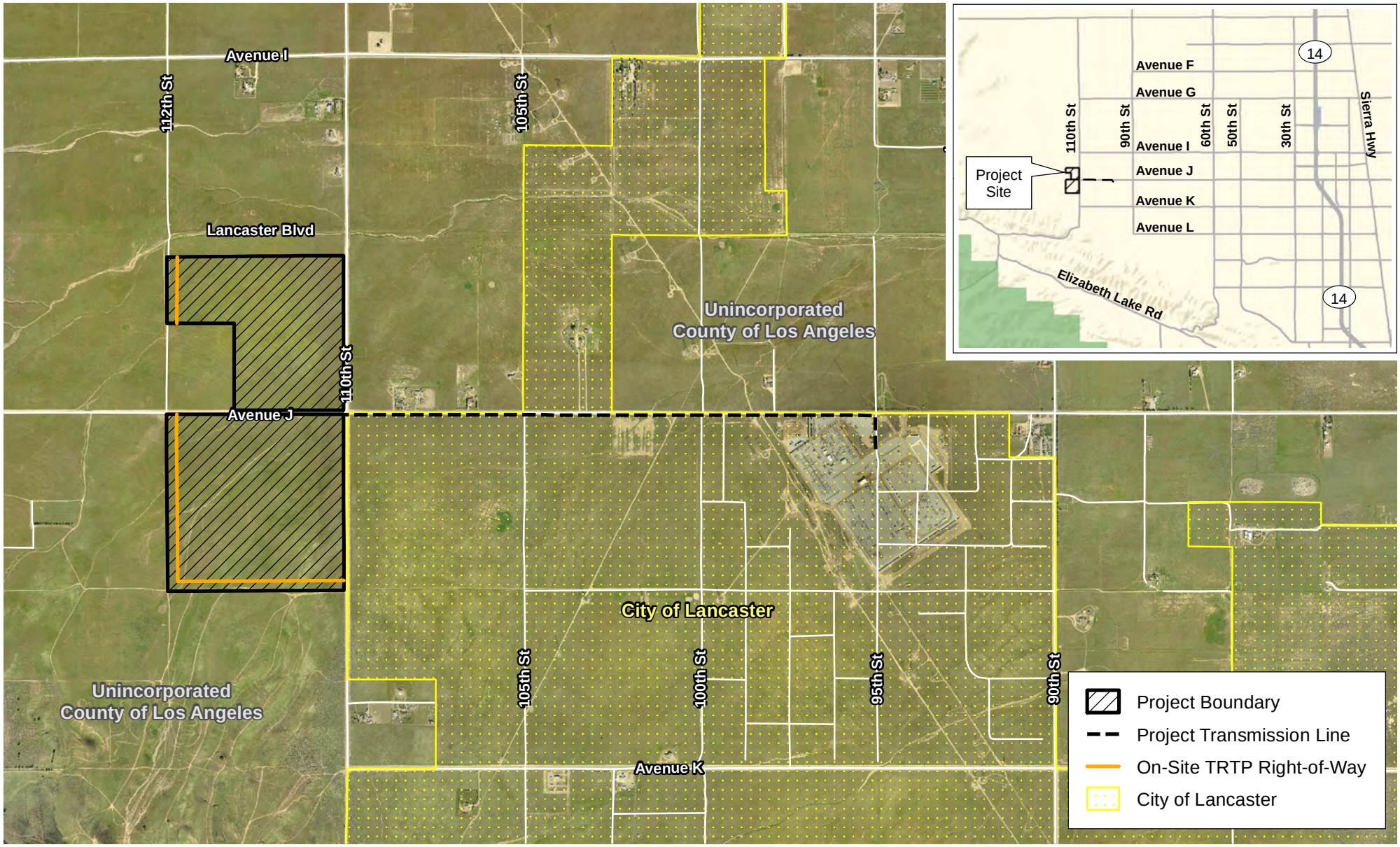
3.2 PROJECT DESCRIPTION

The Project would develop this currently vacant site with a solar energy facility that could produce up to 20 megawatts alternating current (MWac) of renewable electric power during daytime hours. The layout of the Project is shown in Exhibit 3-3A, Site Plan and Details. The electricity generated by the Project would be transmitted to the nearby SCE Antelope Substation, but the power would be sold to Pacific Gas & Electric (PG&E). The Grid-Tie would run parallel with West Avenue J approximately 1.5 miles through the City of Lancaster to the Antelope Substation, located at 95th Street West and West Avenue J. The Grid-Tie would enter the Antelope Substation in order to connect the Project to the existing transmission infrastructure. This IS/MND addresses the potential environmental impacts from both the on-site build-out of the Project and the off-site Grid-Tie and connection to the Antelope Substation.

3.2.1 PROJECT COMPONENTS

The Project is a solar energy generation facility that employs photovoltaic (PV) panels that absorb sunlight and directly produce renewable electricity without use of heat transfer fluid or cooling water. The Project Applicant plans to develop the facility as described herein. The facility would operate year-round, producing electric power during daytime hours.

[1] The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) effective January 1, 2013.



Local Vicinity and Aerial Photograph

Exhibit 3-2

West Antelope Solar Project

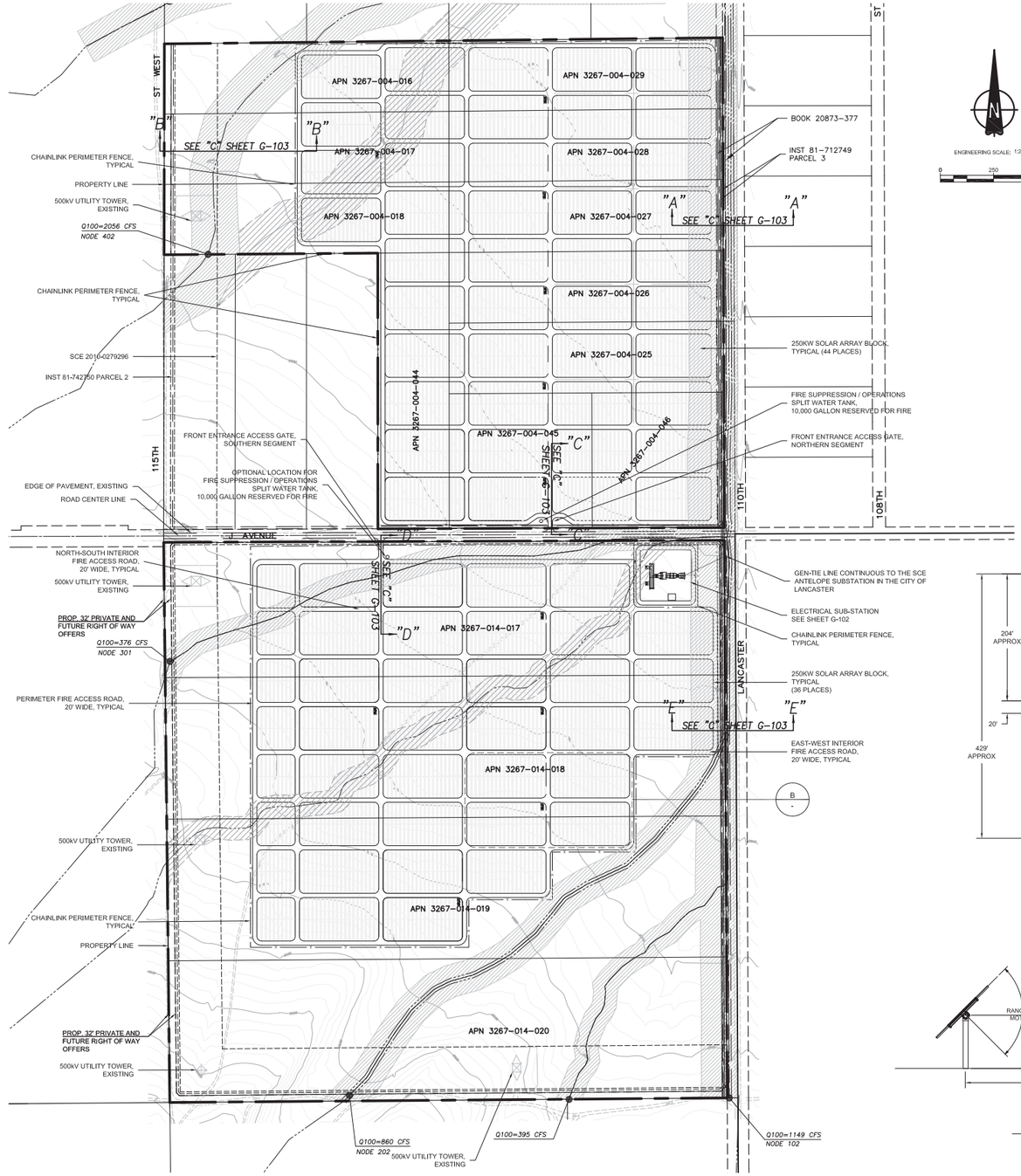
N W E S

2,000 1,000 0 2,000 Feet

BonTerra CONSULTING

(Rev: 10-09-2013 CJS) Projects\TAAC\J001\Graphics\IS-MND\Ex3-2_LV_aerial.pdf

D:\Projects\TAAC\J001\mxd\Ex_LV_aerial.mxd

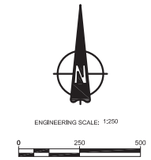


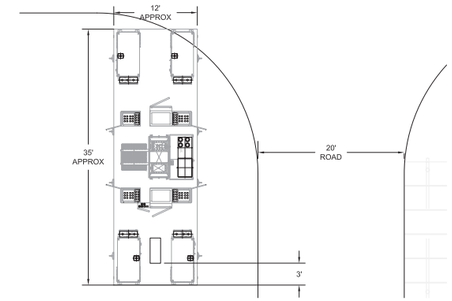
EARTHWORK SUMMARY:

	CUT	FILL
RAW	6,500 CY	6,500 CY

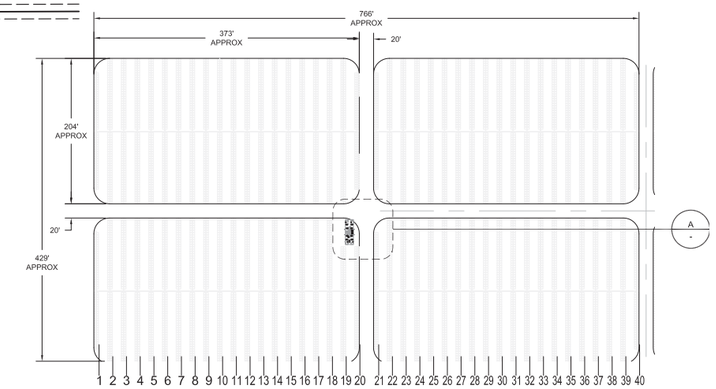
TOTAL DISTURBED AREA = 178.5 AC (7,775,460 SF)

NOTE:
CLEARING AND GRUBBING AND MINOR FINE GRADING ONLY. GRADING IS ALLOWED ONLY FOR FIRE ACCESS ROADS, SUBSTATION, TANK AND INVERTER PADS, AND BASINS. THE EXISTING VEGETATION WHERE SOLAR PANELS ARE PROPOSED SHALL NOT BE DISTURBED, BUT CAN BE MOWED.

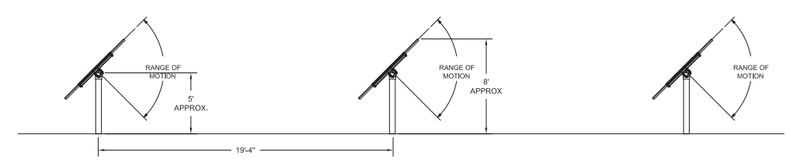




A | UTILITY INVERTER ENCLOSURE EXAMPLE
N.T.S.



B | TYPICAL 4 X 250KW PV ARRAY BLOCK
N.T.S.



C | TYPICAL ZERO TILT SINGLE AXIS TRACKING ELEVATION
Scale: NTS

Source: AEI-Casc Consulting, 2013

Site Plan Details

Exhibit 3-3A

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev 10/16/13 JAZ) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex3-3A_SitePlanDetails.pdf

D:\Projects\TAAC\J001\Graphics\Ex3-3A_SitePlanDetails.ai

The proposed Project would consist of the following components:

- A solar field of approximately 1,600 north-south rows of crystalline silicon PV panels, mounted on single-axis tracking systems on steel support structures;
- An electrical collection and inverter system that aggregates the output from the PV panels and converts the electricity from direct current (DC) to alternating current (AC);
- A substation where all the facility's output is combined and transformed to a voltage of 66 kilovolts (kV);
- A meteorological data collection system configured to collect meteorological information at the height of the PV panels;
- A trail that would be constructed (as requested by the County Department of Parks and Recreation) along the eastern boundary of the Project site in order to implement a portion of the proposed California Poppy Trail;
- Civil infrastructure, including driveways, internal access roads, drainage design, secure fencing, landscaping, and two water tanks; and
- An off-site 1.5-mile-long 66-kV transmission line that runs from the Project site's eastern boundary to the Antelope Substation along West Avenue J.

At the end of the economically useful life of the Project, the Property would be restored to its pre-developed state in accordance with County requirements and an approved Decommissioning Plan.

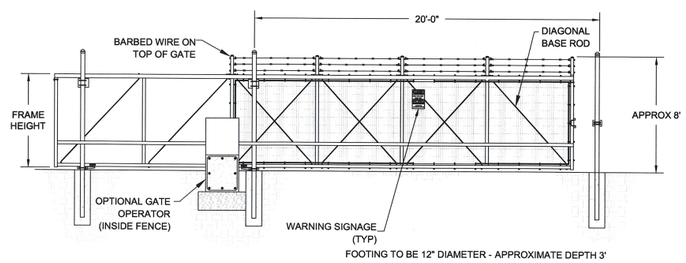
Exhibit 3-3A shows the locations of all existing and proposed uses, structures, fences, landscaping, improvements, and distances between structures and property lines; locations of all driveways and points of ingress and egress; and an elevation sketch of proposed structures, including dimensions and heights above the ground. Exhibit 3-3B, Site Details and Elevations, depicts the preliminary design, heights, and dimensions of various Project components, including the preliminary water tank design gate and fencing designs, and four cross-sections (i.e. Section A-A, B-B, C-C, and D-D) as located on Exhibit 3-3A.

Remote Supervisory Control and Data Acquisition (SCADA) monitoring would be incorporated into the process control system to allow unmanned operations. The facility would have no toilet or on-site septic or sewer system connections, nor would there be any potable water lines. Any on-site water for ongoing use, which would be intermittent and minimal for the photovoltaic plant, would be trucked to the site from available commercial water sources outside the Antelope Valley Groundwater Basin.

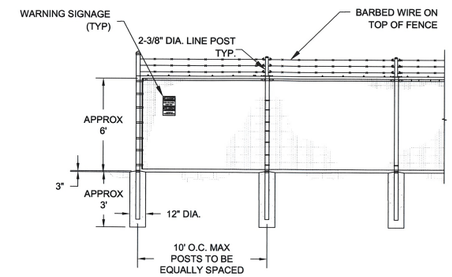
Solar Photovoltaic Panels

The solar field would consist of PV panels mounted on steel support structures. The supports would be configured with a pivoting, single-axis tracking system. As depicted in Exhibit 3-3A, the assembled PV panels would have a typical height of about six feet and a maximum height of approximately eight feet, depending on the angle of the tracking system as it changes over the course of each day. The PV panels would consist of polycrystalline panels, and would be arranged in approximately 1,600 rows with center-to-center spacing of about 19 feet. The rows would be aligned north to south, and the PV panels would pivot to an angle of up to 45 degrees around a north-south axis, tracking the sun from east to west. The mounting poles for the panels would have an approximate diameter of six inches. A photo simulation showing the buildout of the Project can be found in Exhibit 4-3 in Section 4.1, Aesthetics, of this document.

1 | TYPICAL GATE PLAN DETAIL



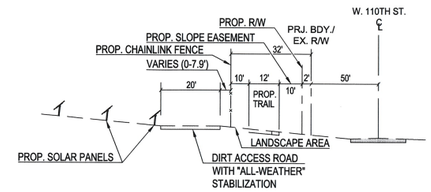
2 | TYPICAL GATE ELEVATION DETAIL



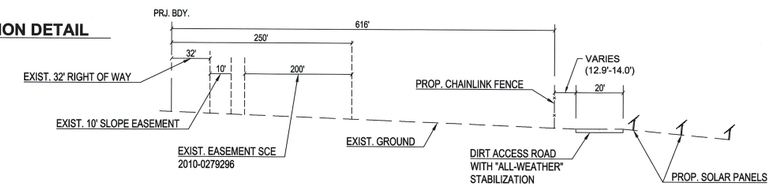
3 | TYPICAL FENCE ELEVATION DETAIL

A | FENCE & GATE DETAILS

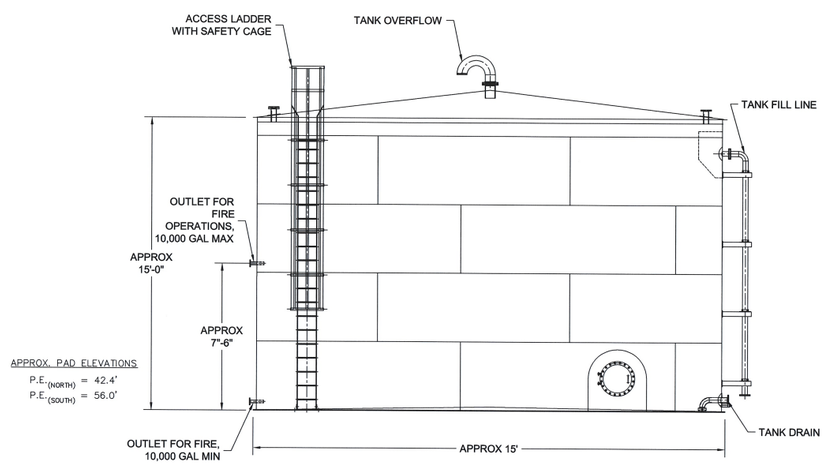
Scale: NTS



SECTION "A-A"
N.T.S.



SECTION "B-B"
N.T.S.



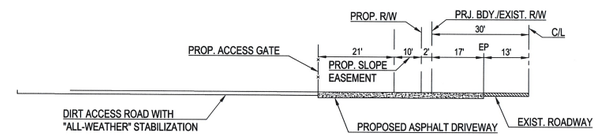
NOTES:

IN ACCORDANCE WITH LOS ANGELES COUNTY FIRE CODE:

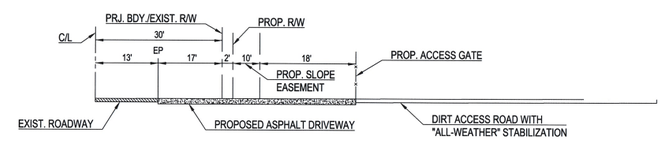
1. THE SUPPLY OUTLET SHALL BE AT EAST 4 INCHES IN DIAMETER FROM THE BASE OF THE TANK TO THE POINT OF OUTLET AT THE FIRE DEPARTMENT CONNECTION. THE FIRE DEPARTMENT CONNECTION SHALL BE AT LEAST ONE 4-INCH NATIONAL STANDARD THREAD (MALE), REDUCE TO ONE 2½ INCH NATIONAL STANDARD THREAD (MALE). ADDITIONAL OUTLETS MAY BE REQUIRED.
2. THE LOCATION OF THE FIRE DEPARTMENT OUTLET TO BE DETERMINED ON THE PLOT PLAN WHEN SUBMITTED TO THE FIRE DEPARTMENT. CONSIDERATION WILL BE GIVEN TO TOPOGRAPHY, ELEVATIONS, AND DISTANCE FROM STRUCTURES, DRIVEWAY ACCESS, PREVAILING WINDS, ETC.
3. THE OUTLET SHALL BE LOCATED ADJACENT TO THE FIRE ACCESS ROAD.

B | WATER TANK DETAIL

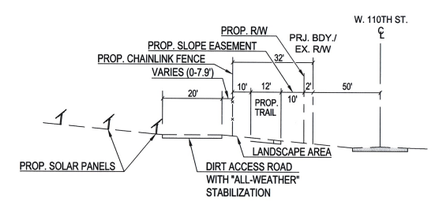
Scale: NTS



SECTION "C-C"
N.T.S.



SECTION "D-D"
N.T.S.



SECTION "E-E"
N.T.S.

C | TYPICAL SECTIONS

Scale: NTS

Source: AEI-Casc Consulting, 2013

D:\Projects\TAAC\J001\Graphics\Ex3-3B_siteplan_tank.ai

Site Details and Elevations

Exhibit 3-3B

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev 06/04/2013 CJS) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex3-3B_siteplan_tank.pdf

Electrical Collection System

As shown in Exhibit 3-3A, the PV panels would be organized into electrical groups referred to as "blocks". Each block would encompass approximately 7.6 acres of PV panels (capable of producing about 1 MWac) and would include 1 modular inverter enclosure. A 1-MWac block would measure approximately 767 feet by 429 feet. The size of each block would depend primarily on the ratio of DC power to AC power (typically 1.3:1), and the ground cover ratio (GCR)[2] is currently planned at 33 percent. The lower the GCR, the less space the PV panels occupy, thereby minimizing shading from row to row in the early morning and late afternoon hours.

Exhibit 3-3C, Electrical Details and Elevations, shows special weather and sunlight resistant conductors that would be attached under the PV panels, which would terminate into special DC source circuit combiner boxes. From the combiner boxes, the cabling would transition underground via buried trenches, feeding into the inverters and associated switchgear housed in each block's inverter enclosure. Each inverter enclosure is anticipated to be a 12-foot by 35-foot prefabricated (or assembled on site) utility enclosure up to 15 feet in height and would be unoccupied except during inspection and maintenance. Each inverter utility enclosure would include an associated outdoor utility-grade transformer to step up the electricity voltage from the inverter output level (e.g., 480-V) to 34.5-kV.

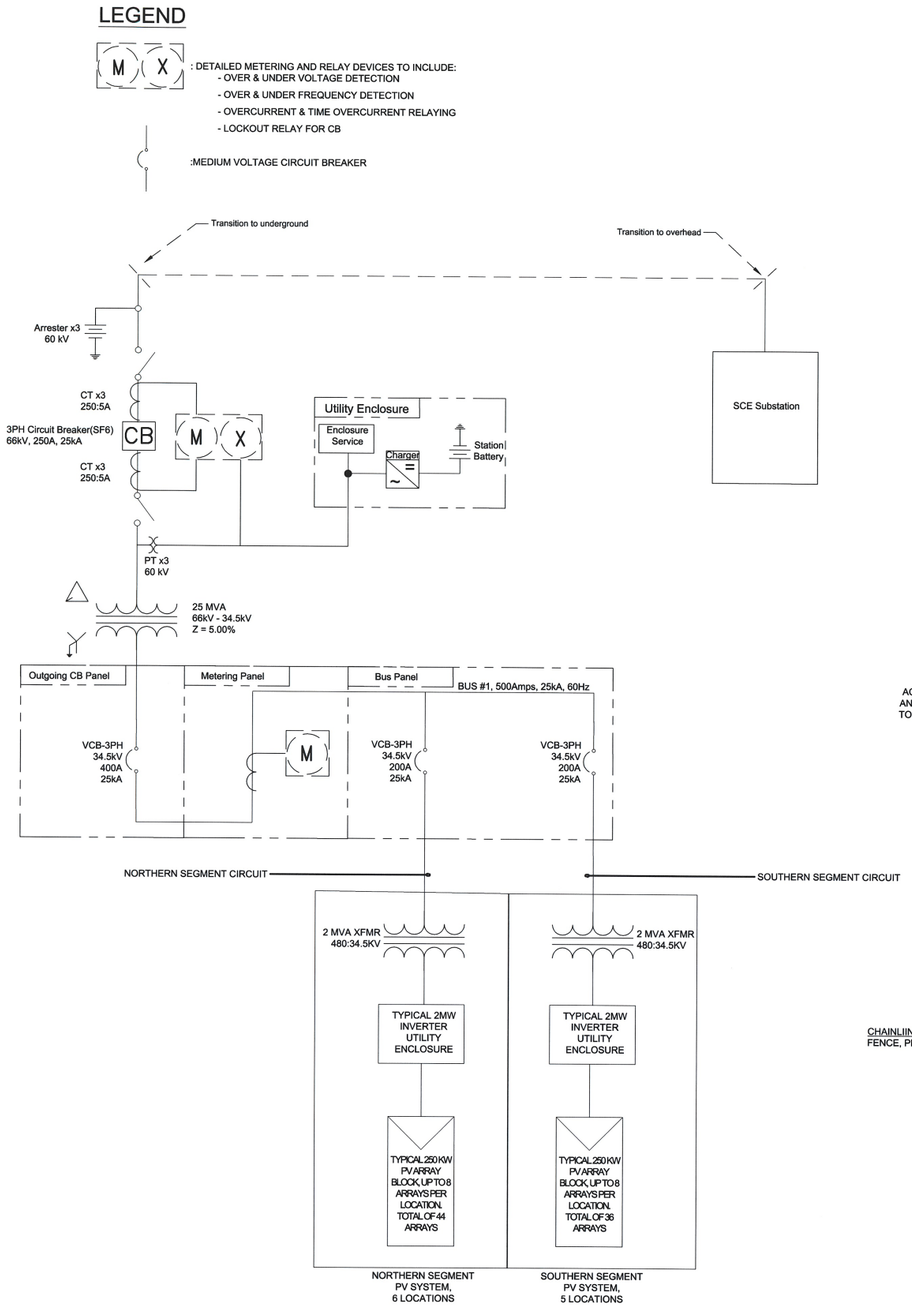
From these transformers, electricity would be conveyed via an underground 34.5-kV collector circuit to a common 34.5-kV switchboard in the Project Substation (described below) to be located along the eastern boundary of the Project site. This underground 34.5 kV collector circuit would also cross under West Avenue J in order to electrically join the North and South Portions of the Project site.

Project Substation and SCE Interconnection

Exhibit 3-3C shows the layout of the proposed electrical collection system and on-site Project Substation, as well as a plan view of the Substation. The Project Substation would be located along the eastern boundary of the Project site. It would serve as a central hub for the 34.5-kV collector circuits that would convert the electricity voltage from 34.5 kV to 66 kV. The Project Substation would be the origin of the 66-kV Grid-Tie running approximately 1.5 miles to the Antelope Substation in order to deliver power generated by the Project to the existing transmission grid. The Project Substation would occupy approximately 1.5 to 2.0 acres and would include, among others, the following major components:

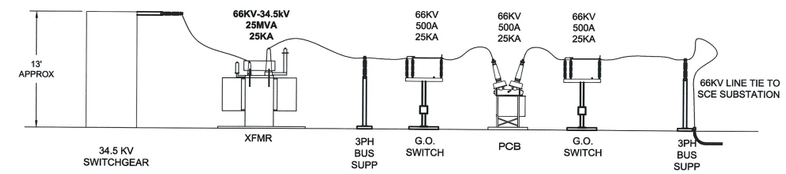
- 34.5-kV switchgear;
- 66-kV bus and associated switching and circuit breaking devices;
- 25-Mega-Volt-Ampere (MVA), 34.5/66-kV transformers;
- 34.5-kV capacitors;
- A tubular steel support structure up to 13 feet high;
- A grounding grid;
- A prefabricated utility control enclosure (which would be unoccupied except during inspection and maintenance);
- A perimeter fence; and

[2] Ground cover ratio is the space that the PV panels occupy as a percentage of land area beneath them.



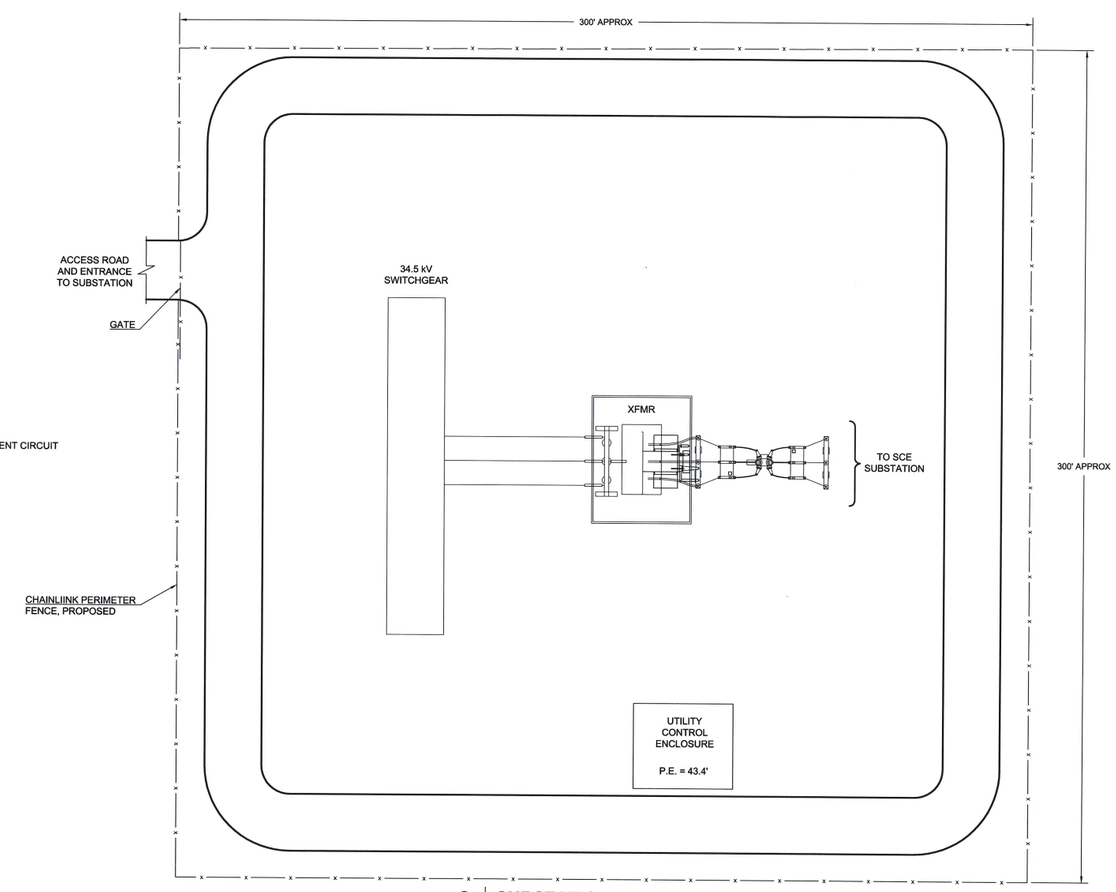
A | PHOTOVOLATIC SOLAR AND SUBSTATION SINGLE LINE

Scale: NTS



B | SUBSTATION ELEVATION

Scale: NTS



C | SUBSTATION PLAN VIEW

Scale: NTS

Source: AEI-Casc Consulting, 2013

Electrical Details and Elevations

Exhibit 3-3C

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev 06/04/2013 CJS) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex3-3C_SingLineDiagram.pdf

D:\Projects\TAAC\J001\Graphics\Ex3-3C_SingLineDiagram.ai

- A SCADA system that would be remotely monitored by both the Project Applicant's Operations and Maintenance group (O&M) and the utility.

The Project Applicant is currently in discussions with Southern California Edison (SCE), the City of Lancaster, and Silverado Power to determine the best path for the Grid-Tie to connect to the Antelope Substation. This MND covers the CEQA analysis for the Project-related transmission line work to be completed by SCE. Silverado Power's proposed transmission poles are analyzed in a separate CEQA document. The two alternatives under consideration are described below:

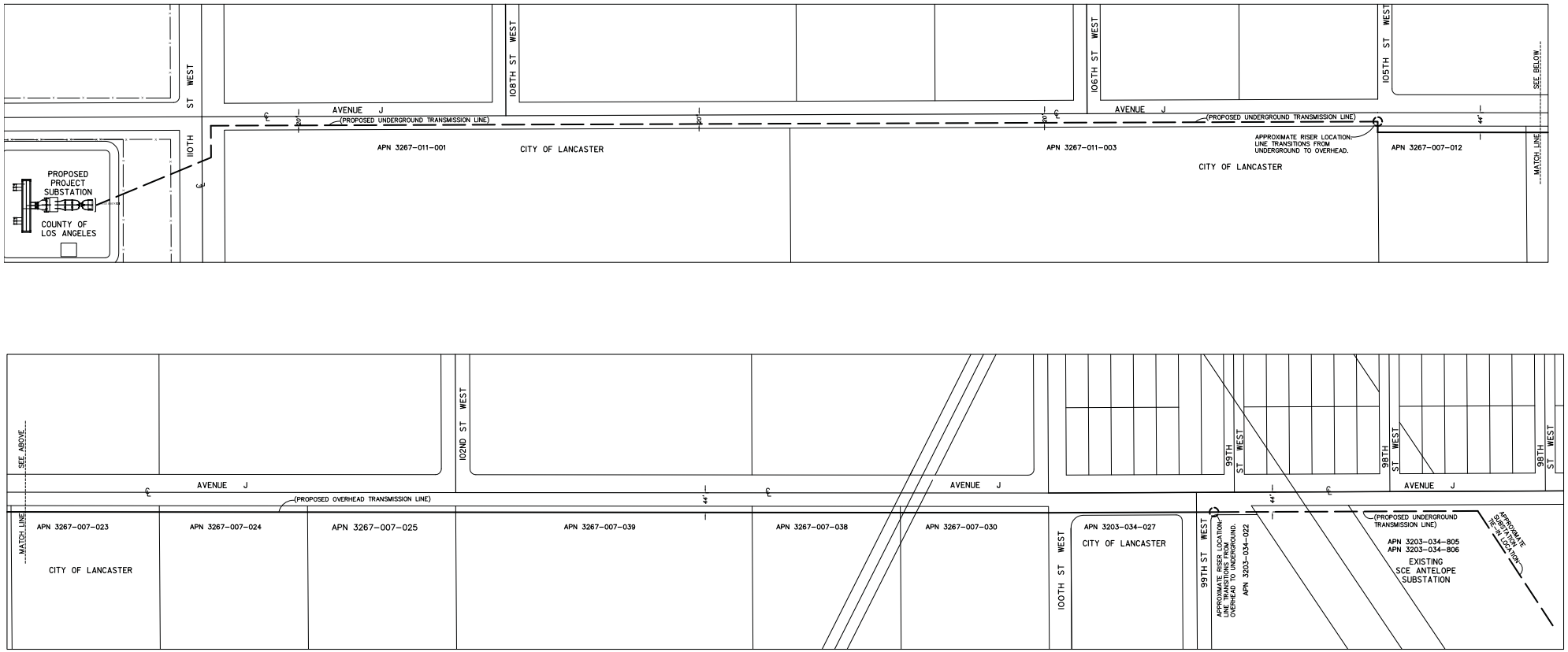
> **Path A:** As shown in Exhibit 3-3D, Proposed Path A Grid-Tie Transmission Line, the Grid-Tie would run underground or overhead along the southern edge of West Avenue J (approximately 20 feet from centerline of the road) until it reaches Silverado Power's collector substation at 105th Street West. At that point, the Grid-Tie, if underground, would transition from underground to overhead up a riser pole. The overhead line would be strung along Silverado Power's planned overhead transmission poles (approximately 44 feet from centerline of West Avenue J).[3] At approximately 99th Street West (about 10 feet west of the western boundary of SCE's right-of-way for the 220-kV transmission lines), the Grid-Tie would hand-off to SCE at the first 75-foot-tall pole with a pole switch; SCE would also construct an identical second pole with a pole switch, and a 70-foot-tall tubular steel riser pole, where it would transition back underground, until connecting into the 66-kV bus at the Antelope Substation.
>
> **Path B:** Under this alternative, shown in Exhibit 3-3E, Proposed Path B Grid-Tie Transmission Line, the Grid-Tie would run underground (approximately 20 feet from centerline of Avenue J) all the way to a riser pole and would hand-off overhead to SCE at approximately 99th Street West. At this point, the Grid-Tie would hand-off to SCE at the first 75-foot-tall pole with a pole switch; SCE would also construct an identical second pole with a pole switch and a 70-foot-tall lightweight steel riser pole that would transition back underground, until connecting into the 66-kV bus at the Antelope Substation.

For the purposes of this document, the Path B alternative is analyzed as it would be more construction-intensive than Path A. Two communication paths (fiber optic lines) would also extend along generally the same path as the Grid-Tie. These communication lines would run (i) overhead along existing Verizon utility poles located on the north side of West Avenue J, (ii) overhead along Silverado Power's planned overhead transmission poles on the south side of West Avenue J, and/or (iii) underground along the south side of West Avenue J (or some combination of these three options) to two hand-off points. From the Antelope Substation, a primary communication path would run underground to a point near the electrical overhead hand-off described above on the south side of West Avenue J, which would serve as the "South Hand-off Point". A secondary communication path would run underground directly across West Avenue J from the Antelope Substation to the north side of the street, where there would be the "North Hand-off Point". The two communication paths would thus run from the Project site; one would run to the South Hand-off Point and the other would run to the North Hand-off Point.

<u>Meteorological Data Collection System</u>

The Project facility would also include at least one meteorological data collection system, which would be configured to collect the meteorological data listed below at the level of the solar panels or approximately six to eight feet above the ground. Information gathered from this

[3] The Silverado Power project is analyzed in a separate CEQA document by the City of Lancaster.



Source: AEI-CASC Consulting, 2012

Proposed Path A Grid-Tie Transmission Line

Exhibit 3-3D

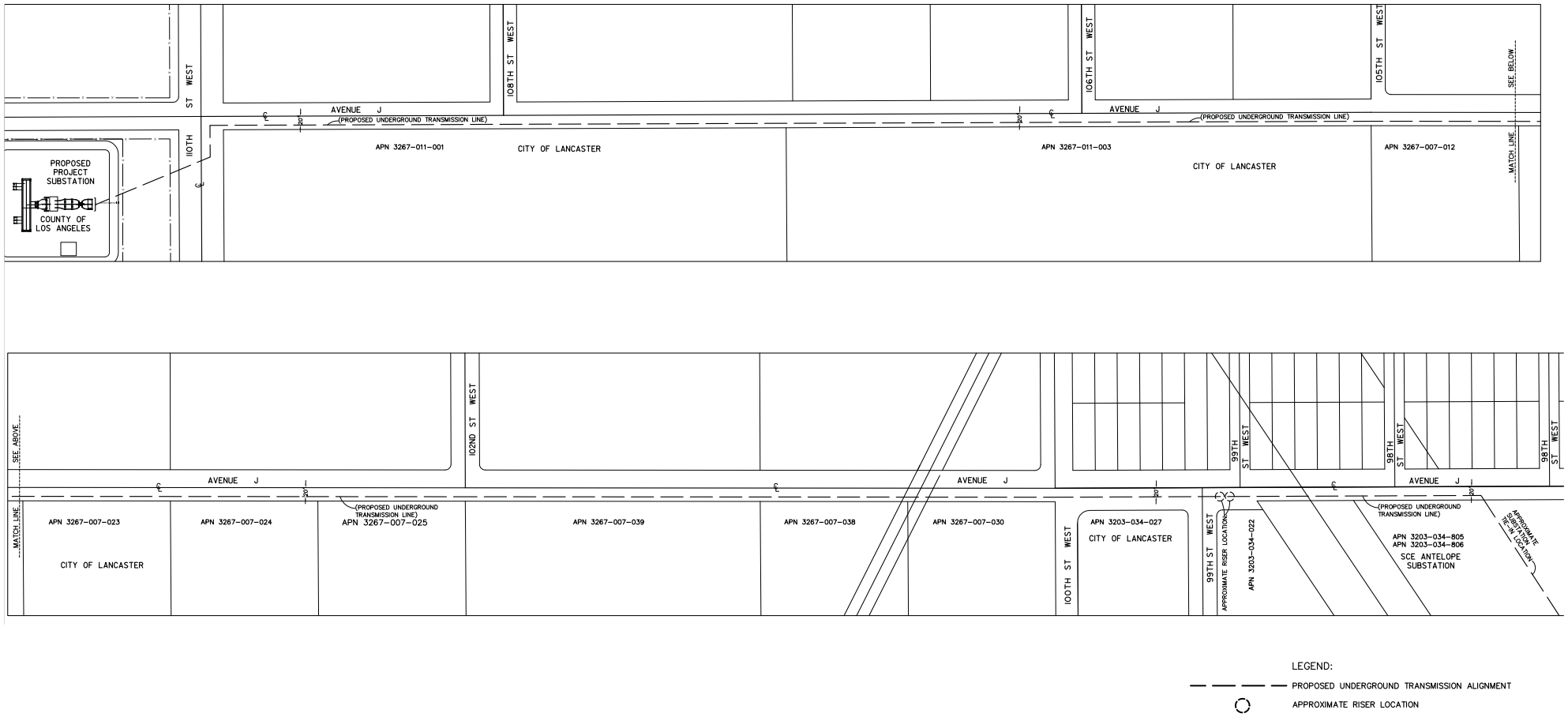
West Antelope Solar Energy Project

N W E S

BonTerra CONSULTING

(Rev 01/24/13 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_3-3D_pathA_gridtie.pdf

D:\Projects\TAAC\J001\Graphics\Ex3-3D_pathA_gridtie.ai



LEGEND:

PROPOSED UNDERGROUND TRANSMISSION ALIGNMENT

APPROXIMATE RISER LOCATION

Source: AEI-CASC Consulting, 2012

Proposed Path B Grid-Tie Transmission Line

Exhibit 3-3E

West Antelope Solar Energy Project

N W E S

BonTerra CONSULTING

(Rev 01/24/13 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_3-3E_pathB_gridtie.pdf

D:\Projects\TAAC\J001\Graphics\Ex3-3E_pathB_gridtie.ai

system would be used to position the PV panels for optimum utilization. Types of information to be collected include: global horizontal irradiance; global irradiance/plane of array; ambient temperature; PV cell temperature; wind speed; wind direction; relative humidity; precipitation; barometric pressure; and visibility.

Infrastructure

Driveways and Access Roads

As shown in Exhibit 3-3F, Retention Basins and Access Driveways, the two proposed access driveways would be located on West Avenue J; one would lead to the North Portion and one would lead to the South Portion. Each driveway would provide emergency access and access for maintenance and operation purposes. A network of minimum 20-foot-wide access roads with 32-foot center-line turning radii would also be provided throughout the Project site and around the perimeter, constructed in compliance with all applicable Los Angeles County Fire Department (LACFD) design requirements. The interior access roads would run between the PV panel blocks and would be spaced approximately 400 feet or less from each other in either north-south or east-west directions.

The proposed interior and perimeter access roads would generally be flat, with slopes less than four percent and would be graded closely to the existing elevation to minimize the earthwork for the Project. All interior and perimeter access roads would be compacted to 90 percent to allow for “all-weather” access per Los Angeles County Department of Public Works (LACDPW) requirements. To protect them from wind and water erosion, various erosion-control methods may be used, such as application of a soil binder or laying of aggregate. The soil binder would be reapplied annually or as needed to ensure the continued integrity of the access roads.

Drainage

Existing and proposed flows and volumes have been calculated for 1-, 2-, 5-, 10-, 25-, and 50-year storm events to determine the quantity of storm water to be retained on site. Storm water impacts are further discussed in Section 4.10, Hydrology and Water Quality. Based on the analysis, the increased volume from the 50-year storm event (difference between post-development and pre-development volumes) would be retained via a series of “small” retention basins placed throughout the Project site.[4] Exhibit 3-3F shows a conceptual depiction of the retention basins. Basins would be positioned throughout the Project site in such a way that they would not inhibit emergency vehicles or maintenance activities. The soil displaced by each basin would be spread between basins. In addition, as shown in Exhibit 3-3A, the Project has been designed to avoid the potential jurisdictional drainage feature located along the eastern edge of the Project site’s North Portion.

Landscaping

This Project has been designed to maintain the existing vegetation and to minimize disturbed areas by keeping grading and ground disturbance to a minimum. A Landscape Plan would be prepared, subject to review and approval by the County, which would include drought-tolerant landscaping along the portions of the perimeter fence facing 110th Street West, West Avenue J, and along the northern boundary of the site. The Landscape Plan would include new landscaping consisting of drought-tolerant vegetation along portions of the exterior of the perimeter fencing (spaced regular intervals per Landscape Plan requirements) to partially obscure/screen views into the Project site and to increase the visual aesthetics and

[4] Also referred to as “infiltration trenches” in the technical reports.

GENERAL NOTES:

1. ALL GRADING AND CONSTRUCTION SHALL CONFORM TO THE 2011 COUNTY OF LOS ANGELES BUILDING CODES AND THE STATE MODEL WATER EFFICIENCY LANDSCAPE ORDINANCE UNLESS SPECIFICALLY NOTED ON THESE PLANS.
2. ANY MODIFICATIONS OF OR CHANGES TO APPROVED GRADING PLANS MUST BE APPROVED BY THE BUILDING OFFICIAL.
3. NO GRADING SHALL BE STARTED WITHOUT FIRST NOTIFYING THE BUILDING OFFICIAL. A PRE-GRADING MEETING AT THE SITE IS REQUIRED BEFORE THE START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, GEOLOGIST, COUNTY GRADING INSPECTOR(S) OR THEIR REPRESENTATIVES, AND WHEN REQUIRED THE ARCHEOLOGIST OR OTHER JURISDICTIONAL AGENCIES. PERMITEE OR HIS AGENT ARE RESPONSIBLE FOR ARRANGING PRE-GRADING MEETING AND MUST NOTIFY THE BUILDING OFFICIAL AT LEAST TWO BUSINESS DAYS PRIOR TO PROPOSED PRE-GRADE MEETING.
4. APPROVAL OF THESE PLANS REFLECT SOLELY THE REVIEW OF PLANS IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES BUILDING CODES AND DOES NOT REFLECT ANY POSITION BY THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS REGARDING THE STATUS OF ANY TITLE ISSUES RELATING TO LAND ON WHICH THE IMPROVEMENTS MAY BE CONSTRUCTED. ANY DISPUTES RELATING TO TITLE ARE SOLELY A PRIVATE MATTER NOT INVOLVING THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS.
5. ALL GRADING AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH COUNTY OF LOS ANGELES CODE, TITLE 12, SECTION 12.12.030 THAT CONTROLS AND RESTRICTS NOISE FROM THE USE OF CONSTRUCTION AND GRADING EQUIPMENT FROM THE HOURS OF 8:00 PM TO 6:30 AM, AND ON SUNDAYS AND HOLIDAYS. (MORE RESTRICTIVE CONSTRUCTION ACTIVITY TIMES MAY GOVERN, AS REQUIRED BY THE DEPARTMENT OF REGIONAL PLANNING AND SHOULD BE SHOWN ON THE GRADING PLANS WHEN APPLICABLE.
6. CALIFORNIA PUBLIC RESOURCES CODE (SECTION 5097.98) AND HEALTH AND SAFETY CODE (SECTION 7050.5) ADDRESS THE DISCOVERY AND DISPOSITION OF HUMAN REMAINS. IN THE EVENT OF DISCOVERY OR RECOGNITION OF ANY HUMAN REMAINS IN ANY LOCATION OTHER THAN A DEDICATED CEMETERY, THE LAW REQUIRES THAT GRADING IMMEDIATELY STOPS AND NO FURTHER EXCAVATION OR DISTURBANCE OF THE SITE, OR ANY NEARBY AREA WHERE HUMAN REMAINS MAY BE LOCATED, OCCUR UNTIL THE FOLLOWING MEASURES HAVE BEEN TAKEN:
   A. THE COUNTY CORONER HAS BEEN INFORMED AND HAS DETERMINED THAT NO INVESTIGATION OF THE CAUSE OF DEATH IS REQUIRED, AND
   B. IF THE REMAINS ARE OF NATIVE AMERICAN ORIGIN, THE DESCENDANTS FROM THE DECEASED NATIVE AMERICANS HAVE MADE A RECOMMENDATION FOR THE MEANS OF TREATING OR DISPOSING, WITH APPROPRIATE DIGNITY, OF THE HUMAN REMAINS AND ANY ASSOCIATED GRAVE GOODS.
7. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITEE.
8. ALL EXPORT OF MATERIAL FROM THE SITE MUST GO TO A PERMITTED SITE APPROVED BY THE BUILDING OFFICIAL OR A LEGAL DUMPSITE. RECEIPTS FOR ACCEPTANCE OF EXCESS MATERIAL BY A DUMPSITE ARE REQUIRED AND MUST BE PROVIDED TO THE BUILDING OFFICIAL UPON REQUEST.
9. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
10. SITE BOUNDARIES, EASEMENTS, DRAINAGE DEVICES, RESTRICTED USE AREAS SHALL BE LOCATED PER CONSTRUCTION STAKING BY FIELD ENGINEER OR LICENSED SURVEYOR. PRIOR TO GRADING, AS REQUESTED BY THE BUILDING OFFICIAL, ALL PROPERTY LINES, EASEMENTS, AND RESTRICTED USE AREAS SHALL BE STAKED.
11. NO GRADING OR CONSTRUCTION SHALL OCCUR WITHIN THE PROTECTED ZONE OF ANY OAK TREE AS REQUIRED PER TITLE CHAPTER 22.56 OF THE LOS ANGELES ZONING CODE. THE PROTECTED ZONE SHALL MEAN THAT AREA WITHIN THE DRIP LINE OF AN OAK TREE EXTENDING THERE FROM A POINT AT LEAST FIVE FEET OUTSIDE THE DRIP LINE, OR 15 FEET FROM THE TRUNK(S) OF A TREE, WHICHEVER IS GREATER.
12. THE STANDARD RETAINING WALL DETAILS SHOWN ON THE GRADING PLANS ARE FOR REFERENCE ONLY. STANDARD RETAINING WALLS ARE NOT CHECKED, PERMITTED, OR INSPECTED PER THE GRADING PERMIT. A SEPERATE RETAINING WALL PERMIT IS REQUIRED FOR ALL STANDARD RETAINING WALLS.
13. A PREVENTIVE PROGRAM TO PROTECT THE SLOPES FROM POTENTIAL DAMAGE FROM BURROWING RODENTS IS REQUIRED PER SECTION J101.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE. OWNER IS TO INSPECT SLOPES PERIODICALLY FOR EVIDENCE OF BURROWING RODENTS AND AT FIRST EVIDENCE OF THEIR EXISTENCE SHALL EMPLOY AN EXTERMINATOR FOR THEIR REMOVAL.
14. IF GRADING AUTHORIZED BY THIS PLAN IS TO EXTEND THROUGH THE RAINY SEASON, NOVEMBER 1 THROUGH APRIL 15 OF THE FOLLOWING YEAR, SEPERATE UPDATED PLANS FOR EROSION CONTROL MUST BE SUBMITTED PRIOR TO OCTOBER PER SECTION J111.3 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
15. TRANSFER OF RESPONSIBILITY: IF THE FIELD ENGINEER, THE SOILS ENGINEER, OR THE ENGINEERING GEOLOGIST OF RECORD IS CHANGED DURING GRADING, THE WORK SHALL BE STOPPED UNTIL THE REPLACEMENT HAS AGREED IN WRITING TO ACCEPT THEIR RESPONSIBILITY WITHIN THE AREA OF TECHNICAL COMPETENCE FOR APPROVAL UPON COMPLETION OF THE WORK. IT SHALL BE THE DUTY OF THE PERMITTEE TO NOTIFY THE BUILDING OFFICIAL IN WRITING OF SUCH CHANGE PRIOR TO THE RECOMMENCEMENT OF SUCH GRADING.

INSPECTION NOTES:

16. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE BUILDING OFFICIAL AT LEAST ONE WORKING DAY IN ADVANCE OF REQUIRED INSPECTIONS AT THE FOLLOWING STAGES OF THE WORK. (SECTION J105.7 OF THE BUILDING CODE.)
    (A.) PRE-GRADE – BEFORE THE START OF ANY EARTH DISTURBING ACTIVITY OR CONSTRUCTION.
    (B.) INITIAL – WHEN THE SITE HAS BEEN CLEARD OF VEGETATION AND UNAPPROVED FILL HAS BEEN SCARIFIED, BENCHED, OR OTHERWISE PREPARED FOR FILL. FILL SHALL NOT BE PLACED PRIOR TO THIS INSPECTION. NOTE: PRIOR TO ANY CONSTRUCTION ACTIVITIES, INCLUDING GRADING, ALL STORM WATER POLLUTION PREVENTION MEASURES INCLUDING EROSION CONTROL DEVICES WHICH CONTAIN SEDIMENTS MUST BE INSTALLED.
    (C.) ROUGH – WHEN APPROXIMATE FINAL ELEVATIONS HAVE BEEN ESTABLISHED; DRAINAGE TERRACES, SWALES AND BERMS INSTALLED AT THE TOP OF THE SLOPE; AND THE STATEMENTS REQUIRED IN THIS SECTION HAVE BEEN RECEIVED.
    (D.) FINAL – WHEN GRADING HAS BEEN COMPLETED; ALL DRAINAGE DEVICED INSTALLED; SLOPE PLANTING ESTABLISHED, IRRIGATION SYSTEMS INSTALLED AND THE AS-BUILT PLANS, REQUIRED STATEMENTS, AND REPORTS HAVE BEEN SUBMITTED AND APPROVED.
17. IN ADDITION TO THE INSPECTION REQUIRED BY THE BUILDING OFFICIAL FOR GRADING, REPORTS AND STATEMENTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL IN ACCORDANCE WITH SECTION J105 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
18. UNLESS OTHERWISE DIRECTED BY THE BUILDING OFFICIAL, THE FIELD ENGINEER FOR ALL ENGINEERED GRADING PROJECTS SHALL PREPARE ROUTINE INSPECTION REPORTS AS REQUIRED UNDER SECTION J105.11 OF THE COUNTY OF LOS ANGELES BUILDING CODE. THESE REPORTS, KNOWN AS 'REPORT OF GRADING ACTIVITIES', SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AS FOLLOWS:
    1. BI-WEEKLY DURING ALL TIMES WHEN GRADING OF 400 CUBIC YARDS OR MORE PER WEEK IS OCCURRING ON THE SITE;
    2. MONTHLY, AT ALL OTHER TIMES; AND
    3. AT ANY TIME WHEN REQUESTED IN WRITING BY THE BUILDING OFFICIAL.

    SUCH 'REPORT OF GRADING ACTIVITIES' SHALL CERTIFY TO THE BUILDING OFFICIAL THAT THE FIELD ENGINEER HAS INSPECTED THE GRADING SITE AND RELATED ACTIVITIES AND HAS FOUND THEM IN COMPLIANCE WITH THE APPROVED GRADING PLANS AND SPECIFICATIONS, THE BUILDING CODE, ALL GRADING PERMIT CONDITIONS, AND ALL OTHER APPLICABLE ORDINANCES AND REQUIREMENTS. THIS FORM IS AVAILABLE AT THE FOLLOWING WEBSITE HTTP://DPW.LACOUNTY.GOV/BSD/DG/DEFAULT.ASPX. 'REPORT OF GRADING ACTIVITIES' MAY BE SCANNED AND UPLOADED AT THE WEBSITE OR FAXED TO (310) 530-5482. FAILURE TO PROVIDE REQUIRED INSPECTION REPORTS WILL RESULT IN A 'STOP WORK ORDER.'
19. ALL GRADED SITES MUST HAVE DRAINAGE SWALES, BERMS, AND OTHER DRAINAGE DEVICES INSTALLED PRIOR TO ROUGH GRADING APPROVAL PER SECTION J105.7 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
20. THE GRADING CONTRACTOR SHALL SUBMIT THE STATEMENT TO THE GRADING INSPECTOR AS REQUIRED BY SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE AT THE COMPLETION OF ROUGH GRADING.
21. FINAL GRADING MUST BE APPROVED BEFORE OCCUPANCY OF BUILDINGS WILL BE ALLOWED PER SECTION J105 OF THE COUNTY OF LOS ANGELES BUILDING CODE.

DRAINAGE NOTES:

22. ROOF DRAINAGE MUST BE DIVERTED FROM GRADED SLOPES.
23. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
24. ALL CONSTRUCTION AND GRADING WITHIN A STORM DRAIN EASEMENT ARE TO BE DONE PER PRIVATE DRAIN PD NO. _____ OR MISCELLANEOUS TRANSFER DRAIN MTD NO. _____.
25. ALL STORM DRAIN WORK IS TO BE DONE UNDER CONTINUOUS INSPECTION BY THE FIELD ENGINEER. STATUS REPORTS REQUIRED UNDER NOTE 18 AND SECTION J105.11 OF THE COUNTY OF LOS ANGELES BUILDING CODE SHALL INCLUDE INSPECTION INFORMATION AND REPORTS ON THE STORM DRAIN INSTALLATION.

AGENCY NOTES:

26. AN ENCROACHMENT PERMIT FROM COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS IS REQUIRED FOR ALL WORK WITHIN OR AFFECTING ROAD RIGHT OF WAY. ALL WORK WITHIN ROAD RIGHT OF WAY SHALL CONFORM TO COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS ENCROACHMENT PERMIT.
27. AN ENCROACHMENT PERMIT /CONNECTION PERMIT IS REQUIRED FROM THE COUNTY OF LOS ANGELES FLOOD CONTROL DISTRICT FOR ALL WORK WITHIN THE COUNTY OF LOS ANGELES FLOOD CONTROL DISTRICT RIGHT OF WAY. ALL WORK SHALL CONFORM TO CONDITIONS SET BY THE PERMIT.
28. PERMISSION TO OPERATE IN VERY HIGH FIRE HAZARD SEVERITY ZONE MUST BE OBTAINED FROM THE FIRE PREVENTION BUREAU OR THE LOCAL FIRE STATION PRIOR TO COMMENCING WORK.
29. ALL WORK WITHIN THE STREAMBED AND AREAS OUTLINED ON GRADING PLANS SHALL CONFORM TO:
    - ARMY CORP 404 PERMIT NUMBER: _____.
    - CALIFORNIA FISH & GAME PERMIT NO.: _____.
30. ALL CONSTRUCTION/DEMOLITION, GRADING, AND STORAGE OF BULK MATERIALS MUST COMPLY WITH THE LOCAL AQMD RULE 403 FOR FUGITIVE DUST. INFORMATION ON RULE 403 IS AVAILABLE AT AQMD'S WEBSITE .

GENERAL GEOTECHNICAL NOTES:

31. ALL WORK MUST BE IN COMPLIANCE WITH THE RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL CONSULTANT'S REPORT(S) AND THE APPROVED GRADING PLANS AND SPECIFICATIONS.
32. GRADING OPERATIONS MUST BE CONDUCTED UNDER PERIODIC INSPECTIONS BY THE GEOTECHNICAL CONSULTANTS WITH MONTHLY INSPECTION REPORTS TO BE SUBMITTED TO THE GEOLOGY AND SOILS SECTION. (900 S. FREMONT, ALHAMBRA CA 91803 – 3RD FLOOR)
33. THE SOIL ENGINEER SHALL PROVIDE SUFFICIENT INSPECTIONS DURING THE PREPARATION OF THE NATURAL GROUND AND THE PLACEMENT AND COMPACTION OF THE FILL TO BE SATISFIED THAT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THE PLAN AND APPLICABLE CODE REQUIREMENTS.
34. ROUGH GRADING MUST BE APPROVED BY A FINAL ENGINEERING GEOLOGY AND SOILS ENGINEERING REPORT. AN AS-BUILT GEOLOGIC MAP MUST BE INCLUDED IN THE FINAL GEOLOGY REPORT. PROVIDE A FINAL REPORT STATEMENT THAT VERIFIES WORK WAS DONE IN ACCORDANCE WITH REPORT RECOMMENDATIONS AND CODE PROVISIONS (SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE). THE FINAL REPORT(S) MUST BE SUBMITTED TO THE GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION FOR REVIEW AND APPROVAL.
35. FOUNDATION, WALL AND POOL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER, PRIOR TO THE PLACING OF STEEL OR CONCRETE.
36. BUILDING PADS LOCATED IN CUT/FILL TRANSITION AREAS SHALL BE OVER-EXCAVATED A MINIMUM OF THREE (3) FEET BELOW THE PROPOSED BOTTOM OF FOOTING.

FILL NOTES

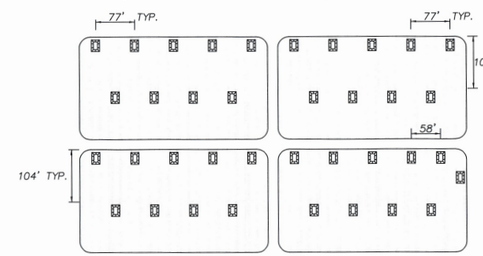
37. ALL FILL SHALL BE COMPACTED TO THE FOLLOWING MINIMUM RELATIVE COMPACTION CRITERIA:
    A. 90 PERCENT OF MAXIMUM DRY DENSITY WITHIN 40 FEET BELOW FINISH GRADE.
    B. 93 PERCENT OF MAXIMUM DRY DENSITY DEEPER THAN 40 FEET BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90 PERCENT OF MAXIMUM DRY DENSITY) IS JUSTIFIED BY THE GEOTECHNICAL ENGINEER.
    THE RELATIVE COMPACTION SHALL BE DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D1557-91 WHERE APPLICABLE: WHERE NOT APPLICABLE, A TEST ACCEPTABLE TO THE BUILDING OFFICIAL SHALL BE USED. (SECTION J07.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.)
38. FIELD DENSITY SHALL BE DETERMINED BY A METHOD ACCEPTABLE TO THE BUILDING OFFICIAL. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.) HOWEVER, NOT LESS THAN 10% OF THE REQUIRED DENSITY TEST, UNIFORMLY DISTRIBUTED, AND SHALL BE OBTAINED BY THE SAND CONE METHOD.
39. SUFFICIENT TESTS OF THE FILL SOILS SHALL BE MADE TO DETERMINE THE RELATIVE COMPACTION OF THE FILL IN ACCORDANCE WITH THE FOLLOWING MINIMUM GUIDELINES:
    A. ONE TEST FOR EACH TWO-FOOT VERTICAL LIFT.
    B. ONE TEST FOR EACH 1,000 CUBIC YARDS OF MATERIAL PLACED.
    C. ONE TEST AT THE LOCATION OF THE FINAL FILL SLOPE FOR EACH BUILDING SITE (LOT) IN EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
    D. ONE TEST IN THE VICINITY OF EACH BUILDING PAD FOR EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
40. SUFFICIENT TESTS OF FILL SOILS SHALL BE MADE TO VERIFY THAT THE SOIL PROPERTIES COMPLY WITH THE DESIGN REQUIREMENTS, AS DETERMINED BY THE SOIL ENGINEER INCLUDING SOIL TYPES, SHEAR STRENGTHS PARAMETERS AND CORRESPONDING UNIT WEIGHTS IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:
    A. PRIOR AND SUBSEQUENT TO PLACEMENT OF THE FILL, SHEAR TESTS SHALL BE TAKEN ON EACH TYPE OF SOIL OR SOIL MIXTURE TO BE USED FOR ALL FILL SLOPES STEEPER THAN THREE (3) HORIZONTAL TO ONE VERTICAL.
    B. SHEAR TEST RESULTS FOR THE PROPOSED FILL MATERIAL MUST MEET OR EXCEED THE DESIGN VALUES USED IN THE GEOTECHNICAL REPORT TO DETERMINE SLOPE STABILITY REQUIREMENTS. OTHERWISE, THE SLOPE MUST BE REEVALUATED USING THE ACTUAL SHEAR TEST VALUE OF THE FILL MATERIAL THAT IS IN PLACE.
    C. FILL SOILS SHALL BE FREE OF DELETERIOUS MATERIALS.
41. FILL SHALL NOT BE PLACED UNTIL STRIPPING OF VEGETATION, REMOVAL OF UNSUITABLE SOILS, AND INSTALLATION OF SUBDRAIN (IF ANY) HAVE BEEN INSPECTED AND APPROVED BY THE SOIL ENGINEER. THE BUILDING OFFICIAL MAY REQUIRE A 'STANDARD TEST METHOD FOR MOISTURE, ASH, ORGANIC MATTER, PEAT OR OTHER ORGANIC SOILS' ASTM D-2974-87 ON ANY SUSPECT MATERIAL. DETRIMENTAL AMOUNTS OF ORGANIC MATERIAL SHALL NOT BE PERMITTED IN FILLS. SOIL CONTAINING SMALL AMOUNTS OF ROOTS MAY BE ALLOWED PROVIDED THAT THE ROOTS ARE IN A QUANTITY AND DISTRIBUTED IN A MANNER THAT WILL NOT BE DETRIMENTAL TO THE FUTURE USE OF THE SITE AND THE SOILS ENGINEER APPROVES THE USE OF SUCH MATERIAL.
42. ROCK OR SIMILAR MATERIAL GREATER THAN 12 INCHES IN DIAMETER SHALL NOT BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE SOIL ENGINEER AND APPROVED IN ADVANCE BY THE BUILDING OFFICIAL. LOCATION, EXTENT, AND ELEVATION OF ROCK DISPOSAL AREAS MUST BE SHOWN ON AN 'AS BUILT' GRADING PLAN.
43. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL FILL PLACEMENT AND COMPACTION OPERATIONS WHERE FILLS HAVE A DEPTH GREATER THAN 30 FEET OR SLOPE SURFACE STEEPER THAN 2:1. (SECTION J107.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
44. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL SUBDRAIN INSTALLATION. (SECTION J107.2 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
45. ALL SUBDRAIN OUTLETS ARE TO BE SURVEYED FOR LINE AND ELEVATION. SUBDRAIN INFORMATION MUST BE SHOWN ON AN 'AS BUILT' GRADING PLAN.
46. FILL SLOPES IN EXCESS OF 2:1 STEEPNESS RATIO ARE TO BE CONSTRUCTED BY THE PLACEMENT OF SOIL AT SUFFICIENT DISTANCE BEYOND THE PROPOSED FINISH SLOPE TO ALLOW COMPACTION EQUIPMENT TO BE OPERATED AT THE OUTER LIMITS OF THE FINAL SLOPE SURFACE. THE EXCESS FILL IS TO BE REMOVED PRIOR TO COMPLETION OF ROUGH GRADING. OTHER CONSTRUCTION PROCEDURES MAY BE USED WHEN IT IS DEMONSTRATED TO THE SATISFACTION OF THE BUILDING OFFICIAL THAT THE ANGLE OF SLOPE, CONSTRUCTION METHOD AND OTHER FACTORS WILL HAVE EQUIVALENT EFFECT. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.)

BEST MANAGEMENT PRACTICE NOTES:

1. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORMWATER FROM THE PROJECT SITE AT ALL TIMES.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
9. AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER, I HAVE READ AND UNDERSTAND THE REQUIREMENTS LISTED ABOVE, NECESSARY TO CONTROL STORM WATER POLLUTION FROM SEDIMENTS, EROSION, AND CONSTRUCTION MATERIALS, AND I CERTIFY THAT I WILL COMPLY WITH THESE REQUIREMENTS.

PRINT NAME _____
(OWNER OR AUTHORIZED AGENT OF THE OWNER)

SIGNATURE _____ DATE _____
(OWNER OR AUTHORIZED AGENT OF THE OWNER)



NOTE: GRADING WITHIN A TYPICAL BLOCK IS LIMITED TO ACCESS ROADS AND INFILTRATION TRENCHES.

INFILTRATION TRENCH LAYOUT FOR TYPICAL BLOCK
N.T.S.

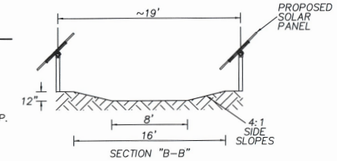
EARTHWORK SUMMARY:

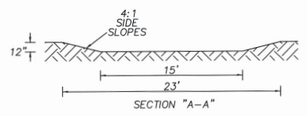
	CUT	FILL
RAW	6,500 CY	6,500 CY

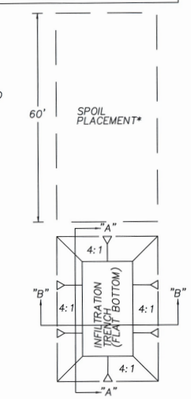
TOTAL DISTURBED AREA = 186.4 AC (8,119,584 SF)

NOTE:
CLEARING AND GRUBBING AND MINOR FINE GRADING ONLY. GRADING IS ALLOWED ONLY FOR FIRE ACCESS ROADS, SUBSTATION, TANK AND INVERTER PADS, AND BASINS. THE EXISTING VEGETATION WHERE SOLAR PANELS ARE PROPOSED SHALL NOT BE DISTURBED, BUT CAN BE MOWED.

NOTE:
ALL ACCESS ROADS SHALL BE A MINIMUM OF 20' WIDE WITH INNER RADII OF 22'; C/L RADII OF 32'; AND OUTER RADII OF 42'.

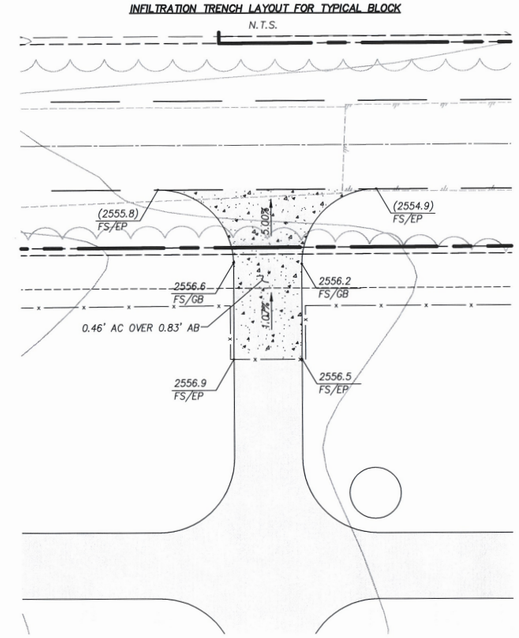




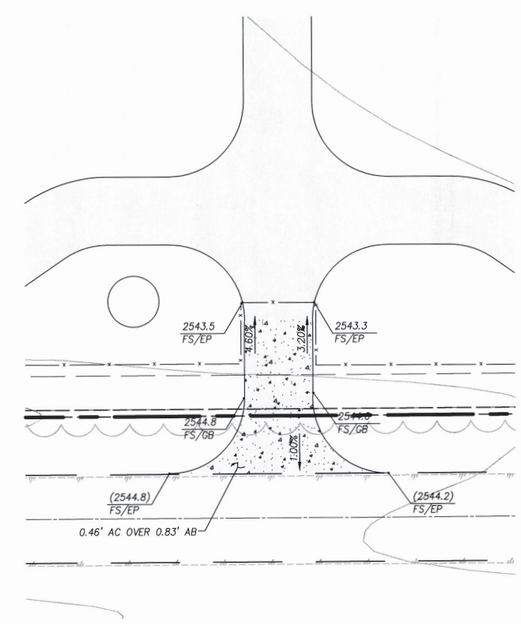


INFILTRATION TRENCH DETAIL
N.T.S.

*NOTE: SOIL FROM EACH INFILTRATION TRENCH SHALL BE SPREAD OVER A 16' WID X 60' LONG AREA AND COMPACTED.



DETAIL "L"
1"=20'



DETAIL "M"
1"=20'

Source: AEI-Casc Consulting, 2013

Retention Basins and Access Driveways

West Antelope Solar Energy Project

Exhibit 3-3F

BonTerra CONSULTING

(Rev 06/04/2013 MMD) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex3-3F_siteplan_basins.pdf

D:\Projects\TAAC\J001\Graphics\Ex3-3F_siteplan_basins.ai

beautification of the site for nearby residences and users of the proposed California Poppy Trail. A Preliminary Landscape Plan has been included in Appendix A of this document. Irrigation via water trucks would be conducted for three years after planting in order to establish the landscaping. No long-term irrigation infrastructure is proposed.

Fencing

As shown on Exhibit 3-3B, the site perimeter would be secured by six-foot-high chain-link fencing with one additional foot of three-strand barbed wire surrounding the PV system and on-site Project Substation. The driveways on West Avenue J would have automatic gates approximately 20 feet long and would be setback 50 feet from the road edge to allow for LACFD and maintenance access and turnaround. An approved “Fire Department Knox Lock” would be provided at both gates. Perimeter fencing would be raised at intervals to allow for wildlife passage through the Project site to a height that is the lesser of either: one foot above grade or the maximum height allowed by the PUC. “Warning High Voltage” signs would be placed on the fencing at about 100-foot intervals and at each gate.

Lighting

Lighting would be installed in specific locations around the periphery of the Project site, as required for nighttime security purposes. Lighting would consist of modern, low intensity, downward-shielded fixtures that are motion-activated, and would be directed onto the Project site. Motion-detectors would be set at a sensitivity level that could not be triggered by small animal movement.

Fire Suppression and Safety

Combustible vegetation on and around the Project boundary would be managed through fuel modification in accordance with the Fire Code or as directed by the Fire Official. Accordingly, all vegetation would be trimmed to a maximum height of six inches within the boundaries of the solar array. In addition, electrical transformer vaults or structures would have all vegetation cleared to mineral soil for a distance of 50 feet.

The proposed interior and perimeter access roads would provide access for fire and emergency vehicles. The Project Applicant would also coordinate with the LACFD to provide PV training to fire responders, construction, operational and maintenance staff. The intent of this training would be to familiarize both responders and on-site employees with the codes, regulations, and associated hazards related to solar electricity. This training would include techniques for fire suppression of PV systems.

Water Tanks

Two water tanks would be installed on the Project site, with each tank providing water for both fire suppression, three years of landscaping establishment, and O&M activities. One tank would be located on the North Portion and the other tank would be located on the South Portion, both located along West Avenue J immediately adjacent to the North and South driveways, respectively. Each water tank would be a split-tank, with one portion having a minimum of 10,000 gallon capacity for exclusive LACFD use, with outlets clearly identified as for “Fire Department Use Only”. The other portion of each split-tank would be available for O&M use. Each water tank would have an approximate diameter of 15 feet and a height of 15 feet and would be designed in accordance with the Los Angeles County Fire Code requirements.

California Poppy Trail Construction

The Project includes the construction of an eight-foot (8') wide trail along the eastern boundary of the Project site, to be located within a 12-foot-wide multi-use (hiking, mountain biking, and equestrian) trail easement. The trail would be constructed in accordance with Los Angeles County standards in a manner consistent with the *County of Los Angeles Trails Manual* (Trails Manual), and forming part of Los Angeles County Trail Number 130 (California Poppy Trail) on the Los Angeles County Trails Map, which can be found in Exhibit 4-14 in Section 4.16, Recreation, of this document. This trail is mapped along the eastern boundary of the Project site up 110th Street West and would loop westward at Avenue D West to encompass the Antelope Valley California Poppy State Natural Reserve (SNR) approximately four miles northwest of the Project site (LACDRP 2007). The California Poppy Trail is identified as an "adopted proposed trail system" that is not yet completely constructed.

3.2.2 PROJECT CONSTRUCTION

Project construction would include several phases occurring simultaneously, including (1) pile driving piers or posts and placing trackers on support piers; (2) trenching and installing the DC and AC collection system, including the inverter enclosures; (3) constructing electrical transmission facilities, including the on-site Project Substation and Grid-Tie transmission line; and (4) grading access roads and the trail, and constructing drainage elements.

Grading and Construction Activities

On-Site Activities

As the terrain on the Project site is generally flat, grading and ground disturbance for the Project would be minimal and would be primarily limited to access roads and the retention basins, but would also include the Project Substation, inverter pads, water tank pads, and trail areas. The solar arrays would be installed using pile-driving techniques, rather than grading, to minimize soil disturbance. This reduced grading would help maintain existing hydrologic features and patterns on the Project site. Table 3-2, Grading Quantities, shows the anticipated grading and ground disturbance quantities and acres of impact due to Project implementation.

Of the entire 263-acre site, approximately 178.5 acres would be contained within the fenced areas and would be subject to both long-term grading and ground disturbance for the roads, structure pads, water tanks, and retention basins, as well as short-term staging areas for construction. Construction of the Project would begin with the clearing and grubbing of vegetation in only those areas that would be disturbed, which includes approximately 30.36 acres of the 263–acre Project site, as shown in Table 3-2. The Project would require approximately 14,189 cubic yards (cy) of cut and 13,794 cy of fill materials, leaving approximately 395 cy of fill materials to be balanced on-site. This minor amount of extra soil would be generally accounted for through soil shrinkage and site compaction. There would be no import or export of soils.

Construction would involve grading and ground disturbance for the access roads and the trail; installing the PV system; on-site trenching for the electrical DC and AC collection system, including the telecommunication lines; installing the inverter enclosures; installing an underground 34.5-kV line for each collection system that leads to the Project Substation; and constructing the 34.5/66-kV Project Substation.

The Project Substation would require grading of an approximate two-acre area, as shown on Exhibit 3-3C. Approximately 11 inverter pads would be located throughout the Project site, each of which is approximately 12 feet by 35 feet. Each of these pads would be graded but, as with the Project Substation area, the proposed elevation would be set to minimize earthwork. The Project Substation and inverters would be placed on poured-in-place concrete slabs or steel piles. The footings for the steel support structures that hold the PV panels would be installed on the existing grade. Any undulations in the terrain would be accounted for by varying the mounting height of the PV panels. The existing vegetation in all other areas of the Project site would be mowed to a maximum height of 6 inches, per LACFD requirements. Minor trenching would be required to electrically connect all Project components, including trenching under West Avenue J to link the North and South Portions of the Project site together. No import or export of soils is proposed as part of the Project.

Off-Site Activities

The Project would connect to the existing transmission grid via a 66-kV Grid-Tie transmission line that runs approximately 1.5 miles east to the SCE Antelope Substation, as previously discussed. Placing the Grid-Tie underground would require minor off-site trenching and would include excavation to a depth of approximately three to four feet deep along the southern edge of West Avenue J. Under both proposed alternatives, the riser would hand-off overhead to Southern California Edison (SCE) at approximately 99th Street West, where it would travel along two switch poles and another riser pole before transitioning back underground, until connecting into the 66-kV bus at the Antelope Substation. As part of this hand-off, SCE would construct an underground trench, including several vaults.

Under the Path B scenario, in which the Grid-Tie would remain underground the whole way, the length of underground work of would be approximately 6,880 linear feet. As shown in Table 3-2, assuming a five-foot wide trench, the area of disturbance would be approximately 34,400 square feet, or 0.79 acres. Assuming a depth of 3.5 feet, the volume of earthwork would be approximately 4,459 cubic yards.

This IS/MND covers the required environmental analysis pursuant to CEQA for the Project-related transmission line work to be completed by SCE. As there are existing and planned/approved utility poles along this path that cross into the City of Lancaster, appropriate easements and permits from the City of Lancaster would be required. As further discussed in Section 4.4, Biological Resources, the Grid-Tie would also avoid the potential jurisdictional features located on West Avenue J.

TABLE 3-2
GRADING QUANTITIES

Project Component	Cut Materials (cubic yards)	Fill Materials (cubic yards)	Net Change (cubic Yards	Disturbed Areas (acres)
On-Site				
Access Roads	6,015	6,575	(-560)	23.5
Structure Pads	1,451	496	955	0.10
Water Tanks	10	1	9	0.01
Trails	242	251	(-9)	1.25
Retention Basins	6,471	6,471[1]	0	5.50
Sub-Totals	**14,189**	**13,794**	**395**[2]	**30.36**

TABLE 3-2
GRADING QUANTITIES

Project Component	Cut Materials (cubic yards)	Fill Materials (cubic yards)	Net Change (cubic Yards	Disturbed Areas (acres)
Off-Site				
Grid-Tie Path B[3]	4,459	4,459	0	0.79
TOTAL	**18,648**	**18,253**	**395**	**31.15**

[1] Soil generated by the basin cuts will be placed adjacent to the basins and stabilized.
[2] The volumes provided are raw numbers, so there will be shrinkage and subsidence that will be incorporated later during final engineering.
[3] Only the Path B numbers are shown as it is the more construction-intensive alternative.

Dust and Erosion Control

During construction, the Project would comply with Antelope Valley Air Quality Management District's (AVAQMD's) Rule 403, Fugitive Dust to prepare and implement a Dust Control Plan (see MM AQ-1) for controlling fugitive dust. Additionally the Project would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) as required by the State Water Resources Control Board's Construction General Permit, which would further control water and wind erosion during construction. The Dust Control Plan and SWPPP would incorporate a number of strategies during construction to control fugitive dust due to high winds from the Project site, including the following:

- Minimal Grading and Ground Disturbance: The Project would perform the minimum amount of grading and disturb the minimum amount of existing vegetation to construct the Project. Grading would generally be limited to the proposed access roads, retention basins, Project Substation foundation, inverter pads, water tank pads, and trail areas. The existing vegetation in all other areas would be mowed to a height consistent with vegetation management requirements and left in place.
- Vehicle Use: The Project would only use construction vehicles with tires and would prohibit use of equipment with rotating wheel tracks (e.g. tank treads or caterpillar tracks).
- Construction Scheduling: Grading activities would be temporarily halted and/or site watering would be increased during wind speeds that exceed 25 miles per hour, or when visible dust plumes have the potential to be transported: 1) off the Project site or 2) 200 feet beyond the centerline of the construction of linear facilities (such as the Grid-Tie). Earth-moving activities on the Project site would be scheduled during winter months, when it is anticipated that natural rainfall would assist with mitigation of fugitive dust.
- Water Application: The Project would apply water to the construction site as necessary to control fugitive dust. As required by the AVAQMD, when water is used as fugitive dust control, watering is required three times a day and increased to a minimum of four times a day if there is evidence of visible wind-driven fugitive dust. .
- Soil Binders/Wood Mulch: Soil binders and wood mulch would be applied as necessary.
- Stock Piles Stabilization: All stock not currently in use would be stabilized from erosion through the use of watering, soil binders, or protected with a plastic or geo-textile mat.

- Final Stabilization: Prior to completion of construction, all disturbed areas would be permanently stabilized through the use of an all-weather surface treatment and existing vegetation would be maintained at a maximum height of 6 inches, per LACFD requirements.
- Monitoring: A qualified construction mitigation manager (CMM) or delegate would be retained to be on-site during all grading activities to ensure compliance with the approved Dust Control Plan. The CMM or delegate would monitor all construction activities for visible dust plumes. The CMM or Delegate would promptly implement additional dust plume reduction measures in the event that such visible dust plumes are observed. Additional measures to be implemented, as necessary, would include increased watering, application of dust palliatives, and/or scaled back construction activities up to and including temporary work cessation.

Construction Water Demands

During construction, water would be used to suppress fugitive dust during grubbing, clearing, grading, trenching, and soil compaction. Water for construction activities can be of non-potable quality. All construction water would be trucked to the site from available commercial water sources outside the Antelope Valley Groundwater Basin. The Project site is outside of the Los Angeles County Waterworks District No. 40 (District) service area, but within its sphere of influence. Various options are available to the Project Applicant to obtain water from State Water Project Table A entitlement water (sourced from northern California), including obtaining water deliveries through a negotiated program between the Antelope Valley-East Kern Water Agency (AVEK) and the District, or purchasing a new permanent water supply, or contracting with a water bank outside the Antelope Valley Groundwater Basin for the entire life of the Project and transferring those supplies to the AVEK and the District for use on the Project site (LACDPW 2013). The Applicant has an agreement with the Cawelo Water District, who would transfer banked water to AVEK. AVEK would then sell it to the District, who would then provide it to the Project (Cawelo 2013).

Construction activities for the proposed Project are anticipated to require an estimated average water demand of 100,000 gallons per day. The daily water demand estimate assumes that on an average construction day, 20 acres are in active construction, requiring 10 continuous hours of water using five water trucks, assuming 4,000-gallon capacity trucks. Construction of the Project would require approximately six months, or 156 work days (Monday - Saturday), to complete. Based upon these parameters, the construction water demand for the proposed Project is estimated to total 15.6 million gallons, or 47.87 acre-feet (one acre-foot is equal to 325,851 gallons). Assuming construction for six months (i.e. 156 working days), and assuming use of a 6,000-gallon water delivery truck, the delivery of 47.87 acre-feet of water would require approximately 17 truck trips per day.

Table 3-3, Total Estimated Water for Project Construction, shows the estimated water demand associated with construction of the proposed Project.

TABLE 3-3
TOTAL ESTIMATED WATER FOR PROJECT CONSTRUCTION

	Construction Period (work days)[a]	Demand Factor (gallons per day)[b]	Total Estimated Water Demand (gallons)	Total Estimated Water Demand (acre-feet)
West Antelope Solar Project	156 days	100,000	15,600,000	47.87

[a] Assumes 26 work days per month, with work occurring Monday through Saturday.
[b] Assumes that water will be used for washing down construction equipment, access roads, and dust control. Assumes that a maximum of 20 acres will require continuous watering for a 10-hour construction day using 6,000-gallon water trucks. This is a very conservative assumption because only 3 acres would be subject to ground disturbance/grading at any one time.

Source: LACDRP 2013.

Landscape Irrigation

Water would also be necessary to establish the landscape buffer along portions of the perimeter fence. The Project includes an approximately 10-foot-wide vegetated strip along the site frontage facing 110th Street West, West Avenue J, and along the northern boundary of the site, which totals approximately 113,810 square feet or 2.61 acres. Project landscaping would consist of drought tolerant species, and incorporate native species as appropriate. Once established, the species would not require on-going irrigation. The irrigation needs for landscaping establishment are assumed to last for three consecutive years following installation.

The formula used to estimate the Maximum Water Allowance (MWA) is based on the local annual evapotranspiration rate (ETo) of 66.19 inches[5], the ET adjustment factor (ET) of 0.267[6], and conversion factors of 0.62 to obtain gallons per square foot, and a conversion factor of 7.48 to obtain square feet per acre (CVWD 2007). Thus, the MWA is 1.46 acre-foot per acre of landscaping. The formula below details the approach used to estimate the annual MWA per acre for low water demanding landscaping (CVWD 2007).

$$\begin{aligned} MWA &= ((ETo)(ET)(0.62))/7.48 \\ &= (66.19)(0.267)(0.62)/7.48 \\ &= 475{,}742 \text{ gallons per acre or } 1.46 \text{ acre-foot per acre} \end{aligned}$$

As shown in Table 3-4, Total Estimated Water for Landscape Irrigation, assuming periodic irrigation for establishment purposes over a 3-year period, it is estimated that approximately 3.81 acre-feet of water will be needed annually to assure plant establishment on the Project site. Irrigation for the 3-year landscaping establishment period would be obtained from the two water tanks on the Project site, rather than daily water truck trips.

[5] Evapotranspiration is the quantity of water evaporated from soil surfaces and transpiration of plants and varies do to local climatic conditions, such as the direction of wind, intensity of sun, and presence of shade. As reported in the Final Antelope Valley 2010 Integrated Regional Urban Water Management Plan (IRUWMP), the region has an annual ETo rate of 66.19 inches.

[6] The ET adjustment factor is dependent upon the water needed for plant species and the type of irrigation used. For analysis purposes it is assumed that the irrigation efficiency is 0.75. It is assumed that native and drought tolerant species dominate the proposed plant palate, thus a low water demanding plant factor of 0.2 is used. The resulting ET is 0.267.

TABLE 3-4
TOTAL ESTIMATED WATER FOR LANDSCAPE IRRIGATION

	Square Feet[a]	Acres[b]	MWA Factor[c]	Estimated Annual Water Demand (acre-feet)[d]
Landscape Irrigation	113,810	2.61	1.46	3.81

[a] Consistent with the requirements of the jurisdiction, the property frontage along 110th Street West, both sides of West Avenue J, and the northern boundary is approximately 113,810 linear feet. Combined with a 10- foot wide buffer, the total landscaped area is estimated to be 113,810 square feet.
[b] One acre = 43,560 square feet.
[c] Maximum Water Allowance for drought tolerant desert landscaping per acre.
[d] It is assumed that the entire vegetated strip will be watered for a three-year establishment period.

Source: CVWD 2007.

Under Section 3.2.3, Operational Characteristics, Table 3-6 presents the Total Estimated Water for Operation and Maintenance, and Table 3-7 presents Total Estimated Project Water Use, which includes estimated water demands for construction needs, landscaping, and operations and maintenance.

Construction Phasing and Schedule

Construction of the Project is anticipated to commence in fourth quarter 2013 and would require approximately six months to complete. Table 3-5, Project Construction Schedule, provides the Project's proposed schedule. While the schedule may be modified due to the date of County Project approval as well other Project approval/permits, this table illustrates the approximate duration of major Project activities. Construction activities would occur between the hours of 7:00 AM and 7:00 PM Monday through Saturday.

TABLE 3-5
PROJECT CONSTRUCTION SCHEDULE

Project Activity	Timing
Right-of-way/property acquisition	3rd quarter 2012
Conditional Use Permit approved	3rd quarter 2013
Acquisition of additional required permits	3rd quarter 2013
Construction begins	4th quarter 2013
Completion of construction	2nd quarter 2014
Project operational	2nd quarter 2014
Source: TA-Acacia.	

Construction Workforce and Staging

Trip generation for employees and delivery trucks would vary depending on the phase of construction. During the peak of construction, a typical day would include the transportation of workers, movement of heavy equipment, and transportation of materials. The anticipated peak traffic day, which would occur when grading and equipment delivery trucks overlap with worker trips for panel installations, would involve approximately 51 round-trip truck trips (including 17 trips for water delivery trucks) and 54 round-trip worker trips. This peak activity is estimated to occur over approximately 10 working days, but may be more or less depending on the actual timing of construction phase overlap. Table 3-6, Construction Equipment, lists commonly

associated equipment with the construction of solar facilities. A detailed breakdown of the estimated number of trucks being operated for each construction task is found in Appendix B.

Construction would require small gas-powered generators to power hand tools and gas-powered welders to assemble the steel portions of the tracking system and for general assembly. Construction staging and material lay-down areas would be set up for each section of the Project site to allow for efficient distribution of components to different parts of the Project. These lay-down areas would be located within the Project site boundaries, temporarily fenced, and would each cover approximately 1.5 acres.

The Project would provide a mobile sanitation facility for use by workers during the construction period. Per Los Angeles County Department of Public Health regulations, a Mobile Sanitation Facility Plan would be submitted for review prior to construction (LACDPH 2012). The mobile sanitation facility would be maintained in a safe and sanitary condition so as not to constitute a public hazard or nuisance. Domestic wastewater would be treated using existing facilities per County regulations.

TABLE 3-6
CONSTRUCTION EQUIPMENT

Equipment	Use
For Installation of Solar Arrays	
Boom Truck/Truck-Mounted Crane	Moving materials
Bore/Drill Rigs	Drilling holes into the ground
Concrete Mixing Trucks	Delivering concrete used for slabs and foundations
Disposal Containers	Disposing of and removing construction debris
Dump Trucks	Delivering and spreading aggregates
Excavators	Trenching and pouring foundations
Forklifts	Moving materials; loading and unloading trucks
Generator Sets/Load Banks	Providing temporary power
Graders	Leveling access roads and driveways
Other Material Handling Equipment	Moving materials
Paving Equipment	Paving, if required
Plate Compactors/Jumping Jacks	Compacting soil under concrete slabs and foundations
Pile/Vibratory Drivers	Driving structure posts
Pressure Washers	Cleaning
Rollers	Compacting access roads and driveways
Skid Steer Loaders	Completing light soil work for slabs and foundations
Sweepers/Scrubbers	Controlling dust on paved areas
Tractors/Loaders/Backhoes	Clearing, grubbing, and moving soil
Trenchers	Completing light trench work
Welders	Assembling structures
Storage Containers	Storing on-site materials
Other General Industrial Equipment	Assembling structures
Service Trucks	Maintaining heavy equipment
Personnel transport vehicles	Transporting workers
Water Trucks	Controlling dust and landscape watering

TABLE 3-6
CONSTRUCTION EQUIPMENT

Equipment	Use
For Grid-Tie Connection to Antelope Substation	
Driller	Civil-related work
Dump Truck	Civil-related work
Cement Truck	Civil-related work
Skip Loader	Civil-related work
Water Truck	Civil-related work
Forklift	Civil and electrical related work
Trencher	Civil-related work
Bobcat	Civil-related work
Tool Truck	Civil-related work
Reach Manlift	Electrical-related work.
Pickup Trucks	Electrical-related work
14-Ton Crane	Electrical-related work
Crew Trucks	Electrical-related work
5-Ton Truck	Electrical-related work
Inspection Services	Electrical-related work
Source: AECOM and SCE 2012.	

3.2.3 OPERATIONAL CHARACTERISTICS

Operations Workforce

The workforce performing ongoing O&M would be relatively small. The workforce is comprised of general labor for cleaning purposes; skilled electricians for visual inspections, repairs, and performance testing; and skilled mechanics to inspect and maintain the mechanical portions of the tracking system. Because the entire facility would be monitored remotely in real time (as described in detail below), it is anticipated that only four to five O&M personnel would make about two to three visits per year to conduct the on-site O&M functions.

Other than O&M, general landscape labor would include vegetation maintenance at some interval to maintain ground cover and remove unwanted vegetation that could block or shadow the panels. As required by the LACFD, vegetation would be trimmed to a maximum height of six inches within the Project site boundaries. Further, electrical transformer vaults or other structures would have all vegetation cleared to mineral soil for a minimum distance of 50 feet (LACFD 2012).

Skilled operations monitoring personnel would review the information provided by the SCADA system. In addition, if a fault or an error occurs, an automatically generated email would be sent to monitoring personnel to alert them. The monitoring personnel would assess the fault or error information to determine what corrective actions would be needed. In most cases with PV systems, the fault is auto-correctable and does not require reactive repair at the site.

Facility Maintenance

PV facilities contain very few moving parts and have limited ongoing maintenance requirements. Maintenance activities would consist of checking electrical performance parameters via remote monitoring; performing periodic inspections and maintaining

transformers and inverters; responding to any problems detected by remote monitoring; conducting weed abatement and dust-control activities; cleaning PV panels; and maintaining driveways, which is detailed below. No major equipment is anticipated to be required for maintenance of the facility except as necessary for maintenance of the access roads.

Dust Control and Operations Water Use

After construction is complete, the roads would be maintained on an as-needed basis. It is anticipated that road maintenance would occur annually, depending on local weather and frequency of use. Internal road maintenance would involve superficial re-grading and erosion control measures, as needed. As previously discussed, all disturbed areas would be permanently stabilized through the use of an all-weather surface treatment.

In addition, O&M of solar facilities includes the periodic cleaning of solar panels, and washing down trucks, maintenance equipment, and other ancillary activities. Based on estimates from the U.S. Department of the Interior Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE), the demand associated with the cleaning of PV panels is approximately 0.05 acre feet per MW. Ancillary activities are assumed to generate an annual demand of 0.02 acre feet per MW (BLM and DOE 2010). Based on these demand factors, O&M of the proposed Project is estimated to generate a water demand of approximately 1.00 acre-foot per year for panel cleaning and 0.40 acre-foot per year for ancillary activities, such as washing down equipment other than solar panels.

Cleaning of the PV panels would involve spraying of the panels with demineralized water to remove dust buildup, grime, bird droppings, and/or soot from the PV panels. Cleaning water would be allowed to infiltrate into the ground or evaporate as it drips off the PV modules.

Two water tanks would be installed on the Project site, each providing water for both fire suppression and O&M activities. Each water tank would be a split-tank, with one portion having a minimum of 10,000-gallon capacity for exclusive LACFD use, with outlets clearly identified as for “Fire Department Use Only”. The other portion of the split-tank would be available for O&M use. Each water tank would have an approximate diameter of 15 feet and a height of 15 feet and would be designed in accordance with the Los Angeles County Fire Code requirements. It is assumed that the portion of the split tank designated for emergency fire protection would be flushed and refilled once per year over the 20-year life of the Project, thereby generating an overall demand of 400,000 gallons (1.23 acre-feet). The operator intends to employ a water conservation practice to reuse flushed water from the fire department tanks. Possible uses will depend on water quality (i.e., not containing debris, oil, or other contaminants) and timing of O&M activities. As feasible, flushed water from the tanks could be used for panel washing, ancillary O&M and/or to supplement landscaping establishment.

As shown in Table 3-7, Total Estimated Water for Operation and Maintenance, panel washing, ancillary O&M, and refilling the water tanks at the proposed Project is expected to generate an annual water demand of 1.23 acre-feet per year during the O&M phase of the Project.

TABLE 3-7
TOTAL ESTIMATED WATER FOR OPERATION AND MAINTENANCE

	MW Capacity	Acre-Feet per MW	Annual Demand (acre-feet)
Panel Washing	20	0.05	1.00
Ancillary Activities	20	0.02	0.40
Fire Dept. Emergency Tank[a]	–	–	1.23
Total			2.63

[a] Assumes that the 10,000-gallon portion of the split tank for LACFD use will be flushed and refilled once per year over the 20-year life of the Project.

Source: BLM and DOE 2010.

The Project would provide a mobile sanitation facility for use by workers during O&M activities. Per Los Angeles County Department of Public Health regulations, a Mobile Sanitation Facility Plan would be submitted for review prior to construction (LACDPH 2012). The mobile sanitation facility would be maintained in a safe and sanitary condition so as not to constitute a public hazard or nuisance. Waste generated by the mobile sanitation facility would be disposed and treated per County regulations.

3.2.4 DECOMMISSIONING PLAN

A Decommissioning Plan for the Project would be prepared and submitted for approval to Los Angeles County Department of Regional Planning prior to the issuance of a grading permit. This Plan would ensure that the land is returned to a beneficial use upon termination of the use of the property as a solar site.

The Plan would include information regarding decommissioning timing; equipment removal; and habitat restoration for the site in accordance with Los Angeles County, State, and federal regulations and requirements. The Plan would also include details of ground treatments, erosion control, fertilization, seed sources, vegetation planting methods, and irrigation methods, as well as information on appropriate post-closure uses of the site, which may include agricultural land, open space, or some other use consistent with County plans and ordinances.

Timeline for Reclamation Plan

For the purposes of the analysis contained within this IS/MND, the impact analysis assumes implementation of the Decommissioning Plan implementation at 20 years from the commencement of operations, as the Applicant has a Power Purchase Agreement (PPA) for 20 years with PG&E. It is more likely that the solar facilities would obtain a lease extension for the continued operation of the solar arrays because the useful life of these solar panels is approximately 30 years, although the efficiency of the panels would be diminished.

For the purposes of the analysis, it is also assumed that decommissioning construction activities of the Project site would require the same timeframe as construction of the site.

Removal of Equipment

Once the power facility is shut off, the first step would be to remove all chemicals, fuels, oils, transformer oils, and other potential hazards chemicals and wastes from the Project site. These would be disposed of in accordance with Los Angeles County, State, and federal laws. All equipment and foundations would be removed from the Project site so that it may be utilized for other uses. Solar modules would be unbolted from the support structures and consolidated in a

designated lay-down area. The modules have value and would be sold to an off-site recycler. They would be loaded onto trucks in batches and moved off-site. The beams supporting the panels would be extracted from the ground and moved to the lay-down area where they would be cleaned, stockpiled, and consolidated. They would be moved off-site and recycled.

The inverters would be removed and moved onto an impermeable base in the lay-down area. Care would be taken that no leaks or spills occur from this temporary storage area. The inverters have value and would be recycled. They would be loaded onto trucks in batches and moved off-site.

The electrical substation would be removed and the components moved to the lay-down area. Care would be taken that no leaks or spills occur from this temporary storage area. The substation equipment has value and would be recycled. The concrete foundation for the substation would also be removed. The security fence, water tanks, Gen-Tie Line, and riser poles would be taken down and sold with the other scrap material. Any other miscellaneous remaining equipment or other material would be removed.

Contouring, Erosion, and Sediment Control

All disturbed areas, including access roads, retention basins, and equipment foundations would be removed and restored to the previous or better condition than prior to construction. It is assumed that the trail would be dedicated to the County Department of Recreation and Parks and remain permanently in-place as part of the California Poppy Trail system. Contouring of the site would be conducted using standard grading and/or farming equipment to return the land to approximately match the pre-construction surface conditions. The site drainage features would be restored to their original condition. Temporary erosion and sediment control measures such as soil stabilizers would be used as needed. The original site conditions would be recorded prior to beginning construction for referral during final restoration.

Decommissioning

This section of the plan would provide information on the appropriate post-closure uses of the site which may be agricultural land, open space or some other use consistent with County plans and ordinances. Details of ground treatments, erosion control, fertilization, seed sources, vegetation planting methods, and irrigation systems would be added to the plan before it is implemented.

Water usage for restoration of vegetation in previously disturbed areas was estimated using the methodology used above for landscape irrigation and is summarized in Table 3-8, Total Estimated Water for Decommissioning. Based on a disturbed area of 29.11 acres[7], it is estimated that approximately 42.5 acre-feet of water would be required for landscape restoration. Assuming that the same amount of water would be required for deconstruction as was required for construction, the total amount of water required for decommissioning would be approximately 90.37 acre-feet.

[7] The total disturbed area shown in Table 3-2 of 30.36 acres, minus the acreage of the trail (1.25 acres), which would be kept in place.

TABLE 3-8
TOTAL ESTIMATED WATER FOR DECOMMISSIONING

Activity	Total Demand (acre-feet)
Deconstruction Landscape Restoration	47.87 42.50
Total	90.37

It is unknown at this time if solar would continue to be utilized on this land in excess of 20 years, and thus the future long-term use of the site would be updated periodically with the Decommissioning Plan as it becomes better known.

3.3 PROJECT WATER DEMAND

Table 3-9, Total Estimated Project Water Use, includes estimated water demands for construction needs, landscaping, and operations and maintenance over the 20-year life of the Project. In total, the Project will require approximately 110.59 acre-feet (36.04 million gallons [MG]) of water over the 20-year life of the Project. It is anticipated that implementation of the Decommissioning Plan at the end of the useful life of the solar array will require approximately 90.37 acre-feet, resulting in a total of approximately 201 acre-feet from Project construction through decommissioning.

TABLE 3-9
TOTAL ESTIMATED PROJECT WATER USE

	Year 1 Demand (acre-feet)	Year 2 Demand (acre-feet)	Year 3 Demand (acre-feet)	Annual Demand Year 4 through Year 20 (acre-feet)	Total Demand (acre-feet)
Construction Water	47.87	–	–	–	**47.87**
Landscaping Establishment Water	3.81	3.81	3.81	–	**11.43**
Operation and Maintenance Water	1.32	2.63	2.63	2.63 (x17 years)	**51.29**
Subtotal	53.00	6.44	6.44	44.71	**110.59**
Decommissioning	–	–	–	–	**90.37**
Total					**200.96**

3.4 REGULATORY BACKGROUND FOR SOLAR ENERGY PROJECTS

In 2002, the California Senate adopted Senate Bill (SB) 1078 (later accelerated by SB 107 in 2006), which established California's Renewables Portfolio Standard (RPS). The RPS requires electric service providers to increase the use of eligible renewable energy resources by at least 1 percent of their retail sales annually until they reach 20 percent by 2010. Executive Orders S-14-08 (issued on November 17, 2008) and S-21-09 (issued on September 15, 2009) establish a further goal of 33 percent renewable energy use by 2020. The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are jointly responsible for implementing this program.

The CPUC's central role is regulating utilities—and the water and electricity supply controlled by the utilities—and it is responsible for implementing the RPS. The CPUC also provides a number of key incentives for the development of distributed power generation, including the California Solar Initiative (SB 1) and the Self Generation Incentive Program (SGIP).

Solar thermal projects above 50 MW require approval from the CEC. Smaller projects are subject to approval by local authorities. The CEC is responsible for certifying solar facilities as eligible renewable resources for the RPS. Solar energy projects proposed in the desert area on Bureau of Land Management (BLM) land require approval from the BLM. Since the proposed solar array Project would have less than 50 MW of capacity and would be located on County land, it would not require BLM or CEC approval. However, as the Project would directly supply power to PG&E, it would need to be certified by the CEC as an eligible renewable resource.

3.5 ANTICIPATED PROJECT APPROVALS/RESPONSIBLE AGENCIES

The County of Los Angeles is the Lead Agency for the proposed Project. However, the Project would require a number of permits and approvals from other State and local agencies, including those listed below.

3.5.1 DISCRETIONARY PERMITS

- California Energy Commission: Certification as an eligible renewable resource.
- California Department of Fish and Wildlife: Section 1604 Streambed Alteration Agreement (Note: This would only be required if jurisdictional drainage features would be impacted).
- Lahontan Regional Water Quality Control Board: Section 401 Water Quality Certification (Note: This would only be required if jurisdictional drainage features would be impacted).
- County of Los Angeles: Conditional Use Permit for the West Antelope Solar Project (Case No. R2012-01589).

3.5.2 MINISTERIAL PERMITS

- State Water Resources Board: NPDES Construction General Permit
- County of Los Angeles: Grading Permit, Building Permit, Driveway Permit, and Utility Crossing Permit for West Avenue J and 110th Street West.
- City of Lancaster: Easement for construction within West Avenue J right-of-way.

SECTION 4.0 ENVIRONMENTAL CHECKLIST FORM

This section includes the completed environmental checklist form. The checklist form is used to assist in evaluating the potential environmental impacts of the proposed Project. The checklist form identifies whether the proposed Project is expected to have potential significant impacts. Substantiation and clarification for each checklist response is provided below each environmental topic.

1. **Project Title:** West Antelope Solar Energy Project

2. **Lead Agency Name and Address:** County of Los Angeles
   320 West Temple Street
   Los Angeles, California 90012

3. **Contact Person and Phone Number:** Mr. Anthony Curzi
   County of Los Angeles
   Department of Regional Planning
   (213) 974-6443

4. **Project Location:** Northwest and southwest corners of the West Avenue J and 110th Street West intersection in unincorporated Los Angeles County (near the western boundary of the City of Lancaster).

5. **Project Sponsor's Name and Address:** TA – Acacia, LLC
   119 First Avenue South, Suite 100
   Seattle, Washington 98104
   (206) 303-0198

6. **General Plan Designation:** N-1 (Non-Urban 1)

7. **Zoning:** A-2-5 (Heavy Agricultural)

8. **Description of Project:** The Project would develop the approximately 263-acre site with solar energy facilities that have a total system capacity of 20 MWac. The Project would consist of (1) mounted solar photovoltaic (PV) panels; (2) an electrical collection system; (3) the Project Substation; (4) an underground (or partially underground) transmission line along Avenue J to the SCE Antelope Substation; (5) a meteorological data collection system; and (6) civil infrastructure including driveways, internal access roads, drainage design, a hiking trail, secure fencing, landscaping, and two water tanks. At the end of the economically useful life of the Project, the Property would be restored to its pre-developed state in accordance with County requirements and an approved Decommissioning Plan.

9. **Surrounding Land Uses and Setting:** The 263-acre Project site is largely surrounded by undeveloped open space with the exception of the Southern California Edison's (SCE's) Tehachapi Renewable Transmission Project (TRTP) transmission lines, which pass through the Project site. Agricultural fields are located to the northwest, and open space with sparse rural residential development surrounds the Project site. Surrounding lands are relatively flat, with no major distinguishing topographic features and contain largely ruderal vegetation.

10. **Other Public Agencies Whose Approval is Required:** California Energy Commission, California Department of Fish and Wildlife (only if impacting jurisdictional drainage features), Lahontan Regional Water Quality Control Board (only if impacting jurisdictional drainage features), County of Los Angeles, City of Lancaster.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Less Than Significant With Mitigation" as indicated on the following pages.

- ☒ Aesthetics
- ☒ Air Quality
- ☒ Cultural Resources
- ☐ Geology and Soils
- ☒ Hazards and Hazardous Materials
- ☐ Land Use and Planning
- ☐ Noise
- ☐ Public Services
- ☐ Transportation/Traffic
- ☒ Mandatory Findings of Significance
- ☐ Agriculture and Forest Resources
- ☒ Biological Resources
- ☐ Energy
- ☐ Greenhouse Gas Emissions
- ☐ Hydrology and Water Quality
- ☐ Mineral Resources
- ☐ Population and Housing
- ☒ Recreation
- ☒ Utilities and Service Systems

DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Anthony Curzi
Signature of Lead Agency Representative

10/16/2013
Date

Anthony Curzi
Printed name

County of Los Angeles
Agency

4.1 AESTHETICS	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☒	☐	☐
b) Be visible from or obstruct views from a regional riding or hiking trail?	☐	☐	☒	☐
c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
d) Substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?	☐	☒	☐	☐
e) Create a new source of substantial shadows, light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

4.1.1 ENVIRONMENTAL SETTING

The 263-acre Project site is surrounded by and includes SCE TRTP transmission towers. It is partially bisected by West Avenue J, but is otherwise undeveloped, and it mostly consists of sparse and dry vegetation. SCE TRTP transmission towers run across the western edge of the North and South Portions, as well as the southern edge of the South Portion along West Avenue J-8. The topography is relatively flat with no major distinguishing features. On-site vegetation consists of annual grassland with small patches of native perennial grasses.

The area surrounding the Project site is generally undeveloped open space, with the exception of the agricultural fields to the northwest, sparse rural development, and transmission line corridors crisscrossing the area. There are approximately 15 single-family residential properties located within an approximate 1-mile radius of the Project boundaries. The nearest residential property is located 0.14 mile east of the Project site along West Avenue J in unincorporated Los Angeles County. A small alfalfa farm is located approximately 0.5 mile to the northwest from the Project site's western boundary. There are no industrial or manufacturing land uses in the Project vicinity, except for the Antelope Substation, which is located approximately 1.5 miles to the east of the Project site, and numerous nearby transmission lines.

Exhibits 4-1 and 4-2, Site Photographs, show photographs of the site from several different vantage points:

- ***Exhibit 4-1 – Views of North Portion of Project site.*** Photos 1 and 2 are views from the northeastern corner of the site looking west and south. Photo 3 is a view from West Avenue J looking west. As shown, the site is flat and mostly consists of sparse and dry vegetation. Distant hills are visible in the viewshed.

- ***Exhibit 4-2 – Views of South Portion of Project site.*** Photos 4 and 5 are from the southeastern corner of the site looking north and west. Photo 6 is a view from the intersection of 112th Street and West Avenue J looking southeast. The TRTP towers are visible, as are distant views of the San Gabriel Mountains.

Photo 1: Northeast corner of site looking west.

Photo 2: Northeast corner of site looking south.

Photo 3: Intersection of Avenue J and 110th St. looking west.

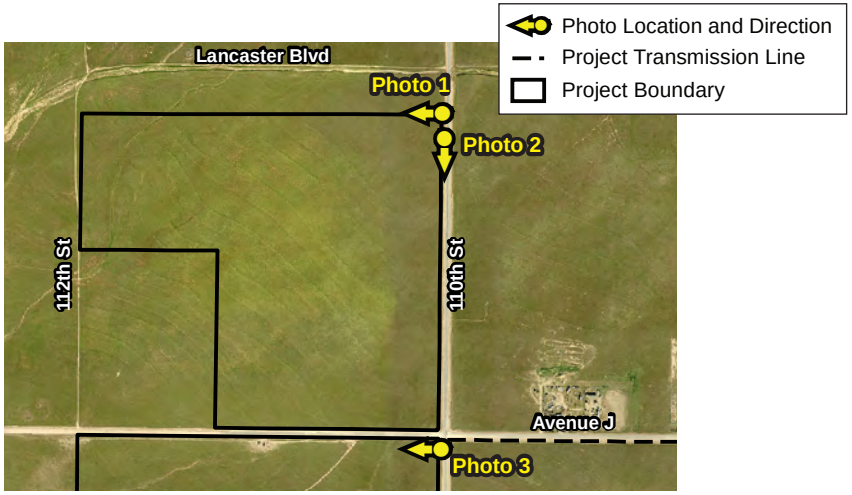


Photo location map.

D:\Projects\TAAC\J001\Graphics\Ex_CUP_photosA.ai

Views of North Portion of Project Site

Exhibit 4-1

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev: 09/07/12 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex4-1_CUP_photosA.pdf

Photo 4: Southeast corner of site looking north.

Photo 5: Southeast corner of site looking west.

Photo 6: Avenue J and western edge of site looking southeast.

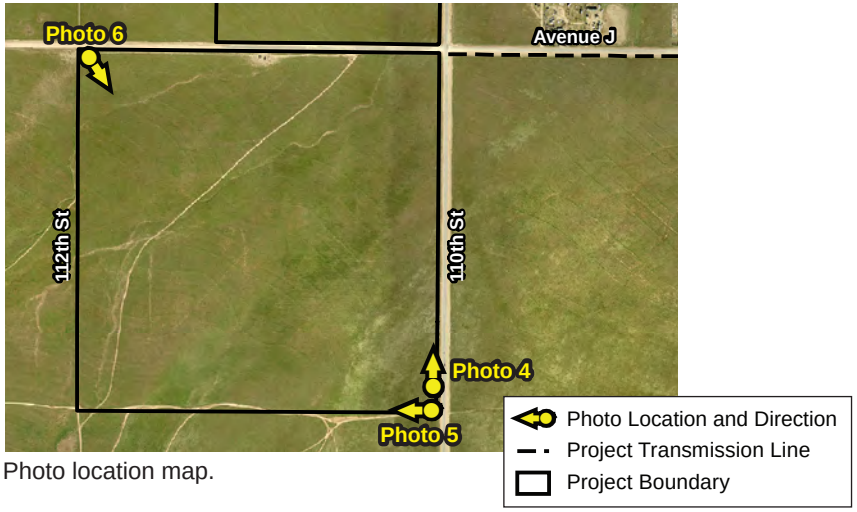


Photo location map.

D:\Projects\TAAC\J001\Graphics\Ex_CUP_photosB.ai

Views of South Portion of Project Site

Exhibit 4-2

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev: 09/07/12 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex4-2_CUP_photosB.pdf

According to the California Scenic Highway Mapping System, there are no officially designated or eligible State scenic highways near the Project site vicinity (Caltrans 2007). A segment of 110th Street West between Lancaster Boulevard/West Avenue I and West Avenue L, which is adjacent to the Project site, is identified by the Scenic Highway Element of the *Los Angeles County's General Plan* and the *Antelope Valley Areawide Plan* (LACDRP 1980, 1986) as a "Second Priority" scenic route. Second Priority Scenic Routes are proposed for further study upon completion of all first priority corridor studies.

The *City of Lancaster General Plan* has not established any scenic corridors. However, it does discuss local views of surrounding buttes and Quartz Hill and long-distance views of the San Gabriel Mountains and desert expanses as being scenic resources in the Lancaster area (Lancaster 2009b).

As the area is a rural environment with few existing land uses that emit ambient light, the Project site and surrounding areas do not contain bright or uniquely noticeable lighting. There are no street or traffic lights in the vicinity of the Project site. The nearest stationary sources of nighttime lighting are the residential properties along West Avenue J.

4.1.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities, as well as short-term construction and long-term operational impacts.

a) Would the project have a substantial adverse effect on a scenic vista?

d) Would the project substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?

Less Than Significant With Mitigation. There are no officially designated or eligible State scenic highways or vistas in the vicinity of the Project site (Caltrans 2007). A segment of 110th Street West between Lancaster Boulevard/West Avenue I and West Avenue L, located adjacent to the Project site, is identified by the County Scenic Highway Element as a "Second Priority" Scenic Route. Second Priority Scenic Routes are proposed for further study upon completion of all first priority corridor studies (LACDRP 1980). The proposed 2012 Draft General Plan 2035 no longer prioritizes routes for further study, but rather relies on the official State list of Scenic Highways and Corridors (LACDRP 2012b). The proposed Antelope Valley Area Plan Update states the goal of identifying and protecting natural landforms and vistas with significant visual value by designating them as Scenic Resource Areas (LACDRP 2011b).

While the Project would not affect a designated scenic vista, there are natural features on and around the Project site that could be considered scenic by some. The proposed Project involves the installation of a solar array and related appurtenances on a currently undeveloped site. Thus, changes in the visual characteristics of the site would occur. Approximately 178.5 acres of currently open space of undeveloped, desert landscape would be replaced with numerous grids of PV panels, equipment buildings, and chain-link fencing. The proposed PV panels would be placed on mounting structures and are anticipated to reach approximately six to eight feet above the ground. The top height of the panels would vary slightly throughout the day as the panels rotate to track the movement of the sun across the sky. The site would also be surrounded by six-foot-high perimeter fencing. The tallest components of the Project would be higher than eye-level and, therefore, the solar facility would obstruct views through the Project site for viewers adjacent to the site on 110th Street West, West Avenue J (between the North Portion and South Portion), or other adjacent roadways. The Project would also include off-site

improvements, including the installation of the Grid-Tie transmission line, switch poles, and riser poles that connect the Project to the Antelope Substation.

The lands surrounding the Project site are largely open space and sparsely developed with residential homes, and very few people are traveling adjacent to the Project site at any given time. The proposed Project site is not located near any heavily visited land uses and would not be viewed regularly by the general public. Nevertheless, the visual change in character of the Project site from open space to developed solar facilities would be considered a significant impact.

MM AES-1 requires the preparation of a Landscape Plan, subject to the review and approval of the County of Los Angeles, mandating the planting of drought-tolerant plants for the exterior of the Project site along portions of the perimeter fence facing 110th Street West, West Avenue J, and the northern side of the Project site. This landscaping would provide a visual buffer between the public roadways and the solar facilities, and views into the Project site would be obscured and naturalized through the use of the required landscaping along the perimeter fencing. A Preliminary Landscape Plan is included in Appendix A of this IS/MND.

As shown on Exhibits 4-3A and 4-3B, Photo Simulations, the proposed solar array and associated fencing would not degrade or obstruct views of the surrounding mountains and buttes from the vantage points surrounding the Project site. Exhibit 4-3A shows the proposed viewshed from the northeast corner of the Project site looking south on 110th Street West. Exhibit 4-3B shows the proposed viewshed from the intersection of West Avenue J and 110th Street West looking west. The viewsheds depicted in Exhibits 4-3A and 4-3B would be further improved upon implementation of MM AES-1, which would reduce impacts to public views of the Project site from adjacent areas. Implementation of MM AES-1 would reduce the visual impacts of the on-site solar array to less than significant.

The Grid-Tie connecting the Project to the Antelope Substation may run overhead or underground, with the possibility of running overhead for about half of the 1.5-mile stretch along planned transmission poles shared with Silverado Power. These poles, which are already permitted by the City of Lancaster, would be similar in nature to typical electrical utility poles and would not significantly obstruct public views. At approximately 99th Street West, the Grid-Tie would hand-off to SCE at the first 75-foot-tall pole with a pole switch; SCE would also construct an identical second pole with a pole switch, and a 70-foot-tall tubular steel riser pole, where it would transition back underground, until connecting into the 66-kV bus at the Antelope Substation. These transmission poles would extend approximately 0.2-mile along West Avenue J adjacent to the northwest corner of the SCE Antelope Substation. The poles would be similar in height to existing electrical transmission towers in the area and similar in character to the adjacent Antelope Substation. Therefore, the slim profile of the poles would have a minimal effect on public views or the visual character of the area.

Considering the mix of existing surrounding land uses (i.e., open space, rural development, agriculture, utility infrastructure) and the potential for approvals of future solar facilities in the Project vicinity, implementation of the Project would be generally compatible with the character of the existing surrounding land uses. The utility-related function and aesthetic of the proposed Project would not substantially degrade the character of the surrounding area. Per the Los Angeles County Code, electric generating plants are a conditionally allowed use in the Heavy Agricultural (A-2-5) zone upon obtaining a Conditional Use Permit (CUP), which shows that the County generally considers it to be a compatible use in the area. Further, “utility and communication installations” are allowed uses in the Non-Urban 1 land use category of the *Antelope Valley Areawide General Plan* (LACDRP 1986). There is existing electrical

Existing Conditions

Proposed Conditions

Photo Simulation – Viewshed Looking South on 110th Street West

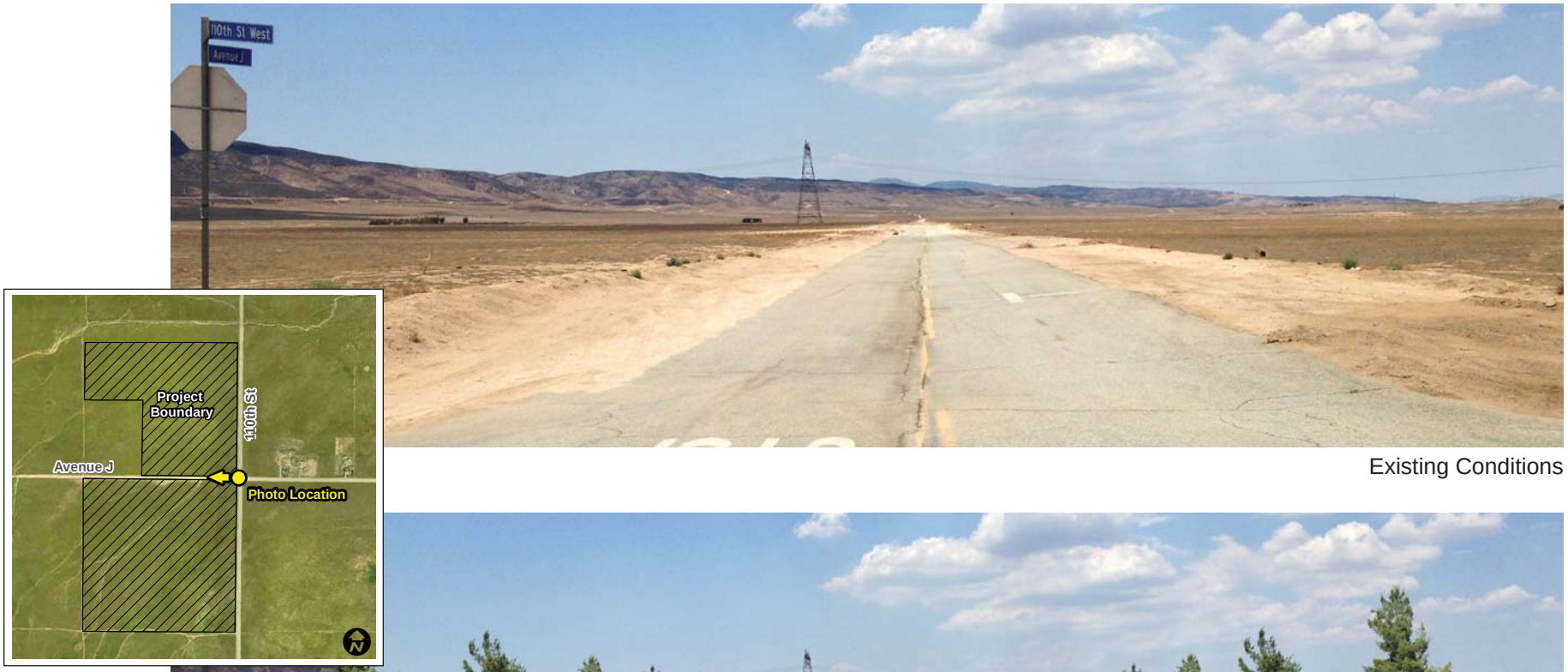
Exhibit 4-3A

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev 08/30/13 CJS) Projects\TAAC\J001\Graphics\IS-MND\Ex4-3a_photosim.pdf

D:\Projects\TAAC\J001\Graphics\Ex4-3_photosim.ai



Existing Conditions

Proposed Conditions

Photo Simulation – Viewshed Looking West on West Avenue J

Exhibit 4-3B

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev 08/30/13 CJS) Projects\TAAC\J001\Graphics\IS-MND\Ex4-3b_photosim.pdf

D:\Projects\TAAC\J001\Graphics\Ex_photosim_aveJ.ai

infrastructure in the area, including the SCE TRTP transmission lines and the Antelope Substation.

As it is a sparsely developed rural area, the proposed site is an appropriate location for operation of a solar facility. However, the proposed Project would change the visual characteristics of the Project site from vacant to developed, and this change could be perceived as substantially degrading the existing visual character or quality of the site and its surroundings. With incorporation of MM AES-1, impacts would be less than significant.

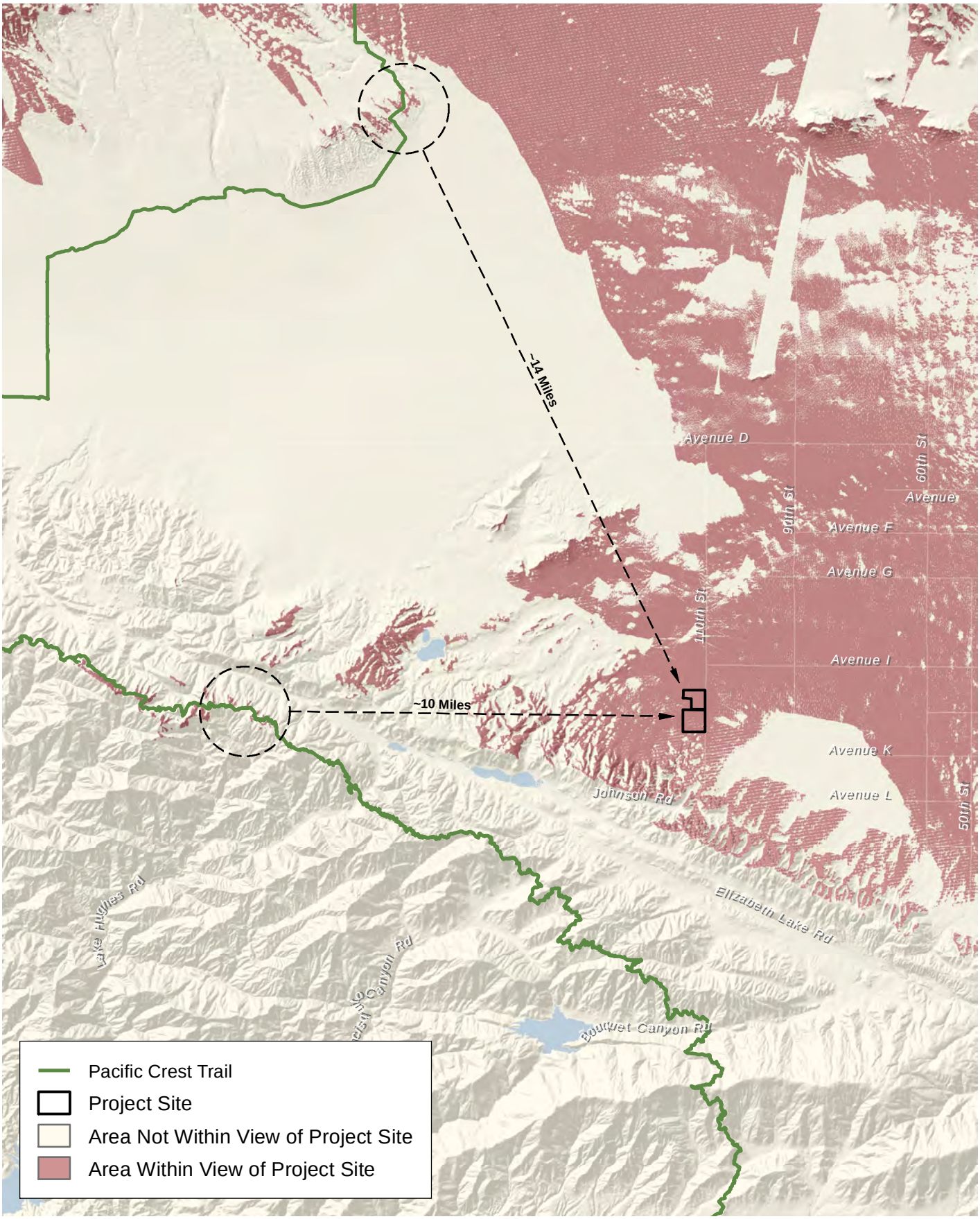
As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any visual impacts created by the Project would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

b) Would the project be visible from or obstruct views from a regional riding or hiking trail?

Less Than Significant Impact. As discussed fully in Section 4.16, Parks and Recreation, there are a variety of State, federal, and County trails in the Project area. The western edge of the Project site is within five miles of the Pacific Crest Trail (PCT). The PCT is the most notable trail in the western United States, extending from Mexico to Canada. Locally, the PCT extends through the Angeles National Forest and provides views of the Antelope Valley, including rural/agricultural and suburban land development; varied terrain; vegetation; wilderness; and the San Gabriel Mountains. The northern edge of the Angeles National Forest is located approximately four miles south of the site.

Portions of the Project site may be intermittently visible from segments of the PCT. As shown on Exhibit 4-4, Pacific Crest Trail Viewshed Analysis, the closest locations that allow for a view of the Project site from the PCT are at a distance of approximately 9 to10 miles. Therefore, due to distance and intervening topography, views of the Project site from the existing PCT alignment are very limited, and Project implementation would not substantially affect the visual experience. Additionally, based on historical data from the National Oceanic and Atmospheric Administration (NOAA) for the years of 2010 through 2013 "visibility" in the Antelope Valley was limited to less than 10 miles approximately 49% of the time between the hours of 7:00 AM and 7:00 PM (NOAA 2013). Therefore, on average, the Project site would not even be visible from this location of the PCT for half of the daylight hours throughout the year.

The nearest regional trail is Los Angeles County Trail Number 130 (California Poppy Trail), which is located on the Project site and runs along the eastern boundary, following 110th Street West and looping westward at Avenue D West towards the Antelope Valley California Poppy State Natural Reserve (SNR), approximately four miles northwest of the Project (LACDRP 2007). This trail is an “adopted proposed” trail system that is not yet constructed. The Project includes dedication of a 12-foot-wide trail easement and construction of a portion of the trail. The Project would be clearly visible from this trail, as it runs along the eastern edge of the site. Views to the north and the south of the trail would not be affected. However, the proposed PV panels and chain-link fencing on the site would partially obstruct views of the open space and mountains to the west. Since this segment of the California Poppy Trail is not yet constructed or operational, there is no impact from the Project.



D:\Projects\TAAC\J001\mxd\Ex_viewshed.mxd

Pacific Crest Trail Viewshed Analysis

Exhibit 4-4

West Antelope Solar Energy Project

N W E S

3 1.5 0 3 Miles

BonTerra CONSULTING

(Rev: 10-09-2013 CJS) R:\PAS\Projects\TAAC\J001\Graphics\IS-MND\ex4-4_viewshed.pdf

There are also a number of trails that traverse the Antelope Valley California Poppy SNR. Due to the higher elevation of the SNR, the proposed Project may be visible from some vantage points along the trails. However, due to distance and/or intervening topography, views of the Project site from these trails would be limited, and Project implementation would not substantially affect the visual experience. In addition, these trails are primarily used only during the wildflower bloom season, which generally occurs from mid-March through mid-April. Therefore, implementation of the Project would not significantly obstruct views from an existing regional hiking or riding trail and no mitigation would be required.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest), with the exception of the trail, which would dedicated to and maintained by the Department of Recreation and Parks. Therefore, any visual impacts from hiking trails created by the Project would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

c) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. As previously discussed, based on review of the California Scenic Highway Mapping System, there are no officially designated or eligible State scenic highways in the Project site vicinity (Caltrans 2007). The Scenic Highway Element of the *Los Angeles County's General Plan* and the *Antelope Valley Areawide Plan* identify a segment of 110th Street West between Lancaster Boulevard/West Avenue I and West Avenue L, which is adjacent to the Project site, as a "Second Priority" scenic route (Los Angeles County 1980, 1986). Second Priority Scenic Routes are proposed for further study upon completion of all first priority corridor studies.

While the Project site does not contain any trees, rock outcroppings, or other prominent visual features, the open space nature of the site and surrounding area may be considered by many to be a scenic resource. The *City of Lancaster General Plan* discusses local views of surrounding buttes and Quartz Hill and long-distance views of the San Gabriel Mountains and desert expanses as being scenic resources in the Lancaster area (Lancaster 2009b). The site is not located in or near these visual resources, and the proposed Project would not hinder views of these resources from any public viewsheds.

As shown on Exhibit 4-3A and 4-3B, the proposed solar array would stand between six and eight feet tall, and would not degrade or obstruct views of the surrounding mountains and buttes from the vantage points surrounding the Project site. From 110th Street West, the PV panels would largely be hidden behind the chain-link fence. The fencing would be visually buffered by the proposed landscaping. The Grid-Tie connecting the Project to the Antelope Substation would primarily run underground, with the possibility of running overhead for about half of the 1.5-mile stretch along transmission poles shared with Silverado Power. These poles, which are already permitted by the City of Lancaster, would be similar in nature to typical electrical utility poles and would not significantly obstruct public views. The approximate 75-foot switch poles and 70-foot-tall riser pole would be similar in height to existing electrical transmission towers in the area, but have a minimal affect on public views due to its slim profile. Therefore, there would be a less than significant impact to scenic resources and no mitigation is required.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any visual impacts to scenic resources would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

e) Would the project create a new source of substantial shadows, light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant With Mitigation. As previously noted, the Project site is a rural environment with few existing land uses that emit ambient light. The nearest stationary sources of nighttime lighting are the residential properties along West Avenue J. In addition, transitory vehicle headlights from West Avenue J and 110th Street West contribute to lighting on the Project site. However, due to the rural nature of the surrounding area, any additional contribution of night lighting would be considered a significant impact.

The proposed Project would include perimeter lighting for security, but no nighttime activities would be associated with the Project. Lighting would be installed in specific locations around the periphery of the Project site, as required for nighttime security purposes. In order to reduce potential impacts associated with the security lighting, MM AES-2 requires that on-site lighting consist of modern, low intensity, downward-shielded fixtures that are motion-activated, and would be directed onto the immediate site. Since the lights are motion-activated, they would only be occasionally visible by nearby residences when activity in the area triggers the lights. Motion-detectors would be set at a sensitivity level that could not be triggered by small animal movement. Implementation of MM AES-2 would reduce impacts from lighting to a level less than significant.

Glare that would adversely affect day or nighttime views in the Project area would be significant. Because there are no solar rays that could be reflected at night, there would be no impact related to glare affecting nighttime views. During the daylight hours, operation of the solar array involves tracking to follow the sun's path across the sky.

As depicted in Exhibit 3-3A, the assembled PV panels would have a typical height of about six feet and a maximum height of approximately eight feet, depending on the angle of the tracking system as it changes over the course of each day. The rows of solar arrays would be aligned north to south, and the PV panels would pivot to an angle of up to 45 degrees around a north-south axis, tracking the sun from east to west. As the PV panels would tilt east to west, travelers on West Avenue J and residents east of the Project site that would have a direct line of sight into the Project site could potentially be exposed to temporary glare from the solar array, resulting in a significant impact for daytime views in the Project area.

As required by MM AES-3, the proposed solar array would consist of flat-plate PV panels, which have a transparent glass cover to protect the solar cells. The glass used for the panels would be "high-transmission, low-iron" tempered glass. This type of glass absorbs more light, while producing less glare and reflectance than normal glass, having a reflectance value of 8 percent or less. Even at full tilt, the PV panels would not reflect sunlight directly onto the roadway. Moreover, due to the generally flat topography of the area, the chain-link fencing and landscaping around the Project site would also help minimize glare impacts by blocking direct lines of sight into the Project site. All other structures and equipment associated with the Project, including the water tanks and Project Substation, would be constructed out of steel and painted with a non-reflective color chosen to blend with the surroundings and minimize visual

impacts. Implementation of MM AES-3 would reduce impacts related to glare from the solar panels to less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the commencement of grading for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest), and all light and glare impacts discussed above would be eliminated entirely.

4.1.3 MITIGATION MEASURES

MM AES-1 The Project shall incorporate landscaping with drought-tolerant vegetation for the exterior of the Project site along the portions of the perimeter fence facing 110th Street West, West Avenue J, and along the northern boundary of the site. A Landscape Plan shall be prepared, subject to the review and approval of the County of Los Angeles. Irrigation via water trucks would be conducted until the landscaping is established. No long-term irrigation infrastructure would be constructed. All perimeter landscaping shall be planted prior to issuance of the certificate of occupancy.

MM AES-2 Lighting to be installed in specific locations around the periphery of the Project site, as required for nighttime security purposes, shall consist of modern, low intensity, downward-shielded fixtures that are motion-activated, and shall be directed onto the Project site. Motion-detectors shall be set at a sensitivity level that cannot be triggered by small animal movement.

MM AES-3 The glass used to cover the Project's flat-plate photovoltaic (PV) panels shall be "high-transmission, low-iron" tempered glass and have a reflectance value of 8 percent or less. All other structures and equipment associated with the Project, including the water tanks and Substation, shall be painted with a color chosen to blend with the surroundings and minimize visual impacts.

Implementation of these mitigation measures would reduce impacts to aesthetics to a less than significant level.

4.2 AGRICULTURE AND FOREST RESOURCES	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 ENVIRONMENTAL SETTING

The Project site is located on undeveloped land, formerly used for agriculture (Leighton 2012b). The nearest active agricultural use is an alfalfa farm located approximately 0.5 mile northwest of the Project site. The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) indicates that the Project site consists of Grazing Land and does not contain any Prime Farmland or Unique Farmland (FMMP 2009). Grazing Land generally consists of land on which the existing vegetation is suited to the grazing of livestock. Although Grazing Land is often described as important farmland because it is one of the categories used in preparing the FMMP maps, it is not defined as Farmland of Local Importance by the County of Los Angeles.[8] Both the State FMMP and the Farmland Protection Policy Act (FPPA) defer to local agencies to determine which lands are of local importance. No agricultural lands within Los Angeles County have ever been under Williamson Act contract. As such, no part of the Project site is under Williamson Act contract.

The *Antelope Valley Areawide General Plan* (AVAGP) Plan designates “Agricultural Opportunity Areas” on its Hazards and Resources Map (LACDRP 1986). These areas historically or currently have an agricultural use. The AVAGP calls “for these areas to be protected from incompatible uses”. The Project site is in an area designated as an Agricultural Opportunity Area on the AVAGP’s Hazards and Resources Map (LACDRP 1986). There are no forest lands on the site or surrounding the Project site. It is also not designated as “Forests” in the Forest

[8] Los Angeles County defines Farmland of Local Importance as “[p]roducing lands that would meet the standard criteria for Prime or Statewide but are not irrigated”.
http://www.conservation.ca.gov/dlrp/fmmp/Documents/Local_definitions_00.pdf

and Range Assessment by the California Department of Forestry and Fire Protection (FRAP 2003). The site has never been developed and has not supported native trees under natural conditions.

4.2.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities, as well as short-term construction and long-term operational impacts.

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. Project implementation would result in the conversion of approximately 260 acres of Grazing Land to urban and other land uses. Lands that the California Department of Conservation has designated as Prime Farmland, Farmland of Statewide Importance and Unique Farmland are not present on the Project site. Therefore, there would be no impact.

b) Would the project conflict with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or a Williamson Act contract?

Less Than Significant Impact. The Project site is zoned by the County as "Heavy Agricultural" and designated as "Non-Urban 1" by the General Plan's Land Use Map and an "Agricultural Opportunity Area" by the AVAGP (LACDRP 1980, 1986). The site is not under a Williamson Act contract. While a review of historic aerial photographs show that the site has not supported any authorized agricultural uses (farming or grazing) for at least 23 years (Leighton 2012b), the Project would result in the conversion of the site to a non-agricultural land use. While some properties in the area are still utilized for agriculture, the majority of properties do not have enough water to irrigate crops. Many of these properties have ceased farming activity over the last two decades and remain as unproductive fallow land. Electric generating plants are a conditionally allowed use in the Heavy Agricultural zone upon obtaining a Conditional Use Permit (CUP) (LACDRP 1986). Also, as identified in the draft *Antelope Valley Areawide General Plan Update*, Policy COS 7.3 supports the use of alternative and renewable energy systems in conjunction with agricultural activities (LACDRP 2011b).

The AVAGP allows for applications for non-agricultural uses in "Agricultural Opportunity Areas", but states that they must be evaluated for their impact upon adjacent agricultural operations. As a stand-alone solar generating facility, the proposed Project would not impact any adjacent agricultural operations. The proposed PV panels and accessory components would not be tall enough to cast shadows on adjacent crops and affect productivity. Further, the proposed Project would not impact the limited groundwater supply in the area by reducing the amount of water available for irrigation.

Table 4-1, FMMP Resources in Los Angeles County 2002–2010, summarizes the amount of FMMP-designated lands present in the County and the percent change in each category over that decade. The year 2010 is currently the most recent year for which the Department of Conservation has published FMMP data.

TABLE 4-1
FMMP RESOURCES IN LOS ANGELES COUNTY 2002–2010

Category	Acreage[a]				
	2002[b]	2006	2008[c]	2010	2002–2010 % Change
Prime Farmland	32,187	32,610	32,406	30,876	(4.1)
Farmland of Statewide Importance	939	1,024	1,228	952	1.4
Unique Farmland	1,155	1,024	1,177	1,129	(2.3)
Farmland of Local Importance	8,171	8,973	7,193	6,855	(16.1)
Grazing Land	233,399	228,730	229,474	231,475	(0.8)
Total FMMP Land	**275,851**	**272,361**	**271,478**	**271,287**	**(1.7)**

FMMP: Farmland Mapping and Monitoring Program; DOC: Department of Conservation

[a] The acreage for agricultural land is from DOC estimates and does not necessarily reflect the acreage published in the Los Angeles County crop reports. This is due to the fact that lands mapped by the State may not have actually been in agricultural use for the years identified in the DOC reports.

[b] The first use of orthorectified imagery in 2002 resulted in significant boundary adjustments, particularly in areas with terrain. These improvements resulted in a net decrease in the number of Urban acres during the 2002 update. Due to the incorporation of digital soil survey data (SSURGO) in 2002, acreages for farmland, grazing and other land categories differ from those published in the 2000–2002 Farmland Conversion Report. A large reclassification of Farmland of Local Importance to Grazing Land seen in the revised 2002 data is due to these factors and an analysis of the long-term idling of dryland farming areas.

[c] Total Area Inventoried changed in 2008 due to addition of the Edwards Air Force Base soil survey and adoption of updated county boundary file. All added acreage was classified as "Other Land".

Source: DOC 2011.

The table shows that there was 231,475 acres of Grazing Land available in Los Angeles County in 2010. Implementation of the Project would result in a 0.11 percent decrease in Grazing Land. Further, as required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to a beneficial use upon termination of the use of the land as a solar site, including a potential return to Grazing Land or other agricultural uses. Therefore, the proposed Project would not conflict with existing zoning for agricultural use and impacts would be less than significant.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Project does not include forest land, timberland, or timberland zoned Timberland Production, nor does it include any conversion of forest land. The proposed Project also would not cause changes in the environment that could indirectly affect the conversion of forest land to non-forest use. Therefore, there would be no impact.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The Project includes the construction of a Grid-Tie transmission line, which would add additional electrical infrastructure to the region. However, the Project does not provide any additional distribution facilities that could be available to developers in the region for residential/commercial/industrial development. Any future development in the region would have to access electricity through SCE's existing or future distribution network, which is a separate and independent network than the Project's transmission line. The proposed Project would not cause changes in the environment that could indirectly result in the conversion of farmland to non-agricultural uses because the Project would not be growth-inducing or otherwise hinder the future agricultural use of adjacent lands. Therefore, there would be no impact.

4.2.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to agricultural or forest resources; therefore, no mitigation is required.

4.3 AIR QUALITY	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 ENVIRONMENTAL SETTING

The Project site is located in the Mojave Desert Air Basin (MDAB), which includes parts of Kern, Los Angeles, Riverside, and San Bernardino Counties. Air quality management within the MDAB is divided among several air districts, which each have primary authority for air quality in their jurisdiction; the Project site lies in the southwestern area of the MDAB and within the boundaries of the Antelope Valley Air Quality Management District (AVAQMD). Both the State of California (State) and the federal government have established health-based Ambient Air Quality Standards (AAQS) for seven air pollutants, which are known as “criteria pollutants”. These pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), inhalable particulate matter with a diameter of 10 microns or less (PM10), fine particulate matter with a diameter of 2.5 microns or less (PM2.5), and lead. The State has also established AAQS for additional pollutants. The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. Federal and State standards for pollutants that are addressed in this analysis are shown below in Table 4-2, California and National Ambient Air Quality Standards.

TABLE 4-2
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	State Standards	Federal Standards	
			Primary	Secondary
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
PM2.5	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	15.0 µg/m^3	Same as Primary
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm	None
SO_2	AAM	–	0.030 ppm (80 µg/m^3)	–
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)		

O_3: ozone; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; AAM: annual arithmetic mean; µg/m^3: micrograms per cubic meter; –: No Standard; ppm: parts per million; mg/m^3: milligrams per cubic meter

Note: Standards for criteria pollutants analyzed for this Project are presented above. Other criteria pollutants exist but are not included in this table.

Source: CARB 2012.

Regional air quality is defined by whether the area has attained or not attained State and federal standards, as determined by monitoring. Areas that are in non-attainment are required to prepare plans and implement measures that would bring the region into attainment. When an area has been reclassified from non-attainment to attainment for a federal standard, the status is identified as “maintenance”, and there must be a plan and measures established that would keep the region in attainment for the following ten years. Table 4-3, Designations of Criteria Pollutants in the Antelope Valley Portion of the (MDAB), lists the current attainment designations for the MDAB.

TABLE 4-3
DESIGNATIONS OF CRITERIA POLLUTANTS IN THE ANTELOPE VALLEY PORTION OF THE MOJAVE DESERT AIR BASIN

Ambient Air Quality Standard	Attainment Status
1-hour O_3 (Federal)*	Nonattainment; classified Severe-17
8-hour O_3 (Federal 84 ppb)	Nonattainment; classified Severe-17
8-hour O_3 (Federal 75 ppb)	Nonattainment (expected)
O_3 (State)	Nonattainment; classified Extreme
PM10 (Federal)	Unclassified
PM2.5 (Federal)	Unclassified/attainment
PM2.5 (State)	Unclassified
PM10 (State)	Nonattainment
CO (State and Federal)	Attainment
NO_2 (State and Federal)	Attainment/unclassified
SO_2 (State and Federal)	Attainment/unclassified
Lead (State and Federal)	Attainment
Particulate Sulfate (State)	Unclassified
Hydrogen Sulfide (State)	Unclassified
Visibility Reducing Particles (State)	Unclassified

O_3: ozone; ppb: parts per billion; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less: CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide.

* Standard has been revoked; this is historical information only.

Source: AVAQMD 2011.

The U.S. Environmental Protection Agency (USEPA) designates an area as “Unclassifiable” if, based on available information, it cannot be classified as either meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. For the California Air Resources Board (CARB), an “Unclassified” designation indicates that the air quality data for the area are incomplete and do not support a designation of attainment or nonattainment.

Table 4-3 above shows that the USEPA has designated the AVAQMD portion of the MDAB as being in Severe-17 Nonattainment for ambient O_3 concentrations. Pursuant to the approved 2008 Federal Ozone Attainment Plan and given the Severe-17 Nonattainment designation, the AVAQMD has 13 years from the plan approval date (2004) to achieve attainment (i.e., 2021). The State has designated the AVAQMD portion of the MDAB as being in Extreme Nonattainment for O_3. The Extreme status allows the use of undefined reductions based on the anticipated development of new control technologies or improvement of existing technologies in the Attainment Plan; this status could extend the attainment date by three years to 2024. To be designated as an Attainment area by the State, the AVAQMD portion of the MDAB would need to achieve both the 1-hour and 8-hour O_3 standards (AVAQMD 2004).

In 2007, the USEPA revoked the annual PM10 standard as research indicated that there are no considerable health effects associated with long-term exposure to PM10. With this change, the basin is technically in Attainment of the federal PM10 standards, although the redesignation process has not yet begun. The USEPA has designated the AVAQMD portion of the MDAB as being an Unclassified area for PM10. The State has designated the AVAQMD portion of the MDAB as being in Nonattainment for the State PM10 standard, which is more restrictive than the federal standard.

4.3.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities, as well as short-term construction and long-term operational impacts.

a) Would the project conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?

No Impact. The AVAQMD's current air quality planning documentation, pursuant to State Implementation Plan (SIP) and California Clean Air Act (CCAA) requirements applicable to the Project site, includes four separate documents: (1) the *AVAQMD 2004 Ozone Attainment Plan (State and Federal)*; (2) the *AVAQMD List and Implementation Schedule for District Measures to Reduce PM Pursuant to Health & Safety Code §39614(d)*; (3) the *8-Hour Reasonably Available Control Technology – State Implementation Plan Analysis*; and (4) the *AVAQMD Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-attainment Area)*.

A project is considered non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable AVAQMD rules and regulations; complies with all proposed control measures that are not yet adopted from the applicable plan(s); and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units; increases the number of trips; and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan) (AVAQMD 2011).

The proposed Project would result in construction criteria pollutant emissions below the CEQA significance thresholds established by the AVAQMD, as shown in response 4.3(b) below, and therefore would not conflict with or delay implementation of any applicable attainment or maintenance plan. The Project would not conflict with the applicable land use plan because there would be negligible long-term emissions of criteria pollutants, as discussed in response 4.3(b), and the proposed Project would not generate new growth on the Project site. No impacts would occur, and no mitigation is required.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The AVAQMD's *CEQA and Federal Conformity Guidelines* (2011) establish significance thresholds to assess the regional impact of Project-related air pollutant emissions in the AVAQMD. Table 4-4, AVAQMD Criteria Pollutant Significance Emissions Thresholds, summarizes the AVAQMD's mass emissions thresholds, which are presented as annual values for long-term operational and short-term construction emissions. A Project with emission rates below these thresholds is considered to have a less than significant effect on regional air quality throughout the AVAQMD portion of the MDAB.

TABLE 4-4
AVAQMD CRITERIA POLLUTANT SIGNIFICANCE EMISSIONS THRESHOLDS

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NOx)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SOx)	25	137
Particulate Matter (PM10)	15	82
Particulate Matter (PM2.5)	15	82
Hydrogen Sulfide (H_2S)	10	54
Lead (Pb)	0.6	3
Source: AVAQMD 2011.		

Construction

Construction of the proposed Project would result in emissions of reactive organic gases (ROGs), oxides of nitrogen (NO_X), carbon monoxide (CO), sulfur oxides (SO_X), PM10, and PM2.5. Emissions from construction would result from fuel combustion and exhaust from construction equipment and vehicle traffic (i.e., worker commute and delivery truck trips) and grading and site work. Emissions estimates are based on the assumptions detailed in Appendix B.

Construction of the Project is anticipated to commence in fourth quarter 2013 and would require approximately six months to complete. Construction activities would occur between the hours of 7:00 AM and 7:00 PM Monday through Saturday. Project construction would include several phases occurring simultaneously, including (1) pile driving of piers or posts, and the placement of trackers on support piers; (2) trenching and installation of the DC and AC collection system, including the installation of the inverter enclosures; (3) the construction of electrical transmission facilities, including the construction of a Project Substation and transmission line to the Antelope Substation; and (4) the grading of access roads, a hiking trail, and construction of drainage elements.

It should be noted that because AVAQMD thresholds are presented in tons per year, maximum daily trips are not needed for purposes of estimating emissions and only total annual vehicle trips are considered. For the proposed Project, it was assumed that 879 total truck trips would be required for the delivery of materials. Delivery truck emissions were calculated from the point of entry into the air basin. Delivery truck trips (including water trucks) were assumed to originate 10 miles away (20 miles roundtrip) and hauling truck trips were assumed to originate from 14 miles away (26 miles roundtrip). Additionally, it was assumed that 20 total truck trips would be required to remove vegetation from the site. It was assumed there would be a total of 5,957 trips for worker commute for all phases of construction.

The proposed Project construction emissions were estimated using the assumptions provided by the Project Applicant and emission factors from EMFAC2011 and OFFROAD2007. Project-specific input was based on the factors described above; general information known about the Project description; engineering judgment; and standard practices. Although there would be no significant impacts related to this issue, the Project would be required to comply with AVAQMD Rule 403, Fugitive Dust, as a standard condition (MM AQ-1), which requires implementation of a Dust Control Plan. The Dust Control Plan includes strategies such as minimal grading and

ground disturbance, regular watering, application of soil binders and wood mulch, control of track-out from the site, and presence of an on-site monitor. Therefore, dust-control measures are included in the emissions calculations. The emissions calculations data sheets showing equipment assumptions and detailed emissions are included in Appendix B. The results of the calculations are shown in Table 4-5, and indicate that Project-related emissions would be less than the construction mass emissions CEQA thresholds established by the AVAQMD.

TABLE 4-5
ESTIMATED ANNUAL CONSTRUCTION EMISSIONS (TONS)

	VOC	NOx	CO	SOx	PM10	PM2.5
Annual emissions in 2013	1	12	6	<1	1	1
AVAQMD Annual Thresholds	***25***	***25***	***100***	***25***	***15***	***15***
Exceeds AVAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less.

Source: AVAQMD 2011 (thresholds). See Appendix B for calculations.

Therefore, short-term construction emissions with dust-control measures required in accordance with MM AQ-1 would ensure that the proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant, and no mitigation is required.

Operations

The workforce performing ongoing O&M would be relatively small and would typically be off site. The workforce is comprised of general labor for cleaning purposes; skilled electricians for visual inspections and performance testing; and skilled mechanics to inspect and maintain the mechanical portions of the tracking system. Because the entire facility would be monitored remotely in real time as described in detail below, it is anticipated that four to five O&M personnel would make about two to three visits per year to conduct the on-site O&M functions.

Other than O&M, general landscape laborers would perform vegetation maintenance at some interval to maintain ground cover and to remove unwanted vegetation. Additional water truck trips would be necessary during the first three years of operations for irrigation to establish the landscape buffer.

Skilled operations monitoring personnel would review the information provided by the SCADA system. In addition, if a fault or an error occurs, an automatically generated email would be sent to monitoring personnel to alert them. The monitoring personnel would assess the fault or error information to determine what corrective actions would be needed. In most cases with PV systems, the fault is auto-correctable and does not require reactive repair at the site.

PV facilities contain very few moving parts and have limited ongoing maintenance requirements. Maintenance activities would consist of checking electrical performance parameters via remote monitoring; performing periodic inspections and maintaining transformers and inverters; responding to any problems detected by remote monitoring; conducting weed

abatement and dust-control activities; cleaning PV panels; and maintaining driveways and retention basins. Water would be used for cleaning PV panels and controlling dust (less than one acre-foot per year), but no water would 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 maintenance of driveways and retention basins.

With the conservative assumption of 50 annual trips at a one-way distance of 50 miles for O&M personnel, 100 annual trips for O&M water trucks, and an additional 195 water truck trips during the first three years of operations for irrigation to establish the landscaping, annual pollutant emissions from maintenance visits were calculated with emission factors from EMFAC2011. As shown in Table 4-6, long-term operational emissions would be below the AVAQMD regional thresholds of significance. Therefore, impacts would be less than significant, and no mitigation is required.

TABLE 4-6
ESTIMATED ANNUAL OPERATIONAL EMISSIONS (TONS)

Year	VOC	NOx	CO	SOx	PM10	PM2.5
2013	0.0114	0.0882	0.0735	0.0002	0.0031	0.0024
AVAQMD Annual Thresholds	***25***	***25***	***100***	***25***	***15***	***15***
Exceeds AVAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less.

Source: AVAQMD 2011 (thresholds). See Appendix B for calculations.

Decommissioning

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It is assumed that decommissioning of the site would require the same construction scenario (activities, equipment, duration) as the initial development of the site; however, future air quality impacts would be less than those currently projected due to anticipated advancements in technology and a cleaner-burning construction equipment fleet mix. Therefore, future air quality impacts related to decommissioning would also be less than significant.

c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The AVAQMD portion of the MDAB is a nonattainment area for PM10 and O_3. The Project would contribute O_3 precursors and PM10 pollutants to the area during short-term construction. However, as described in Response 4.3(b) above, these emissions would be far below the AVAQMD regional thresholds.

As discussed further in Section 4.19, Mandatory Findings of Significance, a total of 11 known solar energy projects are currently proposed within a 3-mile radius of the proposed Project. Three of these projects are located in the County of Los Angeles and all are part of the Silverado Power West Solar Projects. The remaining eight are under review with the City of Lancaster.

According to the Notice of Preparation issued for the Silverado Power West Los Angeles County projects, construction is anticipated to begin in 2013 and be completed and operational within 2014, and has the potential to overlap with the proposed Project's construction. Given that the Project's contribution of PM10 during construction, as shown in Table 4-5, is only 6.6 percent of the AVAQMD threshold and the fact that construction activities would be less than six months in duration, the Project's PM10 and O_3 emissions would not be cumulatively considerable when considered in combination with other proposed projects in the Project vicinity. O_3 precursors include VOC and NOx. As shown in Table 4-5, Project construction would result in approximately 1 ton of VOC and 12 tons of NOx emissions, representing approximately 4 percent and 48 percent of the AVAQMD thresholds, respectively. Long-term operations would generate a negligible amount of air pollutants, as shown in Table 4-6, and would not be cumulatively considerable. No mitigation is required.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant With Mitigation. The nearest residential property is located 0.14 mile east of the Project site along West Avenue J. There are approximately 15 single-family residential properties located within approximately 1 mile of the Project site's outer boundary. A small agricultural farm is located approximately 0.5 mile to the northwest from the Project site's western boundary. As discussed further in Section 4.9, Hazards and Hazardous Materials, there are no schools within 0.25 mile of the Project site (for the air quality analysis, schools within 0.25 mile would be subject to additional analysis). The nearest school is Del Sur Elementary, which is located at 9023 West Avenue H, approximately 2.4 miles to the northeast of the Project site. Exposure of sensitive receptors is addressed for two situations: CO hotspots and diesel exhaust emissions. A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically at signalized intersections. As described above, vehicle trip generation from the operation of the proposed Project would be negligible. Because existing traffic volumes in the area are low and the Project would not generate significant traffic volumes, it would not create or contribute to a CO hotspot and, therefore no analysis is necessary.

CARB identified particulate exhaust emissions from diesel-fueled engines (diesel PM) as Toxic Air Contaminants (TACs) in 1998. Construction of the Project would result in the generation of diesel PM emissions from the use of on-site, heavy-duty, and off-road diesel equipment that is required for construction activities, and from on-road diesel equipment used to bring materials to and from the Project site. Exposure is a combination of the emissions rate and the length of time exposed, with exposures calculated over periods of 9 to 70 years. The proposed Project would utilize relatively limited diesel equipment and the construction period using diesel equipment would only last a total of six months. The exposure to nearby individuals (sensitive receptors) would be much less than threshold levels and the impact would be less than significant. No mitigation would be required.

However, Valley Fever has been a concern in the Antelope Valley for several years. Although not a direct air pollutant, valley fever (coccidioidomycosis) fungal spore infections develop through inhalation of airborne fungal spores contained in windblown dust, and is recognized to be endemic in areas with dry, alkaline soil conditions. Grading or other soil disturbing activities have been known to release the spores into the air, thereby increasing the risk that nearby people could inhale the spores. In order to prevent exacerbating the existing windblown dust issues in the Project area, all construction activity for the Project (including decommissioning activities) would be conducted under a rigorous Dust Control Plan prepared in accordance with AVAQMD Rule 403. As set forth in MM AQ-1, the Project Applicant shall prepare a Dust Control Plan that includes requirements for minimal grading, vehicle use, construction scheduling, water

application, soil binders/wood mulch, stock piles stabilization, final stabilization, and monitoring. Implementation of MM AQ-1 would prevent the Project from substantially increasing windblown dust concentrations compared to background levels and would reduce potential impacts to sensitive receptors to levels less than significant.

e) Would the project create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. The proposed Project would not handle trash; generate or treat sewage; use or generate chemicals; or engage in other activities that would generate odors. Diesel exhaust fumes would be generated by equipment during site-preparation and construction activities. Diesel fumes would result in odors that may be perceptible to occupants of facilities in the immediate vicinity of the Project site. Diesel odors would occur for short periods and would dissipate within a short distance from the Project site. The odors would not be objectionable because of the relatively small magnitude and short duration, as well as the lack of residents adjacent to the Project site. Operation of the Project would not cause any objectionable odors. Therefore, Project impacts related to odor would be less than significant, and no mitigation is necessary.

4.3.3 MITIGATION MEASURES

MM AQ-1 During construction of the Project, the Project shall comply with Antelope Valley Air Quality Management District's (AVAQMD's) Rule 403, Fugitive Dust, to prepare a Dust Control Plan for controlling fugitive dust and avoiding nuisance. Compliance with this rule would result in a reduction in short-term particulate pollutant emissions. The Dust Control Plan shall include the following strategies:

- Minimal Grading and Ground Disturbance: The Project shall perform the minimum amount of grading and disturb the minimum amount of existing vegetation to construct the Project. Grading shall generally be limited to the proposed access roads, retention basins, Project Substation foundation, inverter pads, water tank pads, and trail areas. The existing vegetation in all other areas shall be mowed to a height consistent with vegetation management requirements and left in place.
- Vehicle Use: The Project shall only use construction vehicles with tires and shall prohibit use of equipment with rotating wheel tracks (e.g. tank treads or caterpillar tracks).
- Construction Scheduling: Grading activities shall be temporarily halted and/or site watering shall be increased during wind speeds that exceed 25 miles per hour, or when visible dust plumes have the potential to be transported: 1) off the Project site or 2) 200 feet beyond the centerline of the construction of linear facilities (such as the Grid-Tie). Earth-moving activities on the Project site shall be scheduled during winter months, when it is anticipated that natural rainfall shall assist with mitigation of fugitive dust.
- Water Application: The Project shall apply water to the construction site as necessary to control fugitive dust. As required by the AVAQMD, when water is used as fugitive dust control, watering is required three times a day and increased to a minimum of four times a day if there is evidence of visible wind-driven fugitive dust.
- Soil Binders/Wood Mulch: Soil binders and wood mulch shall be applied as necessary.

- Stock Piles Stabilization: All stock not currently in use shall be stabilized from erosion through the use of watering, soil binders, or protected with a plastic or geo-textile mat.
- Final Stabilization: Prior to completion of construction, all disturbed areas shall be permanently stabilized through the use of an all-weather surface treatment and existing vegetation shall be maintained at a maximum height of 6 inches, per LACFD requirements.
- Monitoring: A qualified construction mitigation manager (CMM) or delegate shall be retained to be on-site during all grading activities to ensure compliance with the approved Dust Control Plan. The CMM or delegate shall monitor all construction activities for visible dust plumes. The CMM or Delegate shall promptly implement additional dust plume reduction measures in the event that such visible dust plumes are observed. Additional measures to be implemented, as necessary, shall include increased watering, application of dust palliatives, and/or scaled back construction activities up to and including temporary work cessation.

Implementation of this mitigation measure would reduce impacts to air quality to a less than significant level.

4.4 BIOLOGICAL RESOURCES	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐
b) Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by Section 404 of the federal Clean Water Act or California Fish & Game code Section 1600, et seq. through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.)?	☐	☐	☐	☒
f) Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)?	☐	☐	☐	☒
g) Conflict with the provisions of an adopted state, regional, or local habitat conservation plan?	☐	☐	☐	☒

4.4.1 ENVIRONMENTAL SETTING

Several Biological Resources reports have been prepared for the Project by BonTerra Consulting and are provided in the technical appendices. These include the Jurisdictional Delineation Report (Appendix C-1), the Burrowing Owl Letter Report (Appendix C-2), the Swainson's Hawk Letter Report (Appendix C-3), and the Plant Letter Report (Appendix C-4). A Memorandum assessing the post-construction biological value of the Project site is provided in Appendix C-5. The findings of these reports are summarized, where relevant, in this section.

The data provided below are based on literature searches, database reviews, and field observations, as well as BonTerra Consulting's studies for other projects in the same vicinity as the proposed Project site and site-specific surveys performed for the Project. A plant survey of the Project site was conducted by BonTerra Consulting's Botanist and Certified Arborist, Fred Roberts, on April 17 and 18, 2012. Focused surveys for the western burrowing owl (*Athene cunicularia*) were conducted by BonTerra Consulting Biologists Brian Daniels, Steve Morris, Raeanne Murphy, and Kristin Smith on April 15; May 7 and 29; and June 18, 2012. Focused surveys for the Swainson's hawk (*Buteo swainsoni*) were conducted by BonTerra Consulting Biologists Brian Daniels and Jonathan Feenstra on April 12, 19, 27; May 9, 15, 30; June 13; and July 3 and 13, 2012.

The proposed Project is located on the U.S. Geological Survey's (USGS') Del Sur 7.5-minute quadrangle. The topography within the primary Project Area is generally flat with a gentle upward south-trending slope. There are some low rises in the southern portion of the proposed Project area. The elevation ranges from 2,480 to 2,620 feet above mean sea level (msl). The transmission corridor for the proposed Grid-Tie is on relatively flat ground and is situated at about 2,535 feet above msl at the west end and 2,490 feet above msl at the east end.

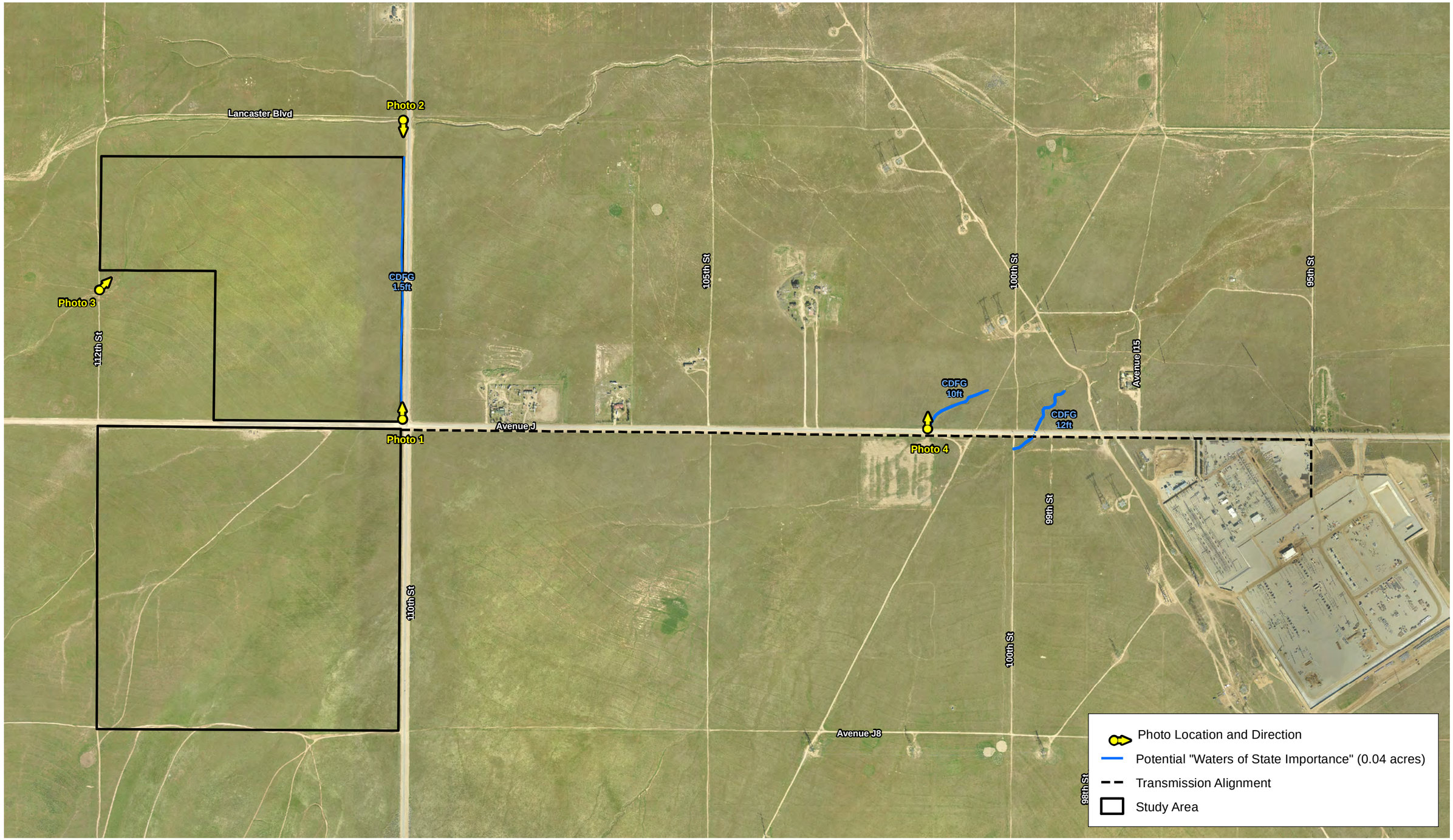
The majority of the soils in the Project area are mapped as Greenfield sandy loam (2 to 9 percent slope), as shown in Exhibit 4-8, Soil Types, in Section 4.7, Geology and Soils. The northern border is mapped as Ramona coarse sandy loam (0 to 2 percent slopes), and the southeastern corner is mapped as Ramona coarse sandy loam (2 to 5 percent or 5 to 9 percent slope). Small units of Hanford coarse sandy loam just barely enter the site in the southwest corner (USDA NRCS 2012).

Jurisdictional Features

The Project survey area contains two ephemeral drainage features. The on-site drainage feature is located on the northeastern boundary of the Project site along the west side of 110th Street West. This feature flows north and joins an off-site ephemeral drainage that drains in an easterly direction into 24-inch corrugated steel pipe culverts located at Lancaster Boulevard and 110th Street West. A second off-site drainage consists of two tributaries that flow north to south. The easterly tributary crosses over West Avenue J and terminates south of the road. Both the tributaries are modified portions of the blueline drainage feature and are shown on Exhibit 4-5, Potential Jurisdictional Drainage Features.

All drainage features within the West Antelope Valley Watershed ultimately flow into dry lakebeds, and consequently do not ultimately connect to traditional navigable waters; therefore, these drainage features—which are within the West Antelope Valley Watershed—would be considered "isolated waters". Therefore, both the on-site and off-site drainage features do not meet the requirements for U.S. Army Corps of Engineers (USACE) jurisdiction. The USACE would need to concur with this finding as part the submittal of a Preliminary Jurisdictional Determination request.

However, the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW) take jurisdiction over both connected and isolated waters. Therefore, these drainage features could be considered "jurisdictional waters". Based on field observations and data collection, 0.04 acre (0.02 hectare) of potential RWQCB and CDFW jurisdiction are located within the Project site boundaries.



D:\Projects\TAAC\J001\mxd\Ex_JD_potential_11x17.mxd

Potential Jurisdictional Drainage Features

Exhibit 4-5

West Antelope Solar Project

N W E S

800 400 0 800 Feet

BonTerra CONSULTING

(Rev: 10-09-2013 CJS) Projects\TAAC\J001\Graphics\IS-MND\Ex4-5_JD_potential.pdf

Vegetation

Exhibit 4-6, Vegetation Map, shows that the vegetation in the Project area consists of native annual grassland with small patches of native perennial grasses. The annual grassland is dominated by Pacific fescue (*Festuca microstachys*) with common goldfields (*Lasthenia gracilis*), redstem filaree (*Erodium cicutarium*), red brome (*Bromus madritensis ssp. rubens*), cheat grass (*Bromus tectorum*), and doveweed (*Croton setiger*). The character of the grassland oscillates somewhat between the native and non-native elements in dominance. The distribution and density of dried stalks from last year indicate that small fescue dominated the vegetation in 2011 but, in 2012, the distribution of non-native species was more prevalent. Overall, the species composition in the Project Area was very coastal-like in its make-up with very few desert elements. Associated species include rattlesnake weed (*Chamaecyce albomarginata*), valley popcornflower (*Plagiobothrys canescens*), California poppy (*Eschscholzia californica*), and tumble mustard (*Sisymbrium altissimum*). Small patches of nodding needlegrass (*Stipa cernua*) and big squirreltail (*Elymus multisetus*) were scattered over the primary Project area, especially on the eastern and southern portions. Due to its abundance in the region, the annual grassland found at the Project site is not considered to be special status vegetation type. A single special status species was observed during the focused surveys: Peirson's morning-glory (*Calystegia peirsonii*), which has a California Rare Plant Rank (CRPR) of 4.2.

The transmission line corridor for the Grid-Tie to the Antelope Substation is very similar in terms of vegetation to the primary Project area, except that approximately 25 feet adjacent to West Avenue J is cleared, presumably for fire protection and road maintenance. The cleared area supports a fair diversity of weeds including red-stemmed filaree, Russian thistle (*Salsola tragus*), red brome, tumble mustard, and western tansy mustard (*Descurainia pinnata*) in addition to some forbs, including rattlesnake weed and miniature lupine (*Lupinus bicolor*).

Small patches of native grassland dominated by big squirreltail and a small patch of rubber rabbitbush (*Ericameria nauseosus*) are situated within the grasslands at the west end of the transmission line corridor.

Wildlife

Although the Project site is undeveloped open space, a relatively low level of wildlife diversity is present due to the singular type of habitat found across the Project site. The site was previously disturbed, so much of the original habitat was cleared. Further, the Project site is bound by the SCE TRTP corridor on the western and southern edges and 110th Street West along the eastern edge, resulting in increase edge effects (e.g., higher occurrence of invasive species, fires, and wildlife/human interactions) in these areas on the perimeter of the Project site. The transmission line corridor to the Antelope Substation along West Avenue J consists mainly of ruderal and disturbed areas as a result of the existing infrastructure. Based on initial site visits by BonTerra Consulting's biologists and their experience and familiarity with the Project site and vicinity, it was determined that focused surveys for the western burrowing owl (*Athene cunicularia*) and the Swainson's hawk (*Buteo swainsoni*) were necessary.

4.4.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the

Source: USDA, NRCS 2012

D:\Projects\TAAC\J001\mxd\Ex_veg.mxd

Vegetation Map

Exhibit 4-6

West Antelope Solar Project

N W E S

800 400 0 800 Feet

Bonterra CONSULTING

(Rev: 8-29-2013 CJS) PAS\Projects\TAAC\J001\Graphics\Plant Report\Ex_veg.pdf

California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

Less Than Significant With Mitigation. This section is divided into discussions about Special Status Plant Species and Special Status Wildlife Species that occur on the Project site. For a discussion of cumulative impacts, refer to Section 4.19, Mandatory Findings of Significance, Threshold (c).

Special Status Plant Species

The literature search and database review revealed a list of ten special status plant species known to occur in the Project vicinity. Various factors are required to be present in order to demonstrate suitable habitat for a particular species, including distribution of vegetation types, slope, aspect, topography, rainfall, soil types, and other substrate features. The determination of suitable habitat is based on the presence or absence of appropriate biological features for each species. These plants and their potential to occur on the Project site are summarized below in Table 4-7, Special Status Plant Species Known to Occur in the Vicinity of the Project Study Area.

TABLE 4-7
SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT STUDY AREA

Species	Status			Potential to Occur in the Survey Area. Results of Focused Survey
	USFWS	CDFW	CRPR	
Astragaulus preussii var. *Laxiflorus* Lancaster milk-vetch	—	—	1B.1	No potentially suitable habitat (alkaline flats) is present, and it was not observed during focused surveys.
Boechera lincolnensis Darwin rockcress	—	—	2.3	No potentially suitable habitat (rocky slopes, carbonate substrates) is present, and it was not observed during focused surveys. The reports in the western Los Angeles USGS quadrangles are apparently unverified, but appears to be confined mostly to desert mountains.
California macrophylla Round-leaved filaree	—	—	1B.1	No potentially suitable habitat (mesic grasslands) is present. This species is historically known locally the Elizabeth Lakes region (1884) where moister conditions prevail. This species was not observed during focused surveys.
Calochortus clavatus var. *gracilis* slender mariposa lily	—	—	1B.2	No potentially suitable habitat is present (too dry). This species is not known to occur on the north side of the San Gabriel Mountains. This species was not observed during focused surveys.
Calochortus striatus alkali mariposa lily	—	—	1B.2	No potentially suitable habitat (alkaline flats, meadows, and springy areas) is present, and it was not observed during focused surveys.

TABLE 4-7
SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT STUDY AREA

Species	Status			Potential to Occur in the Survey Area. Results of Focused Survey
	USFWS	CDFW	CRPR	
Calystegia peirsonii **Peirson's morning-glory**	**—**	**—**	**4.2**	Suitable habitat is present on site. **One site was located during the focused surveys.**
Canbya candida white pygmy-poppy	—	—	4.2	No potentially suitable habitat (sandy soils in desert vegetation) is present. This species is found east of Lancaster, and it was not observed during focused surveys.
Castilleja plagiotoma Mojave paintbrush	—	—	4.3	No potentially suitable habitat (alluvial Great Basin scrub, Joshua Tree woodland, pinon, pine forests) is present. This species is found east of Lancaster on the desert floor, and it was not observed during focused surveys.
Chorizanthe parryi var. *Fernandina* San Fernando Valley spineflower	FC	CE	1B.2	Limited potentially suitable habitat (sandy soils) is present. This species was historically located (1920s) in the Elizabeth Lake region, about 3 miles southwest of the Project site. However, it is not known in the Antelope Valley proper. No *Chorizanthe* species were observed during focused surveys.
Chorizanthe parryi var. *parryi* Parry's spineflower	—	—	2.1	Limited potentially suitable habitat (sandy soils) is present. This species was historically located (1896) in the Lancaster area. No *Chorizanthe* species were observed during focused surveys.
Chorizanthe spinosa Mojave spineflower	—	—	4.2	No potentially suitable habitat (alluvial fan scrub, Mojavean desert scrub, pinyon-juniper woodlands, little sand) is present. This species was not observed during focused surveys.
Chorizanthe xanti var. *leucotheca* white-bracted spineflower	—	—	1B.2	No potentially suitable habitat (Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, little sand) is present. This species is generally located east of Lancaster, and it was not observed during focused surveys.
Cryptantha clokeyi Clokey's cryptantha	—	—	1B.2	Potentially suitable habitat is present. The nearest location of this species is about 4 miles to the northwest (Poppy Preserve in similar habitat). This species was not observed during focused surveys.
Goodmania luteola golden goodmania	—	—	4.2	No potentially suitable habitat (alkaline or clay soils) is present. This species is found primarily east of Lancaster in the desert, and it was not observed during focused surveys.
Layia heterotricha pale-yellow layia	—	—	1B.1	No potentially suitable habitat (alkaline or clay soils) is present. This species was historically known found in area near Lancaster (1895). This species was not observed during focused surveys.
Lepechinia rossii Ross' pitcher sage	—	—	1B.2	No potentially suitable habitat (chaparral, mountains) is present. This species was not observed during focused surveys.

TABLE 4-7
SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT STUDY AREA

Species	Status			Potential to Occur in the Survey Area. Results of Focused Survey
	USFWS	CDFW	CRPR	
Loeflingia squarrosa var. *artemisiarum* sagebrush loeflingia	—	—	2.2	No potentially suitable habitat (sandy soils) is present. This species was not observed during focused surveys.

USFWS: U.S. Fish and Wildlife Service: CDFW: California Department of Fish and Wildlife; CRPR: California Rare Plant Rank; USGS: U.S. Geological Survey

LEGEND:

Federal (USFWS)		**State (CDFW)**	
FC	Candidate	CE	Endangered

CRPR Categories

1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2 Plants Rare, Threatened, or Endangered in California But More Common Elsewhere
4 Plants of Limited Distribution – A Watch List

CRPR Threat Code Extensions
None Plants lacking any threat information
.1 Seriously Endangered in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly Endangered in California (20–80% of occurrences threatened)
.3 Not Very Threatened in California (low degree/immediacy of threat or no current threats known)

Notes:
The Project Study Area is the USGS' Del Sur and surrounding 7.5-minute quadrangles.
Boldface type indicates species found on site.

Source: BonTerra Consulting 2012c.

A list of all plants observed on the proposed Project site during the focused surveys is presented in Appendix C-3. Due to conditions at the Project site (30 percent of normal rainfall), there is a possibility that species could be present on site but were not detectable at the time of the surveys.

A single special status plant species (CRPR 4.2) was observed during the focused surveys: Peirson's morning-glory. The single site was found about 330 feet northwest of the intersection of West Avenue J and 110th Street West. A total of 30 individuals were found (BonTerra Consulting 2012c).

Impacts on the small population of Peirson's morning-glory on the Project site would be considered less than significant because the loss of this small population would not substantially affect the regional population of this species. Therefore, no mitigation would be required.

Special Status Wildlife Species

The literature search and database review revealed a list of 18 special status wildlife species known to occur in the Project vicinity. These wildlife species and their potential to occur on the Project site are summarized below in Table 4-8, Special Status Wildlife Species Known to Occur in the Project Vicinity.

TABLE 4-8
SPECIAL STATUS WILDLIFE SPECIES KNOWN TO OCCUR IN THE PROJECT VICINITY

Species	Status	Likelihood to Occur on the Project Site
Reptiles		
Gopherus agassizii desert tortoise	FT, ST	Not expected to occur; no potentially suitable habitat.
Phrynosoma blainvillii Coast horned lizard	SSC	Not expected to occur; no potentially suitable habitat and outside known range.
Anniella pulchra pulchra silvery legless lizard	SSC	Not expected to occur; no potentially suitable habitat and outside known range.
Birds		
Buteo swainsoni **Swainson's hawk**	**ST**	**May occur for foraging only; limited potentially suitable habitat for foraging and no potentially suitable habitat for nesting**.
Circus cyaneus northern harrier	SSC	May occur for foraging only; suitable habitat for winter forage; no potentially suitable nesting habitat.
Charadrius alexandrinus nivosus western snowy plover	FT, SSC	Not expected to occur; no potentially suitable habitat.
Charadrius montanus mountain plover	SSC	Not expected to occur; no potentially suitable habitat.
Athene cunicularia **burrowing owl**	**SSC**	**Observed during surveys; occupied burrows found on both sides of West Ave J east of 110th Street.**
Asio otus long-eared owl	SSC	Not expected to occur; no potentially suitable habitat.
Asio flammeus short-eared owl	SSC	Not expected to occur; no potentially suitable habitat.
Buteo regalis Ferruginous Hawk	SS	Observed during surveys; suitable habitat for winter forage; breeds outside region.
Cathartes aura turkey vulture	SS	Observed during surveys; suitable foraging habitat; no potentially suitable nesting habitat.
Falco mexicanus prairie falcon	SS	Observed during surveys; suitable foraging habitat; no potentially suitable nesting habitat.
Geococcyx californianus greater roadrunner	SS	Observed during surveys; suitable foraging habitat, but no potentially suitable nesting habitat.
Lanius ludovicianus loggerhead shrike	SSC	May occur for foraging only: no potentially suitable foraging habitat.
Numenius americanus long-billed curlew	SS	May occur for foraging only; suitable habitat for winter forage; no potentially suitable nesting habitat.
Pooecetes gramineus vesper sparrow	SS	Observed during surveys; suitable foraging habitat; breeds outside region.
Sialia currucoides mountain bluebird	SS	May occur for foraging only; no potentially suitable nesting habitat.
Sturnella neglecta western meadowlark	SS	Observed during surveys; suitable foraging habitat and potentially suitable nesting habitat.
Toxostoma lecontei Le Conte's thrasher	SSC	Not expected to occur; no potentially suitable habitat.
Agelaius tricolor tricolored blackbird	SSC	May occur for foraging only: no potentially suitable foraging habitat.
Xanthocephalus xanthocephalus yellow-headed blackbird	SSC	Not expected to occur; no potentially suitable habitat.

TABLE 4-8
SPECIAL STATUS WILDLIFE SPECIES KNOWN TO OCCUR IN THE PROJECT VICINITY

Species	Status	Likelihood to Occur on the Project Site
Mammals		
Antrozous pallidus pallid bat	SSC	Not expected to occur; no potentially suitable habitat.
Corynorhinus townsendii Townsend's big-eared bat	SSC	Not expected to occur; no potentially suitable habitat.
Xerospermophilus mohavensis Mohave ground squirrel	ST	Not expected to occur; no potentially suitable habitat.
Taxidea taxus American badger	SSC	May occur; occasional use of the Project site as it moves between nearby areas of more appropriate habitat.

USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife

LEGEND:

Federal (USFWS)		**State (CDFW)**		**Los Angeles Audubon (LAA)**	
FT	Threatened	ST	Threatened	SS	Sensitive Species
FP	Fully Protected	SSC	Species of Special Concern		

Notes:
Boldface type indicates species found on site.

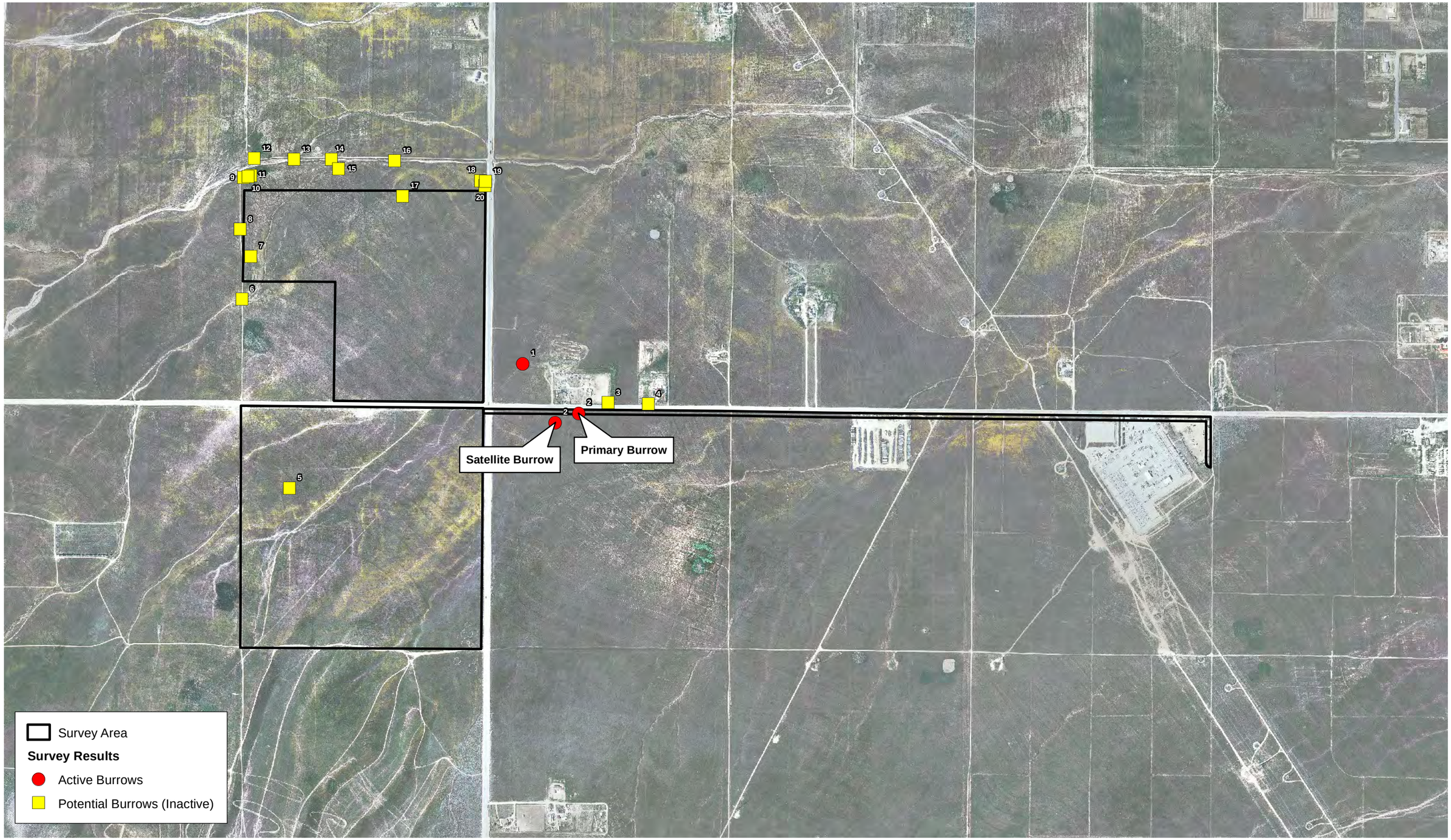
Source: BonTerra Consulting 2012d, 2012e.

Based on initial site visits and previous studies conducted by BonTerra Consulting in the Project area, only two special status wildlife species with potential to occur would require mitigation or minimization measures, if present. Focused surveys for western burrowing owl and Swainson's hawk were conducted, following the currently accepted guidelines for each species (i.e., California Burrowing Owl Consortium; California Energy Commission [CEC] and California Department of Fish and Wildlife [CDFW]; and Swainson's Hawk Technical Advisory Committee [SWTAC]).

Western Burrowing Owl

For the burrowing owl, a total of four 3-hour-long surveys were conducted, with two at sunrise (approximately between 4:45 AM and 7:45 AM) and two at sunset (approximately between 6:00 PM and 9:00 PM) on April 15; May 7 and 29; and June 18, 2012. During the first survey, it was determined that several potentially suitable burrows were present on the Project site. After the discovery of potentially suitable burrows on the site, the initial burrowing owl habitat assessment and burrow surveys were conducted concurrently with the first focused burrowing owl survey; surveys concentrated on potential habitat and occupied burrows on the Project Site as well as a 50-foot buffer south of West Avenue J that would serve as the transmission corridor (BonTerra Consulting 2012d).

The focused burrow survey resulted in the identification of a total of 20 burrows, burrow clusters, or shelters that showed evidence of current, historic, or potential burrowing owl occupation. The locations of these burrows are shown in Exhibit 4-7, Location of Burrowing Owl Burrows. Most of these sites were located within or at the edges of roads, drainages, and swales. Two of these burrows/burrow complexes were found to be active during the surveys. These two burrow complexes had evidence of recent activity and supported breeding owls during these surveys. These burrows are described below.



D:\Projects\TAAC\J001\mxd\Ex_BUOW.mxd

Location of Burrowing Owl Burrows

Exhibit 4-7

West Antelope Solar Energy Project

N W E S

1,000 500 0 1,000 Feet

Benterra CONSULTING

(Rev 8/29/2013 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_BUOW.pdf

Active Burrow Complex 1: This burrow complex had a minimum of four active burrows within 500 feet north of West Avenue J, just east of 110th Street West. This complex of burrows supported two pairs of adult burrowing owls that successfully fledged at least four juvenile burrowing owls. This burrow complex was also part of a larger complex of occupied burrowing owl burrows that extended to the north and northeast in an area composed of non-native and some native grasslands. At least 15 burrowing owls, including several juvenile owls, were observed in this larger complex of burrows during another BonTerra Consulting biological survey on the Project site on July 3, 2012.

Active Burrow Complex 2: This active burrow complex was likely created by California ground squirrels (*Otospermophilus beecheyi*) and was occupied by one pair of adult burrowing owls that successfully fledged three juvenile burrowing owls. The adults and juvenile burrowing owls were most often observed at the primary burrow located 75 feet south of West Avenue J. The satellite burrow was west of the primary burrow, located about 100 feet south of West Avenue J.

While Active Burrow Complex 1 is located outside the Project boundaries, Active Burrow Complex 2 lies within the transmission corridor to the Antelope Substation. The loss of an active nest for burrowing owl would be a violation of the Migratory Bird Treaty Act (MBTA) and would result in a significant impact. Project implementation has the potential to result in the loss of an active burrowing owl nest or other native bird nests. As required by MM BIO-1, a pre-construction survey prior to ground-disturbing activities and protection of active nests would serve to reduce these impacts to a less than significant level for any burrowing owl potentially nesting on the Project site and for the active nest lying within the transmission corridor. If burrows occupied by burrowing owls are detected on the Project site, the Project Applicant shall notify the CDFW and shall implement the appropriate actions, which may include creating a no-work buffer or relocating the burrow. If burrows occupied by burrowing owls are detected within 500 feet of the off-site Grid-Tie disturbance areas, the Project Biologist shall monitor the owl(s) to ensure that the Project does not negatively impact breeding. If negative indirect impacts are suspected, the Project Biologist shall propose measures to reduce indirect impacts to the owl(s) during construction. If impacts to burrowing owl cannot be avoided, preservation of suitable habitat as described in MM BIO-1 shall reduce such impacts to less than significant.

Swainson's Hawk

As prescribed by the CEC and CDFW and SWTAC survey guidelines, a circular survey area with an approximate ten-mile diameter was surveyed. As recommended by both sets of survey guidelines, these surveys were conducted by car while driving at reduced speeds (approximately 5 miles per hour [mph]) where appropriate. Binoculars and spotting scopes were used to identify raptors (CEC 2012).

Habitats within this survey area are diverse and include the western fringes of Lancaster; the unincorporated communities of Antelope Acres and Del Sur; the Antelope Valley California Poppy Reserve; fallow and active farmland; Elizabeth Lake; and the Angeles National Forest. The northern edge of the survey area (Avenue D-8) is approximately three miles south of the Kern County line. The southern approximate third of the survey area extended into mountainous areas that do not provide suitable Swainson's hawk breeding habitat and, as a result, were excluded from the survey area.

Swainson's hawks were observed in the survey area during surveys on April 12, 19, and 27 and May 9 and 15, 2012. Exhibit 4-8, Survey Results for Swainson's Hawk, shows the location of these observations. None of these hawks exhibited any breeding or nesting behaviors and are presumed to have been migrants. As would be expected of migrants in the Antelope Valley, the

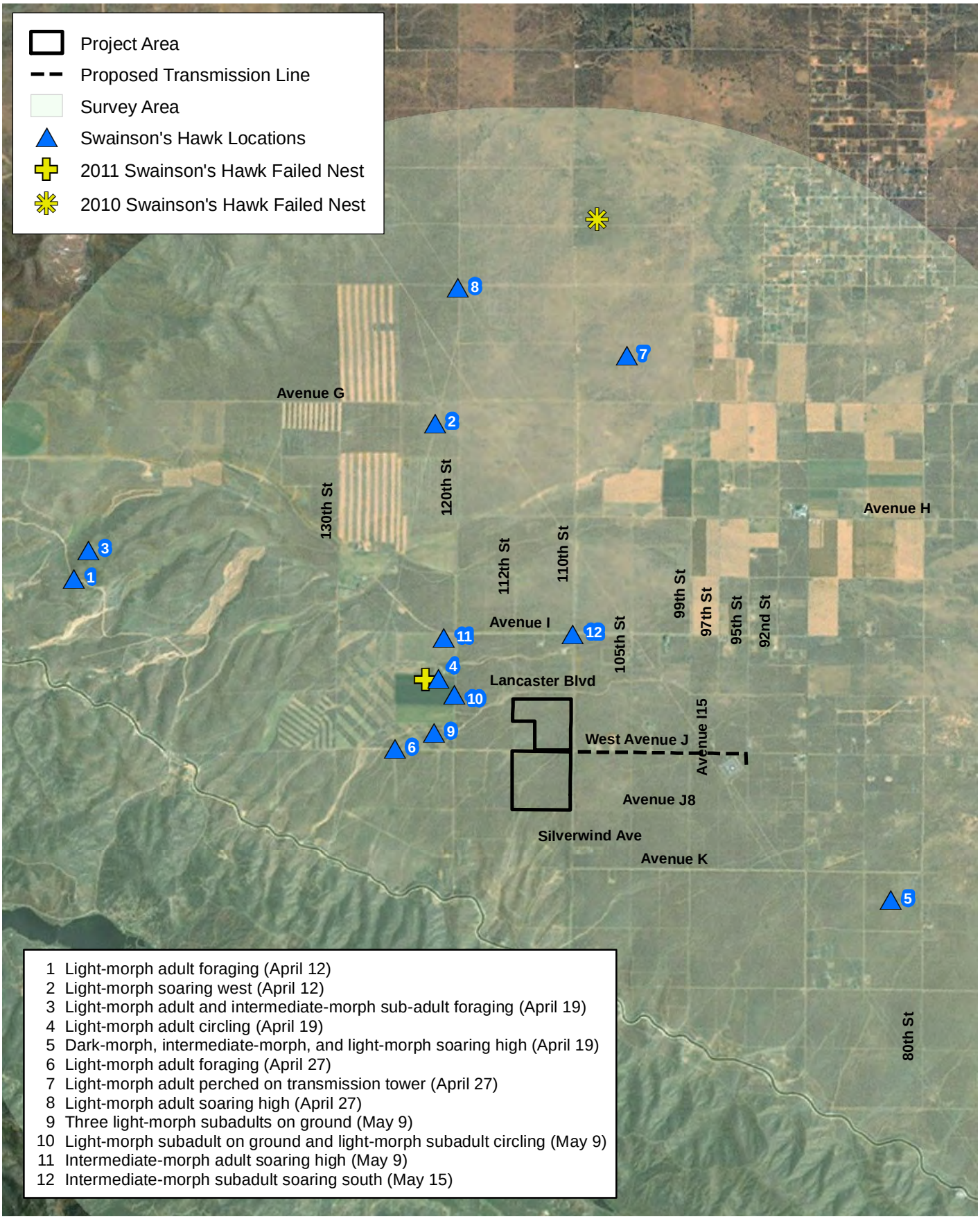
April sightings were all or mostly adults, while the May sightings were almost all sub-adults (second year birds still retaining some juvenile feathers). The light-morph adult observed on April 12, 2012, was still present in the same area (Myrick Canyon) on April 19, 2012, and is the only Swainson's hawk known to have remained more than one day in the survey area. The photographs of the light-morph adult observed foraging south of the alfalfa field near 120th Street West and West Avenue I on April 27, 2012, showed it to be a different individual than the light-morph adult Swainson's hawk at Myrick Canyon (BonTerra Consulting 2012e).

While it is acknowledged that Swainson's hawk is present in the area, the Project would not result in a "take" of Swainson's hawks, as defined by Section 86 of the California Fish and Game Code. While suitable nesting habitat is not available on the Project site, the Project site contains relatively low quality potential foraging habitat that is expected to be used, if used at all, by only non-breeding Swainson's hawks. Although most of the site would not be graded, the Project components, including PV panels and appurtenant facilities, have the potential to hinder the Swainson's hawk access to the foraging habitat at the Project site. The Project site shows evidence of scarring from historical uses, most likely agricultural, as well occasional tilling and or other type of linear mechanical disturbance to the soils. Consequently, no native scrub or woodland persists on the Project site and the more common annual species dominate the site, as is true for most of the region. Evidently due to the level of disturbance, indicators of small mammal presence were extremely limited based on the biologist's observations. As a result, small mammal prey, a primary food source when breeding, are likely to be available on the Project site in low densities relative to regional sites that support nesting Swainson's hawks.

Although Swainson's hawks may forage in a wide variety of habitats, especially in the non-breeding season, nest records in the Antelope Valley appear to indicate a correlation with active agricultural fields. The bulk of nests have been concentrated within close proximity to alfalfa fields that support multiple nesting pairs of Swainson's hawks along Avenue A and Rosamond Boulevard at the Los Angeles/Kern County line. Loss of active agricultural fields is likely to represent the greatest potential threat to the region's population. Although the population trend for Swainson's hawk appears to have been positive in recent years in the State, there has not been evidence of successful breeding season expansion into areas away from active alfalfa or similar agricultural fields in the Antelope Valley. Therefore, the Project site represents potentially suitable foraging habitat for non-breeding Swainson's hawks, but it is highly unlikely to represent suitable foraging habitat for breeding Swainson's hawks.

Potentially suitable habitat for non-breeding Swainson's hawks is expansive throughout the region and loss or reduced suitability of a portion of the Project site would not represent a substantial impact on the species and is considered to be a less than significant impact. Other projects in the region that would impact breeding Swainson's hawk foraging habitat have been typically required to mitigate through preservation of similar suitable habitat for breeding hawks. Therefore, the cumulative impact of this and other projects in the vicinity would not result in a substantial loss of foraging ground or result in genetic isolation and is considered to be a less than significant impact. However, a pre-construction survey, as identified in MM BIO-2, would be conducted prior to the start of Project construction activities to ensure any potential impacts remain less than significant.

Further, as part of the Project, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, the reduction in habitat value would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.



D:\Projects\TAAC\J001\mxd\SWHA_RptEx_HawkLocations.mxd

Survey Results for Swainson's Hawk

Exhibit 4-8

West Antelope Solar Project

N W E S

6,000 3,000 0 6,000 Feet

BonTerra CONSULTING

(Rev: 9-04-2012 CJS) Projects\TAAC\J001\Graphics\SwainsonsHawk\Ex_HawkLocations.pdf

b) Would the project have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?

c) Would the project have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by Section 404 of the federal Clean Water Act or California Fish & Game code Section 1600, et seq. through direct removal, filling, hydrological interruption, or other means?

Less Than Significant With Mitigation. As mentioned above, the Project survey area contains ephemeral drainage features that may be considered jurisdictional by regulatory agencies. The CDFW regulates all work (including initial construction and ongoing operation and maintenance) that may substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake through its Streambed Alteration Program. An Applicant must enter into an agreement with the CDFW to ensure no net loss of wetland values and acreages.

As previously indicated, the extent of potential CDFW jurisdiction in the Project survey area has been identified as 0.04 acre (0.02 hectare). It is anticipated that the on-site drainage would be entirely avoided by Project implementation, and no impact would result (BonTerra Consulting 2012a).

However, the off-site drain features may be impacted by trenching associated with installation of the Grid-Tie line connecting the Project to the Antelope Substation. If avoidance of these drainages is not feasible through underground tunneling or other means, then pursuant to MM BIO-3, the Project Applicant will need to consult with applicable agencies to get the appropriate permits. If jurisdictional waters cannot be avoided, impacts resulting from Project implementation would require Section 401 clearance from the RWCQB and a Section 1602 Streambed Alteration Agreement (SAA) from CDFW. The SAA must address the initial construction and long-term operation and maintenance of any structures in areas identified as "Waters of the State" (such as a culvert or desilting basin) that may require periodic maintenance if these are included in the Project design. As required by MM BIO-3, the Project Applicant must obtain permit approval from the RWQCB and CDFW and ensure no net loss of wetlands through avoidance and/or compensatory mitigation.

Grasslands within the Project site contain wildflowers as previously described. The distribution of patches of wildflowers typically varies from year to year, sometimes widely, so mapping of such features for any one season is not considered to be meaningful. It can be generally said that patches of varying densities of wildflowers are likely to occur in many areas of grasslands on the site. This can also be said generally for most of the Antelope Valley that is undeveloped within the region. Therefore, although wildflower fields can be considered present to some degree, the grading of the roads on the site and installation and operation of the solar panels would not constitute a substantial impact to the wildflowers fields due to the prevalence of similar habitat throughout much of the region.

To ensure avoidance, MM BIO-4 requires that all areas containing jurisdictional resources be staked by a qualified Regulatory Specialist prior to the initiation of any construction-related activities that involve ground disturbance. Also, ground-disturbing construction activities within these areas would be monitored by a qualified Regulatory Specialist/Biologist. Implementation of MMs BIO-3 and BIO-4 would ensure that impacts to jurisdictional features are less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its original state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any impacts to drainage features would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant With Mitigation. Wildlife movement typically consists of (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). This movement is necessary in order to maintain healthy wildlife populations, especially where open space is limited in size or otherwise isolated from other open space areas. A number of terms such as “wildlife corridor”, “travel route”, “habitat linkage”, and “wildlife crossing” have been used in various wildlife movement studies to refer to areas where wildlife move from one area to another.

The Project site is currently open for the passage of wildlife, other than minimal restrictions of the SCE power line corridor on the western and southern edges and 110th Street West along the eastern edge. Project implementation would include the installation of chain-link fencing around the perimeter of the Project site (see Exhibit 3-3A). Incorporation of MM BIO-5, which requires the perimeter fencing to be raised above the ground at regular intervals, would ensure that small and medium sized wildlife would continue to be able to pass through the Project site unimpeded. Although the California aqueduct crossing at Johnson Road is within relatively close proximity to the Project site, the site itself offers no greater value for wildlife movement when compared most of the landscape in the vicinity. There is no indication of concentrated movement through the Project site or adjacent lands. The Project would not affect regional wildlife movement or interfere substantially with the movement of any native resident or migratory fish and wildlife species in areas surrounding the site, nor would it impede the use of native wildlife nursery sites. Impacts would be less than significant, and no mitigation is required.

The proposed Grid-Tie route is located along West Avenue J, and the presence of this road may limit wildlife movement to some extent under existing conditions. However, the proposed Grid-Tie would be placed underground and would not lessen the permeability of this area for travelling wildlife. Therefore, impacts of the Grid-Tie on wildlife movement would be less than significant.

Bird species have potential to nest in native and non-native vegetation on the Project site. Active nests of birds and raptors are protected by the MBTA and *California Fish and Game Code.* Suitable habitat for ground-nesting birds is present throughout the Project site, and suitable habitat for tree and shrub-nesting species is present within 500 feet. Implementation of MM BIO-6 would reduce potential impacts to less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its original state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any impacts to

wildlife movement would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

e) Would the project convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inches in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.)?

No Impact. There are no oak trees or other unique native trees on the Project site. The Project would not conflict with any local policies or ordinances protecting biological resources, such as the City of Lancaster's ordinance preventing removal of Joshua trees (*Yucca brevifolia*), since there are no Joshua trees on the Project site.

f) Would the project conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)?

g) Would the project conflict with the provisions of an adopted state, regional or local habitat conservation plan?

No Impact. The proposed Project does not contain or conflict with any Significant Ecological Areas (SEAs), Wildflower Reserve Areas, or Sensitive Environmental Resource Areas (SERAs). The nearest SEA is the San Andreas SEA, located approximately 4 miles to the west (LACDRP 1980). The Angeles National Forest is located approximately four miles to the south and the Antelope Valley California Poppy Preserve is located approximately four miles to the northwest. Therefore, the Project would not conflict with any local policies or ordinances protecting biological resources.

The Project site is located within the *West Mojave Plan,* which is a Habitat Conservation Plan (HCP) that encompasses most of the Antelope Valley and aims to conserve and protect habitat for the desert tortoise, the Mohave ground squirrel, and over 100 other special status species throughout a 9.3-million-acre planning area (BLM 2006). The Project site was not included in one of the proposed conservation areas. Further, as the HCP has not yet been adopted, there would be no impact to, nor would the Project conflict with an adopted HCP.

4.4.3 MITIGATION MEASURES

MM BIO-1 A pre-construction survey for the burrowing owl shall be conducted within 14 days prior to start of construction/ground-breaking activities. For those burrows located along the Grid-Tie transmission route off the Project site, a second survey will be conducted within 24 hours of any ground-breaking activities. If these surveys do not detect occupied burrowing owls, then no further mitigation is required. If burrows occupied by burrowing owls are detected on the Project site, the Project Applicant shall notify the California Department of Fish and Wildlife (CDFW)[9] and shall implement the following actions prior to construction (either Set A for breeding burrowing owls [March to July] or Set B for non-breeding burrowing owls [August to February]).

<u>Set A Measures (for Breeding Burrowing Owls, between March and July)</u>

A1) No work shall occur within 500 feet of the active nesting burrow; the CDFW may be consulted to determine whether a reduced buffer is acceptable.

A2) Provide weekly monitoring of the burrowing owl nesting burrow to determine nesting outcome.

A3) Provide CDFW with monthly updates of burrowing owl nesting success.

A4) Resume construction at the burrow site once the Biologist determines that fledglings have left the nest.

If burrows occupied by burrowing owls are detected within 500 feet of the off-site Grid-Tie disturbance areas, the Project Biologist shall monitor the owl(s) to ensure that the Project does not negatively impact breeding. If negative indirect impacts are suspected, the Project Biologist shall propose measures to reduce indirect impacts to the owl(s) during construction.

<u>Set B Measures (for Non-Breeding Burrowing Owls, between August and February)</u>

B1) A qualified Biologist shall notify the CDFW of the occupied burrow location and that either passive or active relocation measures will be implemented.

B2) The Biologist shall remove the burrow.

If impacts to burrowing owl occupied burrows are unavoidable, preservation of lands containing potentially suitable burrowing owl habitat shall be preserved at a 1:1 ratio. Impacted lands shall be defined as the directly impacted occupied burrows and immediately adjacent habitat areas. Replacement lands shall be within the Project region (i.e. western Antelope Valley) and shall be located as close to the Project site as feasible. Vegetation types present and condition of mitigation lands shall be similar to those found on the impacted occupied burrowing owl lands. If suitable natural burrows are not present within the Project

[9] The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) effective January 1, 2013.

site, artificial burrows shall be constructed in accordance with California Burrowing Owl Consortium (1993) Guidelines. Maintenance of such lands shall be the responsibility of the Project Applicant and shall ensure that conditions and general biological value remain consistent over time. Mitigation lands shall be preserved in perpetuity, or for the length of project impacts if temporal, with a conservation easement or other form of legal dedication. Lands may be deeded to a land management-conservation entity with prior approval from the County. Mitigation lands and deeds or conservation easements proposed shall be approved by the County prior to issuance of grading permits.

Within 60 days of recordation of the permanent deed restriction(s) or conservation easement(s), a Maintenance Plan for the off-site mitigation lands shall be submitted to the County for review and approval. The plan shall include the maintenance requirements for the mitigation area, based on the characteristics of the mitigation land and the mitigation requirements described above. The Maintenance Plan shall also describe the performance standards for determining that mitigation requirements for the lands have been met.

MM BIO-2 If construction activities on the Project site and along the Grid-Tie alignment are completed between September 16, 2013 and March 31, 2014 (i.e., non-nesting season), then additional surveys for Swainson's hawk are not required.

If new or ongoing construction activities (i.e., additional removal of potential foraging habitat through ground-disturbing activities) would occur on the Project site and along the Grid-Tie alignment after April 1, 2014, surveys for Swainson's hawk shall be conducted following the 2010 CDFG survey protocol for the Antelope Valley prior to or concurrent with construction activities. If no active nests are detected, then no further mitigation is necessary.

If the survey detects an active Swainson's hawk nest within a 5-mile radius of the Project site, all construction activities must fully and immediately cease and the CDFW shall be notified. If the nest is determined to be unsuccessful by a qualified Biologist, the Project Applicant may resume construction activities as long as no other active nests are located within the 5-mile radius of the Project site. If Swainson's hawk nests are determined to be successful, the Project Applicant shall consult with CDFW to determine if a "take" authorization of a State-listed species (per the California Endangered Species Act) is warranted. If warranted, the Project Applicant shall pursue a CDFW permit, which will include conditions requiring impact minimization to the Swainson's hawk, including establishment of an avoidance buffer, as well as identification of mitigation lands for purchase that are within the known Antelope Valley breeding range of Swainson's hawk and that provide comparable habitat value to the Project site; the purchased lands will be at a minimum 2:1 ratio and subject to CDFW approval.

MM BIO-3 If jurisdictional waters cannot be avoided, the Project Applicant shall apply for a Section 401 permit from the Regional Water Quality Control Board (RWQCB) and a 1602 Streambed Alteration Agreement from CDFW. These permits shall be obtained prior to approval of improvement plans; issuance of grading permits; and/or any clearing, grading, or excavation work on the Project site. The Project Applicant shall ensure that the Project would result in no net loss of "Waters of the State" by providing mitigation through impact avoidance; impact minimization; and/or compensatory mitigation for the impact, as determined in the Streambed

Alteration Agreement. Compensatory mitigation may consist of (a) obtaining credits from a mitigation bank; (b) making a payment to an in-lieu fee program that would conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities (these programs are generally administered by government agencies or nonprofit organizations that have established an agreement with the regulatory agencies to use in-lieu fee payments collected from permit Applicants); and/or (c) providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This last type of compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The Project Applicant retains responsibility for the implementation and success of the mitigation project. Evidence of secured permits shall be provided prior to approval of improvement plans; issuance of grading permits; and/or any clearing, grading, or excavation work on the Project site.

MM BIO-4 Temporary construction staking or fencing shall be erected under the supervision of a qualified Biologist at or outside the edge of the impact areas where they interface with jurisdictional features. This fencing shall be erected prior to commencement of grading activities and shall demarcate areas where human and equipment access and disturbance from grading are prohibited. A qualified Biologist shall monitor all site preparation and grading activities near these interfaces during construction. Staging areas shall be restricted to approved impact areas only.

MM BIO-5 The perimeter fencing surrounding the Project site will be raised at regular intervals above ground level to allow for the passage of wildlife to the lesser of either: one foot above grade or to the maximum height allowed by the PUC.

MM BIO-6 To ensure compliance with the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the *California Fish and Game Code,* construction activities shall be conducted during the non-nesting season (September 1–January 31) to avoid any potential disturbance of avian breeding activities. Project-related activities with the potential to disturb suitable bird nesting habitat shall be prohibited from February 1 through August 31, unless a Project Biologist acceptable to the Director of Regional Planning surveys the Project area prior to disturbance to confirm the absence of active nests or nesting habitat. Disturbance shall be defined as any activity that physically removes or damages vegetation or habitat or any action that may cause disruption of nesting behavior such as loud noise from equipment or artificial night lighting. If site clearing, construction or other ground disturbance would be conducted within the general nesting season (February 1–August 31), then a pre-construction nesting bird survey shall be conducted by a qualified Biologist within three days prior to disturbance. If an active nest is located within or adjacent to the construction area and the Biologist determines that work activities may impact nesting, the Biologist shall demarcate an appropriate buffer zone around the nest, generally prohibiting construction activities within 300 feet (500 feet for raptors) of the active nest. The size of the buffer may vary (depending on site features, the sensitivity of the species, and the type of construction activity), but will be designed to prevent disruption of nesting activity. If construction activities must occur within the buffer zone of an active bird nest, the Biologist must monitor the construction activities to avoid undue disturbance to the nesting activities. The buffer zone restrictions will be eliminated once the Biologist determines that

nesting activity has ceased. Surveys shall be conducted weekly, beginning no earlier than 30 days and ending no later than 3 days prior to the commencement of disturbance. The Project Applicant shall record the results of the recommended protective measures described above and submit the records to the Department of Regional Planning to document compliance with applicable State and Federal laws pertaining to the protection of native birds.

Implementation of these mitigation measures would reduce impacts to biological resources to a less than significant level.

4.5 CULTURAL RESOURCES	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?	☐	☒	☐	☐
d) Disturb any human resources, including those interred outside of formal cemeteries?	☐	☒	☐	☐

4.5.1 ENVIRONMENTAL SETTING

A Cultural Resources Technical Report (August 2012) has been prepared for the Project by BonTerra Consulting and is provided in Appendix D. The findings of the report are summarized, where relevant, in this section.

BonTerra Consulting Archaeologist Patrick Maxon, a Registered Professional Archaeologist (RPA), conducted a California Historical Resources Information System (CHRIS) records search and literature review for the Project at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on July 7, 2011, for a site immediately to the east of, but which encompasses the current Project site. The SCCIC houses records for archaeological and historical resources in Orange, Los Angeles, and Ventura Counties.

Native American consultation was initiated with the Native American Heritage Commission (NAHC) by Mr. Maxon with a request for a Sacred Lands File Search and contact list. A response was received from the NAHC on June 20, 2012. Informational letters were mailed to tribes and individuals on June 22, 2012. The results of the CHRIS records search and Native American consultation (i.e., those that do not indicate the location of identified sites and can therefore be released to the public) are provided in Appendix D. Government-to-government consultation under Senate Bill (SB) 18 is not required for this Project as it does not require a General Plan amendment.

A paleontological resources records search was requested from the Los Angeles County Natural History Museum (LACM). A response was received from Samuel McLeod, Vertebrate Paleontologist, on July 23, 2012, and the results of the LACM records search for the Project site are provided in Appendix D. A cultural resources survey of the Project site was conducted on July 15 and 16, 2012, by Mr. Albert Knight of BonTerra Consulting.

As there are no structures on the site, historic resources were not analyzed.

Ethnographic Background

The western Mohave Desert and Antelope Valley were occupied by at least four groups of Native Americans: the Vanyume/Serrano, the Kawaiisu, the Tataviam, and the Kitanemuk. A fifth group, the Haminot, that lived in the Lancaster and Palmdale area likely was a name given to the Kitanemuk by their Native American neighbors. The languages of the Vanyume, Tataviam, and Kitanemuk appear to have been dialects of Serrano or Serran (BonTerra Consulting 2012b).

Little is known about the ethnographic period in the Antelope Valley region. Local groups continued to live in large, semi-permanent villages during the winter and, during the spring, summer, and fall, would separate into smaller groups to hunt and gather the locally available resources including, among others, piñon nuts, mesquite, and yucca. Most of the ethnographic groups of the area shared similar cultural traits and practices and, for the most part, maintained friendly relations with each other (BonTerra Consulting 2012b).

Historic Background

In 1772, Lieutenant Pedro Fages and a small force of Spanish soldiers became the first Europeans to enter the Antelope Valley. Other explorers passed through the valley over the next century, but little change to the pattern of life of the local populations of the valley was evident until 1876 when the Southern Pacific Railroad completed its line between the Los Angeles Basin and the San Joaquin Valley (BonTerra Consulting 2012b).

At the beginning of the 20th Century, after a long drought, much of the Antelope Valley was considered worthless, and ownership largely reverted back to the State of California. However, technological innovations in the new century, such as gasoline engines to pump well water, construction of aqueducts and improved irrigation techniques, among other advances, brought people back into the valley. The needs of World War I brought continued agricultural expansion, and World War II caused radical changes with the completion of Edwards Air Force Base and the development of the aerospace industry (BonTerra Consulting 2012b).

Local History

The history of the City of Lancaster, immediately to the east of the Project site, began when Moses Landley Wicks, a real estate developer, bought 640 acres of land from the Southern Pacific Railroad and laid out the town of Lancaster in 1884. The new town boomed during the 1880s and early 1890s; however, several years of drought beginning in 1895 forced most residents to leave the area. The City began to recover after the turn of the century with the turning point being the completion of the Los Angeles Aqueduct through the region in 1914, which permitted the expansion of agriculture. After World War II, the aerospace and defense industry became the largest business sector in the area with the construction of several aeronautical plants and the resulting influx of workers. Lancaster was incorporated in 1977 and has experienced a steady population increase since that time (BonTerra Consulting 2012b).

Cultural Resources Literature Review

The SCCIC literature review undertaken on July 7, 2011, for a project site immediately to the east of, but which encompasses the current Project site, revealed that two cultural resources studies have been completed that include at least a portion of the Project site and two cultural resources sites have been recorded within one mile of the Project site. None have been recorded within the Project site itself. Table 4-9, Cultural Resources Sites Within One Mile of the Project Site, lists the resources.

As described in the table below, one of these sites is a historic refuse deposit consisting chiefly of tin cans, bottles, glass and metal fragments, ceramics, lumber, and animal bone, ranging in age from the 1890s to the 1950s. The SCE Transmission Line Corridor is also listed as a cultural resource.

TABLE 4-9
CULTURAL RESOURCES SITES WITHIN ONE MILE OF THE PROJECT SITE

Site Number	Recorder/Year	Comment
19-186876	Ahmet/2005	SCE Transmission Line Corridor
19-003479	Ahmet et al./2005	Historic Trash Deposit
Source: BonTerra Consulting 2012b.		

Table 4-10, Cultural Resources Studies on the Project Site, lists the surveys.

Tang and Hogan (2006) completed a cultural resources study for the *City of Lancaster General Plan Update,* which identified more than 700 recorded cultural resources within the City. Most of the prehistoric sites are recorded north (over 14 miles) of the Project site along the margins of Rosamond Dry Lake. Nearly all the historic-period buildings are concentrated in downtown Lancaster near the City's historic core area and east of the Project site. Applied Earthworks surveyed an elongated, north-south transmission line in 2009 and recorded 62 cultural resources. One of the resources, 19-003479, a historic trash deposit, lies approximately 3,300 feet southeast of the property.

TABLE 4-10
CULTURAL RESOURCES STUDIES ON THE PROJECT SITE

Report Number	Author(s)/Year	Type of Study/Comments
LA-07991	Tang and Hogan 2006	City of Lancaster General Plan Update
LA-10175	Applied Earthworks 2009	Confidential Resource Report; Tehachapi Transmission Project
Source: BonTerra Consulting 2012b.		

Paleontological Resources Literature Review

A paleontological resources records search for the proposed Project was requested from the LACM. A response was received on July 23, 2012, from Samuel McLeod, Vertebrate Paleontologist (see Appendix D). McLeod's response indicates that no vertebrate fossil localities are recorded on the Project site, but there are nearby localities in some of the same sedimentary units that occur in the Project site.

The very southern portion of the Project site contains surficial deposits of Older Quaternary Alluvial fan deposits. The remainder of the Project site has surficial deposits of Younger Quaternary Alluvium (also derived as alluvial fan deposits) and soils. Younger Alluvium typically does not contain significant fossil deposits.

Sacred Lands File Search

The NAHC Search of the Sacred Lands File on June 20, 2012, did not indicate the presence of Native American cultural resources on the Project site. In addition, the NAHC provided a list of Native American groups and individuals that may have knowledge of the religious and/or cultural significance of resources that may be on and near the Project site. Each of these groups

and individuals were mailed informational letters on June 22, 2012, describing the Project and requesting any information regarding resources that may exist on or near the Project site. All Native American correspondence can be seen in Appendix D.

Pedestrian Survey

A cultural resources survey of the Project site and proposed transmission interconnection was conducted on July 15 and 16, 2012, by Mr. Albert Knight, Archaeologist, of BonTerra Consulting. The entire 263-acre Project site was surveyed via parallel transects spaced approximately 10 to 15 meters apart where possible.

No items or features were observed on the site that were determined to be worthy of additional research to determine historic significance. The survey area has been completely cleared of native vegetation in the past, probably for dry farming. The survey area is mostly trash-free, and what little trash there is, is obviously recent. No items or specimens of any kind were observed that might have been prehistoric or historic in origin. No lithic material types used by the local Native American groups were observed, nor were any historic materials (e.g., metal, amethyst glass or any other kinds of glass, pieces of porcelain, house or structure foundations, wind-mills, and well-heads) other than the tin cans. Occasional small animal bones, free of flesh, bleached white, and obviously recent were noted.

4.5.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less Than Significant With Mitigation. CEQA requires a lead agency to determine whether a project may have a significant effect on one or more historical resources. A “historical resource” is defined as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (*California Public Resources Code* [PRC], Section 21084.1); a resource included in a local register of historical resources (*California Code of Regulations* [CCR], Title 14, Section 15064.5[a][2]); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (14 CCR 15064.5[a][3]).

While no historical resources were found on the Project site, there is a possibility that historical materials could be uncovered during necessary subsurface excavations for the construction of the proposed Project. Therefore, implementation of MM CUL-1, which describes procedures to be followed in the event that cultural resources are discovered, is required. Implementation of MM CUL-1 would reduce this potentially significant impact to a less than significant level.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant With Mitigation. As previously mentioned, an NAHC Search of the Sacred Lands File did not indicate the presence of Native American cultural resources on the Project site. A response to the information letter sent to the NAHC providing a list of Native American groups and individuals was received from Beverly Salazar-Folkes (tribal representative) via telephone on July 17, 2011. Ms. Salazar-Folkes asked that the Project proceed with caution because of the possibility of unforeseen resources and recommended

that archaeological and Native American monitoring be undertaken during ground-disturbing activities.

Although the likelihood of encountering archaeological resources on the site is considered low, this impact is potentially significant. Therefore, implementation of MM CUL-1, which describes procedures to be followed in the event that cultural resources are discovered, is required. Implementation of MM CUL-1 would reduce this potentially significant impact to a less than significant level.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?

Less Than Significant With Mitigation. The LACM reports that there are no known fossil localities within the Project site or nearby areas (BonTerra Consulting 2012b). Although the possibility of discovering fossil resources is considered low, it is possible that significant vertebrate and invertebrate fossils could be encountered during subsurface disturbance. This could result in a significant impact to unique paleontological resources. Therefore, implementation of MM CUL-2, which describes procedures to be followed in the event that paleontological resources are discovered, is required. Implementation of MM CUL-2 would reduce this potentially significant impact to a less than significant level.

d) Would the project disturb any human resources, including those interred outside of formal cemeteries?

Less Than Significant Impact With Mitigation. There is no indication that human remains are present on the Project site, and Native American tribes were given an opportunity to reveal the existence of any remains; background research, including the literature review, failed to find any potential for remains, and the Project site was previously disturbed. Project-related earth disturbance has the potential to unearth previously undiscovered remains, resulting in a potentially significant impact. However, implementation of MM CUL-3 would ensure that impacts are reduced to a less than significant level.

4.5.3 MITIGATION MEASURES

MM CUL-1 In the event of the discovery of potential cultural resources during ground-disturbing activities, ground-disturbing activities within 50 feet of the discovery shall be halted and diverted until a qualified Archaeologist assesses the resource for significance. The qualified Archaeologist will assess the resource pursuant to Section 21083.2(g) of the *California Public Resources Code* and Section 15064.5(a) of the State CEQA Guidelines to make recommendations of significance. The Archaeologist shall provide their recommendations to the County for a determination of significance. If the County determines the resource to be a significant resource, a “unique archaeological resource”, or a “historical resource”, the Archaeologist shall formulate a mitigation plan in consultation with the County that will mitigate impacts to the resource to a less than significant level. Potential mitigation could include planning construction to avoid the resource; protection and preservation in place; and/or data recovery excavation of a representative sample of the site’s constituents.

The Archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following accepted professional practice. The report shall follow guidelines of the California Office of Historic Preservation. Copies of the report shall be submitted to the County of Los Angeles and to the California Historic Resources Information System at the South Central Coastal Information Center (SCCIC).

MM CUL-2 Should fossils/paleontological resources be found during ground-disturbing activities for the Project, ground-disturbing activities within 50 feet of the discovery shall be halted or diverted until a qualified Paleontologist inspects the find and evaluates it for significance. Work may proceed in other areas of the site, subject to the direction of the Paleontologist. If determined significant, the Paleontologist shall be authorized to quickly and efficiently salvage and remove the fossil from its locality, as appropriate, before ground-disturbing activities resume in the area. These actions, as well as final disposition of the resources, shall be subject to the approval of the County of Los Angeles. These would include identification and evaluation of the discovery and curation of the fossil in perpetuity in an accredited scientific institution approved by the County.

MM CUL-3 In accordance with Section 7050.5 of the *California Health and Safety Code,* if human remains are found during ground-disturbing activities, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur. The County Coroner shall be notified within 24 hours of the discovery. If the County Coroner determines that the remains are or believed to be Native American, s/he shall notify the NAHC in Sacramento within 24 hours of the discovery. In accordance with Section 5097.98 of the *California Public Resources Code,* the NAHC must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendents shall complete their inspection within 48 hours of being granted access to the site by the Property Owner. The property owner would then determine, in consultation with a designated Native American representative, the final disposition of the human remains (14 *California Code of Regulations* §15064.5[e]).

4.6 ENERGY	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Conflict with Los Angeles County Green Building Ordinance (L.A. County Code Title 22, Ch. 22.52, Part 20 and Title 21, § 21.24.440) or Drought Tolerant Landscaping Ordinance (L.A. County Code, Title 21, § 21.24.430 and Title 22, Ch. 22.52, Part 21)?	☐	☐	☒	☐
b) Involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?	☐	☐	☒	☐

4.6.1 ENVIRONMENTAL SETTING

The Project proposes to increase electricity generated from renewable technology by generating up to 20 MWac of electrical energy from the sun. Employing a series of PV module arrays to convert sunlight into electrical energy without the use of heat transfer fluid or cooling water, the facility would deliver the electrical output to the existing regional transmission system. The PV modules would convert sunlight into low-voltage DC power, which is subsequently transformed by an inverter into AC power. The PV modules are made of a semiconductor material through which electrons flow to convert light (photons) to electricity.

Recent legislation enacted in California encourages the development of renewable energy resources to reduce reliance on fossil fuels; to diversify energy portfolios; to reduce greenhouse gas emissions; and to assist creation of “green” jobs within the state of California. The Project would assist California in meeting the Renewable Energy Portfolio Standards (RPS). Executive Orders S-14-08 (issued on November 17, 2008) and S-21-09 (issued on September 15, 2009) established RPS targets for California, stating that “all retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020”. State government agencies have been directed to take all appropriate actions to implement this target in all regulatory proceedings, including siting, permitting, and procuring renewable energy power plants and transmission lines. The Project qualifies as an eligible renewable energy resource as defined by the *California Public Resources Code.*

4.6.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project conflict with Los Angeles County Green Building Ordinance (L.A. County Code Title 22, Ch. 22.52, Part 20 and Title 21, § 21.24.440) or Drought Tolerant Landscaping Ordinance (L.A. County Code, Title 21, § 21.24.430 and Title 22, Ch. 22.52, Part 21)?

Less Than Significant Impact. The Los Angeles County Code (Title 21, Section 21.24.440) requires compliance with applicable requirements of Title 22 (specifically, Chapter 22.52, Part 20) for green building. These standards are applicable to construction of buildings and are designed to reduce energy consumption; save water and other natural resources; and divert waste from landfills when new buildings are constructed. The Project is for renewable energy electricity generation and does not include the construction of habitable buildings. Therefore, the Title 22 Green Building standards are not applicable.

This Project has been designed to minimize disturbed areas by keeping grading to a minimum and is expected to comply with the Drought Tolerant Landscaping Ordinance. Per MM AES-1, the Project will incorporate landscaping with drought-tolerant vegetation for the exterior of the Project site, along the portions of the perimeter fence facing 110th Street West, West Avenue J, and along the northern boundary of the Project site, in compliance with the Drought Tolerant Landscaping Ordinance. A Landscape Plan shall be prepared, subject to the review and approval of the County of Los Angeles. Irrigation via water trucks would be conducted until the landscaping is established. No long-term irrigation infrastructure would be constructed.

Therefore, the Project would not conflict with these two ordinances and impacts would be less than significant.

b) Would the project involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?

Less Than Significant Impact. The Project would generate renewable energy, decreasing California's reliance on fossil fuel energy and increasing its reliance on renewable energy. Both of these are identified in Attachment F of the CEQA Guidelines as ways to accomplish the CEQA energy conservation goal.

Non-renewable resources, including fossil fuels (i.e., energy), would be used in the construction of the proposed Project. The Project's construction would use typical equipment, as listed previously in Table 3-5, and would be completed within a single phase six-month phase. The daily vehicle trips during construction would generally include construction worker trips and truck trips for equipment deliveries and water for dust suppression. Construction of the proposed solar array is not unusually wasteful or excessive in terms of construction materials or fossil fuel use due to the lack of demolition and other waste products generated by typical construction projects (e.g. discarded woody debris). In addition, construction of these types of facilities is not energy-intensive since minimal grading is required for construction. Since the facilities would be unmanned and would not generate significant operational vehicle trips; and since minimal use of water is required for operations.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its original state use upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It is assumed that decommissioning of the site would require the same construction scenario (activities, equipment, duration) as the initial development of the site; however, future energy impacts would be less than those currently projected due to anticipated advancements in technology for a more efficient and cleaner-burning construction equipment fleet mix. Therefore, the Project would not involve the inefficient use of energy resources and impacts would be less than significant.

4.6.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to energy; therefore, no mitigation is required.

4.7 GEOLOGY AND SOILS	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element?	☐	☐	☐	☒

4.7.1 ENVIRONMENTAL SETTING

A Geotechnical Investigation Report (June 2012) has been prepared for the Project by Leighton Consulting and is provided in Appendix E. The findings of the report are summarized, where relevant, in this section.

The Antelope Valley is located at the western edge of the Mojave Desert, which is bound by the San Andreas Fault Zone on the southwest, the Garlock Fault Zone on the northwest, and the Colorado River on the east. The Tehachapi Mountain range defines the northern and northwestern boundary of the Valley, and the San Gabriel, Sierra Pelona, and Liebre Mountains define the southern and southwestern boundaries. The Valley is relatively flat, except for Quartz Hill to the south and Fairmont and Antelope Buttes to the west (Lancaster 2009a). The Project site is undeveloped and has a relatively flat topography.

The Project site is located within the Antelope Valley portion of the Mojave Desert Geomorphic Province of California. The Antelope Valley lies within a wedge-shaped part of the Mojave Desert bound by the San Andreas Fault to the southwest; the Garlock Fault to the northwest; and the Cottonwood-Rosamond Fault to the northeast. On-site terrain slopes gently to the north, and is underlain by Quaternary alluvium to a thickness of several hundred feet which, in turn, is underlain by plutonic quartz monzonite bedrock. The majority of the site is mapped with alluvial soil at the surface, consisting of gravel, sand, and silt. The far southwest portion of the site is mapped with older alluvium at the surface (Leighton 2012a).

Exhibit 4-9, Soil Types, depicts the soil types and liquefaction hazards associated with the Project site. Soils in the Antelope Valley come from erosion of the San Gabriel Mountains. Alluvial deposits in the foothill areas consist of coarse-grained sediment intermingled with organic matter, while finer-grained silts and clays are found in areas farther from the mountains. The Project site is underlain by alluvial deposits and overlain by the Pond-Tray soil association. These soils are very deep and moderately well-drained. They contain slight to moderate amounts of soluble salts and alkali. They have slow permeability; high water-holding capacity for irrigation; and low to high shrink-swell potential (Lancaster 2009a).

As part of the Geotechnical Investigation Report, subsurface conditions were evaluated by nine borings taken on the site. The borings were drilled to depths of approximately 11.5 to 51.5 feet below the existing grade. Alluvial soils encountered in the borings generally consist of medium dense to dense granular soils, including silty sand and clayey sand, and medium stiff to very stiff cohesive soils, including sandy lean clay and silt. Thin layers of clean sand were encountered at depths greater than 30 feet. The soil encountered was generally visually described as dry to slightly moist. More detailed descriptions of the subsurface conditions are presented on the boring logs in Appendix E (Leighton 2012a).

4.7.2 PROJECT IMPACTS

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

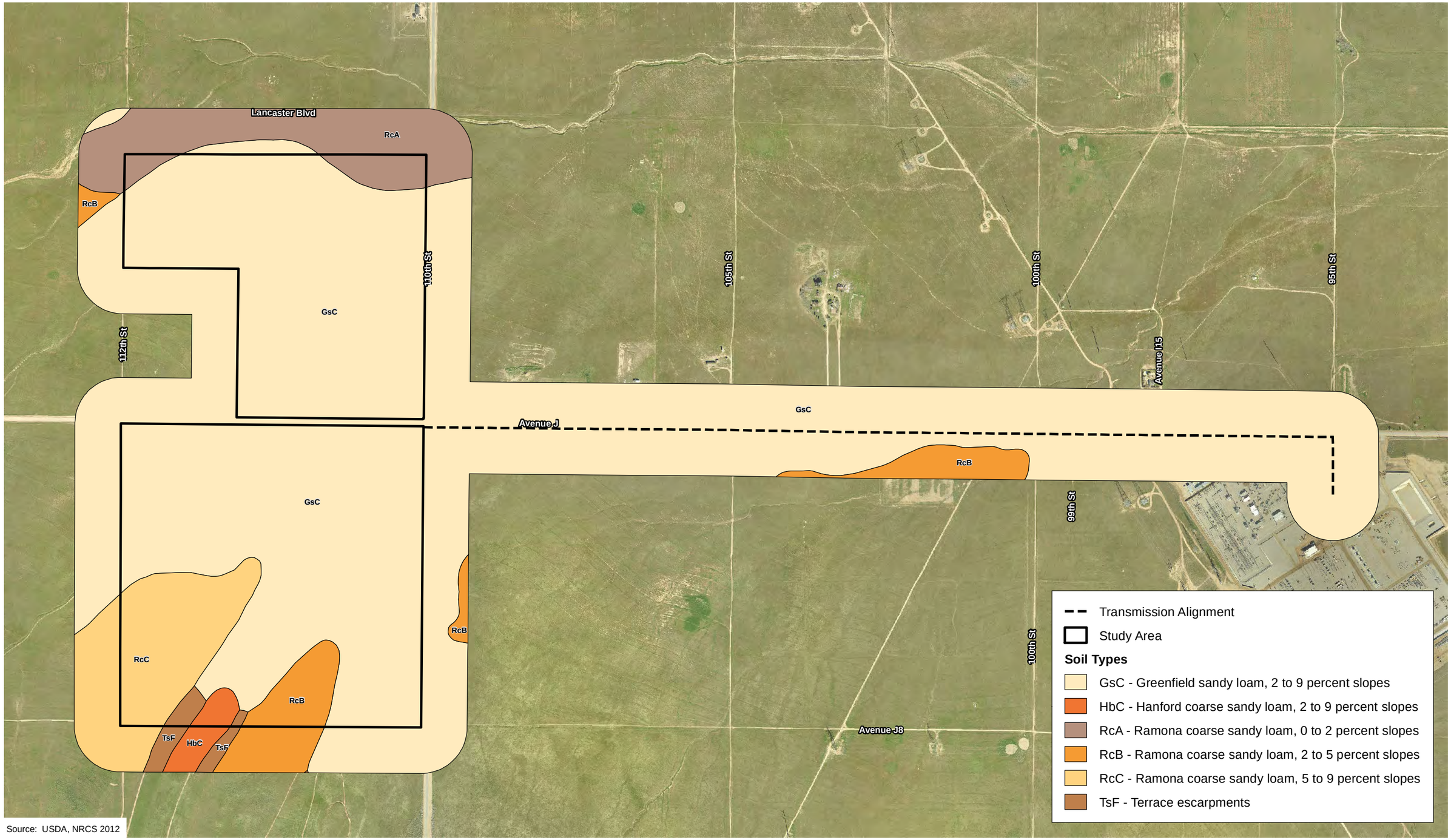
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The impact analysis and conclusions in this section apply to both on-site and off-site activities. There are no known active faults traversing the Project site, and the site is not located within an Alquist-Priolo Earthquake Fault Zone or any fault zones established by Los Angeles County. The San Andreas Fault is the nearest earthquake fault to the site, and is located approximately 3.25 miles south of the site. Thus, the proposed Project would not be exposed to fault rupture hazards along the San Andreas Fault. No mitigation is required.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

ii) Strong seismic ground shaking?

Less Than Significant Impact. The impact analysis and conclusions in this section apply to both on-site and off-site activities. The primary seismic hazard for the Project site, as with most of the Southern California region, is the susceptibility to ground shaking due to the presence of major active or potentially active faults in the region. The following faults are capable of producing strong ground shaking at the Project site (in order of increasing distance): the



Source: USDA, NRCS 2012

D:\Projects\TAAC\J001\mxd\Ex_soils_11x17.mxd

Soil Types

Exhibit 4–9

West Antelope Solar Project

N W E S

800 400 0 800 Feet

BonTerra CONSULTING

(Rev: 7-19-2012 CJS) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex_soils.pdf

San Andreas Fault, the Garlock Fault, the White Wolf Fault, the South Lockhart-Helendale Fault System, the San Gabriel Fault, and the Sierra Madre Fault. The proposed Project would be exposed to strong ground shaking during a seismic event, which may pose hazards to employees or contractors who may be on site during an earthquake (e.g., maintenance services) due to structural damage to the PV panels, mounting structures, equipment, equipment buildings, fencing, lighting, and/or electrical connections.

As required by the County, the proposed Project would be designed and constructed in compliance with the County Building Code, which incorporates, by reference, the 2010 California Building Code (CBC) (or the most recent County building and seismic codes in effect at the time the grading plans are approved) for ensuring the structural integrity of proposed site improvements against seismic shaking. In addition, the Project will include the geotechnical recommendations for the Project as defined in the *Geotechnical Investigation, Proposed West Antelope Project (20-MWAC Photovoltaic Array), West of 110th Street West, North and South of Avenue K, in the Lancaster Area of Los Angeles County, California* (Leighton 2012a) and any other geotechnical reports completed for the Project. Therefore, impacts related to seismic groundshaking would be less than significant.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The impact analysis and conclusions in this section apply to both on-site and off-site activities. Potential secondary seismic effects of strong seismic ground shaking include liquefaction, lateral spreading, and seismically induced settlement/differential compaction. Liquefaction occurs when loose, cohesionless, water-saturated soils (generally fine-grained sand and silt) are subjected to strong seismic ground motion of significant duration. These soils essentially behave similar to liquids, losing bearing strength. Structures built on these soils may tilt or sink when the soils liquefy. The Project site is not mapped in an area considered to have a potential for liquefaction on the Seismic Hazards Zones Map for the Del Sur Quadrangle (CGS 2006). Groundwater data indicate that groundwater levels are deep in the region currently and historically. In addition, the granular soils encountered at depth were found to range in consistency from dense to very dense. Based on these findings, the potential for liquefaction on site (including effects of liquefaction, such as lateral spreading) is considered low. Therefore, impacts would be less than significant and no mitigation is required.

Seismically induced settlement consists of dry dynamic settlement (above groundwater) and liquefaction-induced settlement (below groundwater). During a strong seismic event, seismically induced settlement can occur within loose to moderately dense sandy soil due to reduction in volume during, and shortly after, an earthquake event. Settlement caused by ground shaking is often non-uniformly distributed, which can result in differential settlement. The Geotechnical Investigation Report analyzes the potential for seismically induced settlement. The results of the analysis suggest that the on-site soils are susceptible to less than 1 inch of seismic settlement based on the design earthquake. Due to the laterally uniform nature of soils, differential settlement due to seismic loading is assumed to be less than ½ inch over a horizontal distance of 40 feet (Leighton 2012a). Therefore, the risk of settlement and differential compaction was concluded to be low, and impacts would be less than significant.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

iv) Landslides?

No Impact. The impact analysis and conclusions in this section apply to both on-site and off-site activities. No natural or artificial slopes exist on or near the Project site. The Geotechnical Investigation Report indicates that the potential for an earthquake-induced landslide to occur at the site is not an issue (Leighton 2012a). Therefore, the risk of seismically induced landslides is considered to be very low, and no impact would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The largest source of erosion and topsoil loss, particularly in a suburban or urban environment, is uncontrolled drainage during construction. Construction of the Project would involve the clearing and grubbing of vegetation in only those areas that would be developed (approximately 30 acres of the 263–acre Project site), including access roads, equipment foundations, retention basins, fence posts, electrical conduit trenching, utility pole excavation, recreational trail, and mounting structure foundations. As discussed in more detail in Section 4.10, Hydrology and Water Quality, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into "Waters of the U.S.". As required by the County, construction activities would be conducted in compliance with the statewide NPDES General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ as amended by Order No. 2010-0014-DWQ [NPDES No. CAS000002]), issued by the State Water Resources Control Board (SWRCB) on September 2, 2009, and effective for all Project sites on July 1, 2010.

In compliance with the NPDES permit, erosion potential during construction of the proposed Project would be managed with Best Management Practices (BMPs) implemented on the Project site as part of a Storm Water Pollution Prevention Plan (SWPPP) during construction activities to minimize erosion impacts in accordance with NPDES requirements. Implementation of the BMPs would reduce construction-related erosion impacts to less than significant levels.

Concrete pads, footings, and access roads (which would be compacted to 90 percent) would result in the creation of minor amounts of impervious surfaces on the Project site, which would result in the long-term loss of accessible top soil. Soil erosion currently occurs on the site due to high winds in the region and would continue to be an issue even after Project implementation. However, erosion would be reduced in areas that would be improved with the equipment buildings; mounting structure foundations; and internal roadway. Thus, a minor reduction in erosion potential would occur.

As discussed in more detail in Section 4.10, Hydrology and Water Quality, the Project shall be designed and constructed in compliance with the water quality plan/hydrology requirements of the adopted Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit (Order No. R4-2012-0175, NPDES No. CAS004001) and *Los Angeles County Department of Public Works' 2009 Low Impact Development (LID) Standard Manual* (LACDPW 2009,). The Water Quality Plan/Hydrology will be based on calculations contained in a Drainage Analysis prepared by the Project Engineer in accordance with the *Los Angeles County Department of Public Works' Hydrology Manual* (LACDPW 2006a). As required by the County, appropriate post-construction treatment-control BMPs pursuant to the water quality plan/hydrology requirements would be incorporated into the Project design Compliance with this requirement would ensure that impacts related erosion would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. The Geotechnical Investigation Report for the Project indicates that there are no zones of potentially liquefiable soil on the site and the exposed soils have a low to medium expansion potential. In addition, the report does not identify hazards related to landslide, lateral spreading, subsidence, or soil collapse (Leighton 2012a). Structural design and construction of proposed site improvements would need to implement the recommendations in the Geotechnical Investigation Report to comply with applicable regulatory requirements and to ensure that geologic hazards remain less than significant.

e) Would the project have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed Project would not include toilets, kitchens, or bathrooms that would generate wastewater requiring disposal into the sewer system or a septic tank. Thus, the on-site soils would not pose limitations to septic tanks or alternative waste water disposal systems since none are proposed as part of the Project. No impact would occur.

f) Would the project conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element?

No Impact. The Project site is located on the floor of the Antelope Valley where the terrain is nearly flat. It is not in or near any hillside area and is not affected by Hillside Management Areas. Therefore, no impact would occur.

4.7.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to geology and soils; therefore, no mitigation is required.

4.8 GREENHOUSE GAS EMISSIONS	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

4.8.1 ENVIRONMENTAL SETTING

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere, which, in turn, increase the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion in conjunction with other human activities appears to be closely associated with global warming (OPR 2008).

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies, such as CARB, or climate change groups, such as the California Climate Action Registry (CCAR), as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 21 and 310 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 21 and 310, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and the GWP of selected GHGs are summarized in Table 4-11, Global Warming Potentials and Atmospheric Lifetimes.

TABLE 4-11
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50.0–200.0	1
Methane (CH_4)	12.0	21
Nitrous Oxide (N_2O)	114.0	310
HFC-134a	48.3	1,300
PFC: Tetrafluoromethane (CF_4)	50,000.0	6,500
PFC: Hexafluoroethane (C_2F_6)	10,000.0	9,200
Sulfur Hexafluoride (SF_6)	3,200.0	23,900
Source: CCAR 2009.		

AB 32, the California Global Warming Solutions Act of 2006, recognizes that California is the source of substantial amounts of GHG emissions. The statute states that:

> Global warming poses a serious threat to the economic well being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

In order to avert these consequences, AB 32 establishes a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow (CARB 2012).

The Project site is currently undeveloped and does not directly generate GHG emissions due to the absence of on-site water use, energy use, and vehicle trip generation.

4.8.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. The AVAQMD's *CEQA and Federal Conformity Guidelines* (2011) establish significance thresholds to assess the impact of Project-related GHG emissions in the AVAQMD. The AVAQMD GHG Significance Threshold is 100,000 tons of CO_2e per year for long-term operational and short-term construction emissions. A project with emissions rates below this threshold is considered to have a less than significant effect on climate change.

Construction

The principal source of GHG emissions during construction of the proposed Project would be the internal combustion engines of construction equipment, on-road construction vehicles, and workers' commuting vehicles. Following the same methodology as the Air Quality analysis, the proposed Project's construction emissions were estimated using the assumptions provided by the Project Applicant and emission factors from EMFAC2011 and OFFROAD2007. Project-specific input was based on the factors described above; general information known about the Project description; engineering judgment; and standard practices. For the proposed Project, GHG emissions during construction are estimated at 1,550 tons CO_2e, which would be below the AVAQMD threshold of 100,000 tons CO_2e/yr and would be less than significant. The emissions calculations data sheets showing equipment assumptions and detailed emissions are included in Appendix B.

Operations

As discussed in Section 4.3, Air Quality, the workforce performing ongoing O&M would be relatively small and would typically be off site. General landscape labor would perform vegetation maintenance at some interval to maintain ground coverage and to remove unwanted vegetation. Skilled operations monitoring personnel would review the information provided by the SCADA system to determine when actions would be needed. In most cases with PV systems, the fault is auto-correctable and does not require reactive repair at the site.

With the conservative assumption of 50 annual trips at a one-way distance of 50 miles for O&M personnel, 100 annual trips for O&M water trucks, and an additional 195 water truck trips during the first three years of operations for irrigation to establish the landscaping, annual GHG emissions from maintenance visits were calculated with emissions factors from EMFAC2011. Annual GHG emissions would be 19.2 tons of CO_2e per year, which would be below the AVAQMD threshold of 100,000 tons CO_2e/yr and would be considered less than significant.

The proposed solar facility would be capable of generating up to 20 MWac of electricity under peak solar conditions. The energy generated by the proposed Project would replace the energy consumption provided by burning fossil fuels and using water at central power generation plants, thereby resulting in an indirect reduction of GHG emissions. Using PG&E emission factors, as detailed in Appendix B, it has been calculated that the Project would result in the offset of up to 9,823 tons CO_2e/yr. Therefore, the implementation of the Project would result in a net regional or global reduction of GHG emissions compared with existing conditions.

As stated, a total of 19.2 tons of CO_2e/yr would be generated by the proposed Project from operational activities. With the reduction of approximately 9,823 tons of CO_2e/yr from a 20 MWac facility, the Project would have a net benefit of approximately 9,781 tons of CO_2e/yr in GHG emissions by replacing electrical energy use with solar energy.

GHG emissions from the Project would not be cumulatively considerable; the Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Decommissioning

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It is assumed that

decommissioning of the site would require the same construction scenario (activities, equipment, duration) as the initial development of the site; however, future GHG impacts would be less than those currently projected due to anticipated advancements in technology and a cleaner-burning construction equipment fleet mix. Therefore, future air quality impacts related to decommissioning would also be less than significant.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The Countywide Energy and Environmental Policy, adopted by the Board of Supervisors of the County of Los Angeles on January 16, 2007, sets forth guidelines and programs for the development and enhancement of energy conservation and environmental programs within County departments. This County Policy consists of the following programs:

- Energy and Water Efficiency Program,
- Environmental Stewardship Program,
- Public Outreach and Education Program, and
- Sustainable Design Program.

Under the Energy and Water Efficiency Program, the County has set forth the goal of reducing energy (electricity and natural gas) and water consumption in County facilities by 20 percent by the year 2015. Under the Environmental Stewardship Program, the County seeks to reduce its environmental footprint, including a reduction in greenhouse gases produced through the direct and indirect operations (Los Angeles County 2013).

By providing a new source of renewable energy, the Project would reduce air pollution and GHG emissions generated by the burning of fossil fuels and/or the use of water at central power generation plants, and thus, would be consistent with the objectives and programs of the Countywide Energy and Environmental Policy.

AB 32 requires CARB to develop a Scoping Plan to lower the State's GHG emissions to meet the 2020 limit (*California Health and Safety Code,* Sections 38500 et seq.). The Scoping Plan was approved at the December 2008 CARB meeting. In August 2011, the Scoping Plan was re-approved by the Board, and includes the *Final Supplement to the Scoping Plan Functional Equivalent Document* (FED). A key element of the Scoping Plan is achievement of a statewide renewable energy mix of 33 percent (CARB 2008). By providing a new source of renewable energy, the proposed Project would be consistent with the renewable energy measure of the CARB Scoping Plan. The overall goal of AB 32 is to reduce GHG emissions. As demonstrated above, the proposed Project would result in a net reduction of GHG emissions, consistent with AB 32. Therefore, the Project would not conflict with the applicable plans or policies to reduce GHG emissions and impacts would be less than significant.

4.8.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to greenhouse gas emissions; therefore, no mitigation is required.

4.9 HAZARDS/HAZARDOUS MATERIALS	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or people residing or working in the project area?	☐	☒	☐	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☒	☐	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving fires, because the project is located:				
i) within a Very High Fire Hazard Severity Zones	☐	☐	☐	☒
ii) within a high fire hazard area with inadequate access?	☐	☐	☒	☐
iii) within an area with inadequate water and pressure to meet fire flow standards?	☐	☐	☒	☐
iv) within proximity to land uses that have the potential for dangerous fire hazard?	☐	☐	☒	☐
i) Does the proposed use constitute a potentially dangerous fire hazard?	☐	☐	☒	☐

4.9.1 ENVIRONMENTAL SETTING

The discussion of past and current hazardous material users on and near the site is based on the Phase I Environmental Site Assessment (ESA) prepared by Leighton Consulting in July 2012. The Phase I ESA is located in Appendix F.

On-Site Hazardous Material Use. The site is currently vacant, but was previously used as agricultural land. Because the Project site is currently vacant, the site does not utilize hazardous materials or generate hazardous wastes. There are no known hazardous materials, petroleum products, hazardous wastes, or petroleum wastes on the site. Obvious signs of soil contamination from hazardous materials and petroleum products were not observed on the Project site during site reconnaissance performed as part of the Phase I ESA.

Adjacent Hazardous Material Users. Review of government databases indicates that there are no adjacent users of hazardous materials or generators of hazardous wastes in the vicinity of the Project site.

Nearby Airports. The nearest airports to the site are Bohunk's Airpark, a private airstrip approximately two miles west of the Project site and the General William J. Fox Airfield, which is located approximately six miles northeast. As the Los Angeles County Airport Land Use Plan does not identify Bohunk's Airpark, it is not regulated by Los Angeles County Airport Land Use Commission (ALUC) policies and procedures. However, it is recognized as an airfield by the Federal Aviation Administration (AirNav 2013a).

Fox Airfield is a general aviation airport that is owned by the County of Los Angeles and serves as a flight training facility for aircraft and pilots from the Los Angeles Basin and as an air attack base for U.S. Forest Service firefighting aircraft (ALUC 2004). It handles an average of 224 flight operations per day (AirNav 2013b). The *General William J. Fox Airfield Land Use Compatibility Plan*, adopted by the ALUC in December 2004, sets forth land use compatibility policies applicable to future development in the vicinity of the airport. The Project site is located outside the airport's Area of Influence (ALUC 2004).

Wildfire Hazards. The Project site is located in neither State nor Local Responsibility areas designated as Very High or High Fire Hard Severity Zones, as mapped by the California Department of Forestry and Fire Protection (CAL FIRE 2007). As shown in Exhibit 4-10, Fire Hazard Severity Zone Map, the high risk zones closest to the Project site are located in the San Gabriel Mountains, approximately four miles to the south.

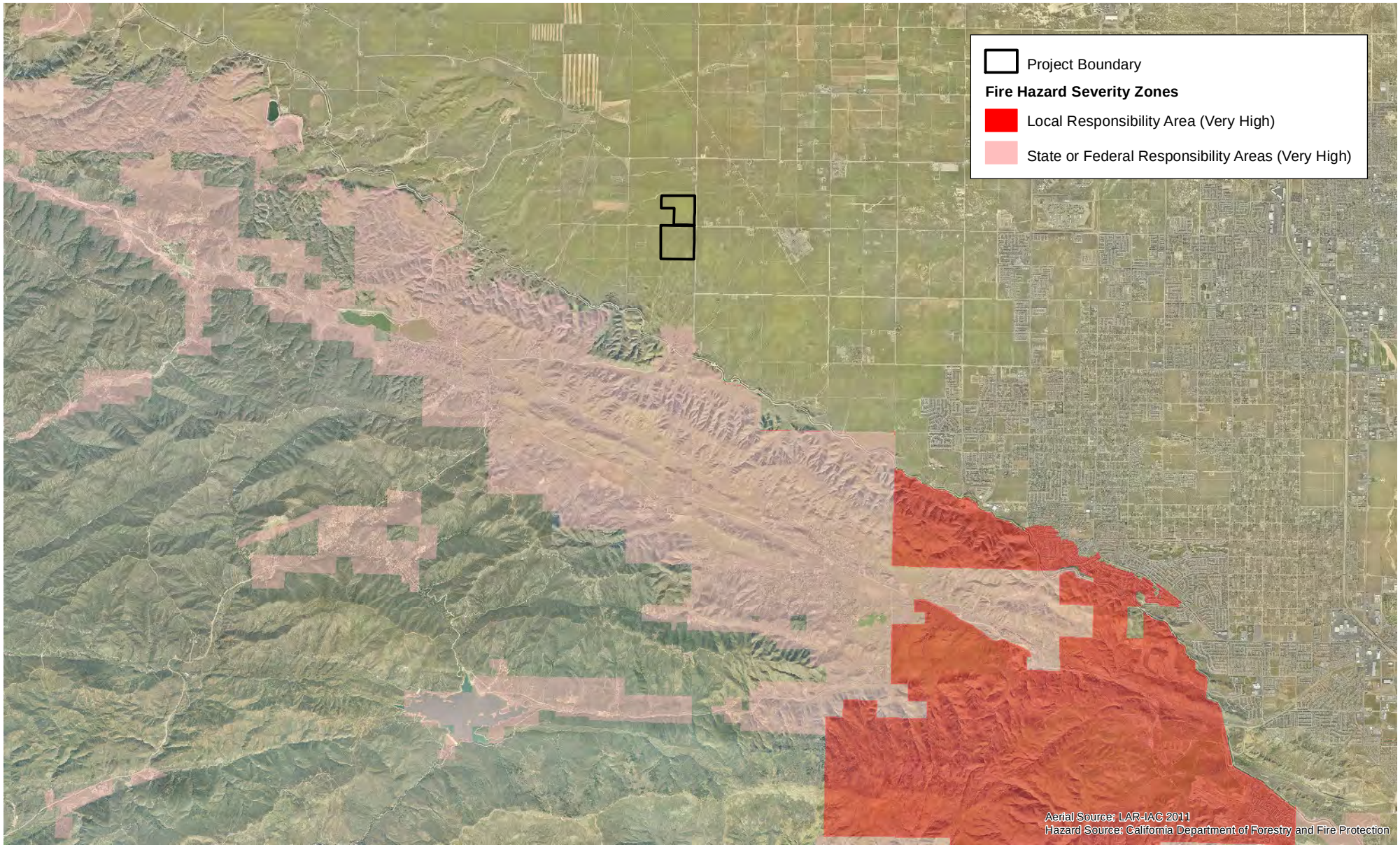
4.9.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?

Less Than Significant With Mitigation. The proposed Project would not utilize, store, or produce hazardous materials or wastes that may pose a significant hazard to the public. Hazardous waste would not be generated on site. However, construction activities associated



Fire Hazard Severity Zone Map

Exhibit 4-10

West Antelope Solar Energy Project

N W E S

2 1 0 2 Miles

BonTerra CONSULTING

(Rev: 8-29-2013 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_fire_hazard.pdf

D:\Projects\TAAC\J001\mxd\Ex_fire_hazard.mxd

with the Project would involve the use of common hazardous materials for construction, such as chemical and petroleum-related products for heavy equipment and machinery. Other common hazardous materials that may be used in construction activities include paints, sealants, solvents, detergents, glues, acids, lime, plaster, grease, oils, cleaning agents, and heavy metals from equipment; these materials could pose risks to people or the environment, if not properly stored, used, and disposed. Compliance with existing hazardous material regulations would ensure that the use of common hazardous materials during construction activities would be less than significant. These include the Hazardous Material Transportation Act (MM HAZ-1) and the Certified Unified Program Agency (CUPA) (MM HAZ-2).

The Phase I ESA reveals no evidence of recognized hazardous materials or conditions on site, except for its former use as agricultural land, as identified in the 1954 and 1968 aerial photos (Leighton 2012b). Persistent fertilizers, pesticides, and arsenic may have been applied to the land during this activity. Construction activities such as site clearing, grubbing, and grading could potentially expose workers to contaminated soil, if present, during construction activities. In order to ensure less than significant impacts related to exposure of the construction workers to residual hazardous chemicals, MM HAZ-3 requires the testing of surface soils for the presence of organochlorine pesticides and arsenic. If chemical levels are above regulatory standards, remediation and/or removal of contaminated soils in compliance with applicable local, State, and federal standards and requirements shall be conducted prior to Project construction. Additionally, if any unexpected abnormal soil staining and/or odors are encountered during grading and excavation activities that could indicate the presence of petroleum hydrocarbons, heavy metals, or other contamination, MM HAZ-4 requires that construction activities shall be halted and an assessment of the soils shall be conducted prior to the continuation of grading or excavation activities. Disposal of any contaminated soils would be conducted in compliance with existing hazardous material regulations, including the Hazardous Material Transportation Act (MM HAZ-1) and CUPA (MM HAZ-2). Compliance with MM HAZ-1, MM HAZ-2, MM HAZ-3, and MM HAZ-4 would ensure that potential hazards during construction activities would be less than significant.

Construction activities associated with the Project have the potential increase risks associated with valley fever (coccidioidomycosis). Valley fever is caused by a fungus recognized to be endemic in areas with dry, alkaline soil conditions and can cause pneumonia when inhaled with wind-borne dust. Both workers and local residents may be exposed to valley fever during construction. In order to prevent exacerbating the existing windblown dust issues in the Project area, all construction activity for the Project (including decommissioning activities) would be conducted under a rigorous Dust Control Plan prepared in accordance with AVAQMD Rule 403. As set forth in MM AQ-1, the Project Applicant shall prepare a Dust Control Plan that includes requirements for minimal grading, vehicle use, construction scheduling, water application, soil binders/wood mulch, stock piles stabilization, final stabilization, and monitoring. Implementation of MM AQ-1 would prevent the Project from substantially increasing windblown dust concentrations compared to background levels and would reduce potential impacts to sensitive receptors to levels less than significant.

Cleaning of the PV panels would primarily involve spraying of the panels with demineralized water to remove dust buildup, grime, bird droppings, and/or soot from the PV panels. Cleaning water would be allowed to infiltrate into the ground or evaporate as it drips off the PV modules. MM HAZ-5 requires that only water is used for cleaning PV panels and no other cleaning agents or additives can be used. Incorporation of these mitigation measures would ensure that impacts would remain less than significant.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?

Less Than Significant Impact. The closest sensitive land use to the Project site is the single-family residence located 0.14 mile to the east. The nearest school is Del Sur Elementary School located at 9023 West Avenue H, approximately 2.4 miles northeast of the Project site. While the proposed Project would not lead to hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste, limited use of common hazardous materials would occur during construction, as discussed under Threshold 4.9(a) above. Although there are no significant impacts related to this issue, MM HAZ-1 and MM HAZ-2 would ensure that these materials would be handled and disposed of in accordance with applicable regulatory standards and would not affect nearby residences or schools. Therefore, impacts to nearby sensitive land uses would be less than significant.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. The Phase I ESA prepared for the Project includes a database review of potential environmental concerns in the vicinity of the Project site (i.e., "listed sites"); review of records, aerial photographs and other documentation that illustrates the history of site use and site reconnaissance. The Phase I ESA determines that listed historical and current land uses in the Project vicinity would be unlikely to adversely affect site development (Leighton 2012b). Specific on- and off-site land uses discussed in the Phase I ESA are described below.

A search of selected government databases was conducted as part of the Phase I ESA for potential environmental concerns on and in the vicinity of the Project site. Regulatory database lists were reviewed for cases pertaining to leaking underground storage tanks (LUSTs), aboveground storage tanks (ASTs), hazardous waste sites, and abandoned sites within the specified radii of standards established by the ASTM E 1527-05. Details of the databases searched, along with descriptions of each database researched, are provided in Appendix F.

On-Site

The Project site was not identified on a list of hazardous materials sites compiled pursuant to Section 65962.5 of the *California Government Code.* However, the GeoSearch™ GeoPlus Water Well Report identified a National Water Information System (NWIS) well and a California Department of Water Resources (DWR) well in the north portion of the Project site (Leighton 2012b). The two wells were not found during the site reconnaissance. Although there are no significant impacts related to this issue, the Project would ensure that if these wells are found during construction of the Project, they would need to be properly abandoned per applicable local, State and federal regulations.

Off-Site

Off-site areas were not identified on a list of hazardous materials sites compiled pursuant to Section 65962.5 of the *California Government Code;* however, two off-site Recognized

Environmental Conditions (RECs) were identified in the vicinity of the Project and are described below.[10]

Abandoned Oil Well

The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) Online Mapping System identifies a plugged and abandoned dry well approximately 0.3 mile to the southwest of the Project site. Based on review of records from DOGGR, the oil well was abandoned with appropriate notice provided to DOGGR and no seepage or hazardous conditions are present. Therefore, there would be no impact on the Project site related to the presence of a historic dry well.

Radon

The California Department of Health Services maintains a database of indoor radon levels that are sorted by zip code. According to the most recent update prepared on May 4, 2010, of the 32 tests that were completed in the Project site's zip code of 93536, one test (or 3.13 percent) exceeded 4 picocuries per liter (pCi/L) (Leighton 2012b). In addition, the GeoSearch™ identifies the subject property to be within Radon Zone 2, a U.S. Environmental Protection Agency (USEPA) designated, geographically specific zone designed to demonstrate potential radon exposure levels to national, State, and local organizations. In Radon Zone 2, radon exposure potential is considered to be moderate, and has a predicted average indoor radon screening level between 2 and 4 pCi/L (Leighton 2012b). Based on this information, the potential for elevated radon levels at the Project site appears to be low to moderate. Further, the Project does not include any habitable enclosed structures, where radon exposure would be the highest. Therefore, this nearby environmental condition would have a less than significant impact on the Project site.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Less Than Significant With Mitigation. As discussed above, the nearest airports to the site are Bohunk's Airpark, a private air strip with dirt runways, located approximately two miles to the east, and the General William J. Fox Airfield, a public airfield with asphalt runways, located approximately six miles northeast of the site. As the Project site is located outside the airport Area of Influence of Fox Airfield, no impact would occur (ALUC 2004).

While Bohunk's Airpart is a private airfield and not regulated by ALUC policies and procedures, it is recognized as an airfield by the FAA and therefore subject to adopted safety standards and guidelines for airfields and airports. The proposed 75-foot switch poles and 70-foot-tall riser pole connecting the Grid-Tie to the Antelope Substation could have a potential height conflict with the flight patterns for aircraft using Bohunk's Airpark. According to aerial maps, the primary dirt runway (Runway 27) at Bohunk's Airpark is approximately 1,900 feet long, runs from east to

[10] One location was listed within the GeoSearch™ Geoplus Radius Report as "unlocatable". Unlocatable listings are properties without a complete street address (and therefore cannot be located on a map) or are not geocoded. The listing, a Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) site, was identified in the Radius Report to be 0.5 mile from the subject property (Leighton 2012b). However, since the CERCLIS site could not be located, its impact on the subject site could not be evaluated.

west, and is located approximately 1.24 miles (6,540 feet) northeast of the nearest proposed riser pole. These poles would be shorter in height compared to the adjacent SCE TRTP transmission towers, which are over 100 feet tall and located closer to the airstrip. Additionally, aircraft using Bohunk's Airpark would typically take-off or approach Runway 27 from the east, meaning they would avoid conflict with the proposed rise poles that are over one mile to the west (AirNav 2013a). Therefore, potential safety impacts related to tall structures in the vicinity of a private airstrip would be less than significant.

Private aircraft may fly over the Project area and potentially experience short-term glint and glare from the proposed solar operations. These occurrences are dependent on altitude, relationship to the Project area, direction of flight, and panel position. As required by MM AES-3, the proposed solar array would consist of flat-plate PV panels, which have a transparent glass cover to protect the solar cells. The glass used for the panels would be "high-transmission, low-iron" tempered glass. This type of glass absorbs more light, while producing less glare and reflectance than normal glass, having a reflectance value of 8 percent or less. In recent years, several large-scale solar projects have been completed and constructed at or near major airports without incident. In 2010, the second large-scale solar project was completed at the Denver International Airport. The 1.6-MW system at the airport's fuel facility was comprised of more than 7,300 Sharp Solar Panels. Since 2005, FedEx has been operating at the Oakland FedEx International Airport Hub with more than 5,700 solar panels generating over 900 kW of peak energy to help power their facility (Power Engineers 2010). Therefore, impacts related to glare to aircraft would be less than significant with mitigation.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any impacts related to the proximity of Bohunk's Airpark created by the Project would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. There are no known adopted Los Angeles County emergency response or evacuation plans in place for the area surrounding the Project site. The City of Lancaster has an adopted Emergency Operations Plan (EOP) that details the responsibilities of private organizations and federal, State, and local agencies in the event of disaster. West Avenue I has been identified as an evacuation route (Lancaster 2009a). However, no improvements are proposed on West Avenue I in association with the proposed Project.

Construction activities would be staged on the Project site and would not obstruct evacuation procedures or implementation of the City's EOP. The proposed Project may temporarily impact adjacent roadways during construction, in particular West Avenue J where two new driveway improvements are proposed. In addition, the construction envelope to underground or erect the transmission lines/poles for the Gen-Tie line would require work on public ROW. If there is insufficient area, the construction may encroach beyond the roadway shoulders into the traveled way requiring limited closures of roadway segments in the construction zones causing short-duration traffic impacts.

As required by the County, should erection of the poles require work near or on the roadway, construction work warning signs would be placed in advance according to the *California Manual on Uniform Traffic Control Devices* and applicable City of Lancaster requirements to limit roadway obstruction and the need for temporary detours. Additionally, flagmen would be used

as required during construction to ensure traffic safety and uninterrupted flow. As such, roadways that provide access to the Project site and the surrounding areas would not be impacted during Project construction in such a way that would physically impair or impede emergency response or evacuation. Future decommissioning activities would also be expected to comply with the same or equivalent traffic control requirements. Therefore, potential impacts to emergency evacuation plans would be less than significant.

h) Would the project expose people or structures to a significant risk of loss, injury or death involving fires, because the project is located:

i) within a Very High Fire Hazard Severity Zones (Zone 4)?

No Impact. The Project site is not in or near areas designated as a Very High or High Fire Hazard Severity Zone (CAL FIRE 2007). In addition, the proposed Project would also not bring in permanent residents. As shown in Exhibit 4-10, the high risk zones closest to the Project site are located in the San Gabriel Mountains, approximately four miles to the south. Therefore, the proposed Project would not result in a significant risk of loss, injury, or death involving wildland fires due to proximity to a designated Fire Hazard Zone. No impact would occur.

h) Would the project expose people or structures to a significant risk of loss, injury or death involving fires, because the project is located:

ii) within a high fire hazard area with inadequate access?

iii) within an area with inadequate water and pressure to meet fire flow standards?

iv) within proximity to land uses that have the potential for dangerous fire hazard?

i) Does the proposed use constitute a potentially dangerous fire hazard?

Less Than Significant Impact. The Project site and surrounding area primarily consists of open space with annual grasslands, which remain dry for most of the year and has the potential to burn. The introduction of general human activity, including maintenance workers smoking on site or the driving of combustion engine vehicles, increases the potential risk for dangerous fire hazard. Construction activities, such as welding during installation of PV panels and support structures, could also potentially result in the combustion of native materials. Transmission lines may pose a fire hazard when a conducting object, comes in close proximity of a line or when a live-phase conductor falls to the ground.

As discussed in Section 4.15, Public Services, the Project would be required to comply with Los Angeles County Code's Title 32, Fire Code, which includes various requirements for fire safety and prevention. In compliance with Title 32, vegetation be trimmed to a maximum height of six inches within the Project site boundaries and cleared to mineral soil for a distance of 50 feet around all electrical transformer vaults or structures as part of regular O&M activities. As the Project is located in an undeveloped area, there are no fire hydrants or other piped water supplies to the site. The Project would include a network of internal access roads which would provide emergency access to remote portions of the site, as well as two water tanks with a minimum capacity of 10,000 gallons each for use by the LACFD for fire control. Compliance with the County's Fire Code would ensure that impacts related to fire control would be less than significant.

Further, as required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, the increase in

potential for fire hazards would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

4.9.3 MITIGATION MEASURES

MM HAZ-1 During construction activities, any hazardous materials encountered on the Project site requiring off-site disposal shall be transported off site by a properly licensed hazardous waste hauler who shall comply with all applicable State and federal requirements, including California Department of Transportation (Caltrans) regulations under Title 49 of the *Code of Federal Regulations* (CFR). Hazardous materials that may be encountered during proposed Project implementation would be handled, treated, and/or disposed of in accordance with applicable regulations and/or the requirements of the local oversight agency(ies).

MM HAZ-2 The Contractor shall conduct construction activities in compliance with the regulations of the Los Angeles County Fire Department, which serves as the designated Certified Unified Program Agency (CUPA), and shall implement the State and federal regulations related to (1) the Hazardous Waste Generator Program; (2) Hazardous Materials Release Response Plans and Inventory Program; (3) California Accidental Release Prevention Program (Cal-ARP); (4) the aboveground storage tank (AST) Program; and (5) the underground storage tank (UST) Program.

MM HAZ-3 Prior to commencement of on-site ground-disturbing activities, the Project Applicant shall obtain a statistically valid number of soil samples from the identified areas and analyze for the presence of organochlorine pesticides and arsenic. The results of testing shall be made available to the County for review and confirmation. If the results of the soil testing show the presence of chemicals below regulatory levels, grading or excavation may proceed accordingly. If chemical levels are above regulatory standards, remediation and/or removal of contaminated soils in compliance with applicable local, State, and federal standards and requirements shall be conducted prior to Project construction.

MM HAZ-4 If abnormal soil staining and/or odors are encountered during grading and excavation activities that could indicate the presence of petroleum hydrocarbons, heavy metals, or other contamination, construction activities shall be halted and an assessment of the soils shall be conducted prior to the continuation of grading or excavation activities. If the results of the soil testing show the presence of chemicals below regulatory levels, grading or excavation may proceed accordingly. If chemical levels are above regulatory standards, remediation and/or removal of contaminated soils in compliance with applicable local, State, and federal standards and requirements shall be conducted prior to Project construction.

MM HAZ-5 During operation, the County shall require the use of demineralized water in all photovoltaic (PV) panel cleaning activities. No other cleaning agents or additives shall be used.

Implementation of these mitigation measures would ensure that impacts to hazards and hazardous materials would be less than significant.

4.10 HYDROLOGY AND WATER QUALITY	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?	☐	☐	☒	☐
g) Conflict with the Los Angeles County Low Impact Development_Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52)?	☐	☐	☒	☐
h) Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?	☐	☐	☐	☒
i) Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?	☐	☐	☐	☒
j) Otherwise substantially degrade water quality?	☐	☐	☒	☐
k) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain?	☐	☐	☐	☒
l) Place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain?	☐	☐	☒	☐

4.10 HYDROLOGY AND WATER QUALITY	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
m) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
n) Place structures in areas subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

4.10.1 ENVIRONMENTAL SETTING

The discussion of site hydrology and water quality is based on the Preliminary Drainage Report dated July 10, 2012 (revised March 2013), a Low Impact Development/Water Quality Report (LID/WQR) dated May 2013, and a Draft Stormwater Pollution Prevention Plan (SWPPP) dated July 6, 2012. All documents were prepared by AEI-CASC Consulting. The reports are located in Appendices G-1, G-2, and G-3 of this document respectively.

The Project site is located at the southern end of the South Lahontan Hydrologic Basin Planning area, part of the Antelope Hydrologic Unit (626.5 – Lancaster Hydrologic Area), and within the jurisdiction of the Lahontan Regional Water Quality Control Board (RWQCB). Surface waters in this area flow into three major surface water systems, including the Mono Lake, Owens River, and Mojave River Watersheds, as well as a number of separate closed groundwater basins (Lahontan RWQCB 2005). The site is underlain by alluvial fan deposits consisting primarily of sandy loam and coarse sandy loam soils.

The Water Quality Control Plan for the Lahontan Region (Basin Plan) contains policies that the RWQCB uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region (Lahontan RWQCB 2005). The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. According to the Basin Plan, the surface waters on the Project site are considered "minor surface waters" and "minor wetlands" and assigned the following beneficial uses:

- Municipal supply (MUN)
- Agricultural supply (AGR)
- Groundwater recharge (GWR)
- Freshwater replenishment (FRSH)
- Contact and non-contact recreational uses (REC-1, REC-2)
- Commercial and sportfishing (COMM)
- Warm freshwater habitat (WARM)
- Wildlife habitat (WLD)
- Water quality enhancement (WQE)
- Flood peak attenuation and storage (FLD)

The Project is in the Antelope Valley, which is underlain by the Antelope Valley Groundwater Basin ("Basin"). The Basin is located in the western portion of the Mojave Desert within the South Lahontan Hydrologic Region, and is designated as Groundwater Basin Number 6-44. The surface of the entire Antelope Valley Groundwater Basin is over 1 million acres (1,580 square miles) and is topographically closed on the north and northwest by the Garlock Fault at the base of the Tehachapi Mountains, and on the south and southwest by the San Andreas Fault at the base of the Transverse Ranges, including the San Gabriel Mountains. The Basin consists of the deep (confined) aquifer and the upper (unconfined) aquifer, the latter of which serves as the primary water source. The California Geological Survey considers the historically highest groundwater level at the site to be deeper than 250 feet below the ground surface (Leighton 2012a).

The Project site is relatively flat. The elevation ranges from 2,620 feet to 2,480 feet above msl. The site generally drains from southwest to northeast at a gradient of approximately 2 percent towards an existing ephemeral stream located approximately 330 feet north of the Project site. This ephemeral stream terminates approximately 3.8 miles downstream of the site at a small depressed open area prior to reaching additional water bodies. However, due to the site topography and implementation of BMPs, flows are not anticipated to reach this ephemeral stream. The east edge of the site is delineated by 110th Street West, which also directs the on-site flows north towards the downstream corner of the site. West Avenue J cuts through the middle of the Project site and directs a portion of the on-site flows east to 110th Street West where they are routed north to the downstream corner of the Project site. None of these ephemeral streams are listed as impaired water bodies (AEI-CASC 2012a).

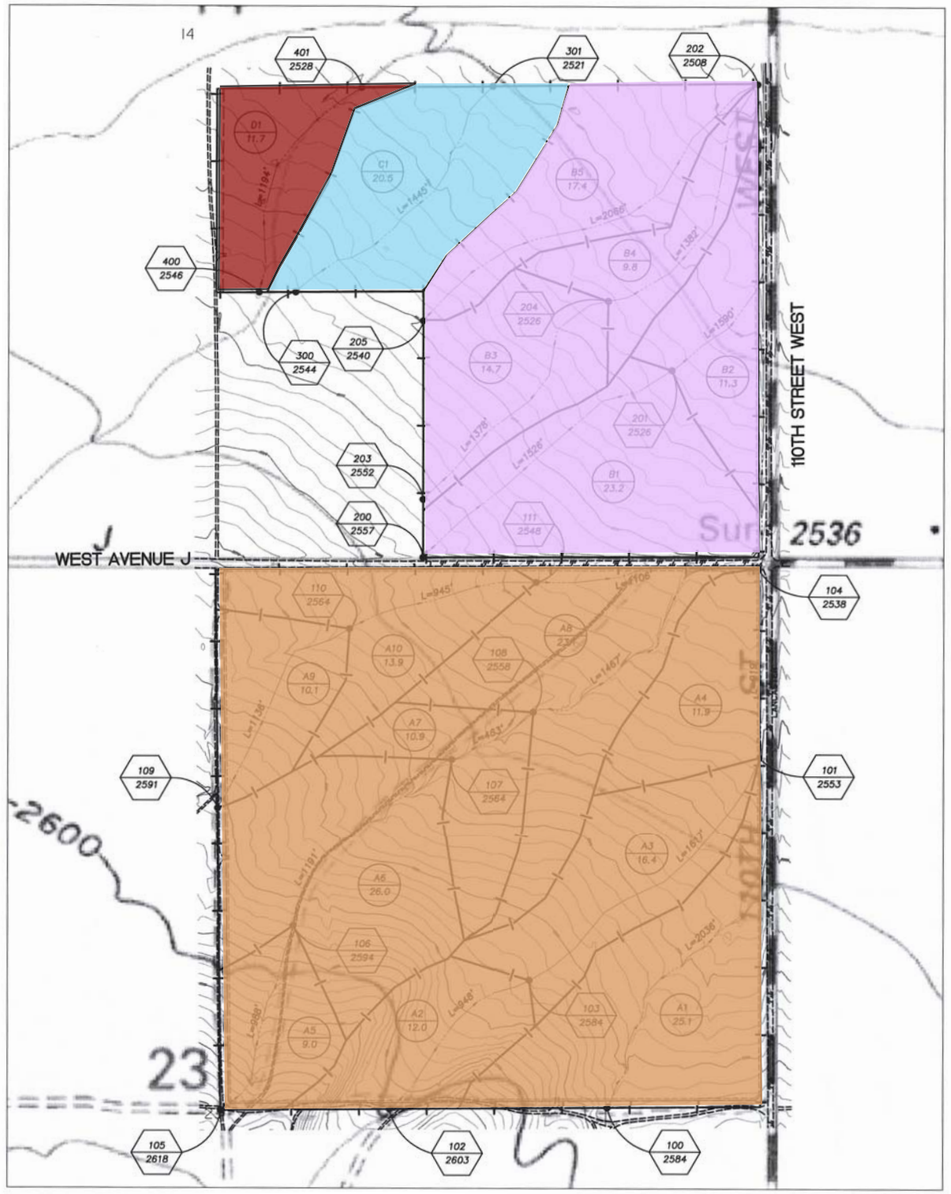
The Project site is divided up into four primary drainage areas. These drainage areas are shown in Exhibit 4-11, Hydrology Map. On-site flows drain toward four primary "nodal points". As shown on Exhibit 4-10, Drainage Area A encompasses the entire Southern Portion of the Project site and drains to the northeast towards a point located at the intersection of West Avenue J and 110th Street West (nodal point 104). The Northern Portion of the Project site is divided among Drainage Areas B, C, and D and drains to the north edge of the Project site (nodal points 202, 301 and 401, respectively).

Portions of the proposed Project site are located within 100-year flood hazard areas as determined by the Federal Emergency Management Agency (FEMA). The FEMA flood hazard is categorized as a Zone "A", meaning this area is subject to a one percent annual chance flood, also known as a 100-year storm event (FEMA 2008). The flood hazard areas are shown in Exhibit 4-12, Flood Hazard Map.

A Floodplain Management Path has been established in conjunction with the Antelope Valley Comprehensive Plan of Flood Control and Water Conservation. According to the LACDPW, this path is reserved for the construction of a future regional drainage facility. Since the layout of the proposed Project does not impact the 50-foot Floodplain Management Path as established in the Antelope Valley Comprehensive Plan of Flood Control and Water Conservation, there would be no need to perform an additional feasibility analysis to determine an alternate path (AEI-CASC 2012a).

LEGEND

- NODE/CONCENTRATION POINT (XXX / XXXX — ELEVATION)
- SUB AREA (XX / XX.X — ACRES)
- L=XXX' MAIN FLOW PATH LENGTH
- FLOW PATH
- WATERSHED BOUNDARY
- PROJECT BOUNDARY



EXISTING CONDITION HYDROLOGY SUMMARY TABLE

CONCENTRATION POINT	AREA (AC)	Q50(CFS)	V50(CF)	Q25(CFS)	V25(CF)	Q10(CFS)	V10(CF)	Q5(CFS)	V5(CF)
NODAL 104	158.5	46.8	386,377	26.4	327,571	19.0	265,280	15.5	215,622
NODAL 202	76.4	12.3	158,558	10.0	138,956	8.1	112,820	6.6	92,783
NODAL 301	20.5	3.0	42,253	2.7	37,026	2.2	30,056	1.8	24,829
NODAL 401	11.7	1.8	24,394	1.6	21,780	1.3	17,424	1.0	14,375

CONCENTRATION POINT	Q2(CFS)	V2(CF)	Q1(CFS)	V1(CF)	SUSMP(CFS)	VSUSMP(CF)
NODAL 104	10.3	143,312	7.5	105,415	3.6	50,965
NODAL 202	4.4	60,984	3.2	44,867	1.8	24,394
NODAL 301	1.2	16,553	0.9	12,197	0.5	6,534
NODAL 401	0.7	9,583	0.5	6,970	0.3	3,920

PROPOSED CONDITION HYDROLOGY SUMMARY TABLE

CONCENTRATION POINT	AREA (AC)	Q50(CFS)	ΔV50(CF)	Q25(CFS)	ΔV25(CF)	Q10(CFS)	ΔV10(CF)	Q5(CFS)	ΔV5(CF)
NODAL 104	158.5	68.2	190,357	41.8	163,350	28.5	131,116	23.3	108,464
NODAL 202	76.4	18.0	78,408	14.9	68,825	12.1	55,757	10.0	45,302
NODAL 301	20.5	4.5	21,344	4.0	18,731	3.2	15,246	2.7	12,197
NODAL 401	11.7	2.6	12,632	2.3	10,454	1.9	8,712	1.6	6,970

CONCENTRATION POINT	Q2(CFS)	ΔV2(CF)	Q1(CFS)	ΔV1(CF)	SUSMP(CFS)	ΔVSUSMP(CF)
NODAL 104	15.5	71,874	11.3	51,836	5.4	25,265
NODAL 202	6.6	30,056	4.8	21,780	2.6	12,632
NODAL 301	1.8	7,841	1.3	5,663	0.7	3,485
NODAL 401	1.0	4,792	0.8	3,485	0.4	1,742

EXISTING CONDITION HYDROLOGIC DATA

Sub Area	Area (sq. ft)	Area (ac.)	% IMP	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc (min.)	Intensity (in./hr)	Cu	Cd
A1	1,095,287	25.1	0.02	50	134	2,285	0.0136	5.4	30	1.39	0.16	0.17
A2	522,233	12.0	0.02	50	134	948	0.0200	5.7	22	1.69	0.25	0.26
A3	715,877	16.4	0.02	50	134	1,617	0.0192	5.4	30	1.39	0.16	0.17
A4	517,947	11.9	0.02	50	134	919	0.0163	5.1	30	1.34	0.14	0.16
A5	392,335	9.0	0.02	50	134	988	0.0243	5.8	21	1.76	0.27	0.28
A6	1,134,501	26.0	0.02	50	134	1,365	0.0212	5.6	30	1.44	0.17	0.18
A7	475,310	10.9	0.02	50	134	463	0.0130	5.4	13	2.06	0.32	0.33
A8	1,004,776	23.1	0.02	50	134	1,467	0.0136	5.2	30	1.34	0.14	0.16
A9	440,838	10.1	0.02	50	134	1,136	0.0238	5.5	30	1.41	0.16	0.17
A10	606,228	13.9	0.02	50	134	945	0.0169	5.3	30	1.36	0.15	0.17
B1	1,011,362	23.2	0.02	50	134	1,526	0.0203	4.9	30	1.26	0.12	0.14
B2	493,197	11.3	0.02	50	134	1,590	0.0113	4.7	30	1.21	0.10	0.12
B3	641,930	14.7	0.02	50	134	1,378	0.0189	4.9	30	1.26	0.12	0.14
B4	427,115	9.8	0.02	50	134	1,382	0.0130	4.7	30	1.21	0.10	0.12
B5	756,357	17.4	0.02	50	131	2,066	0.0155	4.7	30	1.21	0.10	0.12
C1	893,828	20.5	0.02	50	128	1,445	0.0159	4.8	30	1.23	0.10	0.12
D1	508,393	11.7	0.02	50	127	1,194	0.0151	4.9	30	1.26	0.10	0.12

PROPOSED CONDITION HYDROLOGIC DATA

Sub Area	Area (sq. ft)	Area (ac.)	% IMP	Frequency	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in.)	Tc (min.)	Intensity (in./hr)	Cu	Cd
A1	1,095,287	25.1	0.10	50	134	2,285	0.0136	5.4	30	1.39	0.16	0.23
A2	522,233	12.0	0.10	50	134	948	0.0200	5.7	18	1.86	0.28	0.34
A3	715,877	16.4	0.10	50	134	1,617	0.0192	5.4	30	1.39	0.16	0.23
A4	517,947	11.9	0.10	50	134	919	0.0163	5.2	25	1.46	0.18	0.25
A5	392,335	9.0	0.10	50	134	988	0.0243	5.8	17	1.95	0.30	0.36
A6	1,134,501	26.0	0.10	50	134	1,365	0.0212	5.6	28	1.49	0.19	0.26
A7	475,310	10.9	0.10	50	134	463	0.0130	5.4	12	2.13	0.33	0.39
A8	1,004,776	23.1	0.10	50	134	1,467	0.0136	5.2	30	1.34	0.14	0.22
A9	440,838	10.1	0.10	50	134	1,136	0.0238	5.5	22	1.64	0.23	0.30
A10	606,228	13.9	0.10	50	134	945	0.0169	5.3	23	1.54	0.20	0.27
B1	1,011,362	23.2	0.10	50	134	1,526	0.0203	4.9	30	1.26	0.12	0.20
B2	493,197	11.3	0.10	50	134	1,590	0.0113	4.7	30	1.21	0.10	0.18
B3	641,930	14.7	0.10	50	134	1,378	0.0189	4.9	30	1.26	0.12	0.20
B4	427,115	9.8	0.10	50	134	1,382	0.0130	4.7	30	1.21	0.10	0.18
B5	756,357	17.4	0.10	50	131	2,066	0.0155	4.7	30	1.21	0.10	0.18
C1	893,828	20.5	0.10	50	128	1,445	0.0159	4.8	30	1.23	0.10	0.18
D1	508,393	11.7	0.10	50	127	1,194	0.0151	4.9	30	1.26	0.10	0.18

Drainage Area

- Area A
- Area B
- Area C
- Area D

Source: AEI CASC ENGINEERING, 2013

Hydrology Map

Exhibit 4-11

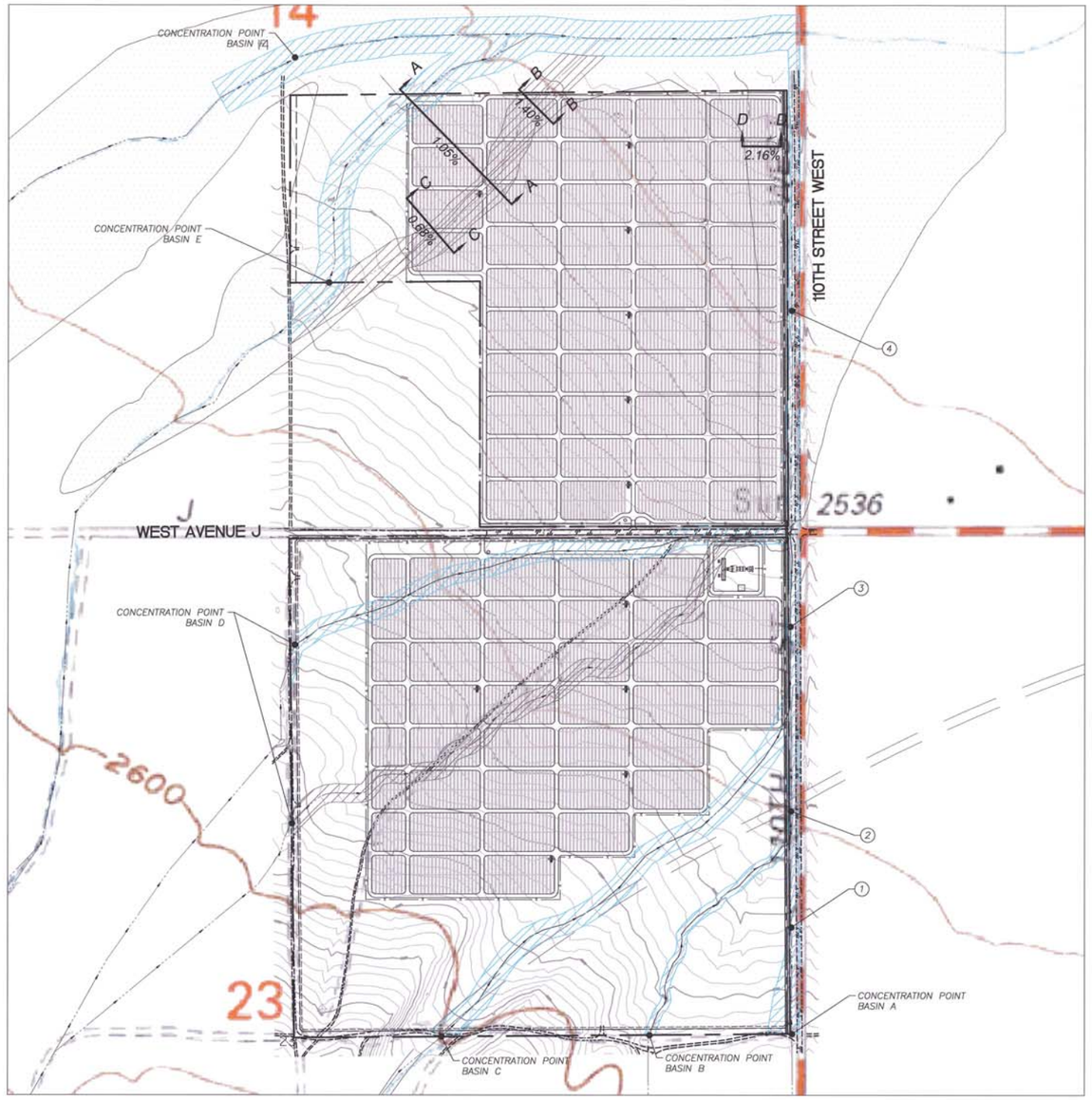
West Antelope Solar Energy Project

N W E S

BonTerra CONSULTING

(Rev 08/29/2013 MMD) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex4-11_Hydro.pdf

D:\Projects\TAAC\J001\Graphics\Ex4-11_Hydro.ai



HYDRAULIC SUMMARY TABLE (CLEAR FLOW)

CONCENTRATION POINT	Q100(CFS)	W100(FT)	D100(FT)	V100(FT)	Q50(CFS)	W50(FT)	D50(FT)	V50(FT)
BASIN A	1523	170	1.43	6.93	1213	156	1.31	6.54
BASIN B	60	52	0.43	2.95	47	47	0.40	2.78
BASIN C	443	110	0.92	4.87	347	100	0.84	4.58
BASIN D	320	96	0.81	4.54	255	89	0.74	4.29
BASIN E	1138	165	1.38	5.53	825	146	1.22	5.10
BASIN F	1725	185	1.56	6.61	1360	170	1.42	6.22

HYDRAULIC SUMMARY TABLE (BULK FLOW)

CONCENTRATION POINT	Q100(CFS)	W100(FT)	D100(FT)	V100(FT)	Q50(CFS)	W50(FT)	D50(FT)	V50(FT)
BASIN A	1889	184	1.55	7.31	1504	169	1.42	6.90
BASIN B	64	53	0.45	3.00	50	48	0.41	2.82
BASIN C	558	119	1.00	5.16	437	109	0.91	4.85
BASIN D	378	103	0.86	4.73	301	94	0.79	4.47
BASIN E	1400	178	1.49	5.82	1015	158	1.32	5.37
BASIN F	2053	198	1.66	6.90	1618	181	1.52	6.50

HYDRAULIC SUMMARY TABLE

CROSS-SECTION #	Q100(CFS)	W100(FT)	D100(FT)	V100(FT)
1	311	54	1.7	6.8
2	927	108	2.4	6.1
3	1046	108	2.5	6.8
4	1242	107	2.3	7.4

LEGEND:

FLOOD HAZARD LIMITS BULK FLOW

POTENTIAL FLOOD HAZARD

FEMA FLOODPLAIN ZONE A

FLOW PATH

PROJECT BOUNDARY

FLOODPLAIN MANAGEMENT PATH PER PER 373-ML16, DEL SUR DRAINAGE CORRIDOR NO.4

A — A: CROSS SECTION CUTS OF SOLAR PANEL ALIGNMENTS SHOWING DEPTH OF WATER FROM FEMA FLOOD PLAIN MAPS (SEE SHEET 2)

SCALED 1" = 300'

0 150 300 600 1200

SCALE IN FEET

CONVEYANCE AREA SUMMARY TABLE

CROSS-SECTION CUT	TOTAL FLOW CONVEYANCE AREA (FEET SQUARED)	TOTAL SOLAR PANEL POST AREA (FEET SQUARED)	TOTAL SOLAR PANEL POST AREA AS A PERCENTAGE OF TOTAL FLOW CONVEYANCE AREA (%)
A	683.48	7.19	1.05%
B	305.25	4.26	1.40%
C	670.52	4.55	0.68%
D	152.69	3.30	2.16%

REGISTERED PROFESSIONAL ENGINEER ERNESTO J. RIVERA No. 67550 Exp: 06-30-15 CIVIL STATE OF CALIFORNIA

DRAINAGE CONCEPT / HYDROLOGY STUDY / LID

APPROVED BY: Ernesto Rivera RCE NO.: 67550 DATE: 09/19/13

CHECKED BY: DATE: 09/19/13

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

Source: AEI CASC ENGINEERING, 2013

Flood Hazard Map

Exhibit 4-12

West Antelope Solar Energy Project

N W E S

BonTerra CONSULTING

(Rev 10/16/2013 JAZ) PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex4-12_OnSiteFloodHazard.pdf

D:\Projects\TAAC\J001\Graphics\Ex4-12_OnSiteFloodHazard.ai

4.10.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project violate any water quality standards or waste discharge requirements?

f) Would the project generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?

j) Would the project otherwise substantially degrade water quality?

Less Than Significant Impact. This section is divided into analyses for Short-Term (Construction) Impacts and Long-Term (Operational) Impacts.

Short-term Construction

Implementation of the Project has the potential to generate storm water pollutants during the construction phase. Storm water runoff from the Project site could contain pollutants such as soils and sediments that are released during grading and excavation activities, as well as chemical and petroleum-related pollutants due to spills or leaks from heavy equipment and machinery. Other common pollutants that may result from construction activities include solid or liquid chemical spills; concrete and related cutting or curing residues; wastes from paints, sealants, solvents, detergents, glues, acids, lime, plaster, and cleaning agents; and heavy metals from equipment.

Hazardous materials (such as fuels, solvents, and coatings, among others) associated with construction activities would be stored and used in accordance with manufacturer's specifications and applicable hazardous material regulations. However, soil disturbance (from construction activities associated with site grading, mounting of the solar panels, equipment installation, electrical conduit trenching, and scraping for the access roads) could cause soil erosion and the eventual release of sediment into storm water runoff.

The NPDES permit program was established to control water pollution by regulating point sources that discharge pollutants into "Waters of the U.S.". Pursuant to Section 402(p) of the Clean Water Act (CWA), which requires regulations for permitting of certain storm water discharges, the SWRCB has issued the statewide NPDES General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQb as amended by Order No. 2010-0014-DWQ [NPDES No. CAS000002]) on September 2, 2009, which became effective for all project sites on July 1, 2010.

Under this Construction General Permit, individual NPDES permits or Construction General Permit coverage must be obtained for discharges of storm water from construction sites with a disturbed area of one or more acres and are required to either obtain individual NPDES permits for storm water discharges or be covered by the Construction General Permit.

Coverage under the Construction General Permit is accomplished by completing and filing Permit Registration Documents (PRDs) with the SWRCB prior to commencement of construction activities. The PRDs consist of a Notice of Intent (NOI); a Risk Assessment; a Site Map; a Storm Water Pollution Prevention Plan (SWPPP); an annual fee; and a signed certification statement. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction. The Construction

General Permit requires dischargers to assess the risk level of a Project based on both sediment transport and receiving water risk, and each project would then be categorized into Risk Level 1, 2, or 3. For all Risk Level 3 and for some Risk Level 2 sites, the Construction General Permit requires effluent and receiving water monitoring for potential hydrogen (pH) and turbidity. AEI-CASC has prepared a preliminary SWPPP for the Project that categorizes the Project as Risk Level 1, but has not yet been approved by the SWRCB (AEI-CASC 2012b). A copy of the preliminary SWPPP can be found in Appendix G-3 of this document.

Prior to the issuance of a grading permit, the Legally Responsible Person (LRP) shall electronically file Permit Registration Documents (PRDs) with the State Water Resources Control Board (SWRCB) in order to obtain coverage under National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ as amended by Order No. 2010-0014-DWQ and 2012-0006-DWQ [NPDES No. CAS000002]) or the latest approved general permit. This permit is required for construction activities, including demolition, clearing, grading, and excavation, and other land disturbance activities that result in the disturbance of one acre or more of total land area. The PRDs consists of a Notice of Intent (NOI); a Risk Assessment; a Site Map; a Storm Water Pollution Prevention Plan (SWPPP); an annual fee; and a signed certification statement. Pursuant to permit requirements, the Contractor shall develop and incorporate Best Management Practices (BMPs) for reducing or eliminating construction-related pollutants in site runoff. Compliance with this requirement would ensure that temporary water quality impacts associated with construction activities would be less than significant.

Long-Term Operation

Operation of the proposed Project would include infrequent site visits for inspection and maintenance. Maintenance activities would include washing the PV panels to remove accumulated airborne dust and debris using a truck with a water tank and sprayer; this would occur between one and four times per year, depending on the accumulation of dust on the surfaces.

Table 4-12, Potential Project Pollutants, presents a summary of typical pollutants associated with commercial developments and their likelihood of being generated at the Project site. As shown, due to annual maintenance activities, pollutants such as pesticides, trash, and oil/grease are anticipated to be generated due to Project implementation. However, because the Project site would be an unmanned site and would only be subject to maintenance a couple times per year, the potential for pollutants would be greatly reduced when compared to a typical commercial or industrial land use.

TABLE 4-12
POTENTIAL PROJECT POLLUTANTS

Discharge Point	Associated Project Pollutants			Is Pollutant?	
	Pollutants	Status	Notes	303(d) listed*	Total Maximum Daily Load
Northeast Boundary	Sediment/Turbidity	Potential	Open areas	No	No
	Nutrients	Potential	Open areas	No	No
	Organic Compounds	Expected	Pesticides and hydrocarbons	No	No
	Trash and Debris	Expected	Windblown litter	No	No
	Oxygen Demanding Substances	Potential	Open areas	No	No
	Bacteria and Viruses	No	No paved parking areas	No	No
	Oil and Grease	Expected	Petroleum hydrocarbons	No	No
	Pesticides	Potential	Open areas	No	No
	Metals	No	Materials at the site are designed to be exposed to the elements	No	No

* Under section 303(d) of the Clean Water Act, States are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that States establish priority rankings for waters on the lists and develop Total Maximum Daily Load (TMDL) for these waters. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.

Source: AEI-CASC 2013.

As shown in Table 4-12, no Project-generated pollutants are expected to impact downstream receiving waters, and Project flows would not discharge to any receiving water body that is listed for water quality impairment (Lahontan RWQCB 2005).

The LACDPW guidance document for storm water management stipulates that the project-specific Water Quality Plan/Hydrology identify a project's potential pollutant sources and to select post-construction BMPs to prevent the further water quality impairment of the receiving water bodies (LACDPW 2002). As the Project would not generate any pollutants of concern, impacts would be less than significant. However, BMPs are incorporated into the Project to address water quality impacts on site and at downstream receiving waters (AEI-CASC 2013).

As required by the County, the Project shall be designed and constructed in compliance with the water quality plan/hydrology requirements of the adopted Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit (Order No. R4-2012-0175, NPDES No. CAS004001) and *Los Angeles County Department of Public Works' 2009 Low Impact Development (LID) Standard Manual* (LACDPW 2009,). The Water Quality Plan/Hydrology will be based on calculations contained in a Drainage Analysis prepared by the Project Engineer in accordance with the *Los Angeles County Department of Public Works' Hydrology Manual* (LACDPW 2006a). Appropriate BMPs prescribed by the Water Quality Plan/Hydrology and the 2009 LID Standard Manual are incorporated as part of the Project. The proposed Project includes structural treatment-control BMPs (i.e., retention basins[11]) to reduce and control post-development runoff rates and volumes, and to capture and infiltrate storm water runoff from the Project site, thereby minimizing potential pollutants in discharges from the Project. By reducing

[11] Also referred to as "infiltration trenches" in the technical reports.

and controlling site runoff, the transport mechanism for pollutants is reduced. The Project will provide the appropriate amount of infiltration volume necessary to treat the runoff for the area within the panel arrays, as discussed further under Thresholds 4.10(c) through 4.10(e) below.

Other water quality BMPs include (1) protecting slopes and channels through the preservation of existing site drainage patterns; (2) the absence of chemical storage on site; (3) maintaining BMPs and Water Quality Plan/Hydrology devices regularly, which includes annual inspections of the entire site, and maintenance of inspection records; and (4) training for substation operators and contractors, and the provision of educational materials for Project personnel, regarding housekeeping practices that prevent pollutant loading in on-site runoff and BMP maintenance. Inclusion of appropriate BMPs in compliance with the Water Quality Plan/Hydrology and LID would ensure that site development would result in a less than significant impact on surface water and groundwater quality.

Further, compliance with MM HAZ-5 in Section 4.9, Hazards and Hazardous Materials, requires that only water is used for cleaning PV panels and no other cleaning agents or additives can be used. Therefore, compliance with MM HAZ-5 would ensure the use of water on the PV panels would have a less than significant impact on surface water and groundwater quality.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest), including restoration of all drainage features. Therefore, any impacts related to surface run-off would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. The proposed Project would include the creation of minimal amounts of impervious surfaces. Most of the impervious surfaces would be associated with the ancillary facilities, including the footings for the PV panels, inverter enclosures, water tanks, and a substation, totaling approximately 0.20 acre. Site access driveways, roads, and solar panels are treated as effectively 10 percent impervious and would add another 19.4 acres in effectively impervious area to the Project (AEI-CASC 2013).

The PV panels themselves would not create an impervious surface; however, the smooth surface and downward slope would create a “sheet flow” off the bottom edge of the panels. Rainfall that sheet-flows off the solar panels would be collected in the retention basins. The proposed configuration and design of these retention basins are depicted in Exhibits 3-3A and 3-3B, and are discussed further under Thresholds 4.10(c) and 4.10(l) below. Runoff not collected in the retention basins, including runoff along the edges of the site and the northernmost block of PV panels would continue northeasterly along the existing drainage path toward the existing ephemeral stream, but are not expected to reach it due to site topography. Storm water runoff would still infiltrate the Project site and would have a negligible impact on groundwater recharge given the size of the Project site; relatively small amount of impervious surface required for implementation; and the presence of retention basins designed to satisfy LID requirements. As such, potential impacts to groundwater recharge would be less than significant, and no mitigation is required.

Project implementation would not require the use of on-site groundwater supplies. As required by Los Angeles County Department of Public Health regulations and discussed in Section 4.18, Utilities and Service Systems, a Mobile Sanitation Facility Plan shall be submitted for review prior to issuance of a grading permit. The mobile sanitation facility would be maintained in a safe and sanitary condition so as not to constitute a public hazard or nuisance. Domestic wastewater would be treated using existing facilities per County regulations. In addition, the County shall require that water used for site watering and panel washing shall utilize water from sources outside of the Antelope Valley Groundwater Basin. Compliance with these requirements ensures that impacts on groundwater supplies would remain less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any impacts related to groundwater would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

l) Would the project place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain?

Less Than Significant Impact. The Preliminary Drainage Report, which can be found in Appendix G-1 of this document, compares the existing and proposed Project site conditions to determine the increase in on-site peak storm flows and volumes due to the proposed site improvements (AEI-CASC 2012a). Drainage calculations follow the methodology prescribed by the Los Angeles County Department of Public Works Hydrology Manual and the *2009 Low Impact Development (LID) Standards Manual* (LACDPW 2006a, 2009).

According to the drainage analysis, development of the site would not substantially alter the existing drainage pattern of the area. As the terrain on the Project site is generally flat, grading and ground disturbance for the Project would be minimal and would be primarily limited to access roads and the retention basins, but would also include the Project Substation, inverter pads, water tank pads, and trail areas. The solar arrays would be installed using pile-driving techniques, rather than grading, to minimize soil disturbance. This reduced grading would help maintain existing hydrologic features and patterns on the Project site to the maximum extent feasible. Post-development drainage patterns would remain as shown on Exhibit 4-10. As depicted on Exhibit 4-10, the main drainage that runs through the South Portion of the site would remain undeveloped, and existing flows would continue unimpeded by the Project. The majority of the site is relatively flat, which usually results in relatively slow moving flows with low erosion potential, and the topography of the site would not be substantially altered through Project implementation. No paved roads, storm drain infrastructure, or other structural re-routing of on-site flows would result from Project implementation.

The Project would involve the placement of numerous PV panel mounting poles into the ground, some of which would be constructed within the delineated FEMA 100-year floodplain. The Project site would be graded to generally follow the existing terrain (thus avoiding re-direction or diversion of flow), and no major site grading is proposed (significant cut and fill) that could adversely impact the floodplain depth, velocity, or top width. Since the solar panels are elevated about 3 to 5 feet above the ground based upon a maximum rotation of 45 degrees and since the computed maximum floodplain depth is approximately 1.5 feet, the panels would not pose an

obstruction to flow. The solar panels would be supported by 6-inch diameter posts, intermittently spaced approximately 19 feet apart along the east-west alignment. The average percentage of the total accumulated cross-sectional area of the posts relative to the overall flow conveyance area is only about 1.32 percent (AEI-CASC 2012a). Therefore, it is anticipated that that these mounting poles would not pose an obstruction to flow and would have a less than significant impact to the existing floodplain; no mitigation is required.

However, the proposed PV panel mounting poles have the potential to result in scour, which involves the removal of sediment from around the piers during large rain events that sheet-flow around the mounted poles. Scour, caused by swiftly moving water, can scoop out “scour holes”, which can compromise the integrity of a structure and impede flood flows.

The Preliminary Drainage Report examines the potential for flood hazards and scour. The flood hazard analysis includes flood hazard widths, maximum flood depths, maximum flow velocities, and the 100-year flow rates for the six off-site flow concentration points shown on Exhibit 4-11 (Basins A, B, C, D, E, and F). Using this flood hazard information, potential scour depths were determined based on the LACDPW’s *2006 Sedimentation Manual* methodology (LACDPW 2006b). In order to protect the foundation of these panels against scour, the depth of the foundation is required to have minimum depths as well as a factor of safety of 18 inches, which have been computed in the Preliminary Drainage Report.

The Project shall be designed and constructed in compliance with the requirements of the Los Angeles County Department of Public Works’ *2006 Sedimentation Manual* (LACDPW 2006b). The Project Engineer shall incorporate this requirement into the Project design, and compliance with this requirement shall be performed to the satisfaction of the County of Los Angeles Department of Public Works prior to approval of the site improvement plans.

As required by the County, the Project would be designed and constructed in compliance with the requirements of the Los Angeles County Department of Public Works’ *2006 Sedimentation Manual* (LACDPW 2006b). The incorporation of recommended design features, such as deep foundations for the PV panels, would ensure that structures placed in the floodplain would not impede or redirect flood flows, resulting in a less than significant impact related to flood hazard areas. Therefore, the potential for erosion due to changes in on-site drainage patterns would be less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest), including restoration of all drainage features. Therefore, any impacts related to drainage and flood hazards would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact. The proposed Project would include the creation of minimal amounts of impervious surfaces. Most of the impervious surfaces would be associated with the ancillary facilities, including the footings for the PV panels, inverter enclosures, water tanks, and a substation, totaling approximately 0.20 acre. Site-access driveways, roads, and solar panels are treated as effectively 10 percent impervious and would add another 19.4 acres in effectively impervious area to the Project (AEI-CASC 2013).

According to the drainage analysis, development of the site would not substantially alter the existing drainage pattern of the area. Post-development drainage patterns would remain as shown on Exhibit 4-10. As depicted on Exhibit 4-10, the main drainage that runs through the South Portion of the site would remain undeveloped, and existing flows would continue unimpeded by the Project.

The incorporation of the retention basins would ensure that any increase in surface runoff due to the Project would be maintained at pre-development levels. As shown in the drainage analysis, the maximum change in the flow volume generated on site between existing and proposed conditions was determined for 50-year, 25-year, 10-year, 5-year, 2-year, and 1-year peak storm flows. The analysis indicates that the 50-year storm event would produce the largest change in volume. In accordance with the County LID requirements, the 50-year storm volume would be retained through a series of “small” retention basins located throughout the Project site, as depicted on Exhibit 3-3A. The proposed retention basins would be sized to store and infiltrate these on-site flood volumes. The County LID Ordinance is summarized in 4.10(g) below.

As required by the County, the LACDPW shall ensure that appropriate hydrology and hydraulic analyses for the Water Quality Plan/Hydrology and *2009 Low Impact Development (LID) Standard Manual* compliance have been satisfied. Therefore, construction of appropriate BMPs in compliance with the Water Quality Plan/Hydrology and LID would be implemented to ensure that storm water runoff is retained and infiltrated on site per County standards to ensure that no on-site or off-site flooding would occur. Compliance with this requirement would also ensure that Project implementation would result in a less than significant impact related to flooding.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest), including restoration of all drainage features. Therefore, any impacts related to drainage patterns would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. The Project would not generate additional storm flows that would leave the Project site. As previously discussed above, the Project includes the development of retention basins designed to accommodate the 50-year storm event, which is anticipated to produce the largest change in volume in accordance with the County LID requirements. As such, no runoff would leave the Project site that could exceed the capacity of

existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff and impacts would be less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest), including restoration of all drainage features. Therefore, any impacts related to surface run-off would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

g) Would the project conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52)?

Less Than Significant Impact. The design of the Project is consistent with the Low Impact Development Ordinance (LID). As required by the LID Ordinance:

> BMPs are placed throughout the site in many small, discrete units and are distributed in a small portion of each lot or site near the source of impacts, virtually eliminating the need for a centralized facility, such as a regional stormwater management basin. By this process, a developed site can be designed as an integral part of the environment, maintaining undeveloped hydrologic functions through the careful use of LID BMPs.

The Preliminary Drainage Report examines the pre- and post-construction hydrology for storm events up to the 50-year event, including the ¾-inch rainfall event; the Analysis then determines the difference between the pre-development and post-development storm flows and volumes for each event. The event that produced the largest differential was used to determine the volume to be retained. The largest differential was determined to be the 50-year event. As required above, multiple "small" retention basins would be used to capture the ¾-inch event, which would comply with LID requirements and would maintain the post-construction runoff volume at the pre-construction level.

The final grading and drainage plans would be subject to review and approval by the LACDPW in conjunction with grading permit issuance providing assurance that LID standards are adhered to. Therefore, there is no conflict with the LID development ordinance and impacts would be less than significant.

h) Would the project result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?

No Impact. The Project is not located in an SWRCB-designated Area of Special Biological Significance (ASBS). The nearest ASBS is the Laguna Point to Latigo Point ASBS, located approximately 50 miles away along the Los Angeles/Ventura County coastline. Therefore, no impact would occur.

i) Would the project use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?

No Impact. The proposed land use would not generate the need for disposing of any liquids that would negatively impact on-site wastewater treatment facilities with known geological limitations or in close proximity to surface water. As required by the Los Angeles County

Department of Public Health regulations and described in Section 4.18, Utilities and Service Systems, the Project would provide a mobile sanitation facility for use by workers during the construction period and during O&M activities. Per Los Angeles County Department of Public Health regulations, a Mobile Sanitation Facility Plan would be submitted for review prior to construction (LACDPH 2012). The mobile sanitation facility would be maintained in a safe and sanitary condition so as not to constitute a public hazard or nuisance. Domestic wastewater would be treated using existing facilities per County regulations. Therefore, no impact would occur.

k) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain?

No Impact. No housing units would be developed on the site. Thus, the proposed Project would not place housing within the 100-year floodplain and no mitigation is required.

m) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The Project site is not located within an inundation area. The nearest dam is at the Fairmont Reservoir, located approximately 5.8 miles to the northwest of the Project site (LACDRP 1980). The proposed Project does not include any habitable structures and would not expose people to potential injury or death since the facility would not be manned, and maintenance personnel would only be on site an estimated 8 to 12 times per year. No impact related to flooding as result of the failure of a levee or dam would occur.

n) Would the project place structures in areas subject to inundation by seiche, tsunami, or mudflow?

No Impact. The site is located more than 30 miles from the ocean and is outside the tsunami inundation areas along the coast (DOC 2007). Additionally, there are no hillside areas within 3 miles of the Project site that would generate mudflow at the site. Impacts related to dam inundation would be less than significant. No impact related to seiche, tsunami, or mudflow would occur.

4.10.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to hydrology and water quality; therefore, no mitigation is required.

4.11 LAND USE AND PLANNING	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Be inconsistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans?	☐	☐	☒	☐
c) Be inconsistent with the County zoning ordinance as applicable to the subject property?	☐	☐	☒	☐
d) Conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria?	☐	☐	☐	☒

4.11.1 ENVIRONMENTAL SETTING

The entire 263-acre Project site is located in unincorporated Los Angeles County; however, it is immediately adjacent to the western boundary of the City of Lancaster. The Grid-Tie from the Project site to the Antelope Substation would extend through the City of Lancaster's right-of-way. As depicted on Exhibit 3-2, the Project site is composed of and surrounded by undeveloped land, with the exception of the SCE TRTP transmission lines, agricultural fields to the northwest, and sparse rural development. There are approximately 15 single-family residential properties located within an approximate 1-mile radius of the Project boundaries. The nearest residential property is located 0.14 mile east of the Project site along West Avenue J. A small alfalfa farm is located approximately 0.5 mile to the northwest from the Project site's western boundary. There are no industrial or manufacturing land uses in the Project vicinity, with the exception of the Antelope Substation, which is located approximately 1.5 miles to the east of the Project site. Table 4-13, Surrounding Land Uses Near the Project Site, summarizes the surrounding land uses and zoning for parcels near the Project site.

TABLE 4-13
SURROUNDING LAND USES NEAR THE PROJECT SITE

Property Location	Zoning	Observed Land Use
Project Site	A-2-5	Vacant land; SCE Transmission Line Easement.
North	A-1-2	Vacant land; very sparse rural residential.
Northeast	A-2-2	Vacant land; very sparse rural residential.
East	A-2-2/RR-2.5	Vacant land; very sparse rural residential; SCE substation.
Southeast	RR-2.5	Vacant land; very sparse rural residential.
South	A-2-5	Vacant land; very sparse rural residential; San Gabriel Mountains.
Southwest	A-2-5	Vacant land; very sparse rural residential; San Gabriel Mountains.
West	A-2-5	Vacant land.
Northwest	A-2-5	Vacant land; small agricultural farm; agricultural fields.

Notes: Los Angeles County Zones
A-1-2 Light Agricultural Zone (2-Acre Minimum Lot Size)
A-2-2 Heavy Agricultural Zone (2-Acre Minimum Lot Size)
A-2-5 Heavy Agricultural Zone (5-Acre Minimum Lot Size)
City of Lancaster Zones
RR-2.5 Rural Residential (2½-Acre Minimum Lot Size)

Sources: LACDRP 1980.

The Project site's adjacent parcels are designated as "Non-Urban 1" (N-1; 0.5 dwelling unit per acre [du/acre]) in the Los Angeles County Antelope Valley Area Land Use Policy Map (LACDRP 1986). The area immediately to the southeast of the site, on the other side of 110th Street West is located in the City of Lancaster and is designated a mix of "Non-Urban Residential" and "Urban Residential" by the City of Lancaster Land Use Map (Lancaster 2009b). Exhibit 4-13, Project Land Use Designations, shows the land use designations for the Project site and surrounding areas. The Project is located in the Antelope Valley Area General Plan area (also referred to as "Town & Country").

The Project site is zoned "Heavy Agricultural" (A-2-5; five-acre minimum lot size) on the Los Angeles County Zoning Map. The area to the north is zoned "Light Agricultural" (A-1-2; Two Acre Minimum Required Lot Area). The area immediately to the southeast of the site is located in the City of Lancaster and is zoned a mix of "Rural Residential" (RR-2.5; 2.5-acre minimum lot size) and "Specific Plan" (SP). Exhibit 4-14, Project Zoning, shows the zoning for the Project site and surrounding areas.

Per the Los Angeles County Code, electric generating plants are a conditionally allowed use in the Heavy Agricultural (A-2-5) zone upon obtaining a Conditional Use Permit (CUP). The Project is also consistent with Los Angeles County's Non-Urban 1 land use designation as it meets the definition of a "utility installation" referenced in the listing of non-urban non-residential land uses allowed in remote areas designated Non-Urban 1 (LACDRP 1986).

It is important to note that the Antelope Valley Area Plan is in the process of being updated by the Los Angeles County Department of Regional Planning. The update is not expected to be adopted until late 2014. Therefore, for the purposes of this document, the standards of the adopted Antelope Valley Areawide General Plan (LACDRP 1986) are being used.

4.11.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

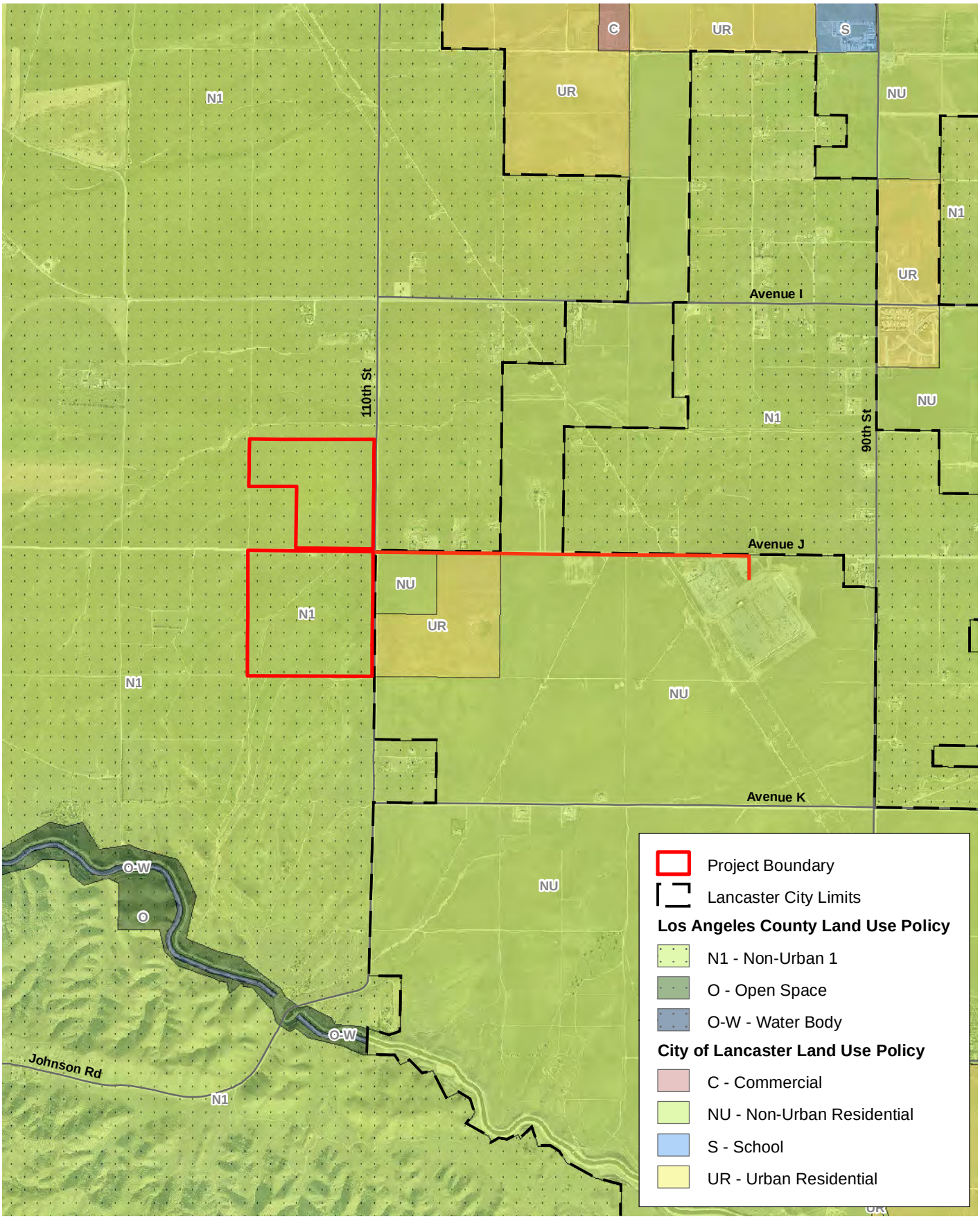
a) Would the project physically divide an established community?

No Impact. The Project site is not located within a residential area, nor is it surrounded by residential uses that make up an established community. Therefore, the Project would not divide an established neighborhood, and no mitigation is required.

b) Would the project be inconsistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans?

Less Than Significant Impact. The Project would comply with the plan designations and applicable provisions of the Los Angeles County General Plan and associated *Antelope Valley Areawide General Plan* (LACDRP 1986, 1980). The Project is not located within the boundaries of a Community Standards District; therefore, there are no standards to apply.

The Antelope Valley Area Plan designates the Project site as "Non-Urban 1". This designation states that development of "non-residential uses requiring, or appropriate for, remote locations may be allowed in Non-urban areas" if the proposed use follows general guidelines and development standards outlined in the *Antelope Valley Areawide General Plan* for non-residential uses within the Non-Urban 1 land use classification. "Utility and communication installations" are uses allowed in the Non-Urban 1 classification. Development of the Project would be consistent with permissible uses associated with the land use designations and the



Project Land Use Designations

Exhibit 4-13

West Antelope Solar Energy Project

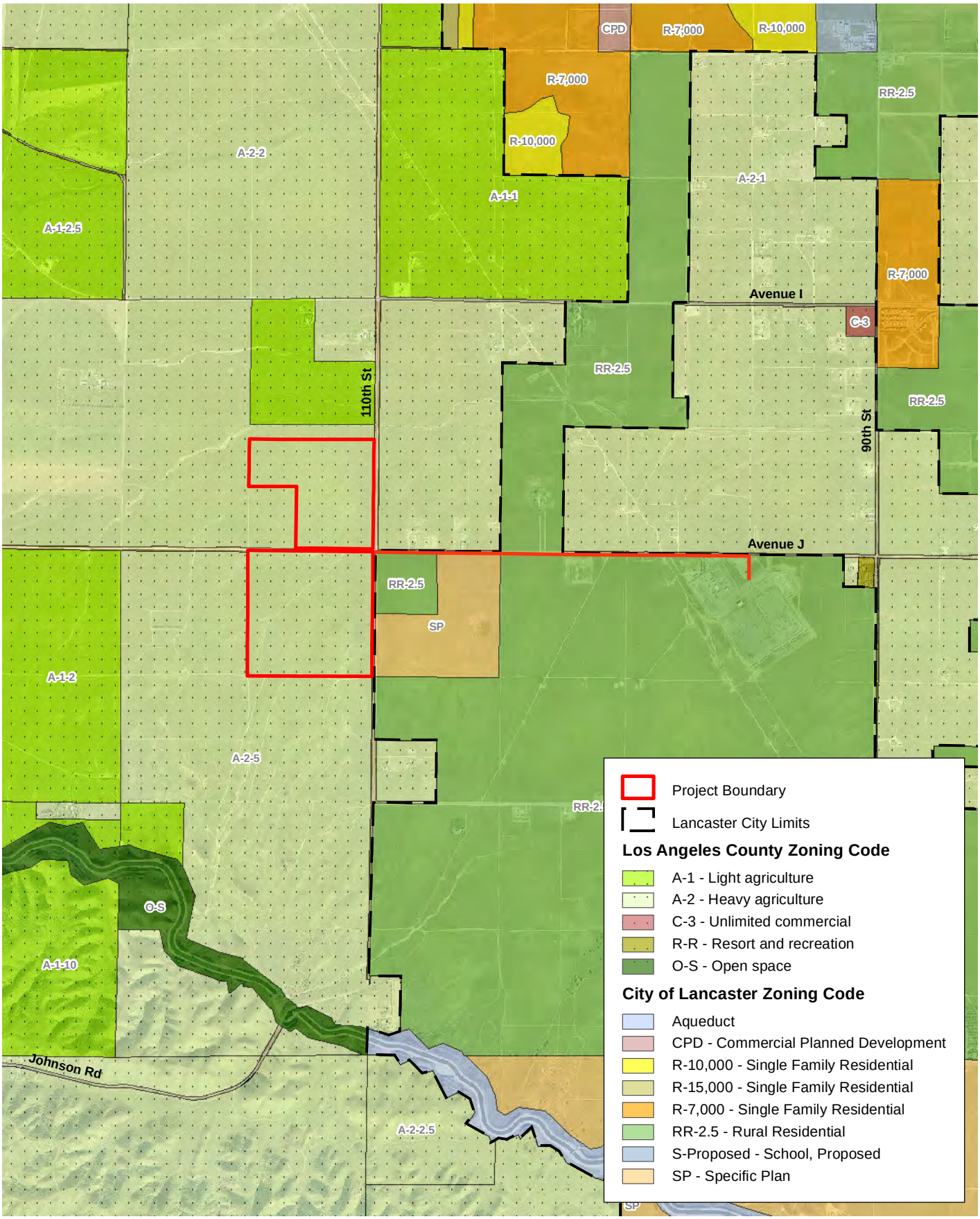
N W E S

2,800 1,400 0 2,800 Feet

BonTerra CONSULTING

(Rev: 1-24-2013 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_land_use.pdf

D:\Projects\TAAC\J001\mxd\Ex_land_use.mxd



D:\Projects\TAAC\J001\mxd\Ex_zoning.mxd

Project Zoning

Exhibit 4-14

West Antelope Solar Energy Project

N W E S

2,800 1,400 0 2,800 Feet

BonTerra CONSULTING

(Rev: 1-24-2013MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_zoning.pdf

applicable policies, goals, and objectives outlined in the Los Angeles County General Plan and the *Antelope Valley Areawide General Plan,* as shown in Table 4-14.

TABLE 4-14
ANTELOPE VALLEY AREAWIDE GENERAL PLAN AND LOS ANGELES COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

Policy	Relationship of Project to Policy
Los Angeles County General Plan	
Conservation, Open Space and Recreation	
2. Support the conservation of energy and encourage the development and utilization of new energy sources including geothermal, thermal waste, solar, wind and ocean-related sources.	**Consistent** – The Project would produce 20 MWac of solar power. Therefore, the Project supports the utilization of new energy sources.
3. Promote the use of solar energy to the extent possible.	**Consistent** – The Project consists of PV solar facilities totaling 20 MWac.
Antelope Valley Areawide General Plan	
Resource Conservation	
40. Encourage efficient utilization of resources in the allocation of land to various uses, and incorporate energy conservation measures into the design and implementation of public and private projects.	**Consistent** – The Project proposes use of PV solar panels to generate power, thereby off-setting demand for fossil fuels. The Project is located on previously disturbed agricultural lands, and facilities would require modest quantities of water compared with other traditional power generation technologies.
Energy Consumption	
217. Promote use of alternative energy sources (including solar and wind) for heating and cooling.	**Consistent** – The Project would produce 20 MWac of solar power.
Environmental Sensitivities	
19. Minimize disruption and degradation of the environment as land use development occurs, integrating land uses so that they are compatible with natural environmental systems.	**Consistent** – Grading and ground disturbance would be minimal and would be primarily limited to access roads and retention basins. Project design avoids impacts to potential jurisdictional features. Please refer to Section 4.4, Biological Resources.
20. Prohibit expansion of urban uses into areas of rare and endangered species.	**Consistent** – As analyzed in Section 4.3, Biological Resources, Swainson's hawk and Western burrowing owl were observed in the Project area. The Project would implement mitigation measures identified in Section 4.3 such that construction and operation of the proposed Project would ensure that threatened or endangered plant and wildlife species, if present, are protected in accordance with State and federal laws.
22. Minimize environmental degradation by enforcing controls on sources of pollutants (including visual pollution) and noise.	**Consistent** – The Project is located in an area of generally low population density and surrounding areas consist of agricultural and undeveloped land. No neighborhoods are located adjacent to the Project area. As analyzed in Sections 4.1, Aesthetics, 4.3, Air Quality, and 4.13, Noise, the Project would result in less than significant impacts following implementation of prescribed mitigation measures.
23. Protect underground water supplies by enforcing controls on sources of pollutants.	**Consistent** –Implementation of mitigation measures described in Section 4.9 (Hazards and Hazardous Materials) will ensure that underground water supplies are protected

TABLE 4-14
ANTELOPE VALLEY AREAWIDE GENERAL PLAN AND LOS ANGELES COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

Policy	Relationship of Project to Policy
Non-Residential Uses In Non-Urban Areas	
a) Location (1) The proposed use should be located and designed so as not to conflict with established community land use and circulation patterns. (2) The necessary public services and infrastructure should be readily available. (3) The proposed use should be located and designed so as to provide an appropriate buffer between potentially disruptive, polluting or hazardous uses and other existing development. (4) The proposed use shall be located and designed so as to minimize the scenic, noise, and odor impacts on adjacent neighborhoods and other adjacent land uses. (5) The proposed use shall be located in areas deemed suitable from ecologic, geologic and topographic standpoint.	**Consistent** – The current land use pattern in the Project area is vacant agricultural lands. The proposed Project is consistent with surrounding agricultural land uses and will not affect existing circulation patterns. As analyzed in Sections 4.15, Public Services, and 4.17, Transportation/Traffic, adequate public services and infrastructure are readily available, and the Project would result in less than significant impacts to these resources. The proposed Project site will be surrounded by a six-foot-high chain link fence (with one additional foot of barbed wire). In addition, a landscape buffer would be planted around the perimeter of the site to lessen visual impacts. The Project is located in an area of generally low population density and surrounding areas consist of agricultural and undeveloped land. As analyzed in Sections 4.1, Aesthetics, 4.3, Air Quality, and 4.13, Noise, the Project would result in less than significant impacts following implementation of prescribed mitigation measures. The proposed Project is considered to be suitable with on-site and surrounding ecological resources (refer to Section 4.3, Biological Resources) and geologic resources (refer to Section 4.6, Geology and Soils). The Project will generate minimal air emissions and noise during operations. Human activity will be light, most of the activity will occur in and around the relatively small area of the on-site operations and maintenance building.
b) Access (1) Access, egress and on-site parking should be provided in a manner which maximizes safety and convenience, and minimizes adverse impacts on surrounding land use patterns. (2) The design and location of the project should insure that the transport of toxic, explosive, or hazardous substances will avoid existing residential communities.	**Consistent** – The proposed Project will provide adequate on-site parking. Implementation of mitigation measures described in Section 4.17 (Transportation/Traffic) will ensure that demands of the proposed Project will not overburden existing roadways. The proposed Project does not include the use of hazardous or special conditions that can be detrimental to the public health and safety (refer to Section 4.7, Hazards and Hazardous Materials).
c) Design (1) The proposed site should be appropriately landscaped such that the development blends into the surrounding landscape as much as possible. Appropriate landscaping should include, whenever practical, materials appropriate to desert environs. (2) The proposed site should be appropriately fenced, if necessary. (3) Consideration should be given to appropriate hours of operation. (4) Outdoor advertising should be designed in	**Consistent** – The proposed Project site will be surrounded by a six-foot-high chain link fence (with one additional foot of barbed wire). In addition, a landscape buffer would be planted around the perimeter of the site to lessen visual impacts. Human activity will be light, most of the activity will occur in and around the relatively small area of the on-site operations, with occasional O&M activities (cleaning of PV panels, trimming of vegetation).

TABLE 4-14
ANTELOPE VALLEY AREAWIDE GENERAL PLAN AND LOS ANGELES COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

Policy	Relationship of Project to Policy
such a way as to minimize negative impacts on adjacent properties.	No outdoor advertising will be necessary as part of the proposed Project.
(5) If located in a hillside area, the proposed site should be designed so as to minimize necessary grading and to take advantage of existing hillside contours. The design should also minimize the scenic and geologic impacts of the project, particularly erosion and land slippage.	The proposed Project is not located within a hillside area.
Sources: LACDRP 1986, 1980.	

Development of the Project would be consistent with permissible uses associated with the land use designations and the policies, goals, and objectives outlined in the Los Angeles County General Plan and the Antelope Valley Areawide General Plan.

The proposed Project would also not conflict with regional plans, policies, or regulations related to land use, including the Southern California Association of Governments' (SCAG's) Regional Comprehensive Plan (RCP), the Regional Housing Needs Assessment (RHNA), and the Regional Transportation Plan (RTP), since the proposed Project would not require a general plan amendment or zone change, and would not generate additional population, housing, or employment for the area. The Project is consistent with the energy goals of the RCP relating to off-setting demand for fossil fuels and increasing renewable energy supplies.

Although impacts related to consistency with adopted land use plans would be less than significant, as required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). Therefore, any impacts created by the Project would exist only for the life of the proposed Project, and the site would be restored to its pre-developed conditions.

c) Would the project be inconsistent with the County zoning ordinance as applicable to the subject property?

Less Than Significant Impact. As mentioned above, electric generating plants are a conditionally allowed use in the Heavy Agricultural (A-2-5) zone upon obtaining a Conditional Use Permit (CUP). The Project would follow all applicable requirements of Sections 22.24.150, 22.32.080 and 22.24.170 of the Los Angeles County Code regulating CUPs; therefore, they would be consistent with the County zoning ordinance. By obtaining a CUP for the Project site, a solar PV facility is a conditionally allowed use and impacts would be less than significant.

d) Would the project conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria?

No Impact. The Project is not within the boundaries of a designated Hillside Management Area, Significant Ecological Area (SEA), or Natural Community Conservation Plan (NCCP) area. The nearest SEA is the San Andreas SEA, located approximately 4 miles to the west (LACDRP 1980). The Project site is located within the *West Mojave Plan,* a Habitat Conservation Plan (HCP) encompassing most of the Antelope Valley and aiming to conserve and protect habitat

for the desert tortoise, the Mohave ground squirrel, and over 100 other special status species throughout a 9.3 million-acre planning area (BLM 2006). The Project site was not included in one of the proposed conservation areas. Further, since the HCP has not yet been adopted, there would be no impact to or conflict with an adopted HCP and no mitigation is required.

4.11.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to land use and planning; therefore, no mitigation is required.

4.12 MINERAL RESOURCES	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

4.12.1 ENVIRONMENTAL SETTING

Mineral resources are naturally occurring chemicals, elements, or compounds formed by inorganic processes or organic substances. These resources include bituminous rock, gold, sand, gravel, clay, crushed stone, limestone, diatomite, salt, borate, potash, geothermal, petroleum, and natural gas resources. Construction aggregate refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland-cement-concrete aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, and fill for the production of other construction materials.

The State of California's Geological Survey (California Department of Conservation, Division of Mines and Geology) identifies deposits of regionally significant aggregate resources. According to state geological survey, the Project is not located within a Mineral Resources Zone (CGS 2006). Review of maps prepared by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources shows that the Project site does not contain oil, gas, or geothermal resources (DOGGR 2001), and there are no oil wells or mining activities in or near the site (DOGGR 2010). Additionally, according to Map 3-1 of the Antelope Valley General Plan Update-Background Report, the County has not designated Project site as a mineral resource area (LACDRP 2009).

4.12.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. As discussed above, the Project is not designated as a mineral resource area by the County or the State. According to the State Department of Conservation, the Project site has never been used for mineral recovery or mining activities, and no designated, regionally significant mineral resources are on or near the Project site (CGS 2006). Therefore, the Project would not result in an impact to a known mineral source that would be of value to the region and residents of the state.

4.12.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to mineral resources; therefore, no mitigation is required.

4.13 NOISE	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 ENVIRONMENTAL SETTING

The ambient noise levels at the Project site and in the vicinity are typical of rural areas, ranging from the mid 40s to low 60s A-weighted decibels (dBA) during the daytime and 40 to 50 dBA average hourly noise level (L_{eq}) at night. The dominant sources of noise in the Project area are traffic on West Avenue J and 110th Street West. Traffic volumes on these streets in the area are relatively light; approximately 1,500 vehicles per day (ADT) on 100th Street West and less than 1,000 ADT on West Avenue J (Lancaster 2010a).

Noise-sensitive receptors and land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals and places where quiet is an essential element of the intended purpose. Residential dwellings, hospitals, schools, places of worship, libraries, and other places where low interior noise levels are essential are considered noise-sensitive land uses.

The Project site is composed of and surrounded by undeveloped open space, with the exception of the SCE TRTP transmission lines, agricultural fields to the northwest, and sparse rural development. There are approximately 15 single-family residential properties located within an approximate 1-mile radius of the Project boundaries. The nearest residential property is located approximately 700 feet east of the Project site on the north side of West Avenue J in unincorporated Los Angeles County. A small alfalfa farm is located approximately 0.5 mile to the northwest from the Project site's western boundary. There are no industrial or manufacturing land uses in the Project vicinity, with the exception of the Antelope Substation, which is located

approximately 1.5 miles to the east of the Project site. The nearest general use airport is General Fox Airfield, approximately six miles northeast of the Project site. Bohunk's Airpark, a private airstrip, is located approximately 2.3 miles east of the Project site.

There are no noise-sensitive land uses on the Project site.

County of Los Angeles Noise Ordinance

Section 12.08 of the County of Los Angeles Code (County Code) contains the County's Noise Ordinance. The County of Los Angeles Noise Ordinance prohibits unnecessary, excessive, and annoying sounds from sources on private properties by setting limits that cannot be exceeded at adjacent properties.

Construction

Section 12.08.440 of the County Code prohibits construction noise between the hours of 7:00 PM and 7:00 AM on weekdays (including Saturday), and at any time on Sunday or a federal holiday if it creates a disturbance across a residential or commercial property line. The County also sets maximum noise levels from mobile construction equipment (nonscheduled, intermittent, short-term operations for less than 10 days), as summarized in Table 4-15, County of Los Angeles Mobile Equipment Noise Limits.

TABLE 4-15
COUNTY OF LOS ANGELES MOBILE EQUIPMENT NOISE LIMITS

Time Interval	Single-Family Residential (dBA)	Multi-Family Residential (dBA)	Semi-Residential or Commercial (dBA)
Daily (7:00 AM to 8:00 PM), except Sundays and legal holidays	75	80	85
Daily (8:00 PM to 7:00 AM), and all day Sunday and legal holidays	60	64	70
dBA: A-weighted decibels Source: County of Los Angeles Code, Section 12.08.			

Maximum noise levels from stationary equipment (repetitively scheduled and relatively long-term operations of ten days or more) are summarized in Table 4-16, County of Los Angeles Stationary Equipment Noise Limits.

TABLE 4-16
COUNTY OF LOS ANGELES STATIONARY EQUIPMENT NOISE LIMITS

Time Interval	Single-Family Residential (dBA)	Multi-Family Residential (dBA)	Semi-Residential or Commercial (dBA)
Daily, except Sundays and legal holidays, 7:00 AM to 8:00 PM	60	65	70
Daily, 8:00 PM to 7:00 AM, and all day Sunday and legal holidays	50	55	60
dBA: A-weighted decibels Source: County of Los Angeles Code, Section 12.08.			

Operation

The County of Los Angeles Noise Ordinance also specifies exterior noise levels that cannot be exceeded at the receiving properties for a specified time period. These standards generally apply to noise made from one property to another. As stated in the ordinance,

> Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards.

Exceptions to the exterior standards include, but are not limited to, construction and residential air conditioning or refrigeration equipment. These two cases are regulated separately, as described below. The County-specified noise standards are listed in Table 4-17, County of Los Angeles Exterior Noise Standards. It should be noted that these standards do not apply to the assessment of land use compatibility for transportation noise.

TABLE 4-17
COUNTY OF LOS ANGELES EXTERIOR NOISE STANDARDS

Noise Zone	Designated Noise Zone Land Use	Time Interval	Exterior Noise Level (dBA)
I	Noise-Sensitive Area*	Anytime	45
II	Residential Area	10:00 PM to 7:00 AM 7:00 AM to 10:00 PM	45 50
III	Commercial Area	10:00 PM to 7:00 AM 7:00 AM to 10:00 PM	55 60
IV	Industrial Area	Anytime	70

dBA: A-weighted decibels

* Noise Zone I, Noise-Sensitive Area, is an area designated by the health officer for the purpose of ensuring exceptional quiet. These areas must be indicated by the display of conspicuous signs in at least 3 separate locations within 164 meters (0.1 mile) of the institution or facility.

Source: County of Los Angeles Code, Section 12.08.

There are no known designated Noise Zone I (noise-sensitive) areas in the Project site vicinity. There is a Zone II (residential) receptor approximately 700 feet to the east of the site.

The applicable standards listed in Table 4-17 should not be exceeded at the property line of a noise-sensitive use for a cumulative period of more than 30 minutes in any hour. If the ambient L_{50} exceeds the foregoing level, then the ambient L_{50} becomes this standard.

4.13.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project result in exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems?

Less Than Significant Impact. Both construction and operation of the Project would be conducted in compliance with the Los Angeles County Noise Control Ordinance, as contained in Chapter 12.08 of the Los Angeles County Code. Construction noise is related primarily to the use of heavy equipment. Noise levels generated by heavy equipment can range from approximately 68 dBA to an excess of 100 dBA when measured at 50 feet. Typical duty cycles and noise levels generated by representative pieces of construction equipment operating individually are listed in Table 4-18, Typical Maximum Construction Noise Levels. The distance from the noise source to a receptor is a primary consideration in determining the actual noise level experienced at the receptor. Construction equipment noise is analyzed as a point source. Noise from a point source is attenuated at a rate of 6 dBA per doubling of distance. For example, a noise level of 85 dBA measured at 50 feet from the source to the receptor would be reduced to 79 dBA at 100 feet, and 73 dBA at 200 feet.

TABLE 4-18
TYPICAL MAXIMUM CONSTRUCTION NOISE LEVELS

Equipment	Noise Level (dBA) at 50 feet	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 KVA or less)	70	50%
Generator (more than 25 KVA)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%

TABLE 4-18
TYPICAL MAXIMUM CONSTRUCTION NOISE LEVELS

Equipment	Noise Level (dBA) at 50 feet	Typical Duty Cycle
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pile Driver, Impact (diesel or pneumatic)	95	20%
Pile Driver, Vibratory	95	20%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%

dBA: A-weighted decibel; KVA: kilovolt amps

Source: Thalheimer 2000.

Anticipated equipment to be used during construction of the proposed Project is shown in Table 3-4. The highest anticipated noise levels from mobile equipment would occur during pile driving for the solar structure posts. As shown in Table 4-18, pile driver maximum noise levels (L_{max}) at a distance of 50 feet can be 95 dBA. The nearest residential receptor is approximately 700 feet east of the Project site. When pile driving would occur at the eastern boundary of the Project site, the noise attenuation from the equipment to the residence would be approximately 29 dBA and the L_{max} at the residence would be 66 dBA. The L_{max} would be less than the County's noise ordinance limit of 75 dBA for mobile equipment, and the impact would be less than significant.

Stationary equipment to be used for the proposed Project would include generators with an L_{max} up to 82 dBA. The noise attenuation of 29 dBA to the nearest residence would reduce stationary source noise to 53 dBA L_{max} at the residence. The L_{max} would be less than the 60 dBA stationary equipment noise limit of the County Noise Ordinance, and the impact would be less than significant.

Mobile equipment would also be used for trenching and paving in West Avenue J as required for the cable connection from the Project site to the substation. The equipment would be near the residence adjacent to the roadway for a few hours on a few separate occasions. The noise from these activities would be typical of road and utility maintenance and would not be substantial in duration. The impact would be less than significant.

On the highest intensity day for truck traffic, equipment delivery trucks are estimated to average 51 round trips (100 one-way trips) per day (see Section 3.2.1 of this IS/MND) and commuter worker vehicle trips would average approximately 54 trips per day. If it is conservatively assumed that all these trips used West Avenue J, worker trips would occur at the beginning and ending of typical workday hours and would result in an increase in the average ambient noise of less than 3 dBA, which is barely discernible to the average ear and less than significant. The truck trips that would occur during the workday would result in an average hourly noise level increase of approximately 5 dBA during the work hours and would remain below 60 dBA at the adjacent residences. This increase in vehicular noise along West Avenue J would be temporary (i.e. construction phase only), short-term (i.e. over approximately 10 days), and would be in the

vicinity of only two residential properties along West Avenue J. This temporary increase in noise would be less than significant.

The operation of heavy construction equipment would cause temporary increases in ambient noise levels in the vicinity of the Project site and would cease when construction is over. Construction activities would occur for approximately six months and would be conducted in compliance with the County's construction noise standards, which prohibits non-emergency construction activities that generate substantial noise between the hours of 7:00 PM and 7:00 AM on weekdays and Saturdays, and at any time on Sunday or a federal holiday. Therefore, construction noise impacts would be less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It is assumed that decommissioning of the site would require the same construction scenario (activities, equipment, duration) as the initial development of the site; however, noise impacts would be less than those currently projected due to anticipated advancements in technology and a cleaner-burning construction equipment fleet mix. Future decommissioning activities would also be expected to comply with the same or equivalent noise mitigation requirements. Therefore, future noise impacts related to decommissioning would be less than significant.

b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Groundborne vibration, expressed as peak particle velocity (ppv), consists of oscillatory waves that propagate from the source through the ground to adjacent structures. Vibration of building components can also take the form of an audible, low-frequency rumbling noise, which is referred to as groundborne noise. As with most forms of energy, vibration energy spreads out as it travels through the ground, causing the vibration level to decrease with the distance from the source.

Groundborne vibration can be generated by construction activities and is generally highest during impact pile driving, blasting, and demolition-related activities. There are no applicable federal, State, or local regulatory standards for construction vibration. The Caltrans Transportation- and Construction-Induced Vibration Guidance Manual suggests criteria for potential structural damage to older residential structures of 0.3 ppv inch per second (in/sec) and 0.5 ppv in/sec for potential damage to newer residential structures (Caltrans 2004). For human annoyance from frequent intermittent sources, the Caltrans Guidance indicates that 0.01 ppv in/sec is barely perceptible and that 0.04 ppv in/sec is distinctly perceptible.

Vibration level at a receptor, ppv in/sec, is calculated by the following equation:

$PPV_D = PPV_{25} – 20 \log (D/25)^n$, where

PPV_D is the vibration level at a distance D from the vibration source,

PPV_{25} is the vibration level at a distance of 25 feet from the source, and

n is a factor for the vibration attenuation characteristics of the soil.

Pile driving would be the source of the strongest vibrations for the proposed Project. The vibration level for a typical impact pile driver at a distance of 25 feet is 0.65 ppv in/sec.

Soil attenuation factors from 1.1 to 1.5 are suggested in the Caltrans Transportation- and Construction-Induced Vibration Guidance Manual and the Federal Transit Administration Noise and Vibration Manual (Caltrans 2004; FTA 2006). The following calculations use a value of 1.3, which is suggested for competent soils, including most sands, sandy clays, silty clays, gravel, silts, and weathered rock.

Using the above data, the proposed Project's pile driving vibration levels from the nearest point on the Project site to the nearest residence would be 0.0085 ppv in/sec at a distance of 500 feet. This level is well below the 0.3 ppv in/sec level for potential structural damage and less than the 0.01 ppv in/sec level of perceptibility.

If the pile driver selected for the project causes greater than "typical" vibration or the soil is substantially denser than assumed for the above calculations, vibration levels may be greater than estimated but would not approach the level for structural damage and would be unlikely to be perceived. The impact would be less than significant and no mitigation measures would be required.

c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas?

Less Than Significant Impact. Potential long-term operational noise impacts would be related to the operation of electrical equipment such as transformers and inverters and to on-site O&M activities.

Electrical Equipment

The Project substation would include a 25 megavolt Ampere (MVA) 34.5 to 66 kilovolt (kV) transformer. Although the Project-specific transformer has not been identified, the National Electrical Manufacturers' Association (NEMA) standard publication TR-1 1993 (NEMA 2000) includes audible sound level performance requirements for transformers. Data in publication TR-1 indicates that audible noise from 25 MVA transformers would not exceed 75 dBA at a distance of 5 feet. At a distance of 700 feet (i.e., the distance to the nearest residence), the transformer noise level would be approximately 32 dBA.

There would be approximately ten 2-MW solar block inverter-transformer units. An acoustic test report for the Sungrow SG800MX inverter indicates an average noise level of 69.4 dBA at 5 meters (16.4 feet) and a maximum noise level of 71.7 dBA at 5 meters[12]. If one inverter was located at a distance of 700 feet from the residence, the maximum noise level at the residence would be 39 dBA. The inverter-transformer units would be located at varying distances from the nearest residence. It is estimated that the combined noise level from the 10 inverter-transformer units at the residence would be 43 dBA.

There would be approximately 1,600 solar trackers. Solar tracker motor and bearing noise was measured at an existing solar generation site. Noise levels were 70 to 80 dBA at a distance of 1 inch. It was noted that noise levels may increase to 80 to 90 dBA in hot weather (Williamson 2013). The noise from 1,600 solar trackers, all at 90 dBA at 1 inch, located at an average distance of 1,700 feet from the nearest residence would be approximately 36 dBA.

[12] This data was provided in an *Acoustic Test Report* of the Sungrow SG800MX 800kW Photovoltaic Inverter Noise Emission Measurement Grid-Tie Inverter as tested on June 8, 2013 (Sungrow 2013).

The combined noise level at the residence from the substation transformer, the solar trackers, and the inverter-transformers would be approximately 44 dBA, which is less than the 50 dBA daytime and 45 dBA nighttime County noise limits shown in Table 4-17. It is noted that the Project would not generate power at night when there is no sun and therefore electrical equipment would be inactive and noise levels would be less than described above. The impact would be less than significant. No mitigation is required.

Operations and Maintenance

The workforce performing on-site O&M would be comprised of general labor for cleaning purposes; skilled electricians for visual inspections and performance testing; and skilled mechanics to inspect and maintain the mechanical portions of the tracking system. Because the entire facility would be monitored remotely in real time, as described in Section 3 of this IS/MND, it is anticipated that four to five O&M personnel would make about two to three visits per year to conduct the on-site O&M functions. These occasional activities would not result in any noticeable noise and the impact would be less than significant. No mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is located approximately six miles southwest of the General Fox Airfield and more than two miles west of Bohunk's Airpark. The Project would not place persons in a location where they would be exposed to substantial aircraft noise, nor would the Project generate aircraft noise. No impacts would occur.

4.13.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to noise; therefore, no mitigation is required.

4.14 POPULATION AND HOUSING	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
d) Cumulatively exceed official regional or local population projections?	☐	☐	☐	☒

4.14.1 ENVIRONMENTAL SETTING

Los Angeles County had a January 2012 population of 9,884,632 persons and a housing stock consisting of 3,454,092 dwelling units (EDD 2012). The California Employment Development Department estimates the County's July 2012 labor force for the City of Lancaster at 56,000 persons, of which 9,300 persons (16.6 percent) are unemployed (EDD 2012). The February 2011 employment figures show a labor force of 56,600 and an unemployment rate of 17.1 percent (EDD 2011). The Project site is vacant and there are no residents, housing units, or employees at the site.

4.14.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure)?

Less Than Significant Impact. The Project would not induce substantial population growth. It does not propose any housing or commercial development, nor does it propose any significant extension of roads or infrastructure. No change in the Los Angeles County or City of Lancaster's population or housing would occur with Project implementation. Construction jobs would be short term and are expected to be filled mostly by the existing workforce and sourced from the surrounding communities. During operations, the Project would typically be unmanned, with the exception of periodic on-site personnel visitations for security, maintenance, and system monitoring. These intermittent site visits would not create any permanent or substantial demand for housing, goods, or services in the area and would not induce substantial population growth in Los Angeles County or surrounding communities. Therefore, impacts to population growth would be less than significant.

b) Would the project displace substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site is vacant; therefore, the proposed Project would not displace existing housing units, households, businesses, or employees. No impacts would occur.

d) Would the project cumulatively exceed official regional or local population projections?

No Impact. As described above, the Project does not propose any housing or commercial development, nor does it propose any significant extension of roads or infrastructure. No change in the Los Angeles County or City of Lancaster's population or housing would occur with Project implementation. Therefore, the Project would not materially affect local or regional population projections.

4.14.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to population or housing; therefore, no mitigation is required.

4.15 PUBLIC SERVICES	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Sheriff protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Libraries?	☐	☐	☐	☒
vi) Other public facilities?	☐	☐	☐	☒

4.15.1 ENVIRONMENTAL SETTING

Fire protection services for the Project site are provided by the LACFD North Region, Battalion 11. The nearest fire station to the site is Fire Station 130, which is located at 44558 40th Street West, approximately 7 miles east of the site. This station is staffed by a three-person engine company and a three-person Urban Search and Rescue team, which when combined create an Urban Search and Rescue Task Force.

Police protection services at the Project site are provided by the Los Angeles County Sheriff's Department (LACSD), with a station at 501 West Lancaster Boulevard in the City of Lancaster. In 2009, this station was staffed by 205 sworn officers and 61 civilian staff members (Lancaster 2009a).

The Project site is located within the service boundaries of the Westside Union School District (Lancaster 2009a). The nearest school is Del Sur Elementary located at 9023 West Avenue H, approximately 2.4 miles northeast of the Project site. The Project site is currently undeveloped and does not generate a demand for schools, libraries, or parks. The nearest library is the Quartz Hill Public Library located at 42018 50th Street West, approximately 6.5 miles to the southeast of the Project site. The nearest park is George Lane Park, located at 5520 West Avenue L-8, approximately 5.8 miles southeast of the Project site.

4.15.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?

Less Than Significant Impact. The proposed Project would not involve the creation of new habitable structures or new population growth that could generate increased demand for fire protection services. However, the Project has the potential to require fire protection services in the highly unlikely event that any of the structures or Project site vegetation were to catch fire. During construction, there would be workers, machinery, construction supplies, and hazardous materials such as hydraulic oil, diesel fuel, grease, lubricants, solvents, adhesives, paints, and other petroleum-based products contained in construction vehicles on site. There is a possibility that construction activities could accidentally ignite a fire that could require assistance from the LACFD. The nearest fire station is located approximately seven miles east of the Project site, and no new or physically altered fire protection facilities would be required to provide service to the Project site; no environmental impacts would result. A comment letter received from LACFD on August 7, 2012, regarding the CUP application states that they are satisfied with the preliminary design (LACFD 2012).

As required by the County, the Project would be designed and constructed in compliance with Title 32, Fire Code, of the Los Angeles County Code. Under Title 32, new construction, rehabilitation, alteration, or expansion on any site must comply with requirements for construction materials and methods; fire protection systems; emergency access; fire flow; and other fire safety issues. The Code addresses construction in fire hazard areas; the storage, use, handling, and transportation of hazardous materials; and the use of equipment and activities involving fire. The two water tanks proposed as part of the Project would be subject to this code. In addition, vegetation at the Project site would be required to be trimmed to a maximum height of 6 inches, or as directed by the Fire Official, and cleared to mineral soil for a distance of 50 feet around all electrical transformer vaults or structures.

To ensure that no fire hazards are created by the Project, building plans would be subject to review and approval by the LACFD; annual inspections of the buildings and premises for compliance and to correct conditions which may cause fire or contribute to its spread would also be required. Compliance with these regulations would ensure that Project impacts would remain less than significant.

ii) Sheriff protection?

Less Than Significant Impact. The proposed Project would not generate additional demand for police protection services associated with the proposed improvements on the site. The LACSD recommends an officer-to-population ratio of 1 officer per 1,000 residents, and the City of Lancaster had a ratio of 1 officer per 931 residents in 2009 (Lancaster 2009a). The proposed Project would not lead to a resident population on the site and thus, would not change the officer-to-population ratio in Lancaster. No new or physically altered police protection facilities would be required, and no environmental impacts would result.

Operation of the unmanned facilities is generally passive and would require limited LACSD protection services. The proposed solar facilities would be surrounded by a six-foot-tall fence with one additional foot of three-string barbed wire to prevent unauthorized access or trespassing. Perimeter, motion-activated fence lighting would be provided for nighttime security

of the solar facility. Patrol services around the solar facilities are expected to continue to be provided by the LACSD personnel. Therefore, construction and operations of the Project would have a less than significant impact on Sheriff protection services and their staffing or response times.

iii) Schools?

iv) Parks?

v) Libraries?

vi) Other public facilities?

No Impact. The proposed solar array would not include the development of housing units, nor would it introduce residents into the site or induce population growth. Thus, no impact on capacities, service levels or performance objectives for schools, parks, libraries, or other public facilities would be generated by the Project. No impact would occur.

4.15.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to public services; therefore, no mitigation is required.

4.16 RECREATION	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would/does the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
c) Would the project interfere with regional open space connectivity?	☐	☒	☐	☐

4.16.1 ENVIRONMENTAL SETTING

There are various State, County, and City parks and recreational facilities in the Project area, with the nearest park (George Lane Park), approximately 5.8 miles southeast of the Project site. The Project site and surrounding areas are not used for recreational purposes, with the exception of a portion of the proposed California Poppy Trail, which skirts the eastern boundary of the Project along 110th Street West (LACDRP 2007) and loops westward to encompass the Antelope Valley California Poppy State Natural Reserve (SNR), approximately four miles northwest of the Project site. The proposed trail route is shown in Exhibit 4-15, Los Angeles County Trail Map.

The Project surroundings are typical of the western Antelope Valley in an area that has been primarily used for agriculture. Land uses include undeveloped land with varying degrees of disturbance due to previous agricultural activities. Land adjacent to the Project is also former farmland that is currently undeveloped. While these areas are open space, they do not currently support any recreational activities.

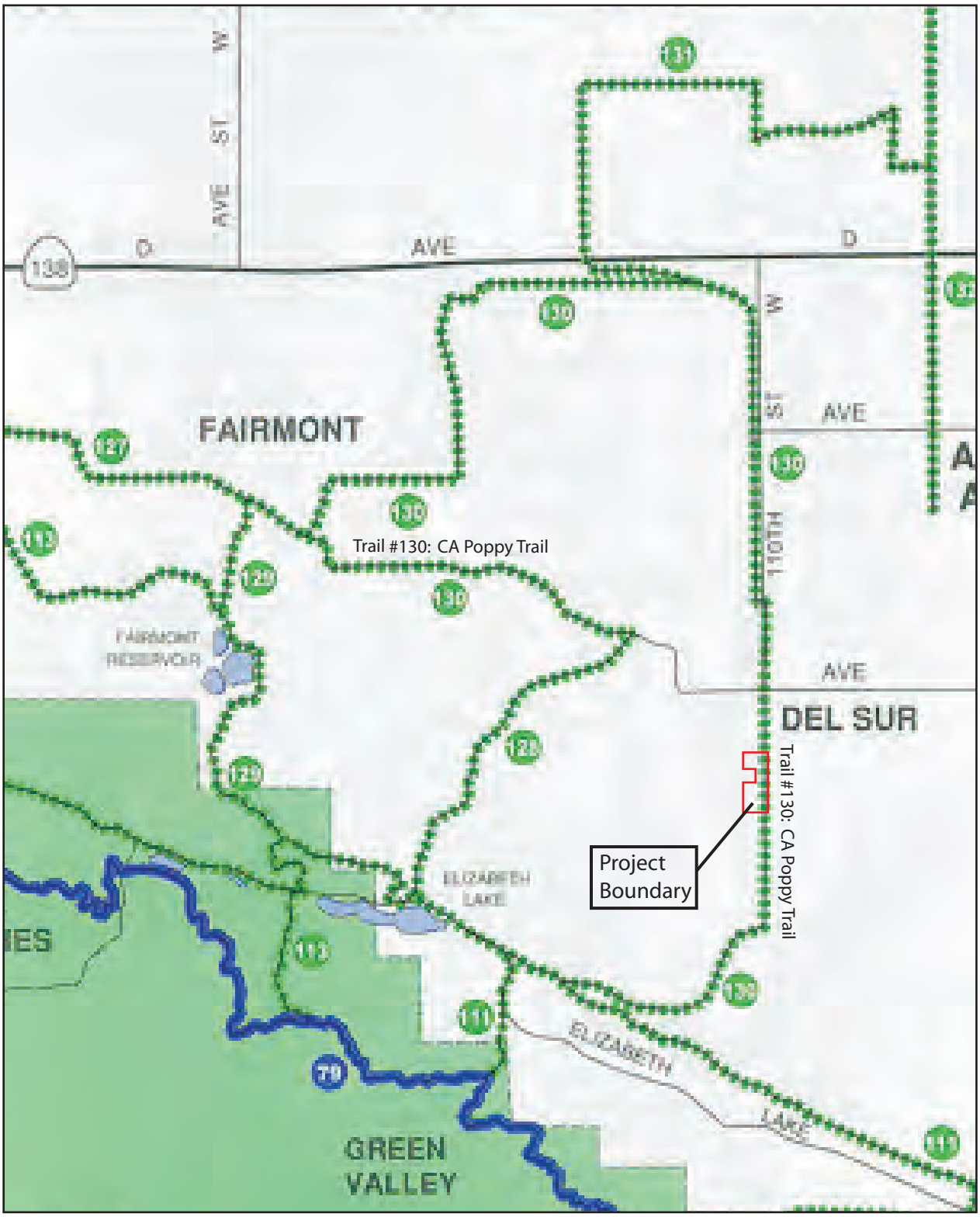
4.16.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?

No Impact. As previously discussed in Section 4.14, Population and Housing, the proposed Project would not directly or indirectly result in housing development or population growth on the site or in the Project area. With no new households or residents, the Project would not increase the use of local parks, and it would not create a demand for local or regional recreational facilities. As stated in MM REC-1, the Project would include build out of a portion of the California Poppy Trail. No impact would occur.



Source: Los Angeles County Department of Parks and Recreation, 2001

D:\Projects\TAAC\J001\Graphics\Ex4-15_poppytrail.ai

Los Angeles County Trail Map

Exhibit 4-15

West Antelope Solar Energy Project

BonTerra CONSULTING

(Rev 08/07/12 MMD) Projects\TAAC\J001\Graphics\IS-MND\Ex_poppytrail.pdf

c) Would the project interfere with regional open space connectivity?

Less Than Significant With Mitigation. The Project site includes a portion of the Los Angeles County Trail Number 130 (California Poppy Trail) on the Los Angeles County Trails Map. If the site were to be developed without ensuring an appropriate easement for the implementation of this trail, a significant impact to regional connectivity with regard to the County's proposed trail system would occur. This trail has been adopted as part of the County Department of Parks and Recreation trail map, but has not yet been completely constructed.

As stated in MM REC-1, part of the Project would be to dedicate and construct a trail along the eastern boundary of the site, adjacent to 110th Street West, for the California Poppy Trail. Buildout of this trail would promote connectivity with regional open spaces, primarily the Antelope Valley California Poppy SNR. The trail would be dedicated to the Department of Recreation and Parks, who would manage the trail even after decommissioning. While the Project would reduce the amount of connected open space by fencing off approximately 230 acres for solar power, due to the vast amount of surrounding open space, the Project would not interfere with recreational connectivity. Therefore, impacts would be less than significant.

4.16.3 MITIGATION MEASURES

MM REC-1 The Project Applicant shall design and construct an eight-foot (8') wide trail along the eastern boundary of the Project site, in a manner consistent with the *County of Los Angeles Trails Manual* (Trails Manual), to form part of Los Angeles County Trail Number 130 (California Poppy Trail) on the Los Angeles County Trails Map. The trail shall be constructed within a twelve-foot (12') wide multi-use (hiking, mountain biking, and equestrian) trail easement that shall be dedicated and recorded as a separate document.

Prior to issuance of Building Permits, the Project Applicant shall submit detailed grading information for the trail construction to the Department of Parks and Recreation and include all pertinent information required in the Trails Manual.

Implementation of MM REC-1 would reduce impacts related to recreation to a less than significant level.

4.17 TRANSPORTATION/TRAFFIC	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

4.17.1 ENVIRONMENTAL SETTING

Regional access to the Project site is provided from either (1) the Golden Gate Freeway (Interstate 5), merging onto the Antelope Valley Freeway (SR-14) northbound, and exiting 20th Street and traveling westward to connect with West Avenue J or (2) from the Mojave Freeway (I-15), merging onto SR-138, which transitions into SR-14. The regional and local vicinity of the Project site is depicted in Exhibit 3-1.The traffic data analyzed in this section was taken from the *City of Lancaster General Plan 2030 Master Environmental Assessment* (Lancaster 2009a).

SR-14, which runs in a north-south direction, is located approximately three miles east of the Project site. This freeway carried approximately 51,000 vehicles per day in 2008, with 4,350 vehicles during the peak hour (Caltrans 2010b). This freeway is part of the Highway and Roadway System in the County's Congestion Management Program (CMP) (MTA 2010).

Vehicular access to the site is provided by West Avenue J at 110th Street West. West Avenue J is a two-lane "Major Arterial" roadway with soft shoulders (Lancaster 2009a). Traffic count data from 2005 indicated approximately 5,700 vehicles used the section of roadway between 70th Street West and 60th Street West each day (Lancaster 2009a). With capacity for 24,000 vehicles, it had a volume-to-capacity ratio of 0.238 in 2005, which translates to a

Level of Service (LOS) A (Lancaster 2009a). LOS A is defined as free-flow traffic, where vehicles are almost unimpeded in their ability to maneuver within the traffic stream. As of 2010, traffic volumes on 100th Street West were approximately 1,500 vehicles per day (ADT) and less than 1,000 ADT on West Avenue J (Lancaster 2010a). As the section of West Avenue J near the Project site (at 110th Street West) is even less developed, the volume-to-capacity ratio should be even lower. There have been no notable changes in traffic conditions since 2010; therefore, it is expected that the street continues to operate at LOS A.

The Project site is undeveloped and does not generate vehicle trips on the freeway or area roadways. As previously mentioned, the California Poppy Trail runs along the eastern boundary of the Project. There is also a proposed Class III bicycle lane that would also run along 110th Street West (LACDPW 2012). The nearest public transit stop is the Antelope Valley Transit Authority's (AVTA) Quartz Hill Route (Route 7), located at 60th Street West and West Avenue J. This route connects to the Palmdale Transportation Center and the Lancaster Metrolink Station. This route makes 12 round trips with 65-minute headways on weekdays and 10 trips with 65-minute headways on weekends between the Lancaster Senior Center and the Palmdale Transfer Center (AVTA 2011).

4.17.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Would the project conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?

Less Than Significant Impact. This section discusses both construction and operational traffic.

<u>Construction Traffic</u>

Trip generation for employees and delivery trucks would vary depending on the phase of construction. During the peak of construction, a typical day would include the transportation of workers, movement of heavy equipment, and transportation of materials. The anticipated peak traffic day, which would occur when grading and equipment delivery trucks overlap with worker trips for panel installations, would involve approximately 51 round-trip truck trips (including 17 trips for water delivery trucks)[13] and 54 round-trip worker trips per day. This peak activity is estimated to occur over approximately 10 working days, but may be more or less depending on the actual timing of construction phase overlap. A detailed breakdown of the estimated number of trucks being operated for each construction task is found in Appendix B.

[13] As required by the AVAQMD, when water is used as fugitive dust control, watering is required three times a day and increased to a minimum of four times a day if there is evidence of visible wind-driven fugitive dust.

The limited amount of construction activity for the grading and vehicle trips by the construction crew for delivery of building materials (i.e., to be used for PV panels, mounting structures and poles/foundations, the equipment buildings, conduit trenching, fencing, and lighting) is not expected to cause traffic congestion on area roadways and intersections. There is capacity on local intersections and streets near the site, which are all operating at Level of Service (LOS) A, to handle traffic volume increases due to construction traffic. This impact would also be temporary and less than significant.

Operational Traffic

Long-term operation of the solar array would generate only 8 to 15 maintenance vehicle trips (4 to 5 personnel making 2 to 3 site visits) per year, which translates to no more than 2 vehicle trips every month. Additionally, approximately 115 water truck trips per year (or an average of 29 trips per quarter) would be necessary to wash the panels and reapply the soil binder to the access roads, plus 195 water truck trips during the first year for irrigation water to establish the landscape buffer.

The nearest CMP-designated highway to the site is SR-14 (MTA 2010). This long-term trip generation would not affect roadway or intersection operations in the Project area, nor would it affect pedestrian and bicycle paths or bus transit services in Lancaster. Additionally, these trips are not expected to have any measurable impact on SR-14, which carried 51,000 vehicles per day between Avenue I and Avenue J in 2009 (Caltrans 2010b). Impacts would be less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It is assumed that decommissioning of the site would require the same construction scenario (activities, equipment, duration) as the initial development of the site. While it is unknown what the future baseline traffic conditions will be, future decommissioning activities would also be expected to comply with the same or equivalent traffic control mitigation requirements. Therefore, future traffic impacts related to decommissioning would be less than significant.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The Project site is not located within an airport land use plan, but is located approximately two miles west of Bohunk's Airpark and six miles northeast of the General William J. Fox Airfield. Bohunk's Airpark is a private airstrip used by single-engine airplanes and helicopters. There are 21 aircraft based at this facility. Daily operations information at Bohunk's Airpark is not available (AirNav 2013a). Fox Airfield is owned by the County of Los Angeles and is used by single and multi-engine airplanes, jet airplanes, and helicopters. There are 156 aircraft based at this facility, with an average of 224 aircraft operations per day (AirNav 2013b). The proposed Project would not generate or require air transportation. Also, the Project would not change air traffic levels or change the location of air traffic to cause substantial safety risks or impact air travel in any way. The PV panels and associated equipment would not exceed single-story height. Therefore, no impacts would occur.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The proposed Project does not include any significant construction or realignment of any existing road facilities; however, the Project does have the potential to result in hazardous traffic conditions during construction. As discussed above, the limited amount of construction activity for the grading and vehicle trips by the construction crew for delivery of building materials is not expected to cause traffic congestion on area roadways and intersections. As discussed in the environmental setting above, there is capacity on local streets near the site, which are all operating at Level of Service (LOS) A, to handle traffic volume increases due to construction traffic (Lancaster 2009a).

Grading and ground disturbance activities would primarily occur during the first 1½ months of construction, including the establishment of staging areas and access roads throughout the site. Construction staging and material lay-down areas for on-site activities would be set up for each section of the Project site to allow for efficient distribution of components to different parts of the Project. These staging and lay-down areas would be located within the Project site boundaries and would not create a potential traffic hazard on public right-of-ways.

The construction envelope to underground or erect the transmission lines/poles for the Gen-Tie line would require work on public ROW. If there is insufficient area, the construction may encroach beyond the roadway shoulders into the traveled way requiring limited closures of roadway segments in the construction zones causing short-duration traffic impacts. As required by the County, should erection of the poles require work near or on the roadway, construction work warning signs would be placed in advance according to the *California Manual on Uniform Traffic Control Devices* and applicable City of Lancaster requirements to limit roadway obstruction and the need for temporary detours. Additionally, flagmen would be used as required during construction to ensure traffic safety and uninterrupted flow.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It is assumed that decommissioning of the site would require the same construction scenario (activities, equipment, duration) as the initial development of the site. It is expected that future decommissioning activities would also be expected to comply with the same or equivalent traffic control mitigation requirements. Therefore, future traffic impacts related to decommissioning would be less than significant.

e) Would the project result in inadequate emergency access?

Less Than Significant Impact. The site would not result in inadequate emergency access. The proposed Project would not obstruct any existing access route, and on-site access roads would be provided in accordance with LACFD requirements. The Project would provide access through driveways onto West Avenue J, but would otherwise be fenced-off. The driveways on West Avenue J would have automatic gates approximately 20 feet long and would be setback 50 feet from the road edge to allow for LACFD and maintenance access and turnaround. An approved “Fire Department Knox Lock” would be provided at both gates.

Two water tanks would be installed on the Project site, with each tank providing water for both fire suppression, 3-years of landscaping establishment, and O&M activities. Each water tank would be designed in accordance with the Los Angeles County Fire Code requirements. The internal access roads would be installed according to Los Angeles County Code prior to operating the facilities and would be maintained in a drivable condition throughout the operation of the Project to allow for emergency access. Therefore, no impact on emergency access would occur.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less Than Significant Impact. The Project is located in a rural area of Los Angeles County where alternative transportation facilities are not readily available. Development of the Project would utilize the existing road network and would not impact or conflict with bike trails, pedestrian access, transit services, or other modes of alternative transportation. Vehicle trips to the Project would be limited to maintenance personnel, estimated at 12 to 15 times per year.

The span of 110th Street West adjacent to the Project site is a proposed Class III bike route under the Los Angeles County Bicycle Master Plan (LACDPW 2012). Implementation of the Project would not impede or prevent the future development of a bike route along this stretch. Additional programs regarding public transit or pedestrian facilities would occur in the Los Angeles County right-of-way and are not within Project site boundaries. Thus, impacts on or conflicts with alternative transportation policies, plans, or programs would be less than significant.

4.17.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to transportation/traffic; therefore, no mitigation is required.

4.18 UTILITIES AND SERVICE SYSTEMS	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Exceed wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards?	☐	☐	☒	☐
b) Create water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Create drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses?	☐	☐	☒	☐
e) Create energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☒	☐	☐

4.18.1 ENVIRONMENTAL SETTING

The Project is in the Antelope Valley, which is underlain by the Antelope Valley Groundwater Basin ("Basin"). The Basin is located in the western portion of the Mojave Desert within the South Lahontan Hydrologic Region, and is designated as Groundwater Basin Number 6-44. The surface of the entire Antelope Valley Groundwater Basin is over 1 million acres (1,580 square miles) and is topographically closed on the north and northwest by the Garlock Fault at the base of the Tehachapi Mountains, and on the south and southwest by the San Andreas Fault at the base of the Transverse Ranges, including the San Gabriel Mountains. The Basin consists of the deep (confined) aquifer and the upper (unconfined) aquifer serving as the primary water sources. The California Geological Survey considers the historically highest groundwater level at the site to be deeper than 250 feet below the ground surface (Leighton 2012a).

Planert and Williams (1995) and the DWR (1975) report that the total storage capacity of the Basin is between 68 million acre-feet (maf) and 70 maf (DWR 2004). Agricultural and urban uses have been the primary sources of discharge from the groundwater system. According to the U.S. Geological Survey (USGS), groundwater extractions have exceeded the estimated natural recharge of the basin since the 1920s, which has resulted in declining water levels and land subsidence (primarily in the eastern portion of the Antelope Valley Groundwater Basin), as simulated by the USGS (USGS 2003). The average annual native recharge plus local return

flows is currently estimated as approximately 82,300 acre-feet per year (afy) (LACDPW 2010). Coupled with return flows from imported water, the total sustainable yield of the Basin is estimated to be 110,500 afy (LACDPW 2010).

Adjudication

Several property owners and public water suppliers initiated legal proceedings asking the Superior Court of California to determine the relative rights of users and potential users of the Antelope Valley Groundwater Basin (1-05-CV-049053: Antelope Valley Groundwater Cases, Consolidated Proceeding 4408). The case involves many complex legal issues and hundreds of parties; it may take years to be resolved.

The underlying dispute among the parties is the priority/superior right to pump the groundwater and the protection of the Basin. According to the Court's Order After Phase Two Trial on the Hydrologic Nature of Antelope Valley, there are multiple claims to be adjudicated, including "declaratory relief, claims of prescription, claims of overlying owners to quiet title to water rights, claims that portions of the [B]asin should be treated as a separate area for management purposes in the event a physical solution to water use is established", among other issues and claims. At the conclusion of the Adjudication, the Basin would be in a state of balance for groundwater supply. On May 6, 2011, the Court provided a tentative ruling that the safe yield of the Basin is 110,000 afy.

There are no water, sewer, or solid waste disposal services at the Project site. The undeveloped site also does not generate solid wastes requiring collection and disposal. The site is located just outside the service boundaries of the Los Angeles County Waterworks District No. 40, but portions of the site are located within the District's sphere of influence.

4.18.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Would the project exceed wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards?

Less Than Significant Impact. No domestic wastewater would be generated as part of Project as no habitable structures would be constructed; no restroom, bathroom, toilet, or kitchen facilities would be constructed. The Project would provide a mobile sanitation facility for use by workers during the construction period and O&M activities. Although no significant impacts would result from the use of mobile sanitation facilities, the Los Angeles County Department of Public Health requires the preparation of a mobile sanitation facility plan for project sites with no permanent facilities. The mobile sanitation facility would be maintained in a safe and sanitary condition so as not to constitute a public hazard or nuisance, and would be consistent with the Department of Public Health's "Sanitation Facilities at Remote Worksite Locations". Domestic wastewater would be treated using existing facilities per County regulations. The Plan would include the following:

- The projected number of employees that will use the proposed mobile sanitation facility.
- A Site Plan showing the proposed location(s) the facility.
- A service and maintenance schedule for the facility.
- A description of how potable drinking water will be provided in a manner as to be readily accessible to employees. Identification of potable water source and method of

dispensing (container and single-use cups or bottled water). Description of how drinking water containers are maintained, including methods to prevent contamination of drinking water.

- A copy of a service agreement with a permitted toilet rental agency to provide a mobile sanitation facility approved by the Department. If the applicant proposes to design and construct the mobile sanitation facility, design drawings and specifications shall be included.
- The mobile sanitation facility shall be maintained in a safe and sanitary condition so as to not constitute a public health hazard or nuisance
- The mobile sanitation facility must be removed from the work site at the end of each work day and be returned to an approved storage site.

During operations, the mobile sanitation facility would be provided on-site whenever O&M activities are scheduled to take place. Domestic wastewater generated by the mobile sanitation facility would be treated using existing facilities per County regulations. Therefore, no wastewater treatment is required that may exceed RWQCB requirements and impacts would be less than significant.

b) Would the project create water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. No water or wastewater services or connections to existing facilities are required by the Project. There would be no demand for potable water or generation of wastewater as there would be no habitable structures on site.

Water required by the Project is detailed in Table 3-9. Construction would require approximately 47.87 acre-feet; landscape establishment would require approximately 11.43 acre-feet; O&M activities would require approximately 51.29 acre-feet; and decommissioning would require approximately 89.19 acre-feet, for a total water demand of approximately 201 acre-feet for the life of the Project. As required by the County, water would be obtained from commercial water sources outside the Antelope Valley Groundwater Basin. Water would be trucked in and stored in on-site water tanks, with each tank providing water for fire suppression, three years of landscaping establishment, and O&M activities. The water tanks would be refilled as necessary.

No wastewater generation would occur with the Project, and no demand for sewage treatment would be generated. No new water or wastewater treatment facilities or expansion of existing facilities is needed to serve the proposed solar array. The Project would provide a mobile sanitation facility for use by workers during the construction period and O&M activities. Although no significant impacts would result from the use of mobile sanitation facilities, the Los Angeles County Department of Public Health requires the preparation of a mobile sanitation facility plan for project sites with no permanent facilities. The mobile sanitation facility plan would be submitted to the Los Angeles County Department of Public Health for review prior to issuance of a grading permit and would require that the facility be maintained in a safe and sanitary condition so as not to constitute a public hazard or nuisance. Waste generated by the mobile sanitation facility would be disposed and treated per County regulations. Compliance with these requirements would ensure that impacts to water or wastewater system capacity would be less than significant.

c) Would the project create drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The proposed Project would not require construction of a storm drainage system or expansion of an existing storm water drainage or treatment facility. As previously discussed in Section 4.10, Hydrology and Water Quality, the Project would comply with the water quality plan/hydrology requirements of the adopted MS4 permit and the LACDPW *2009 Low Impact Development (LID) Standard Manual*. The design of the Project is consistent with the LID Ordinance as retention basins are placed throughout the site in many small, discrete units and distributed in a small portion of each lot or site near the source of impacts, virtually eliminating the need for a centralized facility, such as a regional stormwater management basin.

Therefore, the proposed Project would be designed and constructed with appropriate BMPs to ensure that adjacent storm drain facilities are not negatively impacted by the proposed Project. Any structural BMPs would be located within the Project boundaries and the impact area addressed throughout this IS/MND.

d) Would the project have sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses?

Less Than Significant Impact. The proposed Project would require minimal water supply during construction activities and for the washing of the PV panels during long-term maintenance. Section 3, Project Description, contains a summary of water supplies required during construction. Water would be used throughout the entire six month construction period, but would be primarily used for fugitive dust control during grading and ground disturbance activities that would occur during the first 1½ months of construction. As shown in Table 3-9, the Project would require approximately 47.87 acre-feet of water during construction. Establishment of landscaping is estimated to require 3.81 acre-feet per year over three years, which totals 11.41 acre-feet. Water usage for long-term O&M activities (including PV panel washing and reapplication of the soil binder) is estimated at 2.63 acre-feet per year over the anticipated 20-year life of the Project, for a total of 51.29 acre-feet. Decommissioning of the site, including deconstruction of equipment and decommissioning, is estimated to require 90.37 acre-feet.

The demand for approximately 201 acre-feet of water over the life of the Project would be a relatively minimal amount of water for the construction and operation of a 263-acre Project site. However, due to the ongoing adjudication of the Antelope Valley Groundwater Basin, any new demands for groundwater have the potential to result in a cumulatively significant impact on groundwater supplies.

Due to concerns on overdrafting the Basin and ongoing Adjudication proceedings, the County requires that site watering during construction utilize water obtained from commercial water sources outside the Antelope Valley Groundwater Basin. As previously discussed, the Applicant has an agreement with the Cawelo Water District to provide banked water to the District (via AVEK, the District's wholesaler), which would be then provided to the Project (Cawelo 2013). Cawelo has agreed to sell up to 250 acre feet of water for the proposed Project from a water bank located outside of the Antelope Valley Groundwater Basin.[14] The water would be delivered

[14] Cawelo has already completed an environmental analysis under CEQA for its sale of the water, and delivery via the California Aqueduct (Cawelo 2009).

to AVEK via the California Aqueduct. Once transferred to the District, the water would be accessed from an existing District-owned hydrant and transferred to the Project site via water trucks.

Further, the water used on the site would infiltrate into the aquifer, thus being a beneficial use, rather than an impact to groundwater. The County also requires that no landscaped areas or planting requiring a permanent supply of irrigation water be included as part of the Project. Compliance with these requirements would prevent increased groundwater pumping within the Antelope Valley Groundwater Basin and avoid the need for a permanent demand for water at the site. Therefore, impacts would be less than significant.

e) Would the project create energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The proposed Project would not require natural gas or propane; however, it would require the use of local SCE facilities to deliver electricity for construction and on-going maintenance operations. The proposed solar facility would be capable of generating up to 20 MWac of electricity under peak solar conditions. The power generated by the proposed Project would be delivered to the existing grid via the Grid-Tie and the voltage transformation equipment and system safety equipment constructed on site. The Project would not result in system capacity problems, but would rather help alleviate the demand for traditional sources of electricity. Therefore, impacts to energy utility system capacity would be less than significant.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant With Mitigation. The proposed Project would result in the generation of minor amounts of construction wastes, which would require disposal at the Lancaster Landfill. A CUP was recently adopted that increased the landfill's maximum permitted daily capacity of 3,000 tons per day (tpd) (LACDRP 2011a).

The County adopted an ordinance, effective March 6, 2005, that requires all construction projects to recycle a portion of the generated construction wastes. The ordinance amends Title 20 of the Los Angeles County Code by adding Chapter 20.87 (Construction and Demolition [C&D] Debris Recycling and Reuse), which requires all construction projects to recycle or reuse a portion of all C&D debris, soil, rock, and gravel removed from a Project site unless a lower percentage is approved by the Director of LACDPW. The Project shall comply with the standards that are in effect at the time of the permit issuance (either grading permit or building permit, whichever occurs first). All waste generated during construction of the proposed Project would be handled and disposed of in compliance with all applicable federal, State, and local statutes and regulations related to solid waste. MM UTIL-1 requires that the Project Applicant prepare a Recycling and Reuse Plan (RRP) and submit the document for review and approval with the Los Angeles County Department of Public Works Environmental Programs Director. In addition, MM HAZ-1 (from Section 4.9, Hazards and Hazardous Materials) requires that hazardous materials encountered on site be handled and disposed of in accordance with applicable laws. Therefore, with implementation of MM UTIL-1 and MM HAZ-1, there would be less than significant impacts related to landfill capacity and solid waste regulations.

Solid wastes generated by employees and other on-site activities during long-term Project O&M activities (i.e., panel cleaning and vegetation management) would be minimal. The long-term solid waste stream would not be large enough to require any measurable landfill capacity. Impacts would be limited and temporary during construction and are considered less than significant.

As required by the County, a Decommissioning Plan would be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan would ensure the land is returned to its pre-developed state upon termination of the use of the land as a solar site (which would be in 20 years at the earliest). It would include details regarding equipment removal and disposal. It is anticipated that most of the equipment, including solar modules, mounting poles, beams, fencing, conduit, and other electrical equipment would have value and could be sold or recycled. Any remaining construction waste would be disposed of in accordance with applicable policies and regulations at that time.

4.18.3 MITIGATION MEASURES

MM UTIL-1 Construction activities on the Project site shall be conducted in compliance with Chapter 20.87 (Construction and Demolition Debris Recycling and Reuse) of the Los Angeles County Code. Therefore, a Recycling and Reuse Plan (RRP) must be submitted to the Los Angeles County Department of Public Works, Environmental Programs Division, prior to permits (grading or building, whichever comes first) being issued for the Project.

Implementation of this mitigation measure would reduce impacts to less than significant levels.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
Does the project:				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☐	☒
c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
d. Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

4.19.1 EXISTING CONDITIONS

The Project site is undeveloped, with the exception of the SCE TRTP transmission lines, and does not generate any environmental impacts aside from nuisance dust during high winds.

4.19.2 PROJECT IMPACTS

The impact analysis and conclusions in this section apply to both on-site and off-site activities.

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation. As discussed in Section 4.4, Biological Resources, only two special status wildlife species are expected to occur on the Project site, including the western burrowing owl and Swainson's hawk. The Project has the potential to impact these species, but with implementation of MM BIO-1 and MM BIO-2, impacts on these sensitive biological resources would be reduced to less than significant levels. Project implementation would not substantially affect regional wildlife or interfere substantially with the movement of any native resident or migratory fish or wildlife species in open areas surrounding the site, nor would it impede the use of native wildlife nursery sites. Any potential impacts to jurisdictional features

would be mitigated to a level considered less than significant with implementation of MM BIO-3 and MM BIO-4. There are no oak trees or other unique native trees on the Project site. Active nests of birds and raptors are protected by the MBTA and *California Fish and Game Code.* Implementation of MM BIO-6 would reduce potential impacts to nesting birds to less than significant levels. Therefore, with the incorporation of mitigation measures, the Project does not have the potential to degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of Rare or Endangered plants or animals.

As discussed in Section 4.5, Cultural Resources, there would be no impacts to known historic, archaeological, or paleontological resources. Potential impacts to unknown cultural resources and potential impacts to human remains from implementation of the proposed Project would be mitigated to less than significant levels with the implementation of MM CUL-1, MM CUL-2, and MM CUL-3. Therefore, with the incorporation of mitigation measures, the Project does not have the potential to eliminate important examples of the major periods of California history or prehistory.

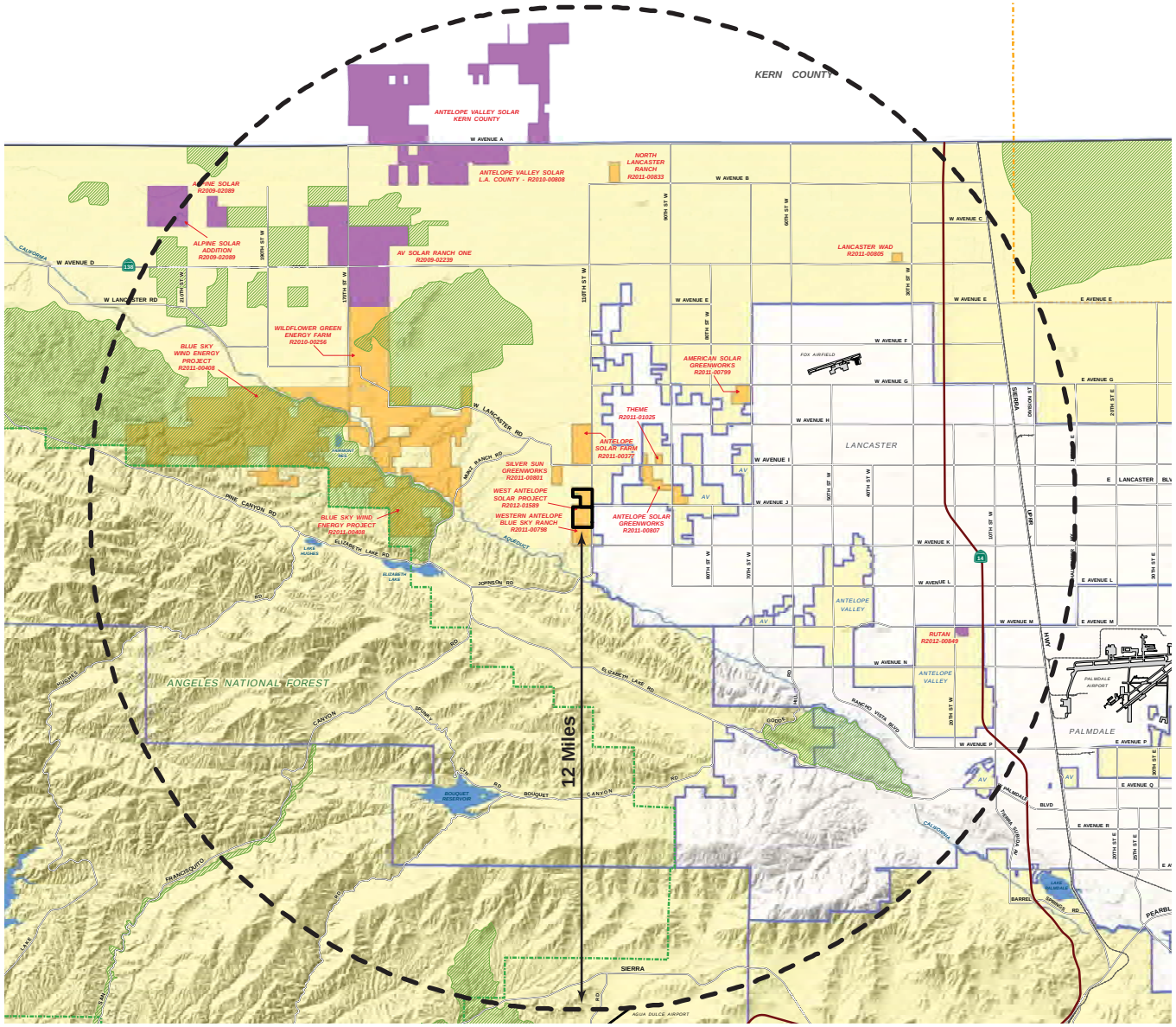
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?

No Impact. The proposed Project would achieve short-term environmental goals related to the creation of renewable energy and the offset of demands for fossil fuels, in support of local and State policy. As a part of the Project, a Decommissioning Plan will be prepared and submitted for approval to Los Angeles County prior to the issuance of a grading permit for the Project. The Plan will ensure the land is returned to a beneficial use upon termination of the use of the land as a solar site. Therefore, the Project would not result in any negative impacts to long-term environmental goals.

c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant with Mitigation. For the purposes of the cumulative analysis related to the majority of environmental topics, a 3-mile radius from the center of the Project site was chosen to encompass the area of impact for residents near the Project site. As summarized in Table 4-19, Cumulative Project Within 3 Miles of the Project Site, a total of 11 solar energy projects are currently proposed within a 3-mile radius of the proposed Project. Three of these projects are located within the unincorporated County of Los Angeles and are associated with the Silverado Power Solar Project. The remaining eight are located within the City of Lancaster.

Exhibit 4-16, Cumulative Projects - Unincorporated Los Angeles County, includes a graphic that depicts planned and approved solar energy projects within an approximately 12-mile radius of the Project site. As shown, there are numerous projects under consideration in the region, as well as projects that have been approved.



PROJECT BOUNDARY

12 MILE BUFFER OF PROJECT

FREEWAY

MAJOR ROAD

RAILROAD

AIRPORT

MAJOR LAKE, AQUEDUCT

MAJOR RIVER BED, WASH

INCORPORATED CITY

UNINCORPORATED COMMUNITY

OTHER COUNTIES

EDWARDS AIR FORCE BASE

NATIONAL FOREST

ADOPTED SEA

APPROVED PROJECTS (5); GROSS ACRES: 4,218 *

R2009-02089	ALPINE SOLAR
R2009-02089	ALPINE SOLAR ADDITION
R2009-02239	AV SOLAR RANCH ONE
R2010-00808	ANTELOPE VALLEY SOLAR - LACO
R2012-00849	RUTAN

PENDING PROJECTS (18); GROSS ACRES: 13,442

R2010-00256	WILDFLOWER GREEN ENERGY FARM
R2011-00377	ANTELOPE SOLAR FARM
R2011-00408	BLUE SKY WIND ENERGY
R2011-00798	WESTERN ANTELOPE BLUE SKY RANCH
R2011-00799	AMERICAN SOLAR GREENWORKS
R2011-00801	SILVER SUN GREENWORKS
R2011-00804	EAST LANCASTER RANCH
R2011-00805	LANCASTER WAD
R2011-00807	ANTELOPE SOLAR GREENWORKS
R2011-00833	NORTH LANCASTER RANCH
R2011-01025	THEME
R2011-01027	VANDIVER
R2011-01029	BEAZEL
R2011-01030	OWEN
R2011-01033	RUSSELL
R2012-00024	QUAIL LAKE PHOTOVOLTAIC SOLAR
R2012-01559	CHAHIN
R2012-01589	WEST ANTELOPE SOLAR PROJECT

* ACREAGE TOTAL DOES NOT INCLUDE APPROVED PROJECT IN KERN COUNTY.

HILLSHADE: LOS ANGELES REGION IMAGERY ACQUISITION CONSORTIUM (LAR-IAC), 2006

MILES 0 1 2 3 4

Source: County of Los Angeles, Department of Regional Planning

D:\Projects\TAAC\J001\Graphics\Ex_energy_projects.ai

Cumulative Projects– Unincorporated Los Angeles County

Exhibit 4–16

West Antelope Solar Energy Project

N W E S

BonTerra CONSULTING

(CJS 07/29/13) R:\PAS\Projects\TAAC\J001\Graphics\IS-MND\Ex_energy_projects.pdf

TABLE 4-19
CUMULATIVE PROJECTS WITHIN THREE MILES OF THE PROJECT SITE

No.	Project Name (Case Number)	Location	Acres	MW
County of Los Angeles Projects				
1	Western Antelope Blue Sky Ranch* (R2011-00798)	110th St West and W. Ave K	157	40
2	Antelope Solar Greenworks* (R2011-00807)	97th St West and W. Ave I	256	52
3	Silver Sun Greenworks* (R2011-00801)	120th St West and W. Ave I	80	20
City of Lancaster Projects				
4	CUP 10-22	Bound by Ave H, Ave H-8, 80th St West and 90th St West	180	38
5	CUP 11-02	East side of 90th St West between Ave K-8 and Ave K-12	17.74	3.4
6	CUP 11-03	Southwest corner of Ave H and 90th St West	67	10
7	CUP 11-05	East side of 80th St West between Ave J-4 and Ave J-8	80	20
8	CUP 11-07	Southeast corner of Avenue J and 110th St West	40	10
9	CUP 12-08	Bound by Ave H, Ave G, 90th St West and 95th St West	135	20
10	CUP 12-09	Southwest corner of Ave H and 100th St West	158	40
11	CUP 12-15	Roughly bound by Ave F, Ave H, 95th St West, and 110th St West	±1000	330

MW: megawatts

* Associated with the Silverado Power Solar Project.

Source: LACDRP 2012a; Lancaster 2013.

Project No. 1 is located directly south of and adjacent to the southern boundary of the proposed Project site. Project No. 2 is located to the northeast of the Project site. Project No. 3 is located northwest of the Project site on West Avenue I. According to the Notice of Preparation issued for the Silverado Power West Los Angeles County projects, construction of their projects under review are anticipated to be providing power to the electrical grid in late 2013 (LACDRP 2012a). Therefore, construction-related impacts associated with the Silverado Power related-projects, including Projects Nos. 1, 2, and 3, are not anticipated to occur at the same time as the proposed Project, which is scheduled to begin construction in the fall of 2013. However, if the Silverado Power projects are delayed, construction schedules may overlap.

As discussed in *Section 4.1, Aesthetics*, no mitigation was required for short-term impacts due to Project construction; however, mitigation was required for long-term impacts associated with the operation of the Project. With mitigation, all direct Project-related impacts would be less than significant. However, as shown on Exhibit 4-16 and listed in Table 4-19, the western Antelope Valley has a considerable number of proposed or approved solar and wind energy projects in the vicinity of the proposed Project. Residents near of the Project site (e.g. within 3 miles) would be most affected by visual impacts, but residents of the western Antelope Valley could also be affected by cumulative changes to the aesthetics of the region. If the projects shown on Exhibit 4-16 and listed in Table 4-19 were to be approved and constructed, these cumulative solar and wind energy projects would alter the visual character of the area by increasing the amount of

developed land with utility-related uses. The determination of whether the addition of solar developments in the western Antelope Valley would result in detrimental, neutral, or positive effects to aesthetics and visual character is subjective. Some viewers of the cumulative projects may determine that they would contribute to and/or help define the Antelope Valley as being on the forefront of the nation's clean energy initiative, while other viewers may determine that the change from rural open space to development would be a detrimental alteration to the visual qualities of the area. Under either opinion, it can be stated that the open space character of the area would be visually altered.

Currently, the portion of the western Antelope Valley area that includes the Project site is very sparsely populated; therefore, relatively few residents would see these facilities on a daily basis. There are no nearby destinations, with the exception of the unbuilt Poppy Trail, that could attract people to the area. Therefore, the cumulative change from rural open space to solar and wind energy development would be experienced by relatively few individuals. Additionally, per the Los Angeles County Code, electric generating plants are a conditionally allowed use in the Heavy Agricultural (A-2-5) zone upon obtaining a CUP, which shows that the County considers it to be a conditionally compatible use in the zone. A typical electric generating plant that would have been developed at the time of the Antelope Valley Area Plan's adoption in 1986 would have been more industrial in character than the typical solar array. Further, "utility and communication installations" are allowed uses in the Non-Urban 1 land use category of the Antelope Valley Areawide General Plan (LACDRP 1986). There is existing electrical infrastructure in the area, including the SCE TRTP transmission lines and the Antelope Substation. As it is a sparsely developed rural area that has appropriate weather patterns and temperatures for this type of project, the western Antelope Valley has been determined to be an appropriate location for operation of solar facilities and the utility-related function and aesthetic of the proposed Project. This part of the High Desert is characterized as a cold semi-arid steppe climate (Köppen climate classification *BSh*), which is less hot and more rainy than a typical arid climate classification. On average, there are between 281-300 sunny days per year in the Lancaster-Palmdale area (WeatherSpark 2013).

However, the cumulative loss of open space and conversion to industrial uses in the western Antelope Valley could be considered to be a cumulatively considerable aesthetic impact and/or a significant degradation to the character of the Project's surrounding area. As discussed below, MM CML-1 mandates that areas disturbed by Project implementation, including graded areas and areas covered by the solar arrays, shall be replaced at a minimum 1:1 ratio with open space land within the western Antelope Valley of a comparable biological value. The replacement lands must be preserved as open space in perpetuity. Compliance with MM CML-1 would ensure that the Project's contribution to the cumulative loss of open space in the western Antelope Valley would be less than significant.

As discussed in <u>*Section 4.2, Agriculture and Forestry Resources*</u>, no mitigation was required for either short-term or long-term impacts due to Project implementation. Implementation of the Project would not have a cumulatively considerable effect on the conversion of agricultural land to non-agricultural uses because (1) there are no active agricultural activities on the Project site; (2) the site does not contain FMMP-designated Farmland; and (3) is not under a Williamson Act contract. Conversion of Other Land or Grazing Land to non-agricultural uses is not considered a significant impact under CEQA. Even with implementation of the Project and the related projects listed in Table 4-19, there would only be a reduction of 0.44 percent of the total Grazing Land in Los Angeles County. As identified in the draft *Antelope Valley Areawide General Plan Update*, Policy COS 7.3 supports the use of alternative and renewable energy systems in conjunction with agricultural activities (LACDRP 2011b).

As discussed in *Section 4.3, Air Quality*, no mitigation was required for long-term impacts; however, mitigation was required for short-term construction impacts due to soil disturbance and dust generation. The study area for cumulative impacts related to air quality is the larger Mojave Desert Air Basin. According to the Notice of Preparation issued for the Silverado Power West Los Angeles County projects, construction of their projects are anticipated to be providing power to the electrical grid in late 2013, but if delays occur, those projects have the potential to overlap with the proposed Project's construction. The Project's contribution of NOx during construction, which is the highest pollutant emission (as shown in Table 4-4), is less than half of the AVAQMD threshold, and all other emissions (e.g., VOC, CO, SOx, PM10, and PM2.5) are negligible when compared to the AVAQMD thresholds. Additionally, construction activities would be short-term (i.e., approximately six months in duration). Cumulative construction particulate (PM10 and PM2.5) impacts are considered when projects may be within a few hundred yards of each other because of (1) the combination of the short range (distance) of particulate dispersion (especially when compared to gaseous pollutants) and (2) the AVAQMD's required dust control measures, which further limit particulate dispersion from a project site. The Silverado Power West Los Angeles County projects have multiple sites within close proximity to the proposed Project site. Compliance with AVAQMD Rule 403, Fugitive Dust, for controlling fugitive dust is mandatory for all projects, including the Silverado Power West Los Angeles County projects. Additionally, AVAQMD Rule 403 requires the Project Applicant to prepare a Dust Control Plan that includes requirements for minimal grading, vehicle use, construction scheduling, water application, soil binders/wood mulch, stock piles stabilization, final stabilization, and monitoring. Therefore, due to mandatory compliance with AVAQMD Rule 403 for all projects, the Project's dust generation and emissions would not be cumulatively considerable when considered in combination with other proposed projects in the Project vicinity. Long-term operations would generate a negligible amount of air pollutants, as shown in Table 4-5 and would not be cumulatively considerable. Emissions would not be cumulatively considerable.

As discussed in *Section 4.4, Biological Resources*, potential impacts related to western burrowing owl would be mitigated through implementation of MM BIO-1; potential impacts related to Swainson's hawk would be mitigated through implementation of MM BIO-2; potential impacts related jurisdictional features would be mitigated through implementation of MM BIO-3 and MM BIO-4; and potential impacts related to migratory and/or nesting birds would be mitigated through implementation of MM BIO-6.

The study area for cumulative impacts on Biological Resources includes the western Antelope Valley, which could be impacted by changes in plant and animal habitats in due to increasing urbanization and population growth in the region. Although project level impacts are considered less than significant, the County of Los Angeles generally considers the cumulative loss of lands potentially utilized by common and special status bird species to be a potentially significant cumulative impact. The Project contributes to the general loss of potential habitat for a variety of bird species; therefore, impacts on biological resources are considered to be cumulatively considerable prior to mitigation. MM CML-1 mandates that areas disturbed by Project implementation, including graded areas and areas covered by the solar arrays, shall be replaced at a minimum 2:1 ratio with open space land within the western Antelope Valley of a comparable biological value.

A Memorandum prepared by BonTerra Consulting and included in Appendix C-5 of this document provides a detailed analysis of the post-construction biological value of the Project site and assesses the appropriate amount of mitigation land required for Project impacts. Mitigation lands may occur on-site and off-site, must be located within the Project region (i.e. western Antelope Valley), and must be located as close to the Project site as feasible. Based on the assessment provided in the Memorandum, 16.27 acres of off-site mitigation land, in addition to the on-site open space areas to be preserved, is required. Mitigation lands must be preserved

with a conservation easement or other form of legal dedication in perpetuity, or until the Project site is restored to its pre-developed conditions per the requirements of the approved Decommissioning Plan. Lands may be deeded to a land management-conservation entity with prior approval from the County. Mitigation lands and deeds or conservation easements proposed shall be approved by the County prior to issuance of grading permits.

Although the Project site would be subjected to minimal grading, the installation of the arrays would still require the use of vehicles, intense foot traffic, and the possible use of dust palliatives, all of which could result in a decreased potential for vegetative recovery through changes in soil structure and trampling of vegetation. As such, the continued presence of on-site vegetation within the fenced area after construction is key to ensure that cumulative impacts will be less than significant. MM CML-2 requires the approval of a Habitat Mitigation and Monitoring Plan (HMMP) that details the steps for the restoration of any disturbed areas after construction, and a Construction Staging Plan (CSP) that details access routes, storage areas, and panel installation methods. A biological monitor will be present for documenting adherence to the CSP during construction.

Other new developments within the western Antelope Valley would also need to conduct biological surveys and provide the required on-site preservation or off-site mitigation in coordination with the CDFW, the USFWS, the USACE, and the RWQCB. Thus, while changes in the biological diversity of the western Antelope Valley could occur with future growth and development, with the implementation of MM CML-1, MM CML-2, and compliance with applicable programs and regulations, cumulative impacts would be less than significant.

As discussed in *Section 4.5, Cultural Resources*, potential impacts related to archaeological resources would be mitigated through implementation of MM CUL-1; potential impacts related to paleontological resources would be mitigated through implementation of MM CUL-2; potential impacts related to human remains would be mitigated through implementation of MM CUL-3. Due to the site-specific nature of cultural resources, it is difficult to determine if significant cumulative impacts to cultural resources would occur on other individual development sites in the region. Since cultural resources are site-specific, and the Project site is not located within a historic zone and has no historic resources, no cumulative significant adverse impacts are expected from future developments with implementation of site-level surveys and mitigation outlined as part of cultural resource studies for individual development projects. The implementation of the proposed Project and the mitigation measures outlined above would prevent adverse impacts on cultural resources on the site. Thus, the Project would not have a cumulative contribution to the disturbance and/or destruction of cultural resources in the Antelope Valley.

As discussed in *Section 4.6, Energy*, operation of the Project would generate renewable energy, decreasing California's reliance on fossil fuel energy as a function of total energy demand. The other renewable energy projects listed in Table 4-19 above would also achieve this objective. Renewable energy projects are not wasteful or excessive in terms of fossil fuel consumption needed for land development because their installation and decommissioning generally requires only typical equipment, involves minimal grading, and has a relatively short construction/demolition period. Because the long-term generation of renewable energy would be expected to exceed the equivalent fossil fuel energy consumed in its construction and operations, there would be a net beneficial impact on energy. Further, the use of fossil fuels during the Project's construction and decommissioning periods, in combination with the same periods for the cumulative projects in the Antelope Valley, would not result in a significant cumulative impact on energy, such as interfering with the availability of fuel and/or requiring the development of new or expanded fossil fuel refining facilities. Therefore, Project construction,

operation, and decommissioning would result in a net beneficial impact to energy and would not be cumulatively considerable.

As discussed in *Section 4.7, Geology and Soils*, no mitigation was required for and long-term impacts due to Project implementation. As required by the County, the Project would be designed and built in compliance with the CBC, as well as any recommendation contained in the site-specific geotechnical report. Geology and soils impacts are generally site specific and there is typically little, if any, cumulative relationship between the development of a proposed Project and development within a larger cumulative area. For example, development at the Project site would not alter geologic events or soil features/characteristics (such as ground shaking, seismic intensity, or soil expansion) at other locations; therefore, the Project would not result in cumulatively considerable impacts.

As discussed in *Section 4.8, Greenhouse Gas Emissions*, no mitigation was required for either short-term or long-term impacts due to Project implementation. Construction-related emissions would be negligible and the implementation of the Project would result in a long-term operational net regional or global reduction of GHG emissions compared with the existing conditions. The cumulative projects would also be achieving these reductions and together with the proposed Project would help achieve the goals set forth by the Renewable Portfolio Standard and result in the displacement of GHG emissions from fossil fuel power plants. Potential cumulative impacts of the proposed Project with other renewable energy projects proposed in the Project region would be considered to be beneficial and result in a combined reduction in GHG emissions. The proposed Project alone would be expected to reduce CO_2e emissions by approximately 9,680 tons of CO_2e/yr. Therefore, impacts to GHG emissions would be beneficial and not cumulatively considerable.

As discussed in *Section 4.9, Hazards and Hazardous Materials*, potential impacts related to the handling of hazardous materials would be mitigated through MM HAZ-1 and MM HAZ-2; potential impacts related to soil contaminants would be mitigated through implementation of MM HAZ-3 and MM HAZ-4; restrictions on the use of on-site cleaning agents would be mitigated through implementation of MM HAZ-5; potential impacts to airport safety would be mitigated though implementation of MM AES-3. As required by the County, construction traffic would be managed in compliance with Caltrans 2010 *California Manual on Uniform Traffic Control Devices* and applicable City of Lancaster requirements to limit roadway obstruction and the need for temporary detours. Although the cumulative projects listed also have potential impacts associated with hazardous materials, the environmental concerns associated with hazardous materials are site specific. Each project is required to address any issues related to hazardous materials or wastes. Federal, State, and local regulations require mitigation to protect against site contamination by hazardous materials. Therefore, there would be no cumulative hazards and hazardous materials impacts.

As discussed in *Section 4.10, Hydrology and Water Quality*, no mitigation was required for either short-term or long-term impacts due to Project implementation. As required by the County, the Project would implement surface runoff water quality BMPs, both during construction and post-development, to comply with adopted regulatory requirements that are designed by the RWQCB to ensure that regional development does not adversely affect water quality and hydromodification in receiving streams, including the water quality plan/hydrology requirements of the adopted MS4 permit and the LACDPW *2009 Low Impact Development (LID) Standard Manual* and LACDPW *2006 Sedimentation Manual* requirements. Therefore, the Project's incremental contribution to cumulative surface water quality impacts is not significant. The Project would have no impact on the Antelope Valley Groundwater Basin. All new developments within the County are required to provide on-site BMPs and storm drainage systems and/or upgrades to prevent the creation of flood hazards on each project site and to

downstream areas. The County's LID Requirements also mandate on-site retention of storm water runoff from the Project over existing conditions. Any future development occurring in the area must also comply with these requirements. Therefore, no cumulatively considerable adverse effects would occur related to alteration of a course of a stream, substantial erosion or siltation, creation of flooding, or the need for storm drain system upgrades would occur.

As discussed in *Section 4.11, Land Use and Planning*, no mitigation was required for either short-term or long-term impacts due to Project implementation. The Project is consistent with the Antelope Valley Areawide Plan and would not require a general plan amendment or zone change. As with the proposed Project, previously approved and future development within the County is required to comply with the adopted land use plans, policies, and ordinances set forth in the General Plan and the Zoning Ordinance, as well as any other applicable planning documents, and be compatible with surrounding land uses. Considering the mix of existing surrounding land uses (i.e., open space, rural development, agriculture, utility infrastructure) and the potential for approvals of future solar facilities in the Project vicinity, implementation of the Project would be generally compatible with the character of the existing surrounding land uses. The utility-related function and aesthetic of the proposed Project would not substantially degrade the character of the surrounding area.

Implementation of the proposed Project would not divide an established community; would be in compliance with the County land use standards, including policies related to non-residential uses in non-urban areas; and is considered to be compatible with the land uses in the vicinity of the Project site. However, the County of Los Angeles generally considers the cumulative loss of open space lands potentially utilized by common and special status bird species to be a potentially significant cumulative impact. The Project contributes to the general loss of open space in the western Antelope Valley; therefore, cumulative impacts related to the reduction in compatible land uses and the losses of open space are considered to be cumulatively considerable prior to mitigation. MM CML-1 mandates that areas disturbed by Project implementation, including graded areas and areas covered by the solar arrays, shall be replaced at a minimum 1:1 ratio with open space land within the western Antelope Valley of a comparable biological value. The replacement lands must be preserved as open space in perpetuity. Other new developments within the western Antelope Valley would also need to account for a loss of open space. Thus, while changes in the quantity of open space within the western Antelope Valley could occur with future growth and development, with the implementation of MM CML-1, this cumulative impact would be less than significant.

As discussed in *Section 4.12, Mineral Resources*, no mitigation was required for either short-term or long-term impacts due to Project implementation. The Project is not designated as a mineral resource area by the County or the State. According to the State Department of Conservation, the Project site has never been used for mineral recovery or mining activities and no designated, regionally significant mineral resources are on or near the Project site. Therefore, there would be no cumulative mineral resource impacts.

As discussed in *Section 4.13, Noise*, no mitigation was required for either short-term impacts or long-term impacts due to Project implementation. As required by the County, Project construction activities be conducted in compliance with the County's construction noise standards. As previously discussed, construction activities of other cumulative projects have the potential to overlap with the proposed Project's construction. Overlapping construction activities could increase noise in the Project vicinity, but this increase would not be cumulatively considerable due to the distance between the cumulative Projects and the nearest sensitive receptors. The nearest residential receptor is approximately 700 feet east of the Project site. When pile driving would occur at the eastern boundary of the Project site, the noise attenuation from the equipment to the residence would be approximately 29 dBA, and the L_{max} at the

residence would be 66 dBA, which is less than the 75 dBA threshold of significance. Any cumulative project construction activity would be hundreds of feet further away, would be temporary in nature, and would not result in cumulatively considerable construction noise. Operational noise associated with the Project is negligible and would not be cumulatively considerable.

As discussed in *Section 4.14, Population and Housing*, no mitigation is required for either short-term or long-term impacts due to Project implementation. The Project would have no residential uses and would not materially affect local or regional population projections, similar to the cumulative solar projects. Therefore, there would be no cumulative impacts related to population or housing.

As discussed in *Section 4.15, Public Services*, no mitigation is required for short-term and long-term impacts due to Project implementation. The Project would comply with the Los Angeles County Code's Title 32, Fire Code, and regulations of the Los Angeles County Fire Department, which include standards for building construction, emergency access, fire flow, water mains, and fire hydrants. In general, cumulative impacts on Public Services occur with increasing demands for police and fire protection services from the Project; from cumulative projects; and from other planned developments in the service areas of the LACFD and the LACSD. All other cumulative projects are required to comply with pertinent provisions of the County Fire Code to prevent the creation of fire hazards, to promote fire safety, and to facilitate emergency response. The LACFD and the LACSD, which also serve Lancaster, regularly review their services and the needed increases in staffing, fire stations, and equipment, as necessary, to keep response times acceptable and to adequately serve their service areas. Additionally, the proposed Project would not involve the creation of new habitable structures or new population growth that could generate increased demand for fire or police protection services; therefore, project implementation would not result in cumulatively considerable impacts.

As discussed in *Section 4.16, Recreation*, mitigation was required for long-term impacts due to Project implementation. MM REC-1 requires the Project Applicant shall design and construct an eight foot (8') wide trail along the eastern boundary of the Project site, in a manner consistent with the *County of Los Angeles Trails Manual*, to form part of Los Angeles County Trail Number 130 (California Poppy Trail) on the Los Angeles County Trails Map, which would be a benefit to recreation. The proposed Project would not directly or indirectly result in housing development or population growth on the site or in the Project area that could impact recreation amenities. With the creation of a portion of the Poppy Trail, Project implementation would have a positive impact on cumulative recreational resources in the region. With no new households or residents, the Project would not increase the use of local parks, nor would it create a demand for local or regional recreational facilities and there would be no cumulative impacts.

As discussed in *Section 4.17, Transportation and Traffic*, no mitigation was required for either short-term or long-term impacts due to Project implementation. Primary vehicular access to the site is provided via West Avenue J from the City of Lancaster to the east. There is capacity on local streets near the site, which are all operating at LOS A, to handle the traffic volume increases due to Project construction traffic, as well as cumulative solar project construction traffic, as it is anticipated that the proposed Project will be fully constructed and operational (by mid-2014) before the cumulative projects break ground. While it is unknown what the future traffic conditions will be, the long-term operation of the Project, as well as nearby cumulative solar projects, would result in negligible traffic generation, and impacts would not be cumulatively considerable.

As discussed in *Section 4.18, Utilities and Service Systems*, the Project would comply with County requirements for "Sanitation Facilities at Remote Worksite Locations"; that the Project utilizes water derived from sources outside of the Antelope Valley Groundwater Basin, ensuring no cumulative impacts related to water supply; and that no permanent irrigation system is installed to maintain landscaping, further reducing water demand. Additionally, MM UTIL-1 requires construction activities on the Project site to be conducted in compliance with Chapter 20.87 (Construction and Demolition Debris Recycling and Reuse) of the Los Angeles County Code, which requires at least 50 percent of all Collection and Demolition (C&D) debris, soil, rock, and gravel removed from the Project site to be recycled or reused.

Other cumulative projects in the region would have the same long-term O&M activities as the proposed Project, which is expected to general minimal amounts of waste and wastewater. All projects would be required to implement the same measures related to workplace sanitation and water-sourcing restrictions, as well as waste disposal requirements. The proposed Project would not result in new households or habitable structures that could generate long-term demands for utilities, and because all cumulative projects would be required to implement similar measures and comply with water use restrictions, impacts to utilities and service systems would not be cumulatively considerable.

d) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. Project construction and operation does not have the potential to generate significant adverse impacts on human beings and no mitigation would be required for the topical issues related to human health, including air quality, hydrology and water quality, noise, or transportation and traffic. Mitigation measures were required for potential impacts associated with hazards and hazardous materials, which would be mitigated to a less than significant level.

4.19.3 MITIGATION MEASURES

MM CML-1 Prior to the issuance of a grading permit, Project Applicant shall provide dedicated open-space lands at a minimum 2:1 ratio of replacement for the lands disturbed by Project implementation. The acreage of impacted lands requiring mitigation was calculated to include all graded areas, as well as areas covered by the solar array panels and appurtenant facilities. A total of 152.02 acres of mitigation land shall be provided by the Project Applicant, with 135.75 acres to be provided on-site and 16.27 acres to be acquired off-site. Off-site mitigation lands must be located within the Project region (i.e. western Antelope Valley) and shall be located as close to the Project site as feasible. The vegetation types, overall biological value, and the condition of mitigation lands shall be comparable to those found on the impacted lands on the Project site. Maintenance of such lands shall be the responsibility of the Project Applicant and the mitigation lands must be maintained to ensure conditions and general biological value remain consistent over time. Mitigation lands shall be preserved with a conservation easement or other form of legal dedication in perpetuity, or until the Project site is restored to its pre-developed conditions per the requirements of the approved Decommissioning Plan. Lands may be deeded to a land management-conservation entity with prior approval from the County. Mitigation lands and deeds or conservation easements proposed shall be approved by the County prior to issuance of grading permits.

Within 60 days of recordation of the permanent deed restriction(s) or conservation easement(s), a Maintenance Plan for the off-site mitigation lands shall be submitted to the County for review and approval. The plan shall include the maintenance requirements for the mitigation area, based on the characteristics of the mitigation land and the mitigation requirements described above. The Maintenance Plan shall also describe the performance standards for determining that mitigation requirements for the lands have been met.

MM CML-2 Prior to CUP approval, an approved Habitat Mitigation and Monitoring Plan (HMMP) shall be submitted for review and approval to the County. Prior to the issuance of a grading permit, a Construction Staging Plan (CSP) shall be submitted for review and approval to the County.

The HMMP will detail steps proposed for the restoration of disturbed areas in the event that the as-built plan reveals the need for restoration after construction. Criteria upon which the MND's biological impacts analysis was based shall form the basis for the formulation of performance goals in the HMMP. The HMMP shall include a five-year annual reporting program to document the site's recovery towards these expected criteria, and shall include provisions for adaptive management contingencies if adequate re-vegetation has not occurred within a three year period from energization. The CSP will detail access routes, storage areas, high-traffic areas, and methods for the installation of the panels and other equipment in non-graded areas.

The biological monitor will be responsible for documenting adherence to the CSP during the construction phase of the project. A post-construction "as-built" plan will be required prior to energization of the project, which shall detail areas of disturbance needing further restorative work in order to meet the expected criteria upon which the biological and cumulative impacts analyses were based.

After the five year monitoring period has elapsed, the mitigation may be deemed complete if the performance goals have been satisfied. Further mitigation may be required, subject to enforcement penalties, if the performance goals have not been met. If after the five-year monitoring period has elapsed, it is determined that revegetation of the site or portions thereof is not possible, mitigation in the form of off-site land acquisition shall be provided at a 2:1 ratio for the unrestorable area.

Maintenance of the site in keeping with performance goal criteria shall be a condition of the CUP, subject to enforcement penalties, and shall be confirmed through a requirement in the project MMRP that annual reporting shall continue for the life of the project.

SECTION 5.0 REFERENCES

AEI-CASC Consulting (AEI-CASC). 2013 (May). *Low Impact Development/Water Quality Report.* Colton, CA: AEI-CASC (Appendix G-2).

———. 2012a (July 10). *Preliminary Drainage Report for the West Antelope Solar Project.* Colton, CA: AEI-CASC (Appendix G-1).

———. 2012b (July 6). *Stormwater Pollution Prevention Plan for West Antelope Solar Project.* Colton, CA: AEI-CASC (Appendix G-3).

AirNav, LLC. 2013a (June 27, information effective date). Bohunk's Airpark. Atlanta, GA: AirNav, LLC. http://www.airnav.com/airport/0CL6

———. 2013b (June 27, information effective date). General Wm J Fox Airfield. Atlanta, GA: AirNav, LLC. http://www.airnav.com/airport/KWJF.

Antelope Valley Air Quality Management District (AVAQMD). 2010. AVAQMD Designations and Classifications. Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/index.aspx?page =289.

———. 2011 (August). *Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*. Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=2911.

———. 2008b. AVAQMD Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-attainment Area). Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/Modules/ ShowDocument.aspx?documentid=923.

———. 2006 (August). *8-Hour Reasonably Available Control Technology – State Implementation Plan Analysis (RACT SIP Analysis).* Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=920.

———. 2005 (August). *List and Implementation Schedule for District Measures to Reduce PM Pursuant to Health & Safety Code §39614(d).* Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=919.

———. 2004 (April). *AVAQMD 2004 Ozone Attainment Plan (State and Federal).* Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/Modules/ShowDocument.aspx? documentid=922.

———. 1976 (as amended through 2010). Rule 403: Fugitive Dust. Lancaster, CA: AVAQMD. http://www.avaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=867.

Antelope Valley Transit Authority (AVTA). 2011 (April 1). Route 7: Quartz Hill. Lancaster, CA: AVTA. http://www.avta.com/transit/Service/Route_7.pdf.

BonTerra Consulting. 2013 (September 25). Memorandum from K. Keeling, BonTerra Consulting, to J. Decruyenaere and A. Curzi, Los Angeles County Department of Regional Planning. Pasadena, CA: BonTerra (Appendix C-5)

———. 2012a (August). *Jurisdictional Delineation Report, West Antelope Solar Project.* Irvine, CA: BonTerra (Appendix C-1).

———. 2012b (August). *Phase I Cultural Resources Assessment, West Antelope Solar Project.* Irvine, CA: BonTerra (Appendix D).

———. 2012c (August). *Results of Focused Rare Plant Surveys for the West Antelope Solar Project, Unincorporated Los Angeles County, California.* Irvine, CA: BonTerra (Appendix C-4).

———. 2012d (September). *Results of Western Burrowing Owl Surveys at the West Antelope Solar Project Site near the City of Lancaster, Unincorporated Los Angeles County, California.* Pasadena, CA: BonTerra Consulting (Appendix C-2).

———. 2012e (September). *Results of Swainson's Hawk Surveys for the West Antelope Solar Project near the City of Lancaster, Unincorporated Los Angeles County, California.* Pasadena, CA: BonTerra Consulting (Appendix C-3).

California Air Resources Board (CARB). 2012 (June 7). Ambient Air Quality Standards. Sacramento, CA: CARB. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

———. 2008 (December). *Climate Change Proposed Scoping Plan, a Framework for Change.* Sacramento, CA: CARB.

California Building Standards Commission (CBSC). 2010 (April 12, last updated). CCR, Title 24. Sacramento, CA: BSC. http://www.bsc.ca.gov/title_24.html.

California Climate Action Registry (CCAR). 2009 (January). *California Climate Action Registry General Reporting Protocol* (Version 3.1). Los Angeles, CA: CCAR. http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf.

California Department of Conservation (DOC). 2011 (March 30, last update). County Important Farmland Data Availability. Sacramento, CA: DOC. http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp.

———. 2007. Los Angeles County Tsunami Inundation Maps. Sacramento, CA: DOC. http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/LosAngeles/Pages/LosAngeles.aspx.

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). 2010. DOGGR Online Mapping System. Sacramento, CA: DOGGR. http://maps.conservation.ca.gov/doms/index.html

———. 2001. *Oil, Gas, and Geothermal Fields in California, 2001*. Sacramento, CA: DOGGR.

California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP). 2009 (September). Los Angeles County Important Farmland 2008. Sacramento, CA: FMMP.

California Department of Forestry and Fire Protection (CAL FIRE). 2007 (September 24). *Los Angeles County – Draft Fire Hazard Severity Zones in LRA*. Sacramento, CA: CAL FIRE. http://frap.cdf.ca.gov/webdata/maps/los_angeles/LosAngelesCounty.pdf

California Department of Forestry and Fire Protection, Fire and Resources Assessment Program (FRAP). 2003 (March 11). *Land Cover – Multi-Source Data Compiled for Forest and Range 2003 Assessment*. Sacramento, CA: CAL FIRE, Fire and Resources Assessment Program.

California Department of Transportation (Caltrans). 2010a (January 21). *California Manual on Uniform Traffic Control Devices.* Sacramento, CA: Caltrans.

———. 2010b. 2009 Traffic and Vehicle Data Systems Unit (a spreadsheet). Sacramento, CA: Caltrans. http://www.dot.ca.gov/ hq/traffops/saferesr/trafdata/2009all/Route12-15i.htm.

———. 2007 (December 7). California Scenic Highway Mapping System. Sacramento, CA: Caltrans. http://www. dot.ca.gov/hq/LandArch/scenic_highways/index.htm.

———. 2004 (June). *Transportation- and Construction-Induced Vibration Guidance Manual* (prepared by Jones and Stokes). Sacramento, CA: Jones and Stokes. http://www.dot.ca.gov/hq/env/noise/pub/vibrationm anFINAL.pdf.

California Department of Water Resources (DWR). 2004 (February 27). *California's Groundwater Bulletin 118: Antelope Valley Groundwater Basin*. Sacramento, CA: DWR. http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/6-7.pdf.

California Employment Development Department (EDD). 2012 (July). *Monthly Labor Force Data for Cities and Census Designated Places (CDP) July 2012 – Preliminary*. Sacramento, CA: EDD.

———. 2011 (March 25). *Monthly Labor Force Data for Cities and Census Designated Places (CDP) February 2011 – Preliminary.* Sacramento, CA: EDD.

California Energy Commission and Department of Fish and Game. 2012 (June 2). *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California.* Sacrament, CA: CEC.

California Geological Survey (CGS). 2006 (December). Aggregate Availability in California. Sacramento, CA: CGS. http://www.consrv.ca.gov/cgs/minerals/mlc/Pages/index.aspx.

California Governor's Office of Planning and Research (OPR). 2008 (June 18). *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.* Sacramento, CA: OPR. http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf.

Cawelo Water District. 2013 (August 7). Letter from S. Hamilton, President, Cawelo Water District to A. Curzi, Los Angeles County Department of Regional Planning. Bakersfield, CA: Cawelo.

———. 2009. *Negative Declaration for Recovery and Sale of Banked Oilfield Produced Water by Cawelo Water District (SCH#: 2009021083)*. Bakersfield, CA: Cawelo.

Coachella Valley Water District (CVWD). 2007 (August 28). *Landscaping and Irrigation Design Criteria.* Coachella, CA: CVWD. http://www.cvwd.org/news/.../2009_12_04_Ordinance_1302_1_revised.pdf

Federal Emergency Management Agency (FEMA). 2008 (January). Flood Insurance Rate Map – Panel 06037CV002A. Washington, D.C.: FEMA.

Lahontan Water Quality Control Board (Lahontan RWQCB). 2005 (as amended). *Water Quality Control Plan for the Lahontan Region*. Victorville, CA: Lahontan RWQCB. http://www.swrcb.ca.gov/rwqcb6/water_issues/programs/basin_plan/references.shtml.

Lancaster, City of. 2013 (March). Email from J. Swain, City of Lancaster Planning Department, to E. Paek, BonTerra Consulting. Lancaster, CA: the City.

———. 2010a (April). *City of Lancaster Traffic Engineering ADT 2010*. Lancaster, CA: the City. http://www.cityoflancasterca.org/index.aspx?page=407.

———. 2010b (February 9, last update). *Lancaster, California Code of Ordinances*. Tallahassee, FL: Municipal Code Corporation. http://library.municode.com/index.aspx?clientId=16042&stateId=5&stateName=California.

———. 2009a (July 14, adopted). *City of Lancaster General Plan 2030*. Lancaster, CA: the City. http://www.cityoflancasterca.org/Index.aspx?page=427.

———. 2009b (April). *General Plan 2030 Master Environmental Assessment.* Lancaster, CA: Lancaster.

Leighton Consulting. 2012a (June 21). *Geotechnical Investigation, Proposed West Antelope Project (20-MWAC Photovoltaic Array).* Rancho Cucamonga, CA: Leighton Consulting (Appendix E).

———. 2012b (July 3). *Phase I Environmental Site Assessment, Proposed 20-MWAC Photovoltaic Array.* Rancho Cucamonga, CA: Leighton Consulting (Appendix F).

Los Angeles, County of. 2013 (April, access date). Countywide Energy and Environmental Policy. Los Angeles, CA: the County. http://green.lacounty.gov/cms1_089640.asp.

———. 2012 (August, current through). *Los Angeles County, California – Code of Ordinances.* Tallahassee, FL: Municode Corporation for the County.

Los Angeles County Airport Land Use Commission (ALUC). 2004 (December 1). *General William J. Fox Airfield Land Use Compatibility Plan*. Los Angeles, CA: ALUC. http://planning. lacounty.gov/assets/upl/project/aluc_fox-lucp.pdf.

Los Angeles County Department of Parks and Recreation (LACDPR). 2001. *Los Angeles County Riding and Hiking Trails Map.* Los Angeles, CA: LACDPR.

Los Angeles County Department of Public Health (LACDPH). 2012 (May). *Sanitation Facilities at Remote Worksite Locations*. Los Angeles, CA: LACDPH.

Los Angeles County Department of Public Works (LACDPW). 2013 (July 18). Letter from G. Farber, Director of Public Works, County of Los Angeles Public Works Department, Waterworks Division to S. Schmitt, Chevron Renewable Power, Chevron Energy Solutions. Los Angeles, CA: LACDPW.

———. 2012 (March). *County of Los Angeles Bicycle Master Plan* (prepared by Alta Planning + Design). Los Angeles, CA: LACDPW.

———. 2010. *Water Requirements and Groundwater Supply* (prepared by Luhdorff & Scalmanini Consulting Engineers). Los Angeles, CA: LACDPW.

———. 2009 (January). *County of Los Angeles Low Impact Development (LID) Standards Manual*. Los Angeles, CA: LACDPW.

———. 2006a (January). *County of Los Angeles Hydrology Manual*. Los Angeles, CA: LACDPW.

———. 2006b (March). *County of Los Angeles Sedimentation Manual, 2nd Edition*. Los Angeles, CA: LACDPW.

Los Angeles County Department of Regional Planning (LACDRP). 2013 (April 1). Los Angeles County Department of Regional Planning – List of Renewable Energy Projects. Los Angeles, CA: LACDRP. http://planning.lacounty.gov/energy

———. 2012a (June 13). Notice of Preparation and Initial Study for Silverado Power Six Proposed Solar Generating Facilities. Los Angeles, CA: LACDRP. http://planning.lacounty.gov/case/view/silverado/

———. 2012b (May). *Los Angeles County General Plan 2035 – May 2012 Revised Draft*. Los Angeles, CA: LACDRP. http://planning.lacounty.gov/generalplan/draft2012.

———. 2011a (December 11). *Findings and Order for Project No 03-170-(5), Conditional Use Permit No. 03-170 for Lancaster Landfill and Recycling Center*: Los Angeles, CA: LACDRP.http://planning.lacounty.gov/assets/upl/case/cup_03-170_approval-package.pdf

———. 2011b (March). *Preliminary Draft Antelope Valley Area Plan*. :Los Angeles, CA: LACDRP.

———. 2009 (April). *Antelope Valley General Plan Update – Background Report*. Los Angeles, CA: LACDRP. http://planning.lacounty.gov/assets/upl/data/tnc_background-report.pdf.

———. 2007 (January 16). *County of Los Angeles General Plan Antelope Valley Areawide General Plan Trails Map*. Los Angeles, CA: LACDRP. http://planning.lacounty.gov/assets/upl/case/project_r2006-00414_av-map.pdf.

———. 1986 (December 4). *Antelope Valley Area General Plan*. Los Angeles, CA: LACDRP. http://planning.lacounty.gov/view/antelope_valley_area_plan.

———. 1980 (as amended). *County of Los Angeles General Plan.* Los Angeles, CA: LACDRP.

Los Angeles County Fire Department (LACFD). 2012 (August 7). Comment Letter from W. Collins, County of Los Angeles Fire Department, Land Development Unit to A. Curzi, County of Los Angeles Department of Regional Planning. Los Angeles, CA: LACFD.

Los Angeles County Metropolitan Transportation Authority (MTA). 2010 (October 28). *2010 Congestion Management Program.* Los Angeles, CA: MTA. http://www.metro.net/ projects_studies/cmp/images/CMP_Final_2010.pdf.

Los Angeles County Office of the Assessor. 2012 (August 20, last accessed). *Property Assessment Information System*. Los Angeles, CA: Los Angeles County Office of the Assessor. http://maps.assessor.lacounty.gov/mapping/viewer.asp.

National Electrical Manufacturers Association (NEMA). 2000. *NEMA Standards Publication No. TR 1-1993 (R2000), Transformers, Regulators and Reactors*. Rosslyn VA: NEMA.

National Oceanic and Atmospheric Administration (NOAA). 2013. National Climatic Data Center: Land-Based Station Data. Washington, DC: NOAA. http://www.ncdc.noaa.gov/data-access/land-based-station-data

Power Engineers. 2010 (May 21). *Solargen Energy - Panoche Valley Solar Farm Project Glint and Glare Study*. Minneapolis, MN: Power Engineers. http://www.cosb.us/ Solargen/ app/jun2010/Glint_Glare_Study.pdf

Southern California Edison (SCE). 2012 (December 17). Memorandum from A. Gutierrez, SCE, to V. Nayak, TUUSSO Energy and A. Rodriquez, Canadian Solar Re: Antelope-Berrendo Project Scope. Los Angeles, CA: SCE.

South Coast Air Quality Management District (SCAQMD). 2008 (October). *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Thresholds*. Diamond Bar, CA: SCAQMD.

Sungrow Power Supply Company (Sungrow). 2013. *Acoustic Test Report- Sungrow SG800MX 800kW Photovoltaic Inverter Noise Emission Measurement*. Hefei, Peoples Republic of China.

Thalheimer, E. 2000. Construction Noise Control Program and Mitigation Strategy as the Central Artery/Tunnel Project. *Noise Control Engineering Journal* 48(5), Sep–Oct. Indianapolis, IN: Institute of Noise Control Engineering.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2012 (April). Hydric Soils: National List: all states (April 2012) (Excel document). Washington, D.C.: USDA, NRCS. http://soils.usda.gov/use/hydric/index.html.

U.S. Department of the Interior Bureau of Land Management and U.S. Department of Energy (BLM and DOE). 2010 (December). *Solar Development Draft Programmatic Environmental Impact Statement.* Washington, D.C.: BLM and DOE. http://solareis.anl.gov/

U.S. Department of the Interior Bureau of Land Management (BLM). 2006 (March 13). *Record of Decision, West Mojave Plan*. Washington, D.C.: BLM. http://www.blm.gov/ca/pdfs/cdd_pdfs/wemo_pdfs/wemo_rod_3-06.pdf.

U.S. Department of Transportation, Federal Transit Administration (FTA). 2006 (May). *Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06* (prepared by Harris Miller Miller & Hanson, Inc.). Vienna, VA: HMMH. http://www.fta.dot.gov/documents/FTA_Noi se_and_Vibration_Manual.pdf.

U.S. Geological Survey (USGS). 2003. *Simulation of Ground-Water Flow and Land Subsidence in the Antelope Valley Ground-Water Basin, California* (Water-Resources Investigations Report 03-4016). Sacramento, CA: USGS. http://pubs.usgs.gov/wri/wrir034016/wrir034016.book.pdf.

Waste Management of Antelope Valley. 2010 (May 18, last accessed). Keeping Antelope Valley Clean, Lancaster Landfill and Recycling Center. Palmdale, CA: Waste Management of Antelope Valley. http://www.keepingavclean.com/currentprojectl.html.

WeatherSpark 2013 (August 26). *Average Weather for Lancaster, California*. http://weatherspark.com/averages/31937/Lancaster-California-United-States

Williamson, J. 2013 (June 4). Personal Email correspondence between J. Williamson (Array Technologies Incorporated) and D. Hugo (Array Technologies Incorporated), as forwarded to K. Keeling, Sr. Project Manager (BonTerra Consulting).

This page intentionally left blank