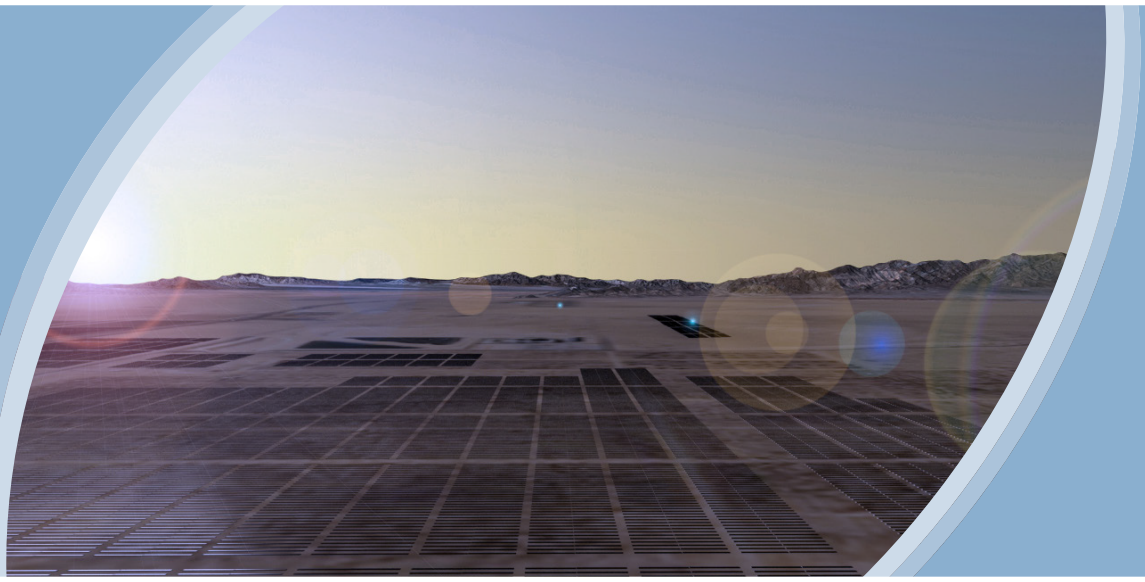
BLYTHE MESA SOLAR PROJECT



Final Environmental Impact Report/Environmental Assessment

Volume I

EIR No. 529
EA No. 0021
SCH No. 2011111056
FTA No. 2013-10

March 2015

CEQA/NEPA Lead Agencies:

RIVERSIDE COUNTY
PLANNING DEPARTMENT

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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Final Environmental Impact Report/ Environmental Assessment

Blythe Mesa Solar Project

EIR No. 529
EA No. 0021
SCH No. 2011111056

Volume I
(Chapters 1, 2, and 3)

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PREFACE

This document is the **Final Environmental Impact Report/Environmental Assessment (EIR/EA)** for the Blythe Mesa Solar Project proposed by Renewable Resources Group. In accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), the County of Riverside (County) and the United States Department of the Interior, Bureau of Land Management (BLM) prepared the joint EIR/EA for the proposed Project. The County is the lead agency responsible for preparation of the EIR (EIR No. 529) in compliance with CEQA. The County has qualified the Project for Fast Track Authorization (FTA 2013-10). The BLM is the lead federal agency responsible for preparation of the EA (EA No. 0021) in compliance with NEPA. The City of Blythe is a responsible agency that has actively participated in the NEPA/CEQA process and review of the EIR/EA.

In accordance with the CEQA Guidelines Sections 15088, 15089, and 15132, responses to comments that were received during the public review and comment period for the Draft EIR/EA document are included in Appendix O of this document. Under CEQA, the lead agency must review, evaluate, and prepare written responses to comments on environmental issues received on the Draft EIR/EA (Appendix O of this document). The Draft EIR/EA was made available for review to the public, organizations, and public agencies, from June 17, 2014 to August 4, 2014, to elicit comments on the "sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (Section 15204 of the State CEQA Guidelines).

This Final EIR/EA is intended to satisfy the requirements in the BLM's land use planning regulations applicable to the request for a right-of-way (ROW) grant to use federal lands under the Federal Land Policy and Management Act (FLPMA). The information contained in this Final EIR/EA will be considered by the County when evaluating the Applicant's Conditional Use Permit (CUP No. 3685), Public Use Permit (PUP No. 913), Development Agreement (DA No. 79), Change of Zone application (CZ No. 7831), establishment of an agricultural preserve and Williamson Act Contract (Agricultural Preserve Case No. 1045), and potential future cancellation of the Williamson Act Contract and Agricultural Preserve. Together, these permits and applications are collectively being considered by the County as the Project. The information in this Final EIR/EA will also be considered by the BLM in its deliberations regarding approval of the ROW grant, and by other federal, state, and local agencies with regard to their respective permit approvals, if any.

ORGANIZATION OF THE DOCUMENT

As per CEQA Guidelines Section 15132, a Final EIR must include the following elements:

- The Draft EIR or a revision of that draft
- Comments and recommendations received on the Draft EIR, either verbatim or in summary form
- A list of persons, organizations, and public agencies that commented on the Draft EIR
- The response of the lead agency to significant environmental points raised in the review and consultation process
- Any other information added by the lead agency

This Final EIR/EA includes the following sections:

Volume I *(includes corrections and additions to the Draft EIR/EA text in response to comments)*

Executive Summary

Chapter 1: Introduction

Chapter 2: Alternatives Including the Proposed Project

Chapter 3: Affected Environment

Volume II *(includes corrections and additions to the Draft EIR/EA text in response to comments)*

Chapter 4: Environmental Consequences

Chapter 5: Other NEPA/CEQA Considerations

Chapter 6: Coordination and Consultation

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Appendix B: Air Quality and Global Climate Change Technical Report

Appendix C1: Biological Resources Technical Report

Appendix C2: 230 kV Transmission Line Alternatives Habitat Assessment Report

Appendix C3: Western Burrowing Owl Survey Report

Appendix C4: Avian and Bat Protection Plan

Appendix C5: Review of Federal Waters

Volume IV

Appendix D1: Archaeological Resource and Built Environment Survey Final Report

Appendix D2: Archaeological Resource and Built Environment Survey Transmission Line Alternatives Supplemental Report

Appendix E: Limited Geotechnical Evaluation

Appendix F: EDR Data Map

Appendix G: Water Supply Assessment

Appendix H:	Wash Feature Summary of Findings
Appendix I:	Paleontological Resources Survey Report
Appendix J:	Traffic Impact Study Report
Appendix K:	Glare and Reflection Study
Appendix L:	Land Evaluation and Site Assessment
Appendix M:	Fish and Wildlife Service Informal Consultation Memo
Appendix N:	Airport Land Use Commission Development Review

Volume V

Appendix O: provides a list of comments received on the Draft EIR/EA, copies of the written comments (numerically coded for reference), and the lead agency's responses to the comments. Requirements for the preparation and disposition of the response to comments are provided for in PRC, Division 13, Section 21092.5 and Section 15088 of the CEQA Guidelines.

Section 15088 of the CEQA Guidelines states:

(a) The lead agency shall evaluate comments on environmental issues received from persons who reviewed the Draft EIR and shall prepare a written response. The Lead Agency shall respond to comments received during the noticed comment period and any extensions and may respond to late comments.

(b) The lead agency shall provide a written proposed response to a public agency on comments made by that public agency at least 10 days prior to certifying an environmental impact report.

(c) The written response shall describe the disposition of significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections). In particular, the major environmental issues raised when the Lead Agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail giving reasons why specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice.

(d) The response to comments may take the form of a revision to the Draft EIR or may be a separate section in the Final EIR. Where the response to comments makes important changes in the information contained in the text of the Draft EIR, the Lead Agency should either: (1) Revise the text in the body of the EIR, or (2) Include marginal notes showing that the information is revised in the response to comments.

Volume VI

Appendix P: includes all corrections and additions to the Draft EIR/EA text in Response to Comments. Any changes in the text are indicated by underline/strikeout revisions.

Appendix Q: includes the Mitigation Monitoring and Reporting Program (MMRP) required by CEQA Guidelines Section 15097.

Appendix R: includes the Fast Track Authorization FTA No. 2013-10 form for the Project

Appendix S: includes the following:

- Notice of Availability with attachments for the Draft EIR/EA
- Notice of Completion and Environmental Transmittal Form for the Draft EIR/EA
- July 10, 2014 Public meeting transcript

Appendix T: includes a copy of the Blythe Mesa Solar Project Phase I Environmental Site Assessment

Appendix U: 2013 Protocol Burrowing Owl Survey Results

Appendix V: August 7th Letter from the Soboba Cultural Resource Department

ENVIRONMENTAL REVIEW PROCESS

Three sets of meetings were held for the Project: (1) CEQA Public Scoping, (2) Draft EIR/EA Informational Meetings, and (3) BLM Public Scoping.

Upon completion and finalization of the Draft EIR/EA, it was circulated for an extended CEQA public review period, which began on June 17, 2014, and ended on August 4, 2014. Per CEQA Guidelines 15085, a Notice of Completion was filed with the State of California Governor's Office of Planning and Research (State Clearinghouse) on June 17, 2014. The Notice of Availability (NOA) of a Draft EIR was filed with the Riverside County Clerk on June 17, 2014, (per CEQA Guidelines Section 15087). The NOA announced the commencement of the public review of the Draft EIR/EA and public meeting (July 10, 2014). The NOA was mailed to agencies, organizations, and interested individuals. A legal notice of availability of the Draft EIR/EA and public meeting was published in the *Press Enterprise* and *Palo Verde Times* newspapers on June 20, 2014. The public meeting was also advertised on the County and BLM websites.

The City of Riverside Board of Commissioners (Board) will consider the Project for approval at a regularly scheduled meeting (the specific date of the meeting is to be announced). The Board will hold a public hearing regarding the Project and must certify the Final EIR/EA prior to making any decision regarding the approval of the proposed Project.

The Board will consider all information in the record, including the Final EIR/EA, comments and responses to comments, the MMRP, and any testimony prior to making its decision. The Board will consider staff recommendations, including:

1) A recommendation as to whether the Final EIR document has been completed in accordance with CEQA and should be certified by the Board;
2) A recommendation regarding approval of the proposed Project;
3) A recommendation regarding adoption of the MMRP; and
4) A recommendation regarding findings and possible conditions that may override significant environmental impacts of the Project.

Should the Board approve the proposed Project the County will file a Notice of Determination (NOD) with the Riverside County Clerk and the State Clearinghouse. The filing of the NOD completes the CEQA environmental review process.

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Appendix M: Fish and Wildlife Service Informal Consultation Memo

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Appendix O: Response to Comments

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Appendix P: Errata in Response to Comments
Appendix Q: Mitigation Monitoring and Reporting Program
Appendix R Fast Track Authorization FTA No. 2013-10
Appendix S Notice of Availability, Notice of Completion, July 10, 2014 Public meeting transcript
Appendix T Phase I Environmental Site Assessment
Appendix U 2013 Protocol Burrowing Owl Survey Results
Appendix V August 7th Letter from the Soboba Cultural Resource Department

ACRONYMS AND ABBREVIATIONS

˚C	Degrees Celsius
˚F	Degrees Fahrenheit
µT	microtesla
3D	three-dimensional
A	Agriculture
A.D.	Anno Domini
A-1	Light Agriculture
A-1-10	Light Agriculture
A-1-2 ½	Light Agriculture
A-2	Heavy Agriculture
A-2-10	Heavy Agriculture
A-2-2 ½	Heavy Agriculture
AB	Assembly Bill
AC	Alternating current
ACEC	Area of Critical Environmental Concern
Ac-ft/yr	Acre-feet per year
ACGIH	American Conference of Governmental Industrial Hygienists
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
A-D	Agriculture-Dairy
AF	Acre-feet
AG	Agriculture
AGR	Agricultural Supply
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
amsl	Above mean sea level
A-P	Light Agriculture with Poultry
APE	Area of Potential Effects
Applicant	Renewable Resources Group
AQ	air quality
AQUA	Aquaculture
AST	Aboveground storage tank
BAAB	Blythe Army Air Base
BBCS	Bird and Bat Conservation Strategy
BEA	Bureau of Economic Analysis
BLM	Bureau of Land Management
BMPs	Best Management Practices
BMSP	Blythe Mesa Solar Project
BP	Before present
BPD	Blythe Police Department
BRMIMP	Biological Resources Mitigation Implementation and Monitoring Plan
BSPP	Blythe Solar Power Project
BUOW	western burrowing owl
C	Circulation
C-1/C-P	General Commercial
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAD	Computer aided design
CAISO	California Independent System Operator
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officer's Association

CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDCA	California Desert Conservation Area
CDFG	California Department of Fish and Game (now known as CDFW)
CDFW	California Department of Fish and Wildlife (formerly CDFG)
CDP	Census Designated Place
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
C-G	General Commercial
CH4	Methane
CHL	California Historic Landmarks
CHMIRS	California Hazardous Material Incident Report System
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CHWMP	Riverside County Hazardous Waste Management Plan
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO2	Carbon dioxide
CO2e	CO2 equivalent
CORRACTS	Corrective Action
County	County of Riverside
C-P-S	Scenic Highway Commercial
CPUC	California Public Utilities Commission
C-R	Rural Commercial
CRHR	California Register of Historic Resources
CRMP	Cultural Resources Management Plan
CRPR	California Rare Plant Ranking System
CSA	Community Service Area
C-T	Tourist Commercial
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
dB	Decibels
dBA Lmax	maximum sound level
dBA	A-weighted decibel scale
DC	Direct current
DDT	Dichlorodiphenyltrichloroethane
DOC	California Department of Conservation
DOF	California Department of Finance
DOT	California Department of Transportation
DRECP	Desert Renewables Energy Conservation Plan
DTC/C-AMA	Desert Training Center/California-Arizona Maneuver Area
DTM	Digital terrain mapping
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources

EA	Environmental Assessment
EDD	Employment Development Department
EDR	Environmental Data Resources, Inc.
EDR-RC	Estate Density Residential-Rural Community
EIR /EA	Environmental Impact Report/Environmental Assessment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	Electric and magnetic fields
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FCR	Field Contact Representative
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FINDS	Facility Index System
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FR	Federal Register
ft	feet
GC	Government Code
gen-tie	generation interconnection
GHG	Greenhouse gas
GIS	Geographic information systems
GPS	Global positioning system
GWR	Ground Water Recharge
HFCs	Hydrofluorocarbons
HFE	Hydrofluorinated ethers
HI	Hazard Index
HIST CORTESE	Hazardous Waste and Substances Sites
HIST UST	Historical underground storage tank
hp	horsepower
HPOW	Hydropower Generation
HsS	Hydrogen Sulfide
Hz	hertz
I-10	Interstate 10
IBA	important bird area
IBC	International Building Code
ICC	International Code Council
ICNIRP	International Commission on Non Ionizing Radiation Protection
IEEE	Institute of Electric Engineers
I-G	General Industrial
IM	Instruction Memorandum
in/sec	inches per second
IND	Industrial Service Supply
I-P	Industrial Park
IPCC	United Nations Intergovernmental Panel on Climate Change
I-S	Service Industrial
KOPs	Key Observation Points
kV	kilovolt
kWh	kilowatt-hours
kWh/m2/day	kilowatt-hours per square meter per day
LBP	lead-based paint
lbs/day	pounds per day
Ldn	day-night average sound level

Leq	Equivalent level
LESA	Land Evaluation and Site Assessment
Lmax	maximum sound level
LOS	Level of Service
LTVA	long term visitor areas
LU	Land use
LUST	Leaking underground storage
MBTA	Migratory Bird Treaty Act
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
Medevac	Medical evacuation
M-H	Manufacturing-Heavy
M-M	Medium Manufacturing
mm	millimeters
Mmax	Maximum moment magnitude
MMRP	Mitigation Monitoring and Reporting Program
MMT	Millions of metric tons
MOA	Memorandum of Agreement
mph	Miles per hour
M-R	Mineral Resources
M-R-A	Mineral Resource and Related Manufacturing
MRZ	Mineral Resources Zone
M-SC	Manufacturing-Service Commercial
MSHCP	Multiple Species Habitat Conservation Plan
MT	Metric tons
MUN	Municipal and Domestic Supply
MW	megawatt
MWh	megawatt-hour
n/a	not available
N2O	Nitrous oxide
N-A	Natural Assets
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NECO	Northern and Eastern Colorado Desert Coordinated Management
NEPA	National Environmental Policy Act
NESC	National Electric and Safety Code
NF3	Nitrogen trifluoride
NFRAP	No Further Remedial Action Planned
NHPA	National Historic Preservation Act
NLR	Noise Level Reduction
NO2	Nitrogen dioxide
NOC	Notice of Completion
Non-Gen	Non-Generators
NOP	Notice of Preparation
NOx	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M	Operation and maintenance
O3	Ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OHP	California State Office of Historic Preservation

OHV	off-highway vehicle
OHWM	Ordinary High Water Mark
OS	Open Space
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement
PAH	polycyclic aromatic hydrocarbon
Pb	Lead
PCE	Passenger car equivalent
PEIS	Programmatic Environmental Impact Statement
PFCs	Perfluorocarbons
PFM	Protected furbearing mammal
PFYC	Potential Fossil Yield Classification System
pH	a measure of acid and base properties
PLP	polarized light pollution
PM10	Particulate Matter with an Aerodynamic Diameter of 10 microns or less
PM2.5	Particulate Matter with an Aerodynamic Diameter of 2.5 microns or less
PMP	Paleontological Mitigation Program/Plan
POM	polycyclic organic matter
POWs	Palustrine open-water wetlands
ppm	Parts per million
PPV	peak particle velocity
PRC	Public Resources Code
Project	Blythe Mesa Solar Project
PUP	Public Use Permit
PV	Photovoltaic
PVID	Palo Verde Irrigation District
PVVAP	Palo Verde Valley Area Plan
PVVTA	Palo Verde Valley Transit Agency
R-A-5	Residential Agriculture
RARE	Rare, Threatened, or Endangered Species
RCALUCP	Riverside County Airport Land Use Compatibility Plan
RCFD	Riverside County Fire Department
RCGP	Riverside County General Plan
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
R-D	Regulated Development Areas
REAT	Renewable Energy Action Team
REC-1	Water Contact Recreation
REC-2	Non-Contact Water Recreation
RMP	Resource Management Plan
RMS	Room mean square
ROG	Reactive organic gases
ROW	Right-of-way
RPS	Renewable Portfolio Standard
R-R	Rural Residential
RTP	Regional Transportation Plan
R-T-R	Mobile Home Subdivision-Rural
RWQCBs	Regional Water Quality Control Boards
SB	Senate Bill
SBCM	San Bernardino County Museum
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCGC	Southern California Gas Company
SCH	State Clearinghouse
SCHWMA	Southern California Hazardous Waste Management Authority

SEZ	Solar Energy Zone
SF6	Sulfur hexafluorite
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigation and Cleanup
SO2	Sulfur dioxide
SOx	Oxides of Sulfur
SPRR	Southern Pacific Rail Road
sq ft	square feet
SVP	Society of Vertebrate Paleontology
SWAT	Solid Waste Assessment Test
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State of California Water Resources Control Board
TACs	Toxic air contaminants
TDS	Total dissolved solids
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
tpy	tons per year
U.S.C.	U.S. Code
UCBMP	University of California, Berkeley Museum of Paleontology
USA	Underground Service Alert
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage
V/M	volts per meter
VdB	Decibel notation
VOCs	Volatile organic compounds
VRI	Visual resource inventory
VRM	Visual Resource Management
W/m2	Watts per square meter
W-1	Waterways and Watercourses
W-2	Controlled Development
W-2-10	Controlled Development Areas
W-2-2 ½	Controlled Development
W-2-5	Controlled Development Areas
W-2-M	Controlled Development with Mobile Homes
WARM	Warm Freshwater Habitat
W-E	Wind Energy Resource Zone
WEAP	Worker Environmental Awareness Program
WHMA	Wildlife Habitat Management Area
WILD	Wildlife Habitat
WMUDS	Waste Management Unit Database System

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EXECUTIVE SUMMARY

ES-1: INTRODUCTION

Renewable Resources Group (Applicant) proposes to construct the Blythe Mesa Solar Project (BMSP or Project), a solar photovoltaic (PV) electrical generating facility of up to 485 megawatt (MW) and 8.4-mile generation interconnection (gen-tie) line that would together occupy a total of 3,660 acres; 3,587 acres for the solar facility component and 73 acres for the 230 kilovolt (kV) gen-tie line. ~~It~~ The Project would be located in the Palo Verde Mesa ~~region~~ area of eastern Riverside County. ~~3,587 acres for the solar facility component and 73 acres for the 230 kilovolt (kV) gen-tie line.~~ The power produced by the Project would be conveyed to the local power grid via interconnection to the Southern California Edison (SCE) Colorado River Substation located approximately five miles west of the Project site and south of Interstate 10 (I-10). ~~, an approved new substation under construction south of Interstate 10 (I-10) and approximately five miles west of the Project site.~~ The Project has secured a California Independent System Operator (CAISO) interconnection queue position. The Project would produce enough energy to power approximately 180,000 households and advance the goals of the California Renewable Portfolio Standard (RPS) and other similar renewable programs in the state.

In compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), Riverside County (County) and the Bureau of Land Management (BLM) have prepared a Draft Environmental Impact Report (EIR)/Environmental Assessment (EA) to inform the public about the proposed Project and to meet the need of federal, state, and local permitting agencies in considering the proposed Project. The Draft EIR/EA was further designed and intended to satisfy the requirements in the BLM's land use planning regulations applicable to the request for a right-of-way (ROW) grant to use federal lands under the Federal Land Policy and Management Act (FLPMA). This document is the **Final (EIR/EA).** The information contained in this Final EIR/EA will be considered by the County when evaluating the Applicant's Conditional Use Permit (CUP No. 3685) and Public Use Permit (PUP No. 913), Development Agreement (DA No. 79), Change of Zone application (CZ No. 7831), establishment of an agricultural preserve and Williamson Act Contract (Agricultural Preserve Case No. 1045), and potential future cancellation of the Williamson Act Contract and Agricultural Preserve. Together, these permits and applications are collectively being considered by the County as the Project. The information in this Final EIR/EA will also be considered by the BLM in its deliberations regarding approval of the ROW grant, and by other federal, state, and local agencies with regard to their respective permit approvals, if any.

ES-2: PROJECT OBJECTIVES/PURPOSE AND NEED

ES-2.1 County and Applicant's Project Objectives

The objectives for the Project are as follows:

- Construct a solar energy facility in order to help meet State and federal renewable energy standards and goals.
- Assist with Greenhouse Gas (GHG) reduction objectives to the maximum extent possible.
- Locate the Project facilities as near as possible to electrical transmission facilities with anticipated capacity and reserved CAISO interconnection position.
- Site the Project in an area with excellent solar energy resource, in order to maximize energy productivity from the PV panels.
- To the extent feasible, site the Project on previously disturbed land with compatible topography in a manner that minimizes environmental impacts.
- Use a proven and available solar PV technology to provide cleanly generated electricity at a competitive price for California electric ratepayers.

- Eventual decommissioning of the 485 MW solar PV electrical generating facility and associated infrastructure at the end of the energy sales contract term, if the energy buyer is not available for extension or another energy buyer does not emerge.

California has one of the most ambitious renewable energy standards in the country, and mandates have been issued to significantly increase renewable energy generation, including utility scale solar facilities like the proposed Project. In 2002, California established its Renewable Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2017. The state's Energy Action Plan supported this goal and required retail sellers of electricity to increase renewable energy purchases by at least one percent per year with a target of 20 percent renewables by 2010. On November 17, 2008, former Governor Arnold Schwarzenegger signed Executive Order S-14-08 requiring that "….[a]ll retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed the California Air Resources Board (CARB), under Assembly Bill (AB) 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020. In recognition of the important role played by large-scale solar projects California's Clean Energy Jobs Plan calls for the development of 8,000 MW of utility scale renewable energy projects by 2020.

California is committed to a significant and substantial increase in reliance on renewable resources for electrical power, the reduction of fossil-fuel based pollutants, and promoting the green economy, consistent with protection of the environment. Former Governor Arnold Schwarzenegger issued Executive Order S-03-05 on climate change to advance renewable energy and other solutions to ~~lower~~ reduce California's GHG emissions. The California Global Warming Solutions Act of 2006 (AB 32) directed CARB to develop regulations, market mechanisms, and other actions to reduce California's GHG emissions, such as carbon dioxide, to 1990 levels by 2020.

ES-2.2 Federal Purpose and Need

In accordance with the FLPMA (Section 102(a)(7), 43 United States Code [U.S.C.] §1701(a)(7)), public lands are to be managed for multiple uses that take into account the needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROWs on public lands for systems for generation, transmission, and distribution of electric energy (Section 501(a)(4), 43 U.S.C. §1761(a)(4)). The purpose and need for the proposed action is to respond, in a manner that takes into account the BLM's multiple use mandate, to a FLPMA ROW application submitted by the Applicant to construct, operate, maintain, and decommission a gen-tie line on public lands administered by the BLM, which would serve a solar energy generation facility and associated infrastructure, in compliance with FLPMA, BLM ROW regulations, other applicable federal laws and policies, and the management objectives referenced below.

The proposed action would, if approved, assist the BLM in addressing the following management objectives:

- Executive Order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "production and transmission of energy in a safe and environmentally sound manner."
- Department of the Interior Secretarial Order 3285A1, dated March 11, 2009, and amended on February 22, 2010, which "establishes the development of renewable energy as a priority for the Department of the Interior."
- BLM Instruction Memorandum 2011-061, dated February 7, 2011, which prioritizes the development of solar facilities on, inter alia, "[l]ands specifically identified for solar or wind energy development in BLM land use plans; [p]reviously disturbed sites or areas adjacent to previously disturbed or developed sites; [l]ocations that minimize construction of new roads and/or transmission lines; [and l]ands adjacent to designated transmission corridors…"
- President Obama's Climate Action Plan, dated June 2013, which set a goal to double renewable electric generation by 2020. "In 2012 the President set a goal to issue permits for 10 gigawatts of renewables on public lands by the end of the year. The Department of the Interior achieved this

goal ahead of schedule and the President has directed it to permit an additional 10 gigawatts by 2020."

ES-3: PUBLIC SCOPING

Consistent with CEQA and NEPA requirements, public participation and agency consultation was completed for this Project. This included meetings, and formal and informal consultation with agencies, stakeholders, landowners, and Native American Tribes. The consultation and coordination process helped to determine and focus the scope of the Draft EIR/EA and identify a range of alternatives and mitigation measures. Three sets of meetings were held for the Project: (1) CEQA Public Scoping, (2) Draft EIR/EA Informational Meetings, and (3) BLM Public Scoping.

ES-3.1 CEQA Public Scoping

In compliance with California Code of Regulations (CCR) Title 14, Section 15082(c) (CEQA Guidelines), Riverside County conducted the first public scoping meeting on December 12, 2011. The purpose was to inform the public about the Project; describe the purpose and need of the Project; provide information regarding the environmental review process; and gather public input regarding the scope and content of the Draft EIR/EA. The issues and comments that were raised by the commenters were in regard to impacts to air quality, public services and utilities, socioeconomics, hazardous materials/soils, cultural resources, and water resources.

ES-3.2 Draft EIR/EA Informational Meetings

On May 10, 2012, two informational meetings were conducted for the Project. In the morning, the BLM convened the pre-application meeting with several resource agencies who have an interest in the Project. The afternoon meeting was attended by the Project Applicant to provide Project information to Native American groups. The purpose of these meetings was to present information about Project alternatives; describe the purpose and need of the Project; provide information regarding the environmental review process; and gather input regarding the preliminary alternatives.

ES-3.3 BLM Public Scoping

On October 4, 2012, the BLM conducted a public scoping meeting in Blythe, California. The BLM and Applicant presented information about the Project, alternatives, environmental review process, and potential impacts. A question and answer session was held after the presentation. At the conclusion of the question and answer session, the open house continued and staff members were available to answer questions and gather input.

ES-4: ALTERNATIVES DEVELOPMENT

CEQA and NEPA both require consideration of a reasonable range of alternatives to the proposed Project that would feasibly attain most of the basic objectives of the Project. In addition, CEQA requires the consideration of how to avoid or substantially lessen any of the significant or adverse effects caused by the Project.

Regulation 40 CFR 1508.9(b) of the Council on Environmental Quality requires an EA to study, develop, and describe alternatives to the proposed action involving unresolved resource conflicts.

To determine which alternatives would be analyzed in the Draft EIR/EA, each alternative~~s~~ ~~were~~ was evaluated as to whether ~~they~~ it would:

- Attain the purpose and need of the Project, as well as most of the basic objectives of the Project;
- Have the potential to avoid or substantially lessen any of the significant or adverse effects of the Project; and

- Be considered feasible.

ES-4.1 Alternatives Description

The following were identified as a reasonable range of alternatives to the Project that would feasibly meet the basic objectives of the Project, attain the purpose and need of the Project, ~~but~~ and avoid or substantially lessen any of the significant or adverse effects of the Project. The Project Alternatives and the No Action Alternative are described below.

ES-4.1.1 Alternative 1: Proposed Project

The proposed Project is the construction, operation and decommissioning of an up to 485 MW PV solar energy generation facility and an 8.4-mile gen-tie line that would occupy a total of 3,660 acres in accordance with an approved Plan of Development. The Project would be located on lands under the jurisdiction of the County of Riverside, the BLM, and the City of Blythe. A majority of the Project would be located within the County of Riverside and within the area governed by the County of Riverside's General Plan and the Palo Verde Valley Area Plan. The Project would likely be developed in phases that extend over several years. Pending commencement of each phase of construction, the existing agricultural lands likely would remain in agricultural production. The initial use of the Project site to be permitted under the conditional use permit will be active agricultural production. Agricultural uses are allowed uses under the entire site, but part of the site is not in an agricultural zone. To encourage agricultural use of the site to continue pending construction of solar facilities, approximately 1,249 acres would be rezoned from W-2-5 and N-A to A-1-10 (light agricultural), which would make zoning consistent throughout the solar facility site (refer to Figure 2-12 in Chapter 2). Approximately 1,485 acres, all south of I-10 and representing the land not planned to be developed immediately, would be placed into an agricultural preserve and in a Williamson Act contract (refer to Figure 2-13). As each portion of the site is developed for solar use, any Williamson Act Contract for that portion of the site and the agricultural preserve would be cancelled.

The Draft EIR/EA evaluated a construction schedule that assumed construction of the entire site within a three-year period, to ensure a conservative analysis of the most intense and concentrated construction activities reasonably possible. ~~A longer construction~~ Construction of longer duration would not result in an increase in impacts, nor would continuation of agricultural uses of the site.

A portion of the solar facility site would be within the area of the City of Blythe, within the area governed by the City's General Plan. A portion of the 230 kV gen-tie line would traverse BLM-managed lands, and that area would be governed by ~~the Northern~~ the Northern and Eastern Colorado Desert (NECO) Plan amendment (BLM 2008) to the California Desert Conservation Area (CDCA) Plan (BLM 1980). The portion of the gen-tie line that would traverse BLM-managed lands that are within the area governed by the ~~CDCA~~ NECO Plan~~,~~ is designated Multiple-Use Class M (Moderate). Within the ~~CDCA~~ NECO Plan area, the proposed gen-tie lines would be located within or adjacent BLM's Utility Corridor K, which is also designated as Section 368 Federal Energy Corridor 30-52 (BLM 2009). The proposed Project would produce enough energy to power approximately 180,000 households and would consist of two primary components:

- Solar Facility Site Features (3,587 total acres)
    - A ~~Solar~~ solar array field that would ~~utilize~~ use single-axis solar PV trackers (295 feet long and 140 feet wide). Six trackers with 18 north-south oriented rows of PV panels would be configured into 1.5 MW blocks (600 feet long by 470 feet wide).
    - A ~~System~~ system of interior collection power lines located between inverters and substations.
    - Up to three on-site substations (each approximately 90,000 square feet).
    - Up to two operation and maintenance (O&M) buildings (approximately 3,500 square feet each).
    - Associated communication facilities and site infrastructure.
    - Two primary off-site access roads and several interior access roads.

- **Approximately 8.4 miles of 230 kV Gen-tie Transmission Line**
    - Approximately 3.6 miles would be located within the solar facility, which would connect all on-site substations.
    - Approximately 4.8 miles would extend outside of the solar facility and would be placed within a 125-foot-wide ROW and occupy 73 acres. Of this, 3.8 miles would traverse BLM-managed lands, within portions of sections 7 through 12, inclusive, township 7 south, range 21 east, San Bernardino Meridian, California, ~~with~~on 53 acres within the Riverside East Solar Energy Zone (SEZ). At the end of the energy sales contract term (20-year term) of Alternative 1, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled within the Project area. Following decommissioning and dismantling of the solar facility and gen-tie line, the ~~site~~ area that was previously occupied by agriculture would be made available for reversion to agricultural use.

ES-4.1.2 Alternative 2: No Action/Project Alternative

The No Action/Project Alternative is required by NEPA and CEQA. Under the No Action/Project Alternative, the construction of a solar generating facility and associated infrastructure would not occur. This alternative discusses existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the Project was not approved and ~~does~~ not ~~take place~~implemented.

ES-4.1.3 Alternative 3: Northern Alternative 230 kV Gen-tie Line

Similar to Alternative 1 (proposed Project), Alternative 3 would include the interim agriculture-related actions described above, and construction, operation, and potential decommissioning of an up to 485 MW PV solar energy generation facility and associated infrastructure. It would occupy a total of 3,665 acres and would ~~utilize~~ use the same solar array field as the proposed Project. The primary difference between Alternatives 1 and 3 is the location of the 230 kV gen-tie line that extends outside of the solar array field to the Colorado River Substation; the same 230 kV gen-tie alignment within the solar array field would be utilized for both Alternatives 1 and 3. The gen-tie alignment for Alternatives 1 and 3 would also be located within or adjacent to the same BLM utility corridor; however, the Alternative 3 gen-tie on BLM lands would be located on the north side of the Alternative 1 gen-tie alignment and within a 125-foot ROW. ~~entirely on BLM-managed lands.~~ Like Alternative 1, the gen-tie in this alternative would be entirely within the Riverside East SEZ where it is on BLM-managed land. Under this alternative, the total length of the 230 kV gen-tie line both on-site and off-site would be 8.8 miles; 3.6 miles would be located on private lands within the solar array site boundary and 5.2 miles would be located off-site on BLM-managed lands. The BLM portion of the ROW would contain 78 acres. Similar to Alternative 1, at the end of the energy sales contract term of Alternative 3, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled within the Project area. Following decommissioning and dismantling of the solar facility and gen-tie, the Alternative 3 ~~site~~ area that was previously occupied by agriculture would be made available for reversion to agricultural use.

ES-4.1.4 Alternative 4: Southern Alternative 230 kV Gen-tie Line

Similar to Alternative 1, Alternative 4 would include the construction, operation, maintenance, and decommissioning of an up to 485 MW PV solar energy generation facility and associated infrastructure. Alternative 4 would occupy a total of 3,647 acres and would utilize the same solar array field location as the proposed Project. The primary difference between Alternatives 1 and 4 is the location of the 230 kV gen-tie line that extends from the solar array field (proposed Substation 3) to the Colorado River Substation. Alternative 4 would exit the southwestern portion of the solar array field and extend approximately four miles west to the Colorado River Substation within a 125-foot ROW. To facilitate this alignment, an additional 10,000 feet of 230 kV gen-tie line would need to be built within the solar array field extending south from the proposed Substation 3 and angling west to the site boundary. The gen-tie line would continue westerly off-site across 3.4 miles of BLM-managed lands and 0.6 mile of private lands

before reaching the Colorado River Substation. Under this alternative, the total length of the 230 kV gen-tie line both on-site and off-site would be 9.5 miles; 5.5 miles would be located on private lands within the array site boundary and 4.0 miles would be located off-site. The total area of the gen-tie off-site would be about 60 acres (50 acres of BLM-managed land and 10 acres of private land). The gen-tie under this alternative would be entirely within the Riverside East SEZ where it is on BLM-managed land. Similar to Alternative 1, at the end of the energy sales contract term of Alternative 4, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled within the Project area. Following decommissioning and dismantling of the solar facility and gen-tie, the Alternative 4 ~~site~~ area that was previously occupied by agriculture would be made available for reversion to agricultural use.

ES-4.1.5 Alternative 5: Reduced Acreage Alternative

Similar to Alternative 1, Alternative 5 would include the interim agriculture-related actions described above, and construction, operation, and potential decommissioning of a PV solar energy generation facility and associated infrastructure; however, Alternative 5 would eliminate development north of I-10. In comparison to the proposed Project, Alternative 5 would reduce electrical generation from a 485 MW down to a 315 MW alternating current solar PV facility located on a footprint of approximately 2,476 acres, reduced from 3,660 acres. The Reduced Acreage Alternative would include approximately 2,403 acres for the solar facility and 73 acres for the 230 kV gen-tie line. Components of the Reduced Acreage Alternative that differ from the proposed Project would include the following:

- **Solar Facility Site (2,403 total acres)**
    - Up to two on-site substations (each approximately 90,000 square feet).
    - One O&M building (approximately 3,500 square feet).
    - One primary off-site access road and several interior access roads.
- **Approximately 7.8 miles of 230 kV Gen-tie Transmission Line**
    - Approximately three miles would be located within the solar facility, which would connect all on-site substations.
    - Approximately 4.8 miles would extend outside of the solar facility and would be placed within a 125-foot-wide ROW and occupy 73 acres.

The fenced-in solar PV electric generation facility would occupy approximately 2,403 acres on privately-owned land (all within the County of Riverside). Similar to the proposed Project, the portion of the gen-tie line outside the solar facility site, from the southernmost substation to the Colorado River Substation, would traverse 3.8 miles of BLM-managed lands (approximately 58 acres) and approximately one mile of private land (approximately 15 acres). A comparison to the other alternative gen-tie alignments can be found below in ES.8.1. Similar to Alternative 1, at the end of the energy sales contract term of Alternative 5, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled within the Project area. Following decommissioning and dismantling of the solar facility and gen-tie, the Alternative 5 ~~site~~ area that was previously occupied by agriculture would be made available for reversion to agricultural use.

ES-5: ALTERNATIVES CONSIDERED BUT ELIMINATED

CEQA and NEPA require a Draft EIR/EA to consider a reasonable range of alternatives to the Project that would feasibly attain most of the basic objectives of the Project. In addition, CEQA requires the consideration of how to avoid or substantially lessen any adverse effects of the proposed Project. Under CEQA, the proposed Project has the potential to have significant adverse effects to aesthetics, agriculture, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, paleontological resources, and traffic and transportation. With implementation of Best Management Practices (BMPs) and mitigation measures, impacts in these issue areas would be less than significant.[1]

Alternatives to the proposed Project were identified through the scoping process, informational public meetings, and preliminary studies. A number of alternatives to the proposed Project were identified. Some of these alternatives did not meet the Project objectives, purpose and need or provide the potential to avoid or minimize adverse environmental effects, or were considered infeasible ~~through~~ based on additional study and evaluation. Alternatives considered but eliminated from detailed analysis include:

- Solar Power Tower Technology
- Distributed Solar Photovoltaic Alternative
- Conservation and Energy Demand Reduction
- Alternative Site on BLM-Managed Lands
- Palo Verde Valley Floor Alternative

ES-5.1 Solar Power Tower Technology

Solar power tower technology uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver at the top of a high tower. The focused energy is used to heat a transfer fluid (to 800 to 1,000 degrees Fahrenheit [˚F]) to produce steam and run a center power generator. The transfer fluid is super-heated before being pumped to heat exchangers that transfer the heat to boil water and run a conventional steam turbine to produce electricity. Although concentrated, solar power systems can store heated fluids to deliver electricity even when the sun is not shining. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a concentrated solar energy power tower facility is comparable to that required for a PV project—approximately five acres per MW of installed capacity (NREL 2012).

ES-5.1.1 Alternative Conclusions

The use of a solar power tower technology would meet most of the basic Project Objectives; however, use of this technology would result in potentially significant glare impacts to the operations at Blythe Airport, which is located to the north and west of the proposed solar facility site's operations. Therefore, a solar power tower system alternative was not considered further.

ES-5.2 Distributed Solar Photovoltaic Alternative

There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report defines distributed generation resources as "(1) fuels and technologies accepted as renewable for purposes of the Renewables Portfolio Standard; (2) sized up to 20 MW; and (3) located within the low-

[1] Under NEPA, "significance" is defined in 40 CFR 1508.27, and requires federal agencies to consider the context and intensity of a proposed action and its alternatives. The BLM will determine whether this action has significant effects under NEPA using the final version of this ~~Draft~~ Final EIR/EA, following which it will either prepare a Finding of No Significant Impacts (FONSI), or initiate an Environmental Impact Statement (EIS).

voltage distribution grid or supplying power directly to a consumer." Distributed solar facilities vary in size from kilowatts to tens of megawatts but do not require transmission to get to the areas in which the generation is used.

A distributed solar alternative would consist of PV panels that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops or in other disturbed areas like parking lots or disturbed areas adjacent to existing structures such as substations. To create a viable alternative to the proposed Project, there would have to be sufficient newly installed panels to generate up to 485 MW of capacity. According to the 2012 CEC renewable energy acreage calculator, it would take approximately 3,464 acres to construct a 485 MW distributed solar PV alternative (0.4 MW per acre), nearly the size of the proposed Project.

ES-5.2.1 Alternative Conclusions

Although there is potential to achieve up to 485 MW of distributed solar energy, the limited number of existing facilities makes it unlikely to be feasible or present significant environmental benefits. The proposed Project would ~~utilize~~ use single-axis PV trackers with high efficiency~~, monocrystalline, silicon~~ solar panels. The panel design minimizes shading~~, and by grouping trackers close together, the technology requires 20 percent less land than conventional crystalline fixed tilt systems and 60 percent less land than thin film systems~~. Rooftop systems typically consist of less efficient fixed-tilt systems that may not be oriented optimally towards the sun, meaning that developers would need to obtain more surface area for the Project if constructed on a rooftop instead of on the ground. The transaction costs of obtaining multiple rooftops, the complexity of mobilizing construction crews across multiple projects including the transporting and deployment of construction materials in a less efficient manner, and the need to develop the deals to secure the same amount of PV-produced electricity can make this type of alternative infeasible.

To the extent that distributed generation projects might have fewer impacts on certain resources because they do not ~~utilize~~ use substations and transmission facilities~~,~~; this illustrates that distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. Rooftop systems that are not connected to the utility side of the electric grid only generate power for on-site consumption. At the same time, the difficulties in supplying a comparable amount of megawatts of clean energy to the public through the utility sector has its own set of impacts due to failure to offset the impacts of counterpart fossil fuel energy sources.

~~Because of the~~ There are challenges associated with the implementation of a distributed solar technology, which include widely varying codes, standards, and fees~~;~~, environmental requirements and permitting concerns~~,~~; interconnection of distributed generation~~,~~; inefficiencies~~;~~, and integration of distributed generation. As a result, this technology was eliminated from detailed analysis as an alternative to the proposed Project.

ES-5.3 Conservation and Energy Demand Reduction

Conservation and demand reduction consist of a variety of approaches for the reduction of electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution.

ES-5.3.1 Alternative Conclusions

This alternative is not technically feasible as a replacement for the proposed Project, because California utilities are required to achieve aggressive energy efficiency goals. Additional energy efficiency beyond that occurring in the baseline condition may be technically possible, but it is speculative to assume that energy efficiency alone would achieve the necessary greenhouse gas reduction goals. With population growth and increasing demand for energy, conservation and demand management alone is not sufficient

to address all of California's energy needs. Additionally, as stated in the California Energy Commission's 2011 Integrated Energy Policy Report, California's renewable energy goals are based on a percentage of retail sales of electricity, and reducing overall electricity demands means fewer retail sales and therefore less renewable energy that must be generated. Furthermore, it states that conservation and demand-side management mean fewer renewable plants will need to be built. However, conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals. Therefore, this alternative would not meet Project objectives pertaining to renewable energy goals.

ES-5.4 Alternative Site on BLM-managed Lands

Similar to the proposed Project, the Alternative Site on BLM-managed lands would involve the construction, operation, maintenance, and decommissioning of an up to 485 MW solar facility and 230 kV gen-tie line. This alternative would be located within the Developable Areas within the Riverside East ~~(~~SEZ~~)~~ that was identified by the BLM and the Department of Energy (BLM 2012). Wilderness areas and areas of critical environmental concern (ACECs) were precluded from solar development. Additionally, the Alternative Site on BLM-managed lands would be located approximately 20 miles from the Colorado River Substation. It is also assumed that this alternative would require a BLM ROW grant and CUP approvals from the County to allow for the construction and operation of solar facilities ~~within~~ on BLM-managed lands.

ES-5.4.1 Alternative Conclusions

The Alternative Site on BLM-managed lands would avoid significant impacts to Agricultural Resources; however, it may not be feasible to find an Alternative Site on BLM-managed lands, because most of the land within the Developable Areas of the Riverside East SEZ is in use, proposed for other solar energy projects, or within mountainous areas. This alternative would likely have impacts similar to those of the proposed site for many resource elements, such as air quality and traffic. However, it is likely to have more severe biological, cultural, and visual resource impacts, as it would likely be located on undisturbed lands. This alternative would also be sited closer to wilderness areas and ACECs. The Alternative Site on BLM-managed lands would not present significant environmental advantages over the proposed Project.

ES-5.5 Palo Verde Valley Floor Alternative

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would involve the construction, operation, maintenance, and decommissioning of an up to 485 MW solar facility and 230 kV gen-tie line. The solar facility would be situated on private lands within the Palo Verde Valley (between the Palo Verde Mesa to the west and the Colorado River to the east), instead of the Palo Verde Mesa, as well as on BLM-managed lands. It is also assumed that this alternative would require a BLM ROW grant for the 230 kV gen-tie line and CUP approvals from the County to allow for the construction and operation of solar facilities.

ES-5.5.1 Alternative Conclusions

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would also impact agricultural land. This Alternative would also be farther away from the Colorado River Substation, which would increase ground disturbance and impacts to aesthetics, air quality, biological resources, hydrology and water quality, and traffic and transportation. The proximity to the Colorado River could pose adverse impacts related to migratory birds, water resources, and the risk of flooding, which would not result from implementation of the proposed Project. As a result, this alternative was not analyzed in further detail.

ES-6: ENVIRONMENTAL IMPACTS

Impacts that would result from constructing and operating the Proposed Action and Alternatives were assessed using a methodology that documents the existing environmental conditions, then classifies and

quantifies the various types of impacts that could occur. The potential impacts are compared to impact thresholds and assigned significance based on the extent of change from existing conditions. Mitigation measures are proposed as necessary to alleviate significant adverse effects. The methodology employed is discussed below.

ES-6.1 Impact Assessment Methodology

The Final EIR/EA is a joint federal/State document prepared to comply with the requirements of both CEQA and NEPA. CEQA requires an EIR to identify the significant environmental effects of a project. An EIR presents criteria that are used to determine whether or not an adverse impact is significant under CEQA. An EIR must also describe potentially feasible mitigation measures that could minimize each significant adverse impact. Potentially feasible mitigation measures that could minimize impacts determined significant under CEQA are specifically identified in this Final EIR/EA as "mitigation measures." This Final EIR/EA also states whether the impact deemed significant under CEQA would remain significant after implementation of the mitigation measure(s). A CEQA significance determination is provided at the end of each resource section.

Under NEPA, "[t]he EA must describe and provide the analysis of environmental effects of the proposed action and each alternative analyzed in detail (40 [Code of Federal Regulations] CFR ~~Part~~ 1508.9(b)). The EA must also identify and analyze mitigation measures, if any, which ~~will~~ may be taken to avoid or reduce potentially significant effects (see Question 39, Council on Environmental Quality [CEQ], *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, March 23, 1981)" (BLM NEPA Handbook Section 8.3.6). The analyses contained in this Final EIR/EA provide quantitative and qualitative measures with which to review the context and intensity of the effects. These two components assist the decision-makers in determining whether to prepare an EIS or make a FONSI (Finding Of No Significant Impact) in instances where an EIS is not normally required or categorically exempt (40 CFR ~~Part~~ 1501.4(a)-(c)).

The impact assessment methodology for each resource in Chapter 4 was used to determine the significance of identified impacts, as required by CEQA. The impact locations and intensity were recorded and the impacted area described. To determine impact intensity (i.e., the severity of the potential impact), an "impact model" was developed for each resource classification using the same criteria, as applicable:

- Resource sensitivity—the probable impact(s) to a particular resource as a result of Project-related activities
- Resource quality—the pre-Project condition of the resource potentially affected
- Resource quantity—the amount of the resource potentially affected
- Duration of impact—the period of time over which the resource would be affected, measured as short-term (up to a few years) or long-term (life of the Project and beyond)
- Time of year—the season or period of time in which the resource would be affected
- Setting—consideration of the Project location, the affected region, and interests
- Expressed public concern—the amount of concern expressed by the land management agencies and the public

Pursuant to NEPA, the intent of the environmental impact analysis is to ensure that environmental information is available to public officials and the public before decisions are made and actions are taken (40 CFR ~~Part~~ 1500.1 [b]). In addition, the NEPA process is to be used to identify and assess reasonable alternatives to proposed actions that will avoid or minimize adverse effects of the action upon the quality of the human environment (40 CFR ~~Part~~ 1500.2 [e]). Environmental effects include direct, indirect, and cumulative impacts. Cumulative effects of Project implementation are discussed under each resource area.

The term *significant* as used in NEPA requires considerations of both context and intensity (40 CFR ~~Part~~ 1508.27). *Context* requires the BLM to analyze the significance of an action in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action (40 CFR ~~Part~~ 1508.27 [a]). *Intensity* refers to

the severity of effect. 40 CFR ~~Part~~ 1508.27(b) includes the following ten considerations for evaluating intensity:

- Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial;
- The degree to which the proposed action affects public health or safety;
- Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
- The degree to which the effects on the quality of the human environment are likely to be highly controversial ~~highly uncertain or involve unique or unknown risks~~;
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks~~action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration~~;
- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts;
- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific cultural, or historical resources;
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined critical under the Endangered Species Act of 1973;
- Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

To determine the severity of effect on a particular resource, the BLM must look at direct, indirect, and cumulative effects on that resource (BLM NEPA Handbook H-1790-1, Section 7.3).

An EA may be used to demonstrate that a proposed action would have effects that are significant but could be reduced or avoided through mitigation. The BLM may ~~use~~ issue a ~~mitigated~~ FONSI and EA rather than an EIS if decision-makers are able to reasonably conclude, based on the EA analysis, that the mitigation measures would be effective in reducing effects to non-significance.

The BLM will make a determination about the significance of impacts for this Project and either initiate an EIS or issue a FONSI once the EA process is complete.

The intent of the environmental impact analysis is to provide a scientific and analytic basis for comparing the Alternatives. The analysis also identifies any adverse environmental effects that cannot be avoided should the Project be implemented, and presents mitigation measures to minimize adverse environmental impacts. Analyses for each resource area consider direct, indirect, and cumulative effects of the proposed Project and Alternatives, including short-term effects during construction and decommissioning and long-term effects during operations and maintenance (40 CFR 1502.16).

ES-6.2 Areas of Known Controversy

Based on internal and external scoping, and input received from agencies, organizations, Native American Tribes, and members of the general public, the following environmental resources had a potential to be affected by activities related to construction, operation, maintenance, and decommissioning of the proposed Project and Alternatives and are evaluated in this Final EIR/EA:

- Aesthetics, Visual Resources, and Reflection
- Agriculture
- Air Quality

- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Paleontological Resources
- Population, Housing, Public Services, Utilities, and Socioeconomics
- Recreation
- Traffic and Transportation

Forestry and Mineral Resources are not discussed in detail in this Final EIR/EA, because there are no forestry or mineral resources within the Project area or vicinity of the Project area.

ES-6.3 Construction, Operation, Maintenance, and Decommissioning Impacts

The implementation of the proposed Project or Alternatives has the potential to result in the following basic types of impacts to environmental resources. These impact types include the following:

> **Construction and decommissioning impacts** associated with the short-term presence of Project construction and decommissioning activities resulting in impacts such as ground disturbance, noise, and air emissions;
>
> **Increased access-related impacts** associated with enhanced accessibility by persons, such as through use of Project access roads into areas that are currently remote or inaccessible; and
>
> **Operational and maintenance related impacts** associated with the long-term presence of Project facilities and improvements, such as inspections, maintenance checks, and repairs, and the long-term operation of facilities and improvements.

Construction, operation, maintenance, and decommissioning of the Project would result in a number of permanent and temporary impacts. The temporary impacts would cease upon completion of the construction phase. Many of the impacts can be minimized by implementing BMPs and specifically recommended mitigation measures.

ES-6.4 Applicable Best Management Practices

For the purposes of this Final EIR/EA, the applicable Best Management Practices (BMPs) are: 1) requirements of existing policies, practices, and measures required by law, regulation, or local policy and 2) ongoing, regularly occurring practices. In other words, the BMPs identified in this Final EIR/EA are inherently part of the proposed Project and Alternatives. They are not additional mitigation measures proposed as a result of the significance findings from the CEQA environmental review process. The list of BMPs may be found in Chapter 2 of this Final EIR/EA. Applicable BMPs are referenced in each resource topic discussion of Chapter 4 of this Final EIR/EA analysis.

ES-6.5 Mitigation Measures

Mitigation measures were examined to see if they could be effective in reducing the intensity of impacts. If analysis concluded the possibility of a potentially significant impact even after BMPs are considered, then specific mitigation was applied to lessen the impact or potentially reduce it to a less than significant level. Both 40 Code of Federal Regulations [CFR] ~~Part~~ 1508.20 of the Council on Environmental Quality regulations for implementing NEPA and CEQA Guidelines Section 15370 define “mitigation” as:

- 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 affected ["impacted" under CEQA] 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.

Mitigation is required for significant impacts under CEQA. In addition, in order to forego the preparation of an Environmental Impact Statement (EIS) under NEPA notwithstanding the potential for a project to have adverse impacts, a federal agency must find that the mitigation measures would render any environmental impact resulting from the permit activity insignificant. NEPA furthermore encourages mitigation for all of the adverse impacts of a project (40 CFR ~~Part~~ 1502.16(h)), and for this reason, some mitigation measures described in this document are wholly appropriate under NEPA, although the impacts they address may not be considered significant under CEQA.

Resource analysis determined **that impacts would be less than significant** with applicable BMPs to: Aesthetics, Visual Resources, and Reflection; Air Quality; Greenhouse Gases; Land Use and Planning; Recreation; and Population, Housing, Public Services, Utilities, and Socioeconomics. No additional compensatory mitigation would be required for any impacts the Project might have on these resources.

Regarding the remaining resource categories (listed below), mitigation measures are proposed for the respective resource topics in this Final EIR/EA to avoid or reduce potentially significant impacts associated with the proposed Project. These mitigation measures can be found in Chapter 4 of this document.

- Agriculture
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Paleontological Resources
- Traffic and Transportation

ES-7: MAJOR CONCLUSIONS UNDER CEQA

A discussion of the proposed Project and alternatives is included in Chapter 1 (Introduction) and Chapter 2 (Alternatives including the proposed Project) of this Final EIR/EA. Together these chapters detail the Project objectives, the purpose and need for the Project, the proposed Project, and the identification and selection of potentially feasible alternatives, and fully address the Project's specific design. The environmental setting of the proposed Project is detailed in Chapter 3 (Affected Environment). The potential environmental effects of the proposed Project or Alternatives, implementation of BMPs, and mitigation measures to reduce or avoid these effects are described in detail in Chapter 4 along with the cumulative effects (Environmental Consequences Including Cumulative Impacts). Based on the environmental analysis conducted, it was determined that with implementation of BMPs the proposed Project and Alternatives would not result in significant impacts under CEQA to the following resources:

- Aesthetics, Visual Resources, and Reflection
- Air Quality
- Greenhouse Gas Emissions
- Land Use and Planning
- Population, Housing, Public Services, Utilities, and Socioeconomics
- Recreation

Even with implementation of BMPs some environmental resources listed below would sustain significant impacts under CEQA. However, with implementation of mitigation measures, these impacts would be reduced to less-than-significant levels under CEQA.

- Agriculture
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Paleontological Resources
- Traffic and Transportation

Therefore, with implementation of BMPs and mitigation measure, the proposed Project and Alternatives would not result in significant impacts or adverse environmental effects that cannot be avoided under CEQA.

The BLM will determine whether the proposed Project and Alternatives have the potential for significant impacts using this Final EIR/EA, after which it will either document a FONSI, or initiate an EIS.

ES-8: ALTERNATIVES COMPARISON

A comparison of the potential environmental impacts associated with the five Project Alternatives (No Project/No Action Alternative and four action Alternatives) are summarized below and in Table ES-1. The solar facility site and interior components (solar panels, substations, O&M buildings, and 34.5 kV distribution lines) are the same for each of the action Alternatives 1, 3, and 4 and would result in the same associated impacts (the solar facility site and interior components of Alternative 5 would result in fewer impacts compared to Alternatives 1,3 and 4); therefore, this discussion focuses on the impacts of the proposed gen-tie line corridor for each action Alternative.

ES-8.1 Action Alternative Resource Summary (Alternatives 1, 3, 4, and 5)

The primary difference between the proposed Project (Alternative 1) and Alternative 3 is the location of the 230 kV gen-tie line that extends outside of the solar array field to the Colorado River Substation; the same 230 kV gen-tie alignment within the solar array field would be utilized for both Alternatives 1 and 3. The gen-tie alignment for Alternatives 1 and 3 would also be located within or adjacent to the same BLM utility corridor; however, Alternative 3 would be located on the north side of the Alternative 1 gen-tie alignment and within a 125-foot ROW entirely on BLM-managed lands. As such, Alternative 3 is also referred to as the *Northern Alternative*. The primary difference between the proposed Project (Alternative 1) and Alternative 4 is the location of the 230 kV gen-tie line that extends from the solar array field (proposed Substation 3) to the Colorado River Substation. Alternative 4 would exit the southwestern portion of the solar array field and extend approximately four miles west to the Colorado River Substation within a 125-foot ROW. As such, Alternative 4 is also referred to as the *Southern Alternative*.

Among the action alternatives, the proposed gen-tie line for the Reduced Acreage Alternative (Alternative 5) is the shortest at 7.8 miles and traverses the least amount of private lands inside the solar facility (approximately 3.0 miles). Alternative 4's gen-tie line is the longest at 9.5 miles. Alternative 5 would occupy the least acreage of the action alternatives: 2,476 acres (1,184 acres less than Alternative 1; 1,189 acres less than Alternative 3; and 1,171 acres less than Alternative 4). Alternative 1, Alternative 3, and Alternative 5's gen-tie lines would parallel existing and approved transmission lines and access roads. However, approximately 3.0 miles of Alternative 4's gen-tie line would not parallel existing transmission lines or access roads and would require approximately 3.0 miles of new access roads.

As development of the solar facility under Alternative 5 would occur south of I-10, it would avoid conversion of agricultural resources to non-agricultural resources, as compared to Alternatives 1, 3, and

4. Alternative 5 would have less annual air emissions and lower impact to vegetation communities such as areas of disturbed creosote bush scrub, bajada community, irrigated alfalfa, non-irrigated wheat. The remaining direct and indirect impacts to vegetation communities under Alternative 5 would be similar to the proposed Project analyzed under Alternative 1. Alternative 1 and Alternative 5's gen-tie line would cross 22.9 acres of Desert Riparian Woodland Wash, the same as Alternative 3 but more than Alternative 4 (11.4 acres). No records or survey results indicated the presence of State- or federal-listed plants or wildlife on Alternative 1, Alternative 3 or Alternative 5. However, based on recent survey records, the desert tortoise has a high potential to occur on the Alternative 4 gen-tie line ROW.

Action Alternatives 1, 3, and 4's solar facility site does not contain cultural resources that are eligible or assumed eligible to be listed on the National Register of Historic Places. During the cultural surveys on the alternative gen-tie lines, Alternative 1 and Alternative 5 had two unique cultural sites, Alternative 3 had five unique cultural sites, and Alternative 4 had 16 unique cultural sites. The documented unique cultural sites located on all the action Alternatives are not eligible for inclusion in either the National Register of Historic Places or the California Register of Historical Resources.

The action Alternatives would use approximately 1,354 acre-feet (AF) of water (about 451 AF per year) for construction, which would be provided by the Palo Verde Irrigation District. The Alternative 1, Alternative 3, and Alternative 5 gen-tie line corridor portions would cross one ephemeral channel; in contrast, Alternative 4 gen-tie line corridor portion would cross one ephemeral channel twice.

All the action Alternatives would promote General Plan and Area Plan and CDCA Plan policies favoring solar development. The County and City would continue to promote agricultural uses in conformity with the Agricultural Preservation Policy of the Palo Verde Valley Area Plan and the City of Blythe Open Space Guiding Policies 1 and 9, but construction of the Project and the other action Alternatives would halt agricultural use of the Project Site.

ES-8.2 No Project/ No Action Alternative (Alternative 2)

Under the No Project/ No Action Alternative, ongoing activities would continue, but new impacts associated with the implementation of the No Project/No Action Alternative are not anticipated. Relative to Alternatives 1, 3, 4, and 5, all impacts associated with the construction, operation, and maintenance of the Blythe Mesa Solar Project would be avoided. As such, there would be no effects related to GHG emissions beyond those that already occur on the Project site as a result of existing agricultural operations (zero net increase in GHG emissions). However, the beneficial impacts of the proposed Project associated with providing renewable energy in accordance with the State's adopted RPS policy would also not occur under this Alternative. That is, under the No Project/No Action Alternative, renewable energy would not be available to offset the use of energy from other sources, including fossil fuels. Consequently, the No Project/No Action Alternative would not achieve the GHG reduction associated with the proposed Project, which was estimated to range from 371,116 to 1,061,829 metric tons of carbon dioxide equivalent (CO_2e) per year.

ES-9: FEDERAL LEAD AGENCY PREFERRED ALTERNATIVE AND CEQA ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires analysis of a reasonable range of alternatives to the proposed Project to foster informed decision making and public participation (14 CCR § 15126.6(a)). The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project [or plan]. A matrix displaying the major characteristics and significant environmental effect of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, ~~the~~ but in less detail ~~that~~ than the significant effects of the project as proposed (*County of Inyo v. City of Los Angeles*, 124 Cal. App.3d 1). (CEQA Guidelines § 15126.6(d)).

For NEPA, EAs shall " include brief discussions … of alternatives as required by section 102(2)(E)…" (40 CFR ~~Part~~ 1508.9(b)). Section 102(2)(E) of the NEPA provides that agencies of the Federal Government shall "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."

A comparison of the potential environmental impacts associated with the five Project Alternatives (No Project/No Action Alternative and four action Alternatives) is ~~are~~ summarized in Table ES-1. The impacts, mitigation measures, and residual impacts after mitigation of the proposed Project and Alternatives are detailed in Chapter 4 of this Final EIR/EA. After comparing and weighing the benefits and impacts of all of the feasible alternatives, the BLM (NEPA Federal Agency) and the County (CEQA Lead Agency) have identified Alternative 1 (proposed Project) as the preferred/environmentally superior alternative~~, subject to public review~~.

Final identification of a preferred/ environmentally superior alternative will occur after the public review and comment period.

TABLE ES-1 ALTERNATIVES COMPARISON SUMMARY

ISSUES OR CONCERNS		ALTERNATIVE 1 PROPOSED ACTION	ALTERNATIVE 2 NO PROJECT/NO ACTION	ALTERNATIVE 3 NORTHERN ALTERNATIVE 230KV GEN-TIE LINE	ALTERNATIVE 4 SOUTHERN ALTERNATIVE 230KV GEN-TIE LINE	ALTERNATIVE 5 REDUCED ACREAGE ALTERNATIVE
Total acreage of the solar facility site	*Private*	3,587 acres	0	3,587 acres	3,587 acres	2,476 acres
Jurisdiction crossed (miles) by gen-tie line ROW	*Private (inside solar facility)*	3.6 miles	0	3.6 miles	5.5 miles (3.6 + 1.9)	3.0 miles
	Private (outside solar facility)	1.0 miles (15 acres)	0	0.0 miles	0.6 mile (9 acres)	1.0 miles (15 acres)
	Bureau of Land Management (outside of solar facility)	3.8 miles (58 acres)	0	5.2 miles (78 acres)	3.4 miles (51 acres)	3.8 miles (58 acres)
	TOTAL	8.4 miles	0	8.8 miles	9.5 miles	7.8 miles
Total acreage (solar facility and gen-tie line)		3,660 acres	0	3,665 acres	3,647 acres	2,549
Gen-tie line	Percentage of new 230 kV gen-tie line parallel to existing and approved transmission lines	100%	0	100%	68%	100%
	Miles of 230 kV gen-tie line requiring new access roads (unpaved)	4.8	0	5.2	3.0	4.8
Disturbance Estimates	Solar Facility Site	2,336 acres (temporary) 2,316 acres (permanent)	0 acres	2,336 acres (temporary) 2,316 acres (permanent)	2342 acres (temporary) 2,320 acres (permanent)	1,579 acres (temporary) 1,567 acres (permanent)
	Gen-tie Line	22.7 acres (temporary) 9.8 acres (permanent)	0 acres	24.6 acres (temporary) 10.6 acres (permanent)	17.5 acres (temporary) 6.73 acres (permanent)	22.7 acres (temporary) 9.8 acres (permanent)
Aesthetics, Visual Resources and Reflection	*Designated Scenic Vista*	No	No	No	No	No
	Designated areas of natural beauty or scenic recreational areas	No	No	No	No	No
	Miles of new gen-tie line that would not parallel existing or proposed transmission lines	0.0	0.0	0.0	3 miles	0.0
Agriculture	*Acres of designated Farmland converted to non-agricultural use; cancellation of Williamson Act Contracts and agricultural preserve*	(Land Evaluation Subscore: 27.2) (Site Assessment Subscore 26.1) Total LESA Score: 53.3 1,681 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve	0.0 acres	(Land Evaluation Subscore: 27.2) (Site Assessment Subscore 26.1) Total LESA Score: 53.3 1,681 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve	(Land Evaluation Subscore: 27.2) (Site Assessment Subscore 26.1) Total LESA Score: 53.3 1,681 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve	(Land Evaluation Subscore: 25.9) (Site Assessment Subscore 22.4) Total LESA Score: 48.3 1,279 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve
Air Quality	*Conformance with the Mojave Desert Air Quality Management District (MDAQMD)*	Yes	Yes. The air quality of the site is not expected to change noticeably from existing conditions and, as such, the No Project/No Action Alternative would not result in the air quality impacts or benefits described for Alternative 1.	Yes. However, on an annual basis, the additional construction required for the longer 230 kV gen-tie line (8.8 miles versus 8.4 miles) would have greater air emissions than Alternative 1.	Yes. However, on an annual basis, the additional construction required for the longer 230 kV gen-tie line (9.5 miles versus 8.4 miles) would have greater air emissions than Alternatives 1 and 3.	Yes. However, on an annual basis, the reduced number of workers required under the Reduce Acreage Alternative would result in fewer annual air emissions than Alternatives 1, 3 and 4.
	Estimated annual construction emissions	ROG = 4.12 NO_x = 18.44 CO = 34.58 SO_x = 0.39 PM_{10} = 6.16 $PM_{2.5}$ 2.02	No new emissions	ROG = 4.12 NO_x = 18.52 CO = 34.62 SO_x = 0.39 PM_{10} = 6.17 $PM_{2.5}$ 2.03	ROG = 4.12 NO_x = 18.65 CO = 34.70 SO_x = 0.39 PM_{10} = 6.16 $PM_{2.5}$ 2.03	ROG = 4.12 NO_x = 18.44 CO = 34.58 SO_x = 0.39 PM_{10} = 6.16 $PM_{2.5}$ 2.02
	Federal Conformity Determination requirement	Annual construction emissions for the portion of Alternative 1 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD	The air quality of the site is not expected to change noticeably from existing conditions and, as such, the No Project/No Action Alternative would not result in the air quality impacts or benefits described for Alternative 1.	Annual construction emissions for the portion of Alternative 3 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD	Annual construction emissions for the portion of Alternative 4 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD	Annual construction emissions for the portion of Alternative 5 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD

ISSUES OR CONCERNS		ALTERNATIVE 1 PROPOSED ACTION	ALTERNATIVE 2 NO PROJECT/NO ACTION	ALTERNATIVE 3 NORTHERN ALTERNATIVE 230KV GEN-TIE LINE	ALTERNATIVE 4 SOUTHERN ALTERNATIVE 230KV GEN-TIE LINE	ALTERNATIVE 5 REDUCED ACREAGE ALTERNATIVE
Biological Resources	*Vegetation communities crossed by the solar facility site and transmission line*	540 acres creosote bush scrub 3,294 acres of agricultural and fallow fields 18 acres bajada	0	565 acres Creosote bush scrub 3,294 acres of agricultural and fallow fields 18 acres bajada	494 acres Creosote bush scrub 3,294 acres of agricultural and fallow fields 18 acres bajada	427 acres creosote bush scrub 3,086 acres of agricultural and fallow fields
	State- or federal-listed plants detected	No	No	No	No	No
	State- or federal-listed wildlife detected	No	No	No	Desert Tortoise	No
	Conflict with local policies or ordinances protecting biological resources	No	No	No	No	No
	Designated USFWS or CDFW wildlife habitats	No	No	No	No	No
	Acres of riparian habitat crossed	22.9 acres of Desert Riparian Woodland Wash	0.0	22.9 acres of Desert Riparian Woodland Wash	11.4 acres of Desert Riparian Woodland Wash	22.9 acres of Desert Riparian Woodland Wash
Cultural Resources	*NRHP- or CRHR-listed, NRHP- or CRHR--eligible, or unevaluated resources*	No. Portion of proposed Blythe Army Air Base Historic District within the Project APE does not retain integrity and is not eligible.	N/A	No. Portion of proposed Blythe Army Air Base Historic District within the Project APE does not retain integrity and is not eligible.	2. 2 unevaluated archaeological sites. Portion of proposed Blythe Army Air Base Historic District within the Project APE does not retain integrity and is not eligible.	No
	Cultural Resources within each gen-tie line corridor	3 isolated finds (1 prehistoric/historic, 1 prehistoric, and 1 historic). All 3 resources are not eligible for the NRHP or CRHR.	N/A	2 historic archaeological sites (refuse scatters) and 3 isolated finds (2 historic and 1 prehistoric). All 5 resources are not eligible for the NRHP or CRHR.	12 archaeological sites (6 prehistoric, 5 historic, and 1 prehistoric/historic) and 4 isolated finds (2 prehistoric and 2 historic). 10 archaeological sites and all 4 isolated finds have been determined not eligible for the NRHP or CRHR. 2 archaeological sites are unevaluated.	3 isolated finds were documented (1 prehistoric/historic, 1 prehistoric, and 1 historic). All 3 resources are isolated sites and have been determined not eligible for the NRHP or CRHR
Paleontological Resources	*Resource sensitivity crossed*	Quaternary Alluvium, Eolian Sand (Qs)	No	Quaternary Alluvium, Eolian Sand (Qs)	Quaternary Alluvium	Quaternary Alluvium, Eolian Sand (Qs)
Geology and Soils	*Distinctive geologic features*	None	None	None	None	None
	Miles crossed of high levels of earthquake ground shaking	No	N/A	No	No	No
	Liquefaction hazard zones crossed	Moderately susceptible to liquefaction	N/A	Moderately susceptible to liquefaction	Moderately susceptible to liquefaction	Moderately susceptible to liquefaction
	Potential landslides	No	N/A	No	No	No
	Susceptible to soil and wind erosion	Moderate to High	N/A	Moderate to High	Moderate to High	Moderate to High
	Mineral production	No	N/A	No	No	No
Greenhouse Gas	*Generate greenhouse gas emissions*	Construction emissions: 183 metric tons of CO_2e (amortized over the life of the Project); Operations emissions: 271 metric tons per year of CO_2e Project emissions due to construction would not exceed CAPCOA thresholds	No new emissions. Existing emissions do not exceed CAPCOA thresholds.	The total GHG emissions are estimated to be slightly greater than Alternative 1 during construction and would not exceed CAPCOA thresholds	The total GHG emissions are estimated to be slightly greater than Alternative 1 during construction and would not exceed CAPCOA thresholds	Construction emissions: less than 183 metric tons of CO_2e (amortized over the life of the Project); Operations emissions: less than 271 metric tons per year of CO_2e for solar facility Project emissions due to construction would not exceed CAPCOA thresholds
Hazards and Hazardous Materials	*Located on-site that is included on a list of hazardous materials site complied pursuant to Gov. Code Section 65962.5*	One aboveground storage tank located within solar facility site, however, will be removed in compliance with rules, laws, and regulations.	N/A	One aboveground storage tank located within solar facility site; however, will be removed in compliance with rules, laws, and regulations.	One aboveground storage tank located within solar facility site; however, will be removed in compliance with rules, laws, and regulations.	N/A
	Create hazards	No	No	No	No	No
Hydrology and Water Resources	*Water supply needs from Palo Verde Valley Irrigation District*	Up to 500 AF/year during construction Up to 302 AF/year during operation, resulting in a net reduction of 2,903 to 3,101 AF/year.	No increase in existing demand. Irrigation for agriculture approximately 3,403 AF/year	Up to 500 AF/year during construction Up to 302 AF/year during operation	Up to 500 AF/year during construction Up to 302 AF/year during operation	Less than 500 AF/year during construction Less than 302 AF/year during operation, resulting in a net reduction of more than 2,903 to 3,101 AF/year
	Number of ephemeral channel crossings	2 ephemeral	N/A	2 ephemeral	3 (one ephemeral channel crossed twice)	2 ephemeral
	Potential impact from flooding	Yes, but solar facility would be designed outside of floodplain	No	Yes, but solar facility would be designed outside of floodplain	Yes, but solar facility would be designed outside of floodplain	Yes, but solar facility would be designed outside of floodplain

ISSUES OR CONCERNS		ALTERNATIVE 1 PROPOSED ACTION	ALTERNATIVE 2 NO PROJECT/NO ACTION	ALTERNATIVE 3 NORTHERN ALTERNATIVE 230KV GEN-TIE LINE	ALTERNATIVE 4 SOUTHERN ALTERNATIVE 230KV GEN-TIE LINE	ALTERNATIVE 5 REDUCED ACREAGE ALTERNATIVE
	Change in absorption rates, surface runoff, or drainage patterns	No; however, the Project would result in the creation of minimal additional impervious surface.	N/A	No; however, the Project would result in the creation of minimal additional impervious surface.	No; however, the Project would result in the creation of minimal additional impervious surface.	No; however, the Project would result in the creation of minimal additional impervious surface.
Land Use Planning	*Conflict with regional/local land use plans, policies, and regulations*	No	No	No	No	No
	Miles of 230 kV gen-tie within federal jurisdiction and within an agency-designated Utility Corridor	3.8 miles	N/A	5.3 miles	4.0 miles*	3.8 miles
Noise	*Closest residence*	260 feet	N/A	260 feet	260 feet	580 feet
	Residences within 1 mile of solar facility (no residences within 1,000 feet for gen-tie)	377	N/A	377	377	372
Recreation	*Impact existing parks or other recreational facilities*	No	N/A	No	No	No
	Located within a Community Service Area	No	N/A	No	No	No
Socioeconomics	*Increase population*	Not substantial / temporary during construction	N/A	Not substantial / temporary during construction	Not substantial / temporary during construction	Not substantial / temporary during construction
Traffic and Transportation	*Roads that may require improvement for emergency access*	Seeley Avenue and Riverside Drive	N/A	Seeley Avenue and Riverside Drive	Seeley Avenue and Riverside Drive	Seeley Avenue
	Miles of new gen-tie line requiring new access roads	0.0	0.0	0.0	3.0 miles	0.0

* Plan Maintenance would expand the utility corridor from two to five miles wide.
AF = acre-feet
CAPCOA = California Air Pollution Controls Officers Association
CDFG = California Department of Fish and Game
CO = Carbon monoxide
CRHR = California Register of Historical Resources
MDAQMD = Mojave Desert Air Quality Management District
N/A = not applicable
NO_x = Nitrogen oxides
NRHP = National Register of Historic Places
PM_{10} = Particulate matter 10 microns in diameter or larger
$PM_{2.5}$ = Particulate matter 2.5 microns in diameter or larger
ROG = Reactive organic gases
SO_x = Sulfur oxides
USFWS = U.S. Fish and Wildlife Service

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CHAPTER 1: INTRODUCTION

1.1 Overview

In accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), the County of Riverside (County) and the United States Department of the Interior, Bureau of Land Management (BLM) have prepared this joint Final Environmental Impact Report/Environmental Assessment (Final EIR/EA) for the proposed Blythe Mesa Solar Project (Project). This action is in response to the Renewable Resources Group's (Applicant) application to: (1) the County for a Conditional Use Permit and Public Use Permit; (2) the City of Blythe for a Conditional Use Permit; and (3) the BLM for a right-of-way (ROW) grant.

This Final EIR/EA analyzes the impacts of the proposed action, a solar photovoltaic (PV) facility of up to 485 megawatts (MW) and associated infrastructure (power collection system, communication cables, overhead and underground transmission and collection lines, electrical switchyards, and operations and maintenance [O&M] buildings). The Final EIR/EA is an informational disclosure document that:

1) informs agency decision-makers and the public of environmental impacts that are expected to result from construction, operation, maintenance, and decommissioning of the proposed Project and each agencies' respective actions;
2) presents recommended mitigation measures that, if adopted, would avoid or minimize many of the environmental impacts identified; and
3) identifies alternatives to the proposed Project that would avoid or minimize significant environmental impacts associated with the Project and addresses unresolved conflicts concerning alternative uses of available resources, and evaluates the environmental impacts associated with these alternatives.

A majority of the solar facility would occupy 3,587 acres on privately owned land under the jurisdiction of the County, approximately 334 acres of which are within the City of Blythe. The Project would be located on lands under the jurisdiction of the County of Riverside, the BLM, and the City of Blythe. A majority of the Project would be within the County of Riverside and governed by the County of Riverside's General Plan and the Palo Verde Valley Area Plan (PVVAP). A portion of the solar facility would be within the area of the City of Blythe General Plan. The County is the "lead agency" responsible for preparation of the EIR in compliance with CEQA. As the CEQA lead agency, the County is responsible for conducting the CEQA review and has final approval of the Project. The County is responsible for coordinating with the Applicant, public, and associated agencies during the CEQA process. When more than one agency is involved in a project, the agency with primary responsibility for approving a project is the lead agency for purposes of following the CEQA protocol. Other agencies with discretionary approval power over the project are called "responsible agencies." The City of Blythe is a responsible agency that has actively participated in the NEPA/CEQA process and review of this Final EIR/EA.

A portion of the 230 kilovolt (kV) generation interconnection (gen-tie) line would traverse BLM-managed lands. The BLM is the lead federal agency responsible for preparation of the EA in compliance with NEPA. The information contained within this Final EIR/EA will be considered by all applicable decision-makers in determining whether to grant the approvals the Applicant requests.

1.1.1 Project Overview

The proposed Project encompasses 3,660 acres and consists of two primary components:

- **Solar facility site (3,587 total acres)**
    - Solar array field that would utilize single-axis solar PV trackers (295 feet long and 140 feet wide). Six trackers with 18 north-south oriented rows of PV panels would be configured into 1.5 MW blocks (600 feet long by 470 feet wide).
    - System of interior collection power lines located between inverters and substations.
    - Up to three on-site substations (each approximately 90,000 square feet).

- Up to two O&M buildings (approximately 3,500 square feet each).
- Associated communication facilities and site infrastructure.
- Two primary off-site access roads and several interior access roads.

- **Approximately 8.4 miles of 230 kV gen-tie transmission line**

  - Approximately 3.6 miles would be located within the solar facility, which would connect all on-site substations.
  - Approximately 4.8 miles would extend outside of the solar facility and would be placed within a 125-foot-wide ROW and occupy 73 acres. Of this, 3.8 miles would traverse BLM-managed lands, within portions of sections 7 through 12, inclusive, township 7 south, range 21 east, San Bernardino Meridian, California, ~~with~~on 53 acres within the Riverside East Solar Energy Zone (SEZ). At the end of the energy sales contract term (20-year term) of Alternative 1, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled within the Project area. Following decommissioning and dismantling of the solar facility and gen-tie line, the ~~site~~ area that was previously occupied by agriculture would be made available for reversion to agricultural use.

The fenced-in solar PV electric generation facility would occupy approximately 3,587 acres on privately owned land (approximately 3,253 acres are within the County of Riverside and approximately 334 acres are within the City of Blythe). The portion of the gen-tie line outside the solar facility site, from the southernmost substation to the Colorado River Substation, would traverse 3.8 miles of BLM-managed lands (approximately 58 acres) and approximately one mile of private land (approximately 15 acres). Figure 1-1 illustrates the solar facility site, gen-tie line location, and jurisdictions within the Project vicinity. The term "Project area" is used in this document to refer to the proposed 485 MW solar PV facility and associated infrastructure (3,587 acres), as well as the proposed 230 kV transmission line (gen-tie line) corridor (73 acres). The proposed solar facility would be considered a non-federal connected action because the solar facility must interconnect to the electrical grid via a gen-tie line; without a gen-tie line on BLM-managed land the solar facility site would be stranded.

Two alternative gen-tie line corridors are considered in this Final EIR/EA—the Northern Alternative (Alternative 3) and Southern Alternative (Alternative 4). The proposed solar facility site would be the same for Alternatives 3 and 4; however, the main difference between the Alternatives is the location of the 230 kV gen-tie line corridor that extends outside the solar facility site. The Northern Alternative gen-tie line corridor would occupy 95 acres and the Southern Alternative gen-tie line corridor would occupy 60 acres. The Reduced Acreage Alternative's (Alternative 5) solar facility site would be within the boundary of the proposed Project; however, it would occupy a smaller footprint than the proposed Project. The solar facility development for Alternative 5 would occur south of Interstate 10 (I-10). Refer to Chapter 2 (*Alternatives Including the Proposed Project*) for a detailed description of the proposed Project, Alternatives, and regulatory permits needed for construction and implementation.

The initial use of the Project site to be permitted under the conditional use permit will be active agricultural production. To encourage agricultural uses to continue on the site until solar facility development occurs, approximately 1,249 acres of the solar facility site would be rezoned to an agricultural zone (refer to Figure 2-12 in Chapter 2). Approximately 1,485 acres would be placed in an agricultural preserve and potentially placed in a Williamson Act Contract (refer to Figure 2-13 in Chapter 2). The solar facilities in the areas subject to these Williamson Act protections would be constructed later, in accordance with market demand and public interest, and such development would necessitate cancellation of the applicable Williamson Act Contract and preserve.

1.1.2 Project Location

The proposed Project is located in east Riverside County, approximately five miles west of central Blythe and 40 miles east of Desert Center (refer to Figure 1-1); more specifically, the proposed Project is located north and south of I-10, west of Neighbors Boulevard and Arrowhead Boulevard, and south and east of the Blythe Airport.

1.1.3 Regional Setting

The proposed Project is located in the Palo Verde Valley along the western edge of the City of Blythe, near the Colorado River. The Project area is situated on Palo Verde Mesa and is part of the Colorado Desert. The topography of the site is relatively flat, sloping toward the southeast, and elevations range from 260 to 400 feet above mean sea level. An ephemeral stream bisects the solar facility site and the transmission line would traverse an ephemeral stream. The Project area is generally bounded by the Big Maria Mountains on the northwest, the McCoy Mountains on the west, the Mule Mountains on the southwest, and the Colorado River on the east. These mountain ranges, trending northwest to southeast, create a natural barrier between the Colorado River and the greater Colorado Desert. Urban development near and adjacent to the Project area consists of agricultural fields and groves, residences, the Blythe Airport, the Blythe Generating Plant, electrical transmission lines, and commercial businesses. The Project area also includes undeveloped open desert that is managed by the BLM and illustrated by the yellow shaded areas in Figure 1-2.

The subtropical climate of the Colorado Desert is characterized by dry, mild winters averaging 45 degrees Fahrenheit (°F) and dry, hot summers averaging 104°F. Summer highs have been known to reach 120°F. Precipitation ranges between two and ten inches per year, mostly occurring between November and March. Although rainfall is primarily in the winter months, the region is periodically influenced by tropical weather conditions including sudden monsoonal summer storms.

1.1.4 Local Setting and Surrounding Land Uses

The Project area is primarily characterized by both active and previously farmed agricultural land uses. Active agricultural uses include a citrus grove and wheat and alfalfa fields. Jojoba was previously grown for commercial purposes. Existing vacant land consists of either fallow farmland or creosote bush scrub.

The Project area is situated on the urban fringe of the City of Blythe. Urban development near and adjacent to the Project area includes the community of Nicholls Warm Springs/Mesa Verde, Blythe Airport, the 520-MW natural gas-fired Blythe Generating Plant, an existing solar facility site (Blythe Solar Project, owned by NRG), electrical substations, electrical transmission lines, ancillary agricultural facilities, dirt roads, and commercial businesses. I-10 crosses through the study area in an east-west alignment. Refer to Figure 1-1.

The solar facility site includes the assessor's parcel numbers listed in Table 1-1. The parcels that would be traversed by the proposed and Alternative gen-tie lines are listed in Table 1-2.

TABLE 1-1 ASSESSOR'S PARCEL NUMBERS FOR SOLAR FACILITY

RIVERSIDE COUNTY				CITY OF BLYTHE
821110004	824102015	863040015	863100010	824101014
821120025	824102016	863040017	863100011	824101015
821120026	824130006	863040020	863100012	824101016
821120027	824130007	863040021	863100016	824101017
~~821120028~~	863030002	863050004	879090036	824102020
821120029	863030003	863050007	879090027	824102023
821120038	863030004	863050008	879090038	824102024
821120039	863030005	863050009	879090039	824102026
821120040	863030006	863060015	879090040	824102027
821120042	863030007	863060016	879090041	824110035
821120043	863030008	863060017	879090042	824110036
821120044	863030009	863060018	879090043	824110037

RIVERSIDE COUNTY				CITY OF BLYTHE
821120048	863030010	863070018	879090044	824110038
824080003	863030013	863070019	879090045	824122013
824080005	863030014	863070022	879090048	
824090009	963030015	863100005	879090049	
824090024	863030016	863100006	879090050	
824102013	863030017	863100008	879090051	
824102014	863040001	863100009	879110013	
			879110014	

TABLE 1-2 ASSESSOR'S PARCEL NUMBERS FOR GEN-TIE LINES

ALTERNATIVE 1 (PROPOSED)		ALTERNATIVE 3 (NORTHERN)A	ALTERNATIVE 4 (SOUTHERN)	
Riverside County	BLM	BLM	BLM	Riverside County
879080013	879080022	879080020	879080022	879080034
879080014	879080024	879080021	879080023	
879080028	879080026	879080022	879080024	
879080032	879080027	879080025	879090033	
879090048	879090028	879090031	879090034	
	879090033	879090033		
	879090034	879090034		
	879090035	879090035		

1.1.5 Zoning

The Project would be located on lands under the jurisdiction of the County of Riverside, the BLM, and the City of Blythe. A majority of the Project would be located within the County of Riverside and within the area governed by the County of Riverside's General Plan and the Palo Verde Valley Area Plan. A portion of the solar facility site would be within the area of the City of Blythe, within the area governed by the City's General Plan. A portion of the 230 kV gen-tie line would traverse BLM-managed lands, and that area would be governed by the California Desert Conservation Area (CDCA) Plan.

Figure 1-3 illustrates the zoning for the County of Riverside and City of Blythe. Portions of the Project located within area governed by the Palo Verde Valley Area Plan are currently zoned as follows:

- Controlled Development Areas (W-2-10) (10-acre minimum)
- Controlled Development Areas (W-2-5)
- Light Agriculture (A-1-10)
- Heavy Agriculture (A-2-10)

BUREAU OF LAND MANAGEMENT

BLYTHE AIRPORT

CITY OF BLYTHE

Hobson Way

Neighbours Blvd

Seeley Ave

18th Ave

78

10

Desert Center
(Approximately 40 Miles from Project Site)

NORTHERN 230kV ALTERNATIVE

PROPOSED 230kV TRANSMISSION LINE

COLORADO RIVER SUBSTATION

SOUTHERN 230kV ALTERNATIVE

BUREAU OF LAND MANAGEMENT

BUREAU OF LAND MANAGEMENT

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Solar Array Location
- Project Substation
- Operations and Maintenance Building
- Proposed Blythe Mesa 230 kV Line
- Proposed Blythe Mesa 34.5 kV Line
- Northern 230kV Alternative
- Southern 230kV Alternative

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities

- Colorado River Substation

Jurisdiction

- Bureau of Land Management
- City of Blythe

N

0 4,000 8,000
Feet
1:48,000

FIGURE 1-1
PROJECT AREA

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLERESOURCESGROUP

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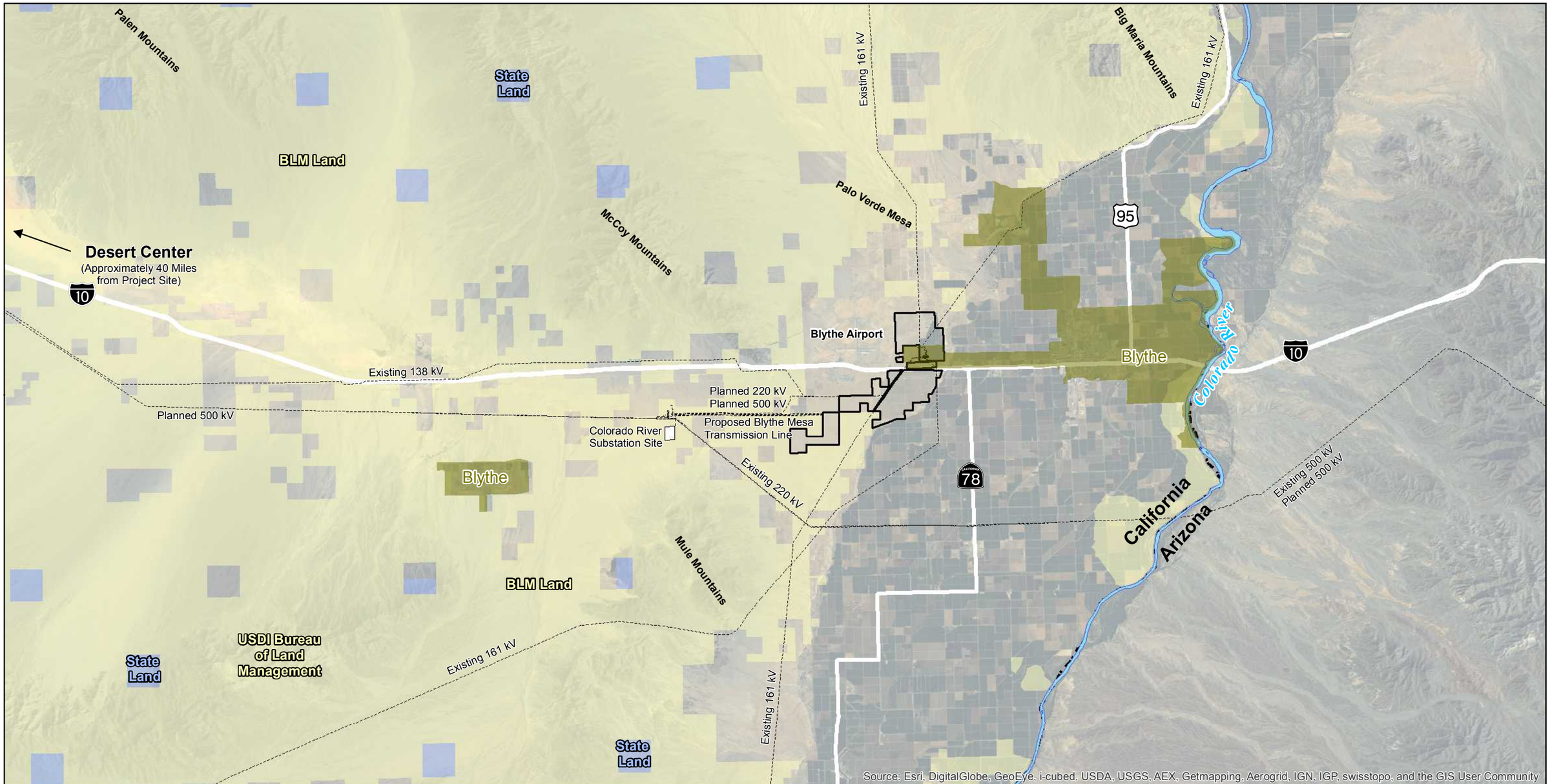

Legend

Blythe Mesa Solar Project Boundary

N

0 3 6

Miles

1:190,080

FIGURE 1-2
REGIONAL AREA

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS RENEWABLE RESOURCES GROUP

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Zoning designations adjacent to and surrounding the Project area within the Palo Verde Valley Area Plan area consist of the following:

- Rural Residential (R-R)
- Light Agriculture (A-1-2 1/2 and A-1-10)
- Controlled Development Areas (W-2-10 and W-2-2 1/2)
- Residential Agricultural (R-A-5)
- Manufacturing-Service Commercial (M-SC)
- Controlled Development with Mobile Homes (W-2-M)
- Tourist Commercial (C-T)
- Scenic Highway Commercial (C-P-S)
- Industrial Park (I-P)
- Manufacturing-Heavy (M-H)
- Mobile Home Subdivision-Rural (R-T-R)
- Heavy Agriculture (A-2-10 and A-2-2 1/2)
- Not Applicable (N-A)

Portions of the Project located within the City of Blythe are currently zoned:

- Agriculture (A)
- Service Industrial (I-S)

The adjacent and surrounding City of Blythe zoning consists of the following:

- Agriculture (A)
- Rural Residential (R-R)
- General Commercial (C-G)
- General Industrial (I-G)

1.1.6 BLM Land Use Plan Conformance

Figure 1-4 illustrates the portion of the gen-tie line for the proposed action (and alternatives) that would traverse BLM-managed lands. These lands are within the area governed by the Northern and Eastern Colorado Desert (NECO) Plan amendment (BLM 2008) to the CDCA Plan, as amended and within the Riverside East Solar Energy Zone (SEZ). The Riverside East SEZ was designated through the Approved Resource Management Plan Amendments/Record of Decision for Solar Energy Development in Six Southwestern States (Western Solar Plan) (BLM 2012a). A SEZ is defined by the BLM as “an area within which the BLM will prioritize and facilitate utility-scale production of solar energy and associated transmission infrastructure development” (BLM 2012b).

The CDCA Plan requires that sites associated with power generation or transmission not identified in the Plan or outside of transmission corridors be considered through the plan amendment process. The Western Solar Plan amended the CDCA Plan to “identify all SEZ lands within the CDCA as sites associated with power generation or transmission” (BLM 2012b). Because the Western Solar Plan has satisfied the requirement of the CDCA Plan for a plan amendment, any ROW issued by BLM for the proposed action (or alternatives) would be in conformance with the CDCA Plan, as amended.

1.2 Purpose and Need/Project Objectives

1.2.1 Federal Purpose and Need

In accordance with the Federal Land Policy and Management Act (FLPMA) (Section 103(c), 43 United States Code [U.S.C.] §1702(c)), public lands are to be managed for multiple uses that take into account the needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROWs on public lands for systems for generation, transmission, and distribution of electric energy (Section 501(a)(4), 43 U.S.C. §1761(a)(4)). The purpose and need for the proposed action is to respond, in a manner that takes into account BLM’s multiple use mandate, to a FLPMA ROW

application submitted by the Applicant to construct, operate, maintain, and decommission a gen-tie line on public lands administered by the BLM, which would serve a solar energy generation facility and associated infrastructure, in compliance with FLPMA, BLM ROW regulations, other applicable federal laws and policies, and the management objectives referenced below.

The proposed action would, if approved, assist the BLM in addressing the following management objectives:

- Executive Order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "production and transmission of energy in a safe and environmentally sound manner."
- Department of the Interior Secretarial Order 3285A1, dated March 11, 2009 and amended on February 22, 2010, which "establishes the development of renewable energy as a priority for the Department of the Interior."
- BLM Instruction Memorandum (IM) 2011-061, dated February 7, 2011, which prioritizes the development of solar facilities on, inter alia, "[l]ands specifically identified for solar or wind energy development in BLM land use plans; [p]reviously disturbed sites or areas adjacent to previously disturbed or developed sites; [l]ocations that minimize construction of new roads and/or transmission lines; [and l]ands adjacent to designated transmission corridors…"
- President Obama's Climate Action Plan, dated June 2013, which set a goal to double renewable electric generation by 2020. "In 2012 the President set a goal to issue permits for 10 gigawatts of renewables on public lands by the end of the year. The Department of the Interior achieved this goal ahead of schedule and the President has directed it to permit an additional 10 gigawatts by 2020."

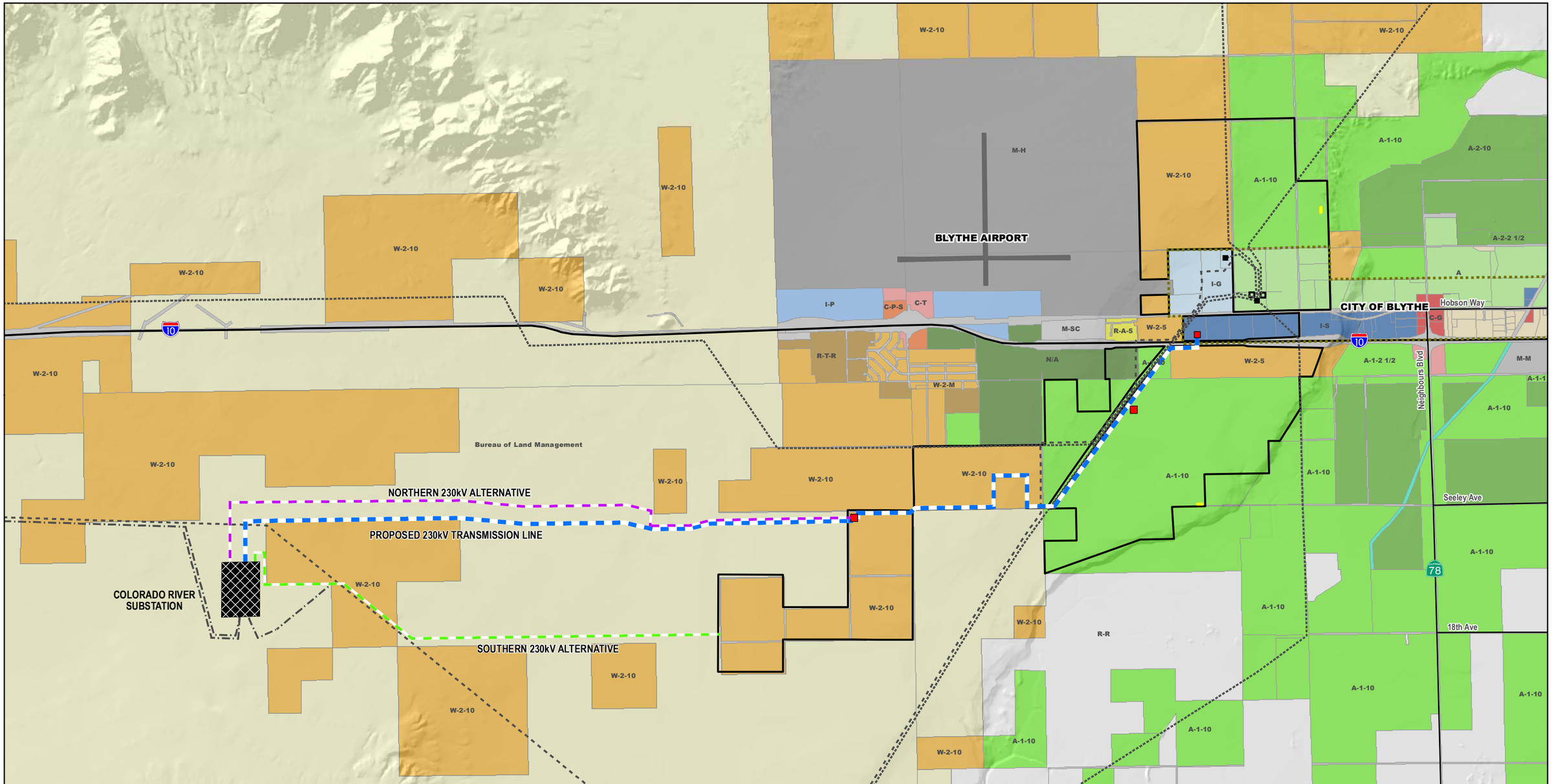
~~For NEPA purposes, the purpose and need statement must describe the BLM's purpose and need for action, not the applicant's interests and objectives (BLM NEPA Handbook (H-1790-1), Section 6.2). The applicant's interests and objectives, including any constraints or flexibility with respect to their proposal, help inform the BLM's decision and cannot be ignored in the NEPA process (BLM IM 2011-059).~~

Decisions to be Made by BLM

The BLM will decide whether to deny the proposed ROW, grant the ROW, or grant the ROW with modifications. The BLM may include any terms, conditions, and stipulations it determines to be in the public interest, which may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR ~~Part~~ 2805.10(a)(1)). ~~The decisions to be made by the BLM will not require a land use plan amendment because such an amendment has previously occurred upon the Department's issuance of the Western Solar Plan in October 2012 (see section 1.1.6).~~

1.2.2 Decisions to be Made by County of Riverside

This Final EIR/EA will be used by the County, in conjunction with other information developed in the County's formal administrative record for the Project, when considering whether to approve the Conditional Use Permit (CUP) and Public Use Permit (PUP) for the construction, operation, maintenance, and decommissioning of the proposed Project on lands subject to County jurisdiction. Pursuant to CEQA requirements, the County will determine the adequacy of the Final EIR and, if determined adequate, will certify the document as complying with CEQA.



Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Northern 230kV Alternative
- Southern 230kV Alternative
- Project Substation
- Operations and Maintenance Building

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities

- Colorado River Substation

Zoning - County of Riverside

A-1-1	I-P	R-T-R
A-1-10	M-H	W-1
A-1-2 1/2	M-M	W-2-10
A-2-10	M-SC	W-2-2 1/2
A-2-2 1/2	N/A	W-2-5
C-P-S	R-A-5	W-2-M
C-T	R-R	

Zoning - City of Blythe

- A
- C-G
- I-G
- I-S
- R-R

Jurisdiction

- City of Blythe
- Bureau of Land Management

N

0 4,000 8,000

Feet

1:48,000

FIGURE 1-3
EXISTING ZONING

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLE RESOURCES GROUP

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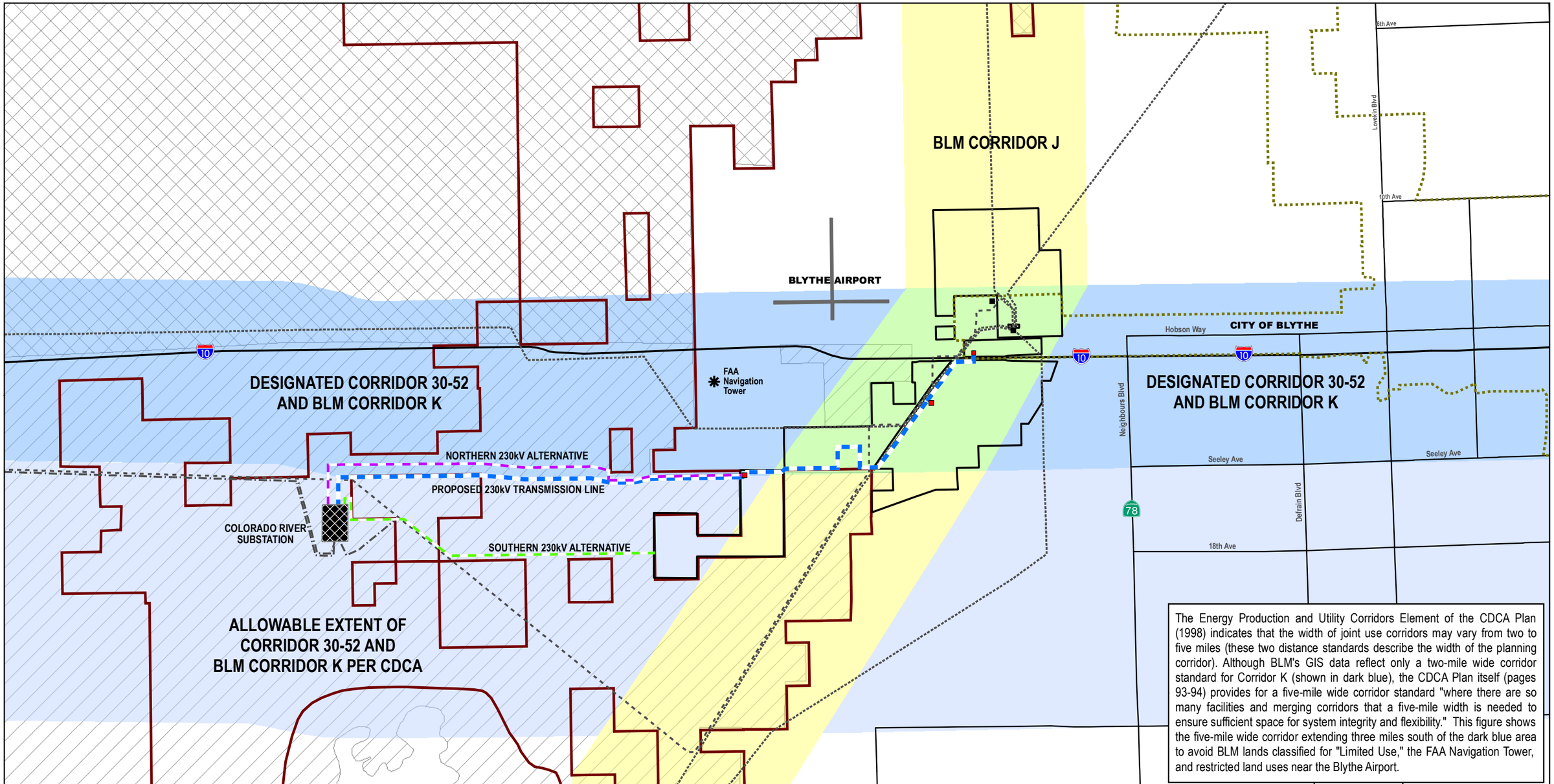

The Energy Production and Utility Corridors Element of the CDCA Plan (1998) indicates that the width of joint use corridors may vary from two to five miles (these two distance standards describe the width of the planning corridor). Although BLM's GIS data reflect only a two-mile wide corridor standard for Corridor K (shown in dark blue), the CDCA Plan itself (pages 93-94) provides for a five-mile wide corridor standard "where there are so many facilities and merging corridors that a five-mile width is needed to ensure sufficient space for system integrity and flexibility." This figure shows the five-mile wide corridor extending three miles south of the dark blue area to avoid BLM lands classified for "Limited Use," the FAA Navigation Tower, and restricted land uses near the Blythe Airport.

Proposed Project
- Blythe Mesa Solar Project Boundary
- Proposed Blythe Mesa 230 kV Line
- Northern 230 kV Alternative
- Southern 230 kV Alternative
- Project Substation

Existing Transmission Lines
- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities
- Colorado River Substation

Jurisdiction
- City of Blythe

Utility Corridors
- BLM Utility Corridor J
- BLM Utility Corridor J and K
- BLM Utility Corridor K
- Allowable Extent of BLM Utility Corridor K per CDCA

BLM Multiple-Use Classes
- Limited
- Moderate

Solar Energy Zone
- Riverside East Solar Energy Zone

N

0 3,000 6,000 9,000 12,000
Feet
1:72,000

FIGURE 1-4
BLM MULTIPLE-USE CLASSES AND ENERGY CORRIDORS

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLERESOURCESGROUP

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1.2.3 County and Applicant's Project Objectives

The County and Project Applicant have set forth the following objectives for the proposed Project:

- Construct a solar energy facility in order to help meet State and federal renewable energy standards and goals.
- Assist with greenhouse gas (GHG) reduction objectives to the maximum extent possible.
- Locate the Project facilities as near as possible to electrical transmission facilities with anticipated capacity and reserved California Independent System Operator interconnection position.
- Site the Project in an area with excellent solar energy resource, in order to maximize energy productivity from the PV panels.
- To the extent feasible, site the Project on previously disturbed land with compatible topography in a manner that minimizes environmental impacts.
- Use a proven and available solar PV technology to provide cleanly generated electricity at a competitive price for California electric ratepayers.
- Eventual decommissioning of the 485 MW solar PV electrical generating facility and associated infrastructure at the end of the energy sales contract term, if the energy buyer is not available for extension or another energy buyer does not emerge.

California's Renewable Energy Standards and Goals

California's Renewable Portfolio Standard (RPS) required California's investor-owned electric utilities to obtain 20 percent of the electricity that they supply from renewable sources by 2010. Executive Order S-14-08 mandated 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 procurement for renewable energy power plants and transmission lines. California's three large investor-owned utilities (Pacific Gas and Electric, San Diego Gas and Electric, and Southern California Edison) collectively served 19.6 percent of their 2012 retail electricity sales with renewable power (CPUC 2013).

California policy has mandated significant increases in renewable energy generation, including utility scale solar facilities like the proposed Project, and requires that California utilities meet their electrical supply needs from both large central station power sources, and from distributed generation. "Utility scale power plants can take advantage of economies of scale early in the growth of new technologies. In recognition of the important role played by large-scale solar projects, California's Clean Energy Jobs Plan calls for the development of 8,000 megawatts of utility scale renewable energy projects by 2020" (http://www.jerrybrown.org/sites/default/files/6-15%20Clean_Energy%20Plan.pdf).

Greenhouse Gas Reduction

California is committed to a significant and substantial increase in reliance on renewable resources for electrical power, the reduction of fossil-fuel based pollutants, and promoting the green economy, consistent with protection of the environment. The RPS embodies this commitment, but it is evident in other statutes and policies as well, in particular those policies that aim to reduce California's contribution of approximately 6.2 percent of the total United States GHG.

Former Governor Arnold Schwarzenegger issued Executive Order S-03-05 on climate change to advance renewable energy and other solutions to lower California's GHG emissions. Further, in enacting the California Global Warming Solutions Act of 2006 (Assembly Bill 32), the Legislature found that global warming poses a serious threat to California's economic well-being, public health, natural resources, and environment. Aspiring to exercise a global leadership role, Assembly Bill 32 directed the California Air Resources Board (CARB) to develop regulations, market mechanisms, and other actions to reduce California's greenhouse gas emissions, such as carbon dioxide, to 1990 levels by 2020 (see Health and Safety Code, § 38501).

In fulfilling its duties under Assembly Bill 32, CARB determined that electricity generation accounts for approximately 22 percent of carbon dioxide (CO_2) emissions in California due to the burning of fossil fuel energy sources such as coal and natural gas. Renewable energy power plants are urgently needed to

address the emissions and enable the State to meet its GHG reduction objectives and RPS standard. The Project is anticipated to produce approximately 1,410,000,000 kilowatt hours (kWh) of electrical energy per year with corresponding operational GHG emissions of approximately 271 metric tons of CO_2 equivalent (CO_2e), or 806 metric tons of CO_2e if the amortized construction and operational emissions are added (refer to the Air Quality Technical Report). In comparison, gas turbine and coal-fired power plants of the same electrical energy output are estimated to produce approximately 371,922 and 1,062,635 metric tons of CO_2e, respectively. The net GHG emission displacement or offset of the Project's solar facility in place of a conventional fossil-fuel combustion power plant is estimated to range from 371,116 to 1,061,829 CO_2e per year.

Proximity to Electrical Transmission Facilities

A major impediment to meeting the RPS is transmission line capacity and availability. California Independent System Operator (CAISO) manages the high-voltage transmission system and controls the process of obtaining rights to interconnect to the statewide grid. To obtain permission to interconnect with transmission facilities, an electric generator must submit an interconnection application to CAISO, which then places the electric generator into the "interconnection queue" and evaluates and apportions the cost of any associated transmission facility upgrades. Accordingly, a key driver in achieving the State's RPS is to locate renewable energy power plants where transmission capacity is expected to be available and sufficient queue position has been reserved by the electric generator, such that interconnection approvals can be granted within the near term.

The Project would be located within five miles of Southern California Edison's Colorado River Substation, a component of the Devers-Palo Verde 2 Transmission Line project, which received its approval from the California Public Utilities Commission (CPUC) in July 2011 (Decision D.11-07-011) and is under construction. The portion of the proposed 230 kV gen-tie line that is outside of the solar facility would also be collocated in a utility corridor with three approved transmission lines (Blythe Solar Power Project 220 kV gen-tie line, Devers-Palo Verde 2 500 kV Transmission Line, and McCoy Solar Energy Project 230 kV gen-tie line). A portion of the proposed gen-tie line within the solar facility would be collocated within the existing Western Area Power Administration's 161 kV transmission line and existing Blythe 230 kV transmission line.

High Potential Solar Resource Area

The Blythe area receives anywhere between 6.0 and 7.0 kilowatt hours per square meter per day ($kWh/m^2/day$) of solar radiation energy, giving it a higher degree of solar radiation than most areas within the United States (NREL 2012). The BLM and Department of Energy prepared a Solar Energy Development Programmatic Environmental Impact Statement <u>that</u> identified the Riverside East study area (of which Blythe is a part) as having a high potential for solar resources (BLM and DOE 2012). Also, there are a number of proposed and approved solar projects that may be constructed in close proximity to the Blythe area (refer to the Cumulative Project Map found in Chapter 3, Section 3.3). As such, the Project would be sited in an area with excellent solar energy resources in order to maximize productivity from the PV panels.

Site the Project on Disturbed Land and Minimize Adverse Environmental Impacts

To minimize adverse environmental impacts, such as impacts to biological, cultural, and water resources, the solar Project would be sited on land with flat topography that has been previously disturbed by ongoing agricultural activities. It would also be adjacent to the 520 MW natural gas-fired Blythe Generating Plant and would be located one mile east of the Blythe Airport. The solar facility site is bisected by I-10 and has two existing 161 kV transmission lines traversing the site.

Proven and Available Solar PV Technology

The Project would use proven and available ground mounted, tracked, solar PV technology that provides efficient solar energy at a cost-effective utility scale. Solar PV technology has been commercially used for

over 40 years. According to the U.S. Solar Market Insight Report, in 2011, 1,855 MW of photovoltaic solar systems were installed in the United States and the cumulative PV capacity operating in the County now stands at 3,954 MW (Solar Energy Industries Association 2011).

1.3 Joint CEQA/NEPA Document

The Final EIR/EA was prepared as a joint state/federal environmental document (State Clearinghouse Number 2011111056 and EA Number 0021). This document analyzes the effects of the proposed Project (solar facility site and gen-tie line corridor) and Alternatives.

1.3.1 CEQA Environmental Impact Report

Under CEQA, as amended (Public Resources Code Section 21080(a)), an environmental review document must be prepared, reviewed, and certified by the decision-making body before action is taken on any non-exempt discretionary project proposed to be carried out or approved by a State or local public agency in California. This EIR serves as the environmental review document that evaluates the potential environmental effects associated with implementation of the proposed Project. The County is the lead agency responsible for preparation of this EIR in compliance with CEQA. This EIR has been prepared pursuant to CEQA (California Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.).

The EIR will serve as an informational disclosure document for the County, responsible agencies, and other interested parties. The County will consider the conclusions of the Final EIR, in light of the entire administrative record, before certifying the Final EIR and taking action on the Project. The following are included among the stated purposes of an EIR in the CEQA Guidelines:

- Disclose significant environmental impacts that are expected to result from the construction, operation, and maintenance of the proposed Project;
- Indicate ways in which significant impacts can be avoided or mitigated;
- Identify any unavoidable adverse impacts that cannot be mitigated; and
- Identify feasible alternatives to the Project that would substantially lessen or eliminate significant adverse impacts.

1.3.2 NEPA Environmental Assessment

NEPA requires the preparation of an Environmental Impact Statement (EIS) for all "major Federal actions significantly affecting the quality of the human environment" 42 U.S.C. §4332(2)(C). Where, as here, an agency's regulations do not plainly require the preparation of an EIS for a particular type of project, however, the agency ~~must~~ may first prepare an EA to determine whether the action will have a significant effect on the environment and whether an EIS must consequently be prepared. See 40 CFR ~~Part~~ 1501.4. If the agency's analysis determines that the action, with or without mitigation measures, will not have a significant effect on the environment, then the agency may issue a Finding of No Significant Impact (FONSI) in lieu of preparing an EIS (40 CFR ~~Parts~~ 1501.4 and 1508.9). The FONSI must be accompanied by "a convincing statement of reasons~~:~~ to explain why a project's impacts are insignificant." *Blue Mountains Biodiversity Project*, 161 F.3d 1208, 1212 (9th Cir. 1998), *cert den.*, 1999 U.S. LEXIS 4045 (1999).

Identifying a significant effect on the environment involves consideration of the context and intensity of the proposed action. Agencies consider context (whether it be "society as a whole (human, national), the affected region, the affected interests, ~~[or]~~ and the ~~[affected]~~ locality") because "[s]ignificance varies with the setting of the proposed action." 40 CFR ~~Part~~ 1508.27(a). To evaluate intensity, agencies consider the factors listed in 40 CFR 1508.27(b)(1)-(10):

- Impacts that may be both beneficial or adverse;
- Public health and safety;
- Unique characteristics of the geographic area;
- Degree to which effects are likely to be highly controversial;

- Degree to which effects are highly uncertain or involve unique or unknown risks;
- Consideration of whether the action may establish a precedent for future actions with significant effects;
- Consideration of whether the action is related to other actions with cumulatively significant impacts;
- Scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places;
- Threatened or endangered species and their critical habitat; and
- Any effects that threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

~~the degree to which the effects of the action are highly uncertain, affect public health or safety, are likely to be highly controversial, or involve unique or unknown risks. Whether the geographic area of the action has "unique characteristics," such as "proximity to historic or cultural resources, park lands, prime farmlands, wetlands . . . or ecologically critical areas," whether the Project "may cause loss or destruction of significant scientific, cultural, or historic resources," and the likelihood of cumulative impacts are additionally relevant. Finally, agencies must consider whether the decisions made in an EA might "establish a precedent for future actions with significant effects" 40 CFR Part 1508.27(b)(1)-(10).~~

Notwithstanding the fact that an EA is intended to be a concise document (40 CFR ~~Part~~ 1508.9), courts have allowed agencies to consider the effect of mitigation measures in determining whether preparation of an EIS is necessary. *Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851, 860 (9th Cir. 1982). A mitigated EA can consequently be rather lengthy, especially when combined with the requirements of an EIR. An agency decides whether or not an EIS is warranted based on the aforementioned factors and whether significant measures are undertaken as needed to mitigate the effects of the action below levels of significance – not the length of the analysis.

The gen-tie line for the proposed solar facility would traverse BLM-managed lands and trigger the need for environmental review with BLM as the NEPA lead agency. In accordance with NEPA (42 U.S.C. § 4321 et seq.); CEQ's NEPA regulations (40 CFR ~~Parts~~ 1500-1508); the Department of the Interior's NEPA regulations, 43 CFR ~~Part~~ 46; the BLM NEPA Handbook, H-1790-1; FLPMA Sections 201, 202, and 206, (43 U.S.C. §§ 1711, 1712, 1716); 43 CFR ~~Part~~ 1600~~)~~; and the BLM Land Use Planning Handbook, H-1601-1, this joint Final EIR/EA (1) describes the affected environment and ~~relevant to~~ potential impacts of the proposed action, action alternatives, and no action alternative; (2) evaluates the environmental impacts that are expected to result from construction, operation, maintenance, and decommissioning of the proposed gen-tie line and its alternatives in the BLM ROW; (3) evaluates the indirect impacts of a non-federal connected action (the proposed solar facility); and (4) identifies and characterizes cumulative impacts that could result from the proposed action (and its action alternatives) in relation to other ongoing or reasonably foreseeable activities within the surrounding area. Additionally, this Final EIR/EA presents recommended mitigation measures that, if adopted, would avoid, minimize, or mitigate the direct and indirect environmental impacts identified. The information contained in this Final EIR/EA will be considered by the BLM in its deliberations regarding approval of the ROW grant, and may also be considered by other federal agencies for use in decision-making to protect, preserve, and enhance the human environment and natural ecosystems.

As previously described, the solar facility must interconnect to the electrical grid via a gen-tie line; without a gen-tie line on BLM-managed lands, the solar facility site would be stranded. There is no private land alternative for a gen-tie line to connect the solar facility to the Colorado River Substation. The solar facility is a non-Federal connected action. Connected actions are those actions that are "closely related" and "should be discussed" in the same NEPA document (40 CFR ~~Part~~ 1508.25(a)(1)). Actions are connected if they automatically trigger other actions that may require an EIS; cannot or will not proceed unless other actions are taken previously or simultaneously; or are interdependent parts of a larger action and depend on the larger action for their justification (40 CFR ~~Part~~ 1508.25(a)(1)(i, ii, iii). If a non-federal connected action and its effects can be prevented by BLM decision-making, then the effects of the non-federal action are properly considered indirect effects of the BLM action and must be analyzed as effects of the BLM action (40 CFR ~~Parts~~ 1508.~~7~~ 8 and 1508.25(c)). Because it can be difficult to distinguish between direct and indirect effects, BLM policy does not require NEPA documents to differentiate between the terms

(BLM NEPA Handbook (H-1790-1), Section 6.8.2 (2008)). This EA analyzes the direct, indirect, and cumulative effects of the entire Project.

1.4 Final EIR/EA Format and Content

1.4.1 Volumes I and II

This Final EIR/EA is a joint document in compliance with both CEQA and NEPA. The document is longer and more complex than would be typical if the document were an EIR or EA only.

The CEQA Guidelines provide that each EIR contain essential elements of discussion. Table 1-3 identifies each CEQA element that must be described in an EIR along with a reference to the corresponding section(s) in the Final EIR/EA where the elements are discussed.

According to the CEQ NEPA Regulations, an EA must briefly discuss the following: the need for the proposed action; the proposed action and alternatives as required by NEPA Section 102(2)(E), 42 U.S.C. § 4332(2)(E); the environmental impacts of the proposed action and alternatives; and the agencies and persons consulted during preparation of the EA (40 CFR 1508.9(b)). Table 1-1 identifies each NEPA element with a reference to the corresponding section(s) in the Final EIR/EA where the elements are discussed. The format and content of the Final EIR/EA are consistent with the BLM NEPA Handbook (H-1790-1) as listed in Table 1-3.

TABLE 1-3 RECOMMENDED EA SECTIONS AND REQUIRED EIR ELEMENTS

FINAL EIR/EA SECTION	CEQA REQUIRED ELEMENT/CEQA GUIDELINES	RECOMMENDED NEPA EA SECTIONS
Table of Contents	Table of Contents (Section 15122)	n/a
Executive Summary	Summary (Section 15123)	n/a
Chapter 1	Project Description (Section 15124) Regional Map Project Objectives List of Agencies Expected to Use EIR List of Required Permits and Approvals List of Related Review and Consultation Requirements	Introduction Identifying Information Location of Proposal Purpose and Need for Action and Decision to be Made Scoping and Public Involvement Issues
Chapter 2	Project Description (Section 15124) Precise location and boundaries of the Project Project's Characteristics Alternatives to the Proposed Project (Section 15126)	Proposed Action and Alternatives Description of Proposed Action Description of Alternatives Analyzed in Detail Alternatives Considered but not Analyzed in Detail
Chapter 3	Environmental Setting (Section 15125) Effects Found Not to Be Significant (Section 15128)	Affected Environment
Chapter 4	Environmental Impact Analysis (Section 15126) Significant Environmental Effects Significant Environmental Effects that Cannot Be Avoided Mitigation Measures Cumulative Impacts (Section 15130) Alternatives (15126.6)	Environmental Effects Direct and Indirect Effects Cumulative Effects Residual Effects Identify and analyze mitigation measures, if any
Chapter 5	Long-Term Implications of the Proposed Project (Section 15126.2) Significant Irreversible Environmental Changes Growth-Inducing Impacts	n/a

FINAL EIR/EA SECTION	CEQA REQUIRED ELEMENT/CEQA GUIDELINES	RECOMMENDED NEPA EA SECTIONS
Chapter 6	List of Organizations, Agencies, and Persons Consulted and List of Preparers (Section 15129)	Tribes, Individuals, Organizations, or Agencies Consulted List of Preparers
Chapter 7	References (Section 15129)	n/a

n/a = not applicable

The contents of the Final EIR/EA are organized in the following manner:

Volume I

- **Executive Summary**—The Executive Summary is provided to afford the casual reader an opportunity to understand the entire Project and its implications. The Executive Summary includes: a brief description of the Project Applicant; lead agency and responsible agency data; a narrative summary of each significant effect with proposed mitigation measures and alternatives that would reduce that effect; areas of interest known to the lead agencies; and issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.
- **Chapter 1**. **Introduction—**The Introduction briefly describes the purpose and need, and Project objectives; location and characteristics of the Project and Alternatives; and the purpose of NEPA and CEQA. The Introduction also identifies agencies expected to use the Final EIR/EA; permits and other discretionary actions required for the Project; related review and consultation requirements; and contact persons for the Final EIR/EA.
- **Chapter 2**. **Alternatives Including the Proposed Project—**This chapter provides detailed descriptions of the proposed Project and Alternatives. Construction details, operational aspects, and relevant background information are also included.
- **Chapter 3**. **Affected Environment—**This chapter describes the existing environmental setting for the Project and the surrounding study area. It also identifies the regulatory framework for each environmental resource topic. Please see Section 1.5 below for a list of the resource topics covered in this Final EIR/EA.

Volume II

- **Chapter 4. Environmental Consequences Including Cumulative Impacts—**This chapter describes the environmental consequences (direct and indirect impacts) associated with implementation of the proposed Project and Alternatives. It analyzes the potential significant impacts and provides mitigation measures that reduce the magnitude of significant impacts. Residual impacts (impact after mitigation) are also discussed. A discussion of past, present, and reasonably foreseeable future projects and their combined impact with the proposed Project and Alternatives is also included. Please see Section 1.5 below for a list of the resource topics covered in this Final EIR/EA.
- **Chapter 5. Other CEQA Considerations—**Analyses of significant irreversible environmental changes, growth-inducing impacts, and unavoidable significant environmental impacts (under CEQA) are provided.
- **Chapter 6. Coordination and Consultation—**Organizations and persons consulted during preparation of the document. This Chapter identifies persons involved in the preparation of the document.
- **Chapter 7. References**

1.4.2 Volumes III through VI: Technical Appendices

Volume III

Appendix A: Notice of Preparation

Appendix B: Air Quality and Global Climate Change Technical Report

Appendix C1: Biological Resources Technical Report

Appendix C2: 230 kV Transmission Line Alternatives Habitat Assessment Report

Appendix C3: Western Burrowing Owl Survey Report

Appendix C4: Avian and Bat Protection Plan

Appendix C5: Review of Federal Waters

Volume IV

Appendix D1: Archaeological Resource and Built Environment Survey Final Report

Appendix D2: Archaeological Resource and Built Environment Survey Transmission Line Alternatives Supplemental Report

Appendix E: Limited Geotechnical Evaluation

Appendix F: EDR Data Map

Appendix G: Water Supply Assessment

Appendix H: Wash Feature Summary of Findings

Appendix I: Paleontological Resources Survey Report

Appendix J: Traffic Impact Study Report

Appendix K: Glare and Reflection Study

Appendix L: Land Evaluation and Site Assessment

Appendix M: Fish and Wildlife Service Informal Consultation Memo

Appendix N: Airport Land Use Commission Development Review

Volume V

Appendix O: Comments received on the Draft EIR/EA

Volume VI

Appendix P: Corrections and additions to the Draft EIR/EA text

Appendix Q: Mitigation Monitoring and Reporting Program

Appendix R: Fast Track Authorization FTA No. 2013-10 form

Appendix S (includes the following):

- Notice of Availability with attachments for the Draft EIR/EA
- Notice of Completion and Environmental Transmittal Form for the Draft EIR/EA
- July 10, 2014 Public meeting transcript

Appendix T: Blythe Mesa Solar Project Phase I Environmental Site Assessment

Appendix U: 2013 Protocol Burrowing Owl Survey Results

Appendix V: August 7th Letter from the Soboba Cultural Resource Department

1.5 Scope of the Draft EIR/EA and Known Areas of Interest

1.5.1 CEQA Scoping

Scoping was conducted for this Project to identify the scope of the environmental analysis. A~~n~~ Notice of Preparation (NOP) of a Draft EIR/EA for the Project was issued by the County on November 16, 2011. Copies of the NOP were provided to the Office of Planning and Research (State Clearinghouse) for issuance to State agencies. Seventy-five copies of the NOP were distributed to federal, State, and local

agencies, responsible and trustee agencies, local governments, private organizations, Native American tribes, and other interested parties. A Scoping Session Notice was sent to 120 property owners within 2,400 feet of the Project boundary. The comment period for the NOP began on November 16, 2011, and ended on December 21, 2011. In compliance with California Code of Regulations (CCR) Title 14, Section 15082(c) (CEQA Guidelines), Riverside County conducted the first public scoping meeting on December 12, 2011. The purpose was to inform the public about the Project; describe the purpose and need of the Project; provide information regarding the environmental review process; and gather public input regarding the scope and content of the Draft EIR/EA. A total of ten comments were received during scoping, all from agencies (one of the ten comments was a courtesy notice from the State Clearinghouse to comment in a timely manner). The comment letters in response to the NOP raised the issue topics listed below. The Scoping Report that contains the comment letters can be found in Appendix A.

- Air Quality
- Public Services and Utilities
- Socioeconomics
- Hazardous Materials/Soils
- Cultural Resources

1.5.2 Water Resources BLM Scoping

On October 4, 2012, the BLM conducted a scoping meeting in Blythe, California. The BLM and Applicant presented information about the Project, alternatives, environmental review process, and potential impacts. A question and answer session was held after the presentation. At the conclusion of the question and answer session, the open house continued and staff members were available to answer questions and gather input. A total of ten individuals attended the meeting. A Public Meeting announcement was mailed to 139 recipients, which included agencies, Native American tribes, organizations, and interested individuals. A newspaper advertisement in the *Palo Verde Valley Times* was published on September 28, 2012, that announced the public meeting date, time, and location.

In addition to the oral comments received at the BLM scoping meeting on October 4, 2012, a total of three comments were received. One comment was made by a concerned citizen on a public comment card. The other two were both from the same individual from a Native American organization. All three copies of the original comments may be found in Appendix A. The issue topics raised by the commenters included:

- Public Services and Utilities
- Socioeconomics
- Cultural Resources
- Hazards

1.5.3 Areas of Interest

The following environmental resources had a potential to be affected by activities related to the proposed Project and Alternatives and are evaluated in this Final EIR/EA:

- Aesthetics, Visual Resources, and Reflection
- Agriculture
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Paleontological Resources

- Population, Housing, Public Services, Utilities, and Socioeconomics
- Recreation
- Traffic and Transportation

The following environmental resources are either not present or not impacted by the proposed Project or its alternative, and therefore not discussed in detail in this Final EIR/EA:

- Forestry
- Mineral Resources
- Livestock Grazing
- Wild Horses and Burros

The Project area and surrounding area do not house any forestry or mineral resources. Grazing does not occur on the Project and potential habitat is not documented within the study area for burros. Accordingly, impacts to these resources are clearly unlikely to occur.

1.6 Agencies Relying on the Final EIR/EA; Anticipated Permits and Approvals

The table below provides a list of the anticipated federal, State, and local permits and approvals that would be required for the proposed Project and the agencies that are anticipated to rely on the Final EIR/EA. Other relevant laws, regulations, plans, and policies applicable to the proposed Project are summarized in the resource- and issue-specific sections in Chapter 3. Please refer to Chapter 6, Coordination and Consultation, for a detailed discussion on consultations and persons consulted for the proposed Project and Alternatives.

TABLE 1-4 ANTICIPATED PERMITS AND APPROVALS

ACCEPTING AUTHORITY/ APPROVING AGENCY	PERMIT/APPROVAL	TRIGGERING ACTION	STATUTORY REFERENCE
Federal			
BLM	Grant of ROW and Temporary Use Permit	Proposed gen-tie line construction and operation would occur, in part, on lands under BLM management	Federal Land Policy and Management Act of 1976 (PL 94-579), 43 U.S.C. §§1761-1771; 43 CFR ~~Part~~ 2800. National Environmental Policy Act of 1969 as amended (PL 91-190), 42 U.S.C. §4332, and related statutes
United States Army Corps of Engineers	Nationwide Permit 12	Proposed gen-tie line construction and operation would occur, in part, within waters of the United States	Clean Water Act, Section 404
State of California			
California Department of Fish and Wildlife	Lake or Streambed Alteration Agreement	Proposed construction and operation may potentially impact sensitive biological resources	California Fish and Game Code, Section 1601
State Water Resources Control Board – California Water Quality Control Boards for Colorado River Region	The Applicant must demonstrate compliance with General Discharge Permits for Storm Water Associated with Construction Activity	Proposed construction may involve storm water discharges to surface Waters of the State	Clean Water Act, Section 401

ACCEPTING AUTHORITY/ APPROVING AGENCY	PERMIT/APPROVAL	TRIGGERING ACTION	STATUTORY REFERENCE
California Department of Transportation, District 8	Encroachment Permit	Proposed construction and operations would occur within and across a California highway ROW	The California Streets and Highways Code, Sections 660 to 734
County of Riverside			
County of Riverside	Conditional Use Permit Public Use Permit Development Agreement	Proposed construction and operation of the Project is located within County jurisdiction	County of Riverside Zoning Ordinance (Ordinance No. 348; CEQA, California Public Resources Code, Sec. 21000 et seq.
	Rezoning, Designation of Agricultural Preserve, Williamson Act Contract Cancellation of Williamson Act Contract and agricultural preserve	Actions taken to encourage agricultural production until all or portions of the site are developed as solar facilities	California Government Code sections 51200 et seq. ; California Government Code section 51282
City of Blythe			
City of Blythe	Conditional Use Permit	Proposed construction and operation of the Project is located within the City limits	City of Blythe, Code of Ordinances, Title 17, Zoning

1.6.1 Related State and Local Review and Consultation Requirements

Ancillary permits, including encroachment permits, grading and construction permits, and certificates of occupancy, are anticipated from the County and the City. These permits and approvals are local ministerial actions that are parallel to or follow CEQA compliance. Other State and local agencies or regulatory entities that could exercise authority over specific elements of the proposed Project include:

- Riverside County Airport Land Use Commission (ALUC): On April 12, 2012, the ALUC reviewed the proposed solar facility layout, transmission components, glint and glare analysis, and ancillary facilities and found the Project consistent with the 2004 Blythe Airport Land Use Compatibility Plan subject to a number of conditions.
- California Department of Transportation, District 8: An encroachment permit would be needed for any Project construction and operations that occur within or across a California highway ROW.
- California Department of Fish and Wildlife (CDFW): Informal consultation has occurred with the CDFW, Inland Desert Region, concerning the scope of biological resource studies and species of interest relative to the proposed Project on private lands.
- Mojave Desert Air Quality Management District (MDAQMD): Permits regulating air pollutant emissions during Project construction, operation, maintenance, and decommissioning are anticipated to be issued by the MDAQMD upon demonstration that the Project will comply with local air regulations.
- Palo Verde Irrigation District (PVID)/County Service Area #22: The Applicant has consulted with the PVID regarding the availability of water supplies to serve the proposed Project, including preparation of Water Supply Assessment pursuant to State law. The Applicant has consulted with and received a will-serve letter from the potable water purveyor, County Service Area #22.
- Native American Heritage Commission (NAHC): In April 2011, prior to the commencement of archeological field surveys of the Project area, the Applicant submitted a letter to the NAHC. The letter requested a list of Native American tribes that should be contacted for information about cultural resources that may occur on or in close proximity to the proposed Project area, as well a Sacred Lands File search. Information requests were submitted to the listed Tribes via United States mail.

- California Independent System Operator (CAISO): The Applicant has applied for and been granted a reservation by CAISO for a secured interconnection queue position sufficient for the size of the Project at the Colorado River Substation. This is a necessary element of being able to transmit generated power to the statewide electric grid.

Additional legislative enactments may be sought from Riverside County by the Applicant, but these would not change the physical aspects of the Project or its impacts. The Project is being pursued pursuant to land use amendments recently adopted by Riverside County. These include General Plan Amendment 1080, which added Land Use Policy LU-15.15, stating: "Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside." In connection with GPA 1080, Riverside also enacted Ordinance No. 348.4705, which amended the zoning code to allow a solar power plant on a lot 10 acres or larger in certain zoning districts,[2] upon issuance of a use permit.

1.6.2 Related Federal Review and Consultation Requirements

In addition to complying with NEPA, the BLM will comply with other federal regulations and authorizations and conduct necessary consultations regarding the resources potentially affected by the proposed Project. Such consultations include but are not limited to:

- United States Fish and Wildlife Service (USFWS): The USFWS has jurisdiction to protect threatened and endangered species under the Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.). Under Section 7 of the ESA, the BLM is obligated to conduct informal and, if necessary, formal consultation with the USFWS relative to federal actions that may adversely affect a federally listed species. BLM conducted informal consultation, which resulted in the USFWS issuing a determination letter that the Project would not likely adversely affect federally listed desert tortoise (see Appendix M of this Final EIR/EA). Therefore, an ESA Section 7 formal consultation is not required.

- Section 106 of the National Historic Preservation Act (NHPA), as amended, 16 U.S.C. §470f, now codified at 54 U.S.C. 306108, ~~(36 CFR Part 800),~~ requires federal agencies to take into account the effects of a proposed undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment (36 CFR ~~Part~~ 800.1(a)). The Section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess the undertaking's effects, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties (36 CFR ~~Part~~ 800.1). (Refer to Chapter 3.2.5 and 4.2.5, Cultural Resources for a detailed discussion). ~~As required by Section 106, the BLM sent a consultation letter to the ACHP on August 7, 2013, summarizing its determinations of NRHP eligibility for cultural resources within the area of potential effect and its findings of effect.~~

    - As required by Section 106, the BLM sent a consultation letter to the ACHP on August 7, 2013, summarizing its determinations of NRHP eligibility for cultural resources within the area of potential effect (APE) and its findings of effect. The ACHP declined to participate in the proposed project by letter on August 14, 2013.

[2] The zoning districts are: General Commercial (C-1/C-P), Commercial Tourist (C-T), Scenic Highway Commercial (C-P-S), Rural Commercial (C-R), Industrial Park (I-P), Manufacturing Servicing Commercial (M-SC), Medium Manufacturing (M-M), Heavy Manufacturing (M-H), Mineral Resources (M-R), Mineral Resource and Related Manufacturing (M-R-A), Light Agriculture (A-1), Light Agriculture with Poultry (A-P), Heavy Agriculture (A-2), Agriculture-Dairy (A-D), Controlled Development (W-2) , Regulated Development Areas (R-D), Natural Assets (N-A), Waterways and Watercourses (W-1), and Wind Energy Resource Zone (W-E).

- On August 7, 2013, the BLM notified the State Historic Preservation Officer (SHPO) about the Project and requested initiation of formal consultation regarding the undertaking, which follows the procedures of 36 CFR ~~Part~~ 800.2(c)(1)). The letter also summarized the BLM's determinations of eligibility for cultural resources within the ~~area of potential effect~~ APE and its findings of effect. On October 21, 2013 the SHPO requested additional information, which the BLM provided on April 14, 2014. The SHPO concurred with the BLM's determinations of eligibility and findings of effect (refer to Table 3.2.5-1 and Table 4.2.5-1) that the sites are not eligible for listing, by letter on June 9, 2014.
- Tribal Consultation: As part of the Section 106 process of the NHPA (36 CFR ~~Part~~ 800.2(c)(2)), the BLM has consulted directly with ~~Native American "~~Indian tribes" regarding properties of cultural or religious significance that may be affected by the proposed action. Tribal consultation on the proposed Project was initiated by letter on March 12, 2012 and is ongoing.

- Government-to-Government Consultation: In addition to the requirements of the NHPA and NEPA, the BLM is required to consult with ~~Native American "~~Indian tribes" according to *Executive Order 13175, Consultation and Coordination with Indian Tribal Government*s, which directs federal agencies to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Native American tribes, and to reduce the imposition of unfunded mandates upon Native American tribes. Also, the Presidential *Memorandum for the Heads of Executive Departments and Agencies Regarding Government-to-Government Relations with Native American Tribal Governments,* issued November 5, 2009, directs executive departments and agencies to engage in regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the government-to-government relationship between the United States and Native American tribes. Government-to-government consultation between the BLM and tribal governments is an on-going process that will continue even after the Section 106 process for the proposed Project has been completed.

- Federal Aviation Administration (FAA), Objects Affecting Navigable Airspace: In conjunction with ALUC project review, the Applicant submitted tower structure locations and other relevant Project features to the FAA for formal hazard determination under 49 U.S.C. §1501; 13 CFR ~~Part~~ 77, Objects Affecting Navigable Airspace. In April 2012, the FAA conducted aeronautical studies (Aeronautical Study Nos. 2012-AWP-551-OE, 2012-AWP-552-OE, 2012-AWP-562-OE, 2012-AWP-566-OE through 2012-AWP-571-OE, 2012-AWP-573-OE, 2012-AWP-1712-OE through 2012-AWP-1725-OE) and issued "No Hazard to Air Navigation" Determinations for the 230 kV gen-tie line structures (see Appendix N of this Final EIR/EA). Prior to construction, the Applicant must submit a Notice to Construct (FAA Form 7460-2) and receive authorization from FAA.

- United States Army Corps of Engineers (USACE) Jurisdictional Waters: The USACE has jurisdiction to protect the aquatic ecosystem, including water quality and wetland resources, under Section 404 of the Clean Water Act (CWA). Under that authority, the USACE regulates the discharge of dredged or fill material into waters of the United States, including wetlands, by reviewing proposed projects to determine whether they may impact such resources and, thereby, are subject to a Section 404 permit. The Applicant has informally consulted with the USACE to assist the agency in making a determination regarding its jurisdiction and the need for a Section 404 permit. The determination is pending.

1.7 Contact Persons

Please contact the following individuals regarding questions and concerns about the Project:

CEQA Lead Agency:
Larry Ross, Principal Planner
Riverside County Planning Department
4080 Lemon Street, 12th Floor
P.O. Box 1409
Riverside, CA 92502-1409

NEPA Lead Agency:
Frank McMenimen, Project Manager
Bureau of Land Management
Palm Spring South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262

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CHAPTER 2: ALTERNATIVES INCLUDING THE PROPOSED PROJECT

2.1 Overview

The California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) both require consideration of a reasonable range of alternatives to the proposed Blythe Mesa Solar Project (Project) that would attain most of the basic objectives of the Project or meet the United States Department of the Interior, Bureau of Land Management's (BLM's) purpose and need. CEQA requires that decision-makers adopt mitigation measures or alternatives that would avoid or substantially lessen any of the significant effects of the Project, and the Environmental Impact Report (EIR) must contain sufficient information to allow them to do so. Under NEPA, the analysis of alternatives in an Environmental Assessment (EA) need not be as comprehensive and detailed as the alternatives analysis required for an Environmental Impact Statement, but should consider unresolved conflicts concerning alternative uses of available resources (40 Code of Federal Regulations [CFR] ~~Part~~ 1508.9(b), BLM NEPA Handbook H-1790-1, section 8.3.4.2). Chapter 1 describes the purpose and need for the Project and Project objectives. This chapter addresses the development of the range of alternatives considered; provides a detailed description of the proposed Project and alternatives~~,~~ selected for detailed study~~,~~ and describes the alternatives considered and eliminated from further analysis.

2.1.1 Overview of Solar Technology

Solar cells, also called photovoltaic (PV) cells, convert sunlight directly into electricity. PV gets its name from the process of converting light (photons) to electricity (voltage), which is called the *PV effect.* PV cells are located on panels, which are mounted at a fixed angle facing south or on a tracking device that follows the sun, allowing them to capture more sunlight than a fixed mount system. Many solar panels on multiple rows combined together and controlled by a single motor create one system called a solar tracker. For large electric utility or industrial applications, hundreds of solar trackers are interconnected to form a large utility-scale PV system.

2.1.2 Insolation

Insolation is a measure of solar radiation energy received on a given surface in a given time. It is commonly expressed as an average irradiance in watts per square meter (W/m^2) or kilowatt-hours per square meter per day ($kWh/m^2/day$). The Blythe area receives anywhere between 6.0 and 7.0 $kWh/m^2/day$ of solar radiation energy, giving it a higher degree of solar radiation than most areas within the United States (NREL 2012).

The amount of the sun's heat absorbed by a solar panel is similar to the amount of the sun's heat absorbed by the earth. Solar panels, however, store less heat than the earth. A solar panel is thin—the glass is approximately 3.0 millimeters (0.12 inch) in thickness—lightweight, and surrounded by airflow (because it is mounted above the ground). Therefore, heat dissipates quickly from a solar panel. The normal operating condition temperature for solar panels would be 20 degrees Celsius (°C) or 68 degrees Fahrenheit (°F) above ambient temperature, and so a typical summer day at 40°C (104° F) results in panel temperatures of approximately 60°C (140°F). When accounting for irradiance, wind, and module type, it is expected that the peak module temperatures would be between 35°C and 40°C (95°F and 104°F). Although the panels would be hot to the touch, the temperature below the panels would be nearly the same as ambient temperatures in the ordinary shade.

2.2 Alternative 1: Proposed Project

The Project would consist of the construction, operation, maintenance, and decommissioning of an up to 485 megawatt (MW) alternating current solar PV electrical generating facility and associated infrastructure to provide site access and connection to the statewide electricity transmission grid.

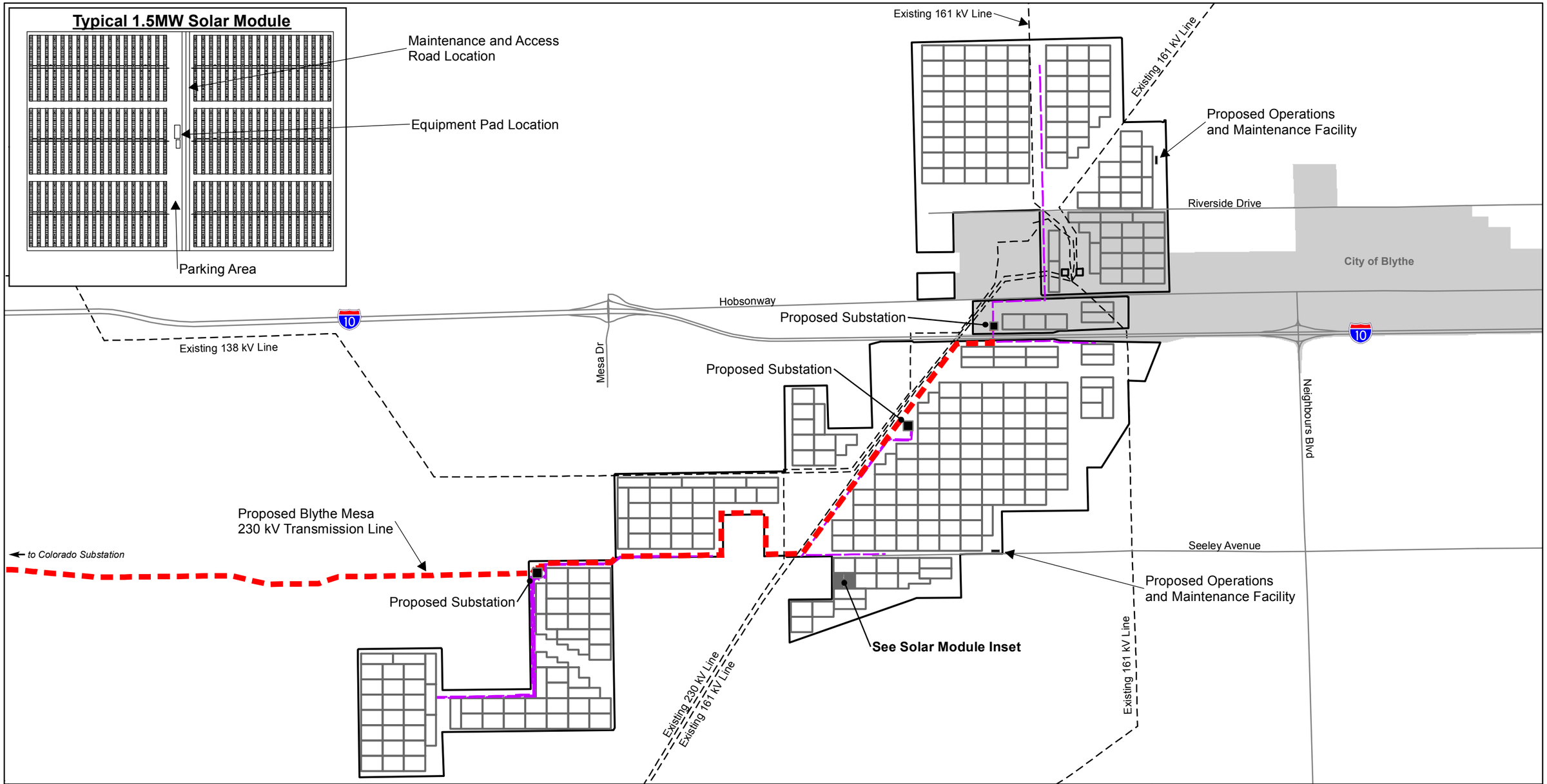
The Project is proposed to be located on approximately 3,660 acres in the Palo Verde Mesa region of Riverside County—approximately 3,587 acres for the solar field and 73 acres for the 230 kilovolt (kV) generation interconnection (gen-tie) line. The power produced by the Project would be conveyed to the local power grid via interconnection to the Southern California Edison (SCE) Colorado River Substation, an approved new substation located south of Interstate 10 (I-10) and approximately four miles west of the Project site. The Project has secured a California Independent System Operator (CAISO) interconnection queue position sufficient for the size of the Project. The Project would produce enough energy to power approximately 180,000 households and progress the goals of the California Renewable Portfolio Standard (RPS) and other similar renewable programs in the state. The Project would also assist in meeting President Obama's Climate Action Plan, which set a goal of issuing an additional 10 gigawatts of renewable electric generation on public lands by 2020.

The proposed Project would consist of the following components (see Figure 2-1):

- **Solar facility site (3,587 total acres)**
    - Solar array field that would utilize single-axis solar PV trackers (295 feet long and 140 feet. wide). Six trackers with 18 north-south oriented rows of PV panels would be configured into 1.5 MW blocks (600 feet long by 470 feet wide).
    - System of interior collection power lines (34.5 kV) located between inverters and substations.
    - Up to three on-site substations (each approximately 90,000 square feet).
    - Up to two operations and maintenance (O&M) buildings (approximately 3,500 square feet each).
    - Associated communication facilities and site infrastructure.
    - Two primary off-site access roads and several interior access roads.
- **Approximately 8.4 miles of 230 kV gen-tie transmission line**
    - Approximately 3.6 miles would be located within the solar facility, which would connect all on-site substations.
    - Approximately 4.8 miles would extend outside of the solar facility and would be placed within a 125-foot-wide ROW and occupy 73 acres. Of this, 3.8 miles would traverse BLM-managed lands, within portions of sections 7 through 12, inclusive, township 7 south, range 21 east, San Bernardino Meridian, California, ~~with~~on 53 acres within the Riverside East Solar Energy Zone (SEZ). At the end of the energy sales contract term (20-year term) of Alternative 1, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled within the Project area. Following decommissioning and dismantling of the solar facility and gen-tie line, the ~~site~~ area that was previously occupied by agriculture would be made available for reversion to agricultural use.

The fenced-in solar PV electric generation facility would occupy approximately 3,587 acres on privately owned land (approximately 3,253 acres are within the County of Riverside and approximately 334 acres are within the City of Blythe). The portion of the gen-tie line outside the solar facility site, from the southernmost substation to the Colorado River Substation, would traverse 3.8 miles of BLM-managed lands (approximately 58 acres) and approximately one mile of private land (approximately 15 acres). The term "Project area" is used in this document to refer to the proposed 485 MW solar PV facility and associated infrastructure (3,587 acres), as well as the proposed 230 kV transmission line (gen-tie line) (73 acres).

The BLM's action options would be to deny the proposed ROW grant, grant the ROW, or grant the ROW with modifications. The BLM may include any terms, conditions, and stipulations it determines to be in the public interest, and may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR ~~Part~~ 2805.10(a)(1)).



Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Proposed 34.5 kV Transmission Line
- Existing Transmission Line
- 1.5 MW Solar Module
- City of Blythe

N

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Feet
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FIGURE 2-1
SITE PLAN

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS RENEWABLERESOURCESGROUP

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2.2.1 Project Facilities

Solar Array Field

The Project would utilize single-axis PV trackers with approximately 1,425,600 high-efficiency~~, monocrystalline, silicon~~ solar panels. The panels would be configured into trackers, and the trackers configured into blocks approximately 660 feet wide and 470 feet long (refer to Figure 2-2). Each block comprises six trackers with 18 north-south oriented rows of PV panels (295 feet long and 140 feet wide) that rotate up to 45 degrees from east to west to track the sun (total number of rows is 35,640), with the center of rotation being approximately four to eight feet above grade (refer to Figure 2-3). Solar panels at an upright position would have a minimum clearance of 24 inches above the highest adjacent ground. The height range of the solar panels would be from 8.5 feet to a maximum of 14 feet. Within each tracker, the rows of PV panels would be linked by a steel drive strut (295 feet long), which would be oriented perpendicular to the axis of rotation. Each row would be connected to the drive strut by a torque arm, which acts as a lever, enabling the drive strut to rotate the rows in unison. A small 0.5-horsepower electric drive motor would move the drive strut back and forth and is typically mounted in the center of a block. The drive motor would be placed on a concrete foundation that is approximately 2.5 feet in diameter and a minimum of 1.5 feet above ground level. Torque tubes act as the horizontal support for the PV panels and are in turn supported by micro piles (15 to 20 feet long and having a 4.5-inch outer diameter), which are driven directly into the ground (i.e., no concrete footings are used) and are able to withstand high-wind conditions as required under International Building Code (IBC) occupancy classification U. The metal structural elements would be constructed of corrosion-resistant galvanized steel.

FIGURE 2-2 TYPICAL 1.5 MW SOLAR ARRAY

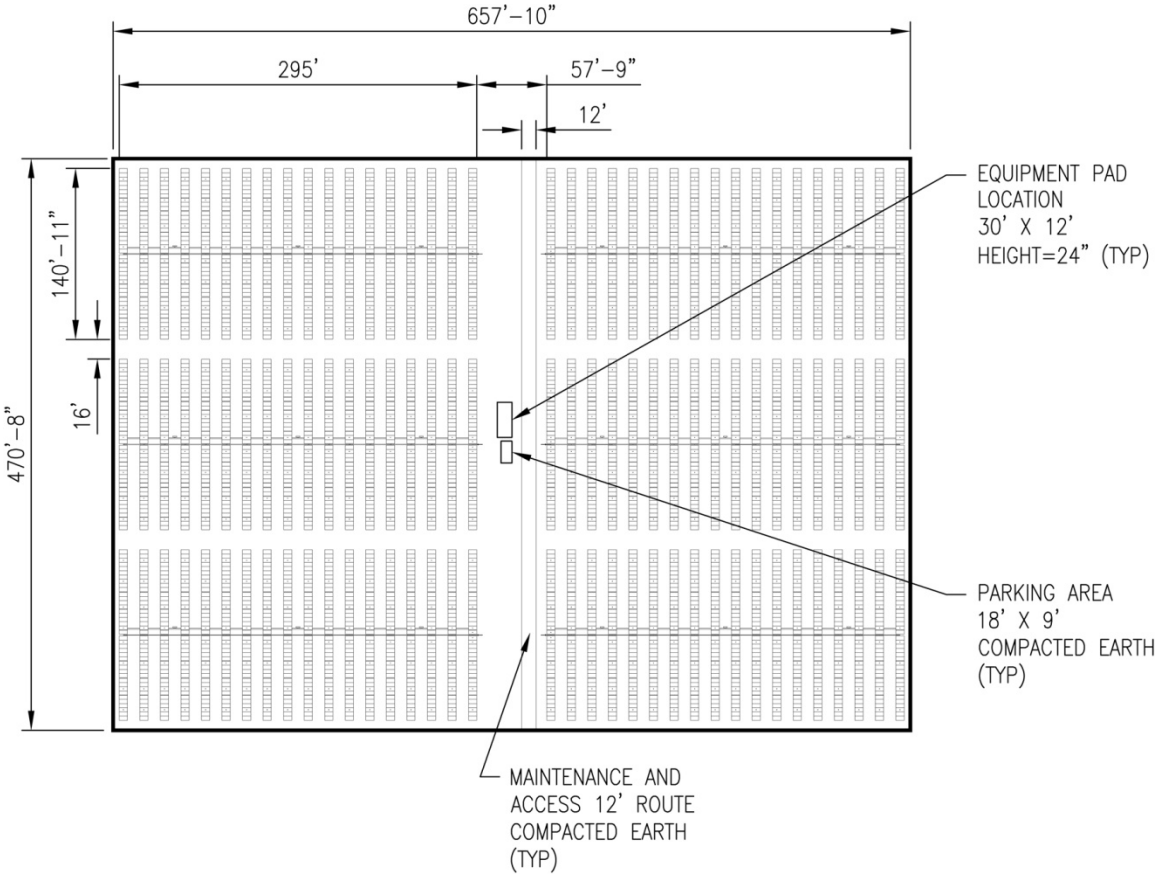
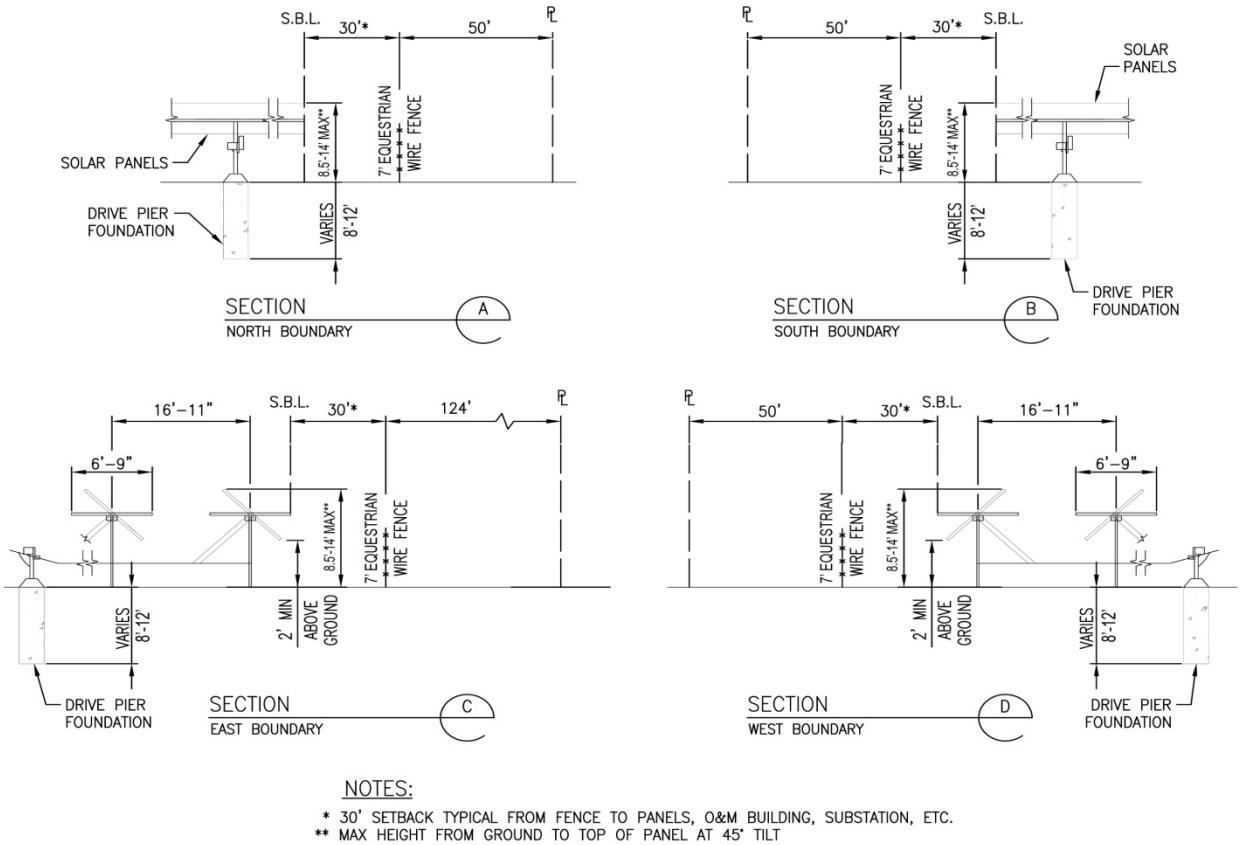


FIGURE 2-3 TRACKER SPECIFICATIONS



Combiners, Inverters, and Transformers

Individual PV panels would be connected together in series to create a “string” to carry direct current (DC) electricity. Multiple DC strings would be brought together into an above-ground combiner box to merge the strings into a single high-current cable and provide overcurrent protection. From the combiner boxes, the cabling would run in raceways and underground to inverters (5.0 feet wide and 10.5 feet tall) mounted on small concrete pads (minimum 0.5 foot above grade) distributed across the site. The inverters would take the DC output from the combiner boxes and convert it to alternating current (AC) electricity. Figure 2-4 illustrates the process from PV panels to the proposed substation.

Installation of the electrical collection system would require excavations to a depth of about three feet for underground electrical circuits.

Next, the AC electricity would be increased to medium voltage (34.5 kV) with a standard “step-up” transformer. The medium-voltage collection lines would begin at the inverter/transformer pads and would be located in trenches about three feet deep until the output from 10 to 15 blocks is gathered and transferred at risers to a system of overhead medium-voltage collection lines for transmission to the substations (Figure 2-5). The medium-voltage collection circuits would be mounted above-ground on poles 35 to 60 feet tall, have an average tower to tower span of approximately 200 feet, and carry 20 to 30 MW of electricity (see Figure 2-6). To the extent possible, the poles would be located along the northern edge of the blocks.

FIGURE 2-4 PV PANELS TO PROPOSED SUBSTATION

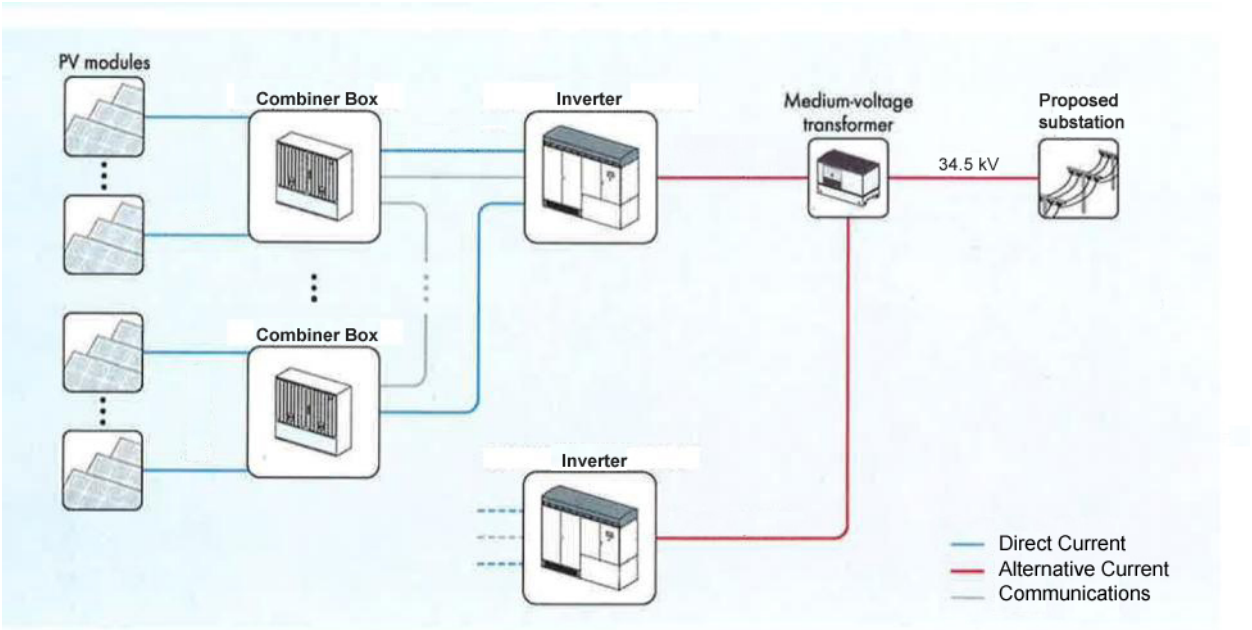
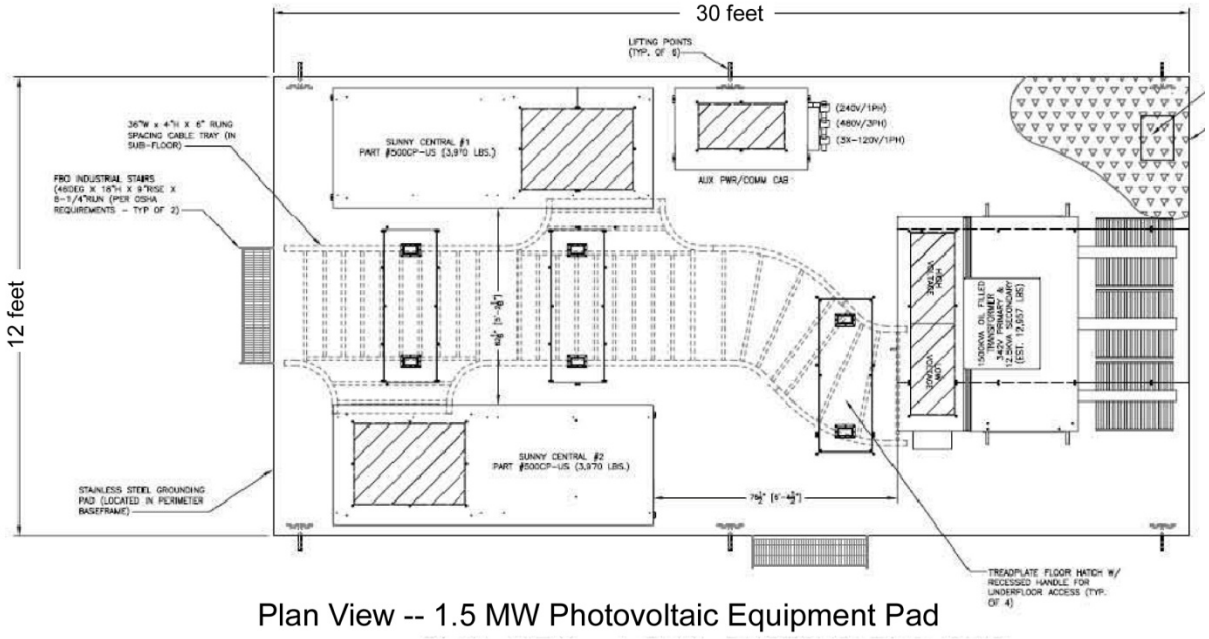
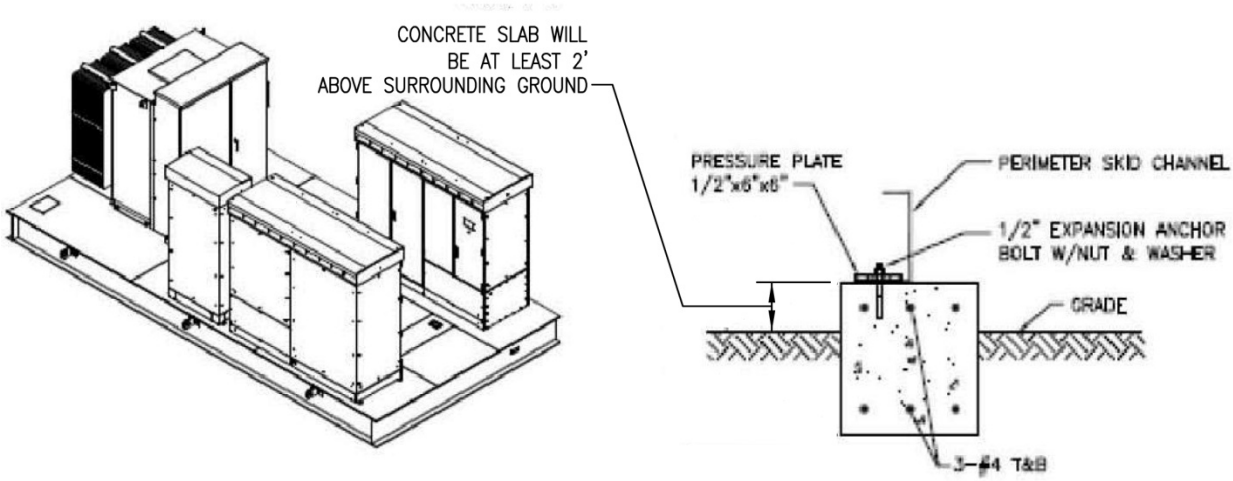


FIGURE 2-5 EQUIPMENT PAD CONTAINING INVERTER AND TRANSFORMER

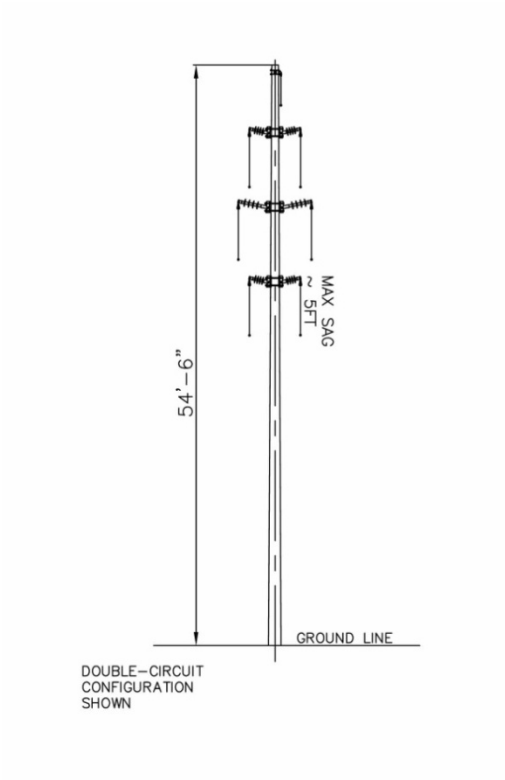


Plan View -- 1.5 MW Photovoltaic Equipment Pad



INVERTER/TRANSFORMER EQUIPMENT PAD

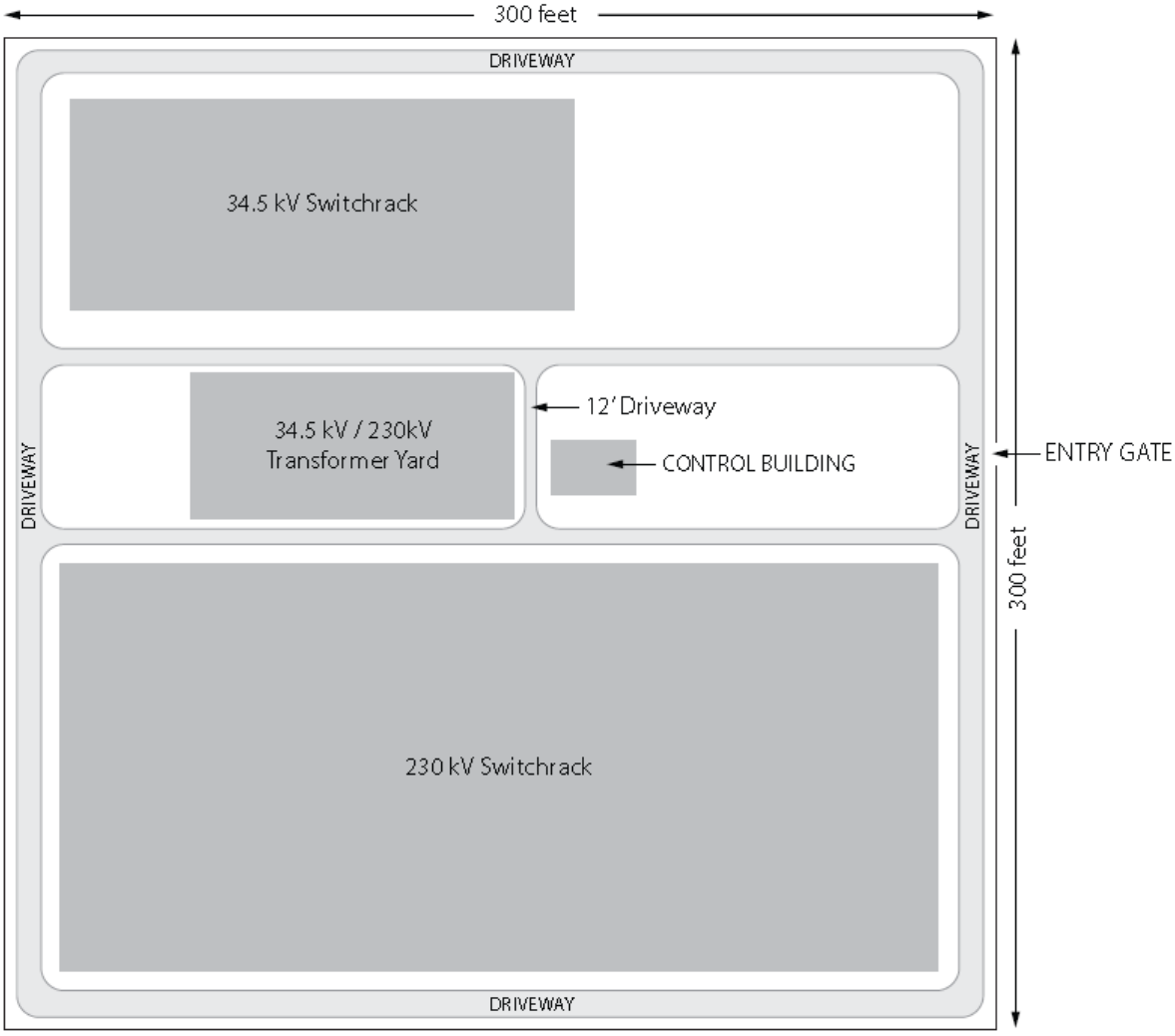
FIGURE 2-6 MEDIUM VOLTAGE OVERHEAD POLES



Substation and Switchgear Pads

The three Project substations (each approximately 300 feet long by 300 feet wide) would collect all the medium-voltage circuits and step up the voltage to 230 kV. The internal arrangement for the substations would include a 34.5 kV switchrack and outdoor breaker assemblies, 230 kV outdoor breakers and switches, a 34.5 kV / 230 kV transformer yard, and a control building (see Figure 2-7). The substation foundations would be a minimum of 24-inches above the highest adjacent ground.

FIGURE 2-7 INTERNAL SUBSTATION ARRANGEMENT



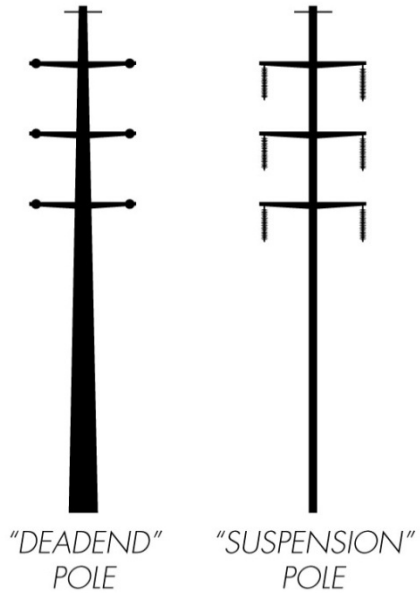
Substation and Switchgear Pads

The Applicant proposes to construct an approximately 8.4-mile-long, 230 kV overhead gen-tie line from the proposed on-site substation located just north of I-10 to the Colorado River Substation that is currently under construction. Approximately 3.6 miles of the gen-tie line would be located within the solar facility. From the southernmost substation to the Colorado River Substation, the gen-tie line would extend another 4.8 miles within a 125-foot-wide ROW (3.8 miles would traverse BLM-managed lands and one mile would traverse private land). The gen-tie line would run parallel to and immediately south of the 500 kV Desert Southwest Transmission Line corridor.

The gen-tie line facilities would include a set of double-circuit tubular steel poles (only one circuit would be strung and the other circuit would be vacant) that are 85 to 125 feet tall with an average tower-to-tower span length of 500 to 800 feet (see Figure 2-8). Structure heights and corresponding span lengths meet Federal Aviation Administration (FAA) requirements for the nearby Blythe Airport. The suspension poles would typically be four to six feet in diameter. At angle or dead-end points along the gen-tie path, larger poles would be required that would be approximately six to ten feet in diameter. The poles would be directly embedded in the soil or set in concrete foundations approximately 20 to 30 feet deep. Concrete foundations, if used, would typically extend one foot laterally beyond the base of the poles, adding up to

two feet to the overall diameter of the permanent footprint of each pole location. Temporary access roads to each structure would be 12 to 16 feet wide, covered with eight inches of gravel over compacted sub-grade, and located within the proposed ROW.

FIGURE 2-8 GEN-TIE LINE POLES



Operation and Maintenance Buildings

Up to two O&M buildings (approximately 3,500 square feet each, enclosed, and no more than 20 feet tall) would provide work space for maintenance staff and storage space for spare parts. The locations of the buildings are shown in Figure 2-1 with the layout and elevations illustrated in Figures 2-9 and 2-10. The buildings shall be constructed with the finished floor a minimum of 24-inches above the highest adjacent ground. The building would include bathroom facilities serviced by a private septic system and would be designated occupancy classification U. A covered outdoor temporary assembly and storage area (80,000 square feet, 25 feet tall) would be directly adjacent to the O&M building(s).

Access Roads

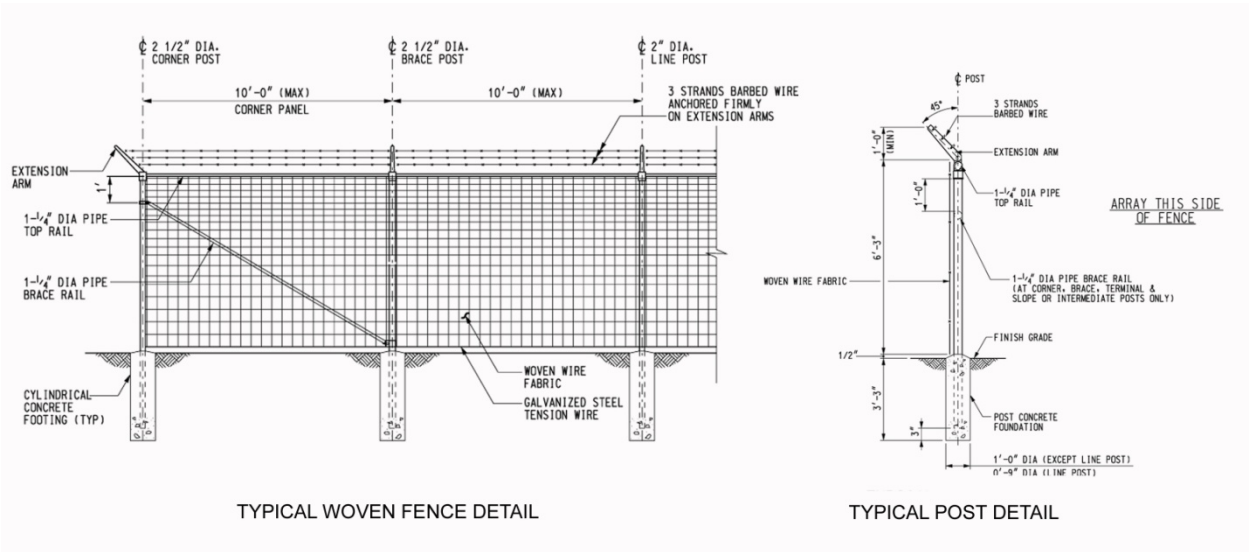
Two access points to the solar facility are planned on Seeley Avenue and Riverside Drive; both accessible from the Neighbors Boulevard off-ramp from I-10 (see Figure 2-1). The primary access roads would be improved at the entrance to the site for 100 feet and would be 16 to 20 feet wide.

Unpaved access roads within the solar field would be 12 feet wide and constructed approximately every 200 to 400 feet to allow access to and maintenance of the solar panels.

Other Infrastructure

The solar facility would be enclosed with fencing that meets National Electric and Safety Code (NESC) requirements for protective arrangements in electric supply stations, such as a seven-foot-tall, equestrian-type wire fence along the perimeter (see Figure 2-11). This type of fence allows smaller wildlife to enter and exit the solar facility site, as well as allows water to flow through. The fence would typically be set 30 feet from the edge of the solar array.

FIGURE 2-11 FENCE DETAILS



2.2.2 Construction

Site Preparation

Since most of the site has nearly level to gently sloping topography, no mass grading would be required. Some of the parcels where facilities and arrays would be located would require light grubbing for leveling and trenching. Access roads would require minimal grading. After grubbing and light grading, construction of staging areas would occur. On-site pre-assembly of trackers would take place in the assembly area.

The PV system proposed for the site can operate on slopes up to nine percent in all directions. Fine grading would only be required for the development of site access. During construction, it is anticipated that a total of up to approximately 1,354 acre-feet (AF) of water (451 AF per year) would be utilized for soil moisture conditioning and dust control (final use numbers will be further refined pre-construction).

Minor demolition of existing site structures (e.g., storage buildings in citrus grove, three on-site residences) would be required.

Installation of the electrical collection system would require excavations to a depth of about three feet for underground electrical circuits, inverter and switchgear enclosure foundations, and transformer foundations. The O&M building foundations would also be excavated to a depth of about three feet.

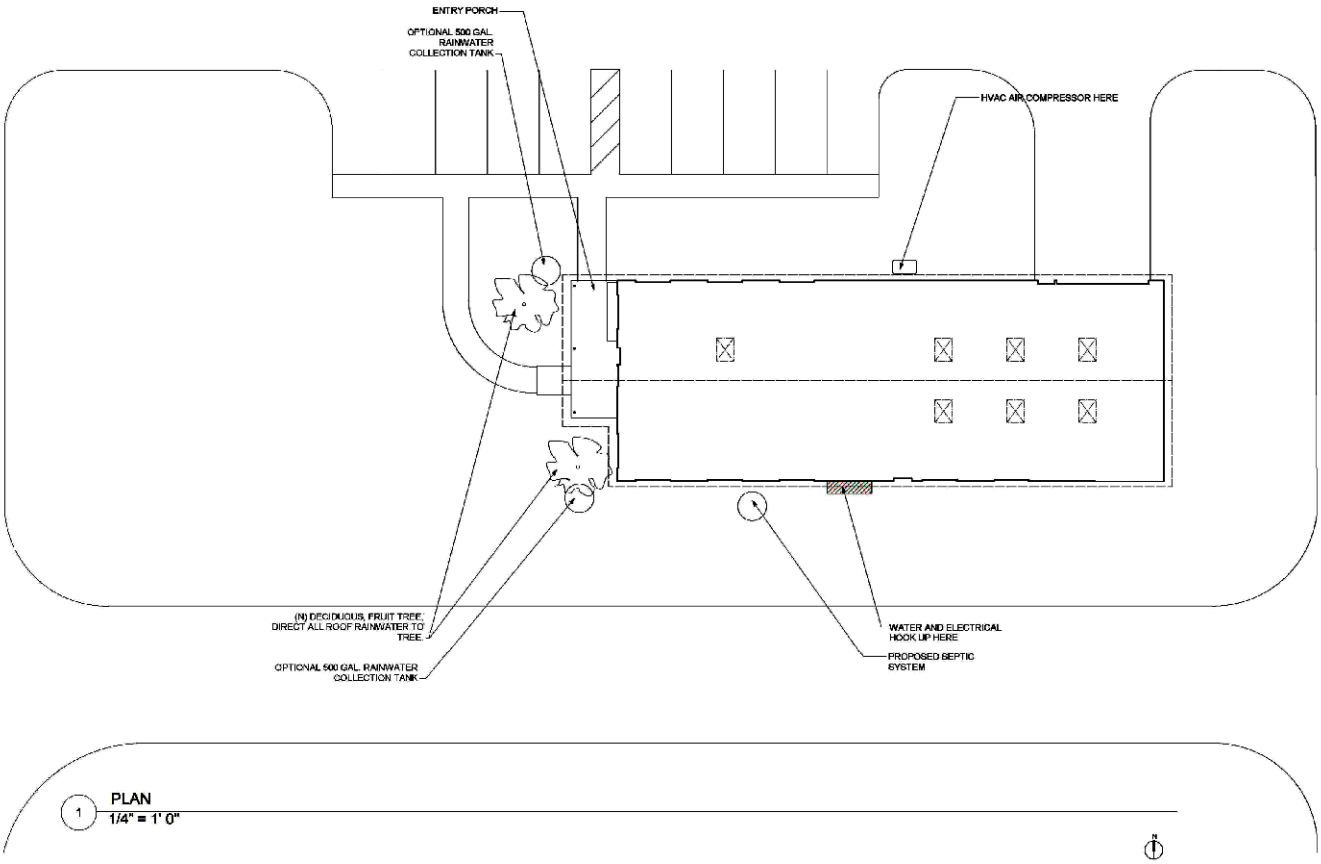


FIGURE 2-9
CONCEPTUAL O&M BUILDING PLAN

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS RENEWABLERESOURCESGROUP

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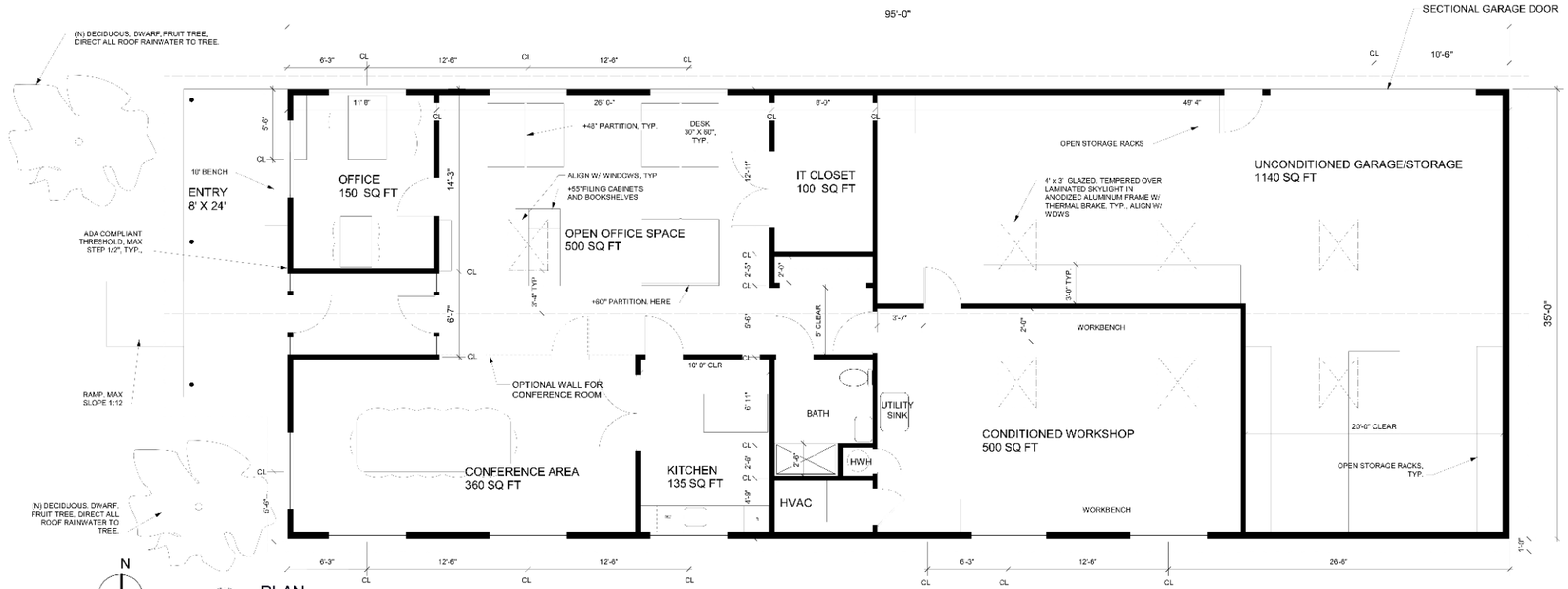
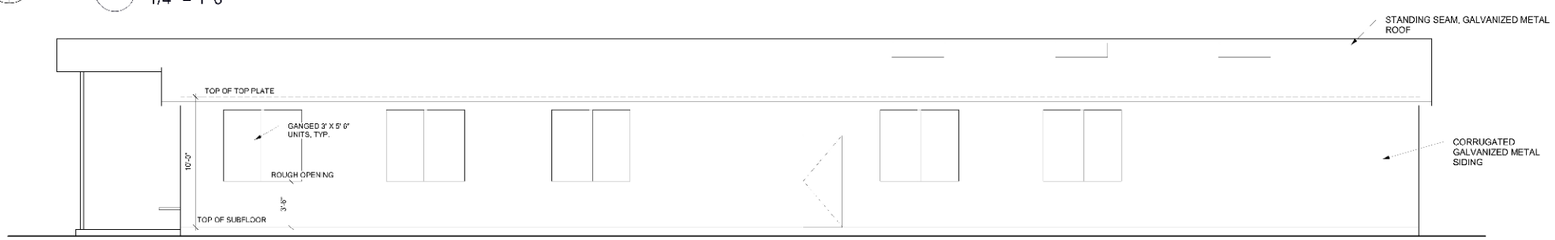
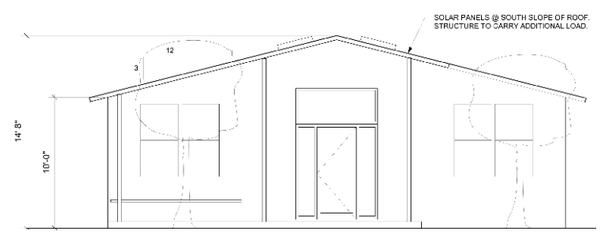


1 PLAN
1/4" = 1' 0"



2 SOUTH ELEVATION
1/4" = 1' 0"



3 WEST ELEVATION
1/4" = 1' 0"

FIGURE 2-10
CONCEPTUAL O&M
LAYOUT AND ELEVATION

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS RENEWABLERESOURCESGROUP

Source: Sunpower Corp, 2011.

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Construction Activities

To ensure study of the maximum intensity of construction impacts, the Project is studied based upon an assumption that there would be continuous construction activity over a period of approximately three years, which represents the shortest reasonable construction period. The Project may in fact be constructed in several phases at several different times over a longer time frame.

For purposes of the Final EIR/EA, it is assumed that the Project would be constructed in the following phases, which would occur simultaneously on different portions of the site:

- Development of staging areas and assembly areas, and grading of site access roads.
- Construction of arrays including pile installation, assembly of trackers, mounting of PV panels, and trenching and installation of electrical equipment for arrays.
- Construction of electrical transmission facilities including the construction of three substations, the 230 kV gen-tie line, and up to two O&M buildings.

Staging Areas, Assembly Areas, and Access Roads

Construction staging and material lay-down would be distributed across the solar facility evenly to allow for efficient distribution of components to different parts of the Project. One staging and material lay-down area would typically be set up for every 100 acres of the Project site. These lay-down areas would be temporarily fenced and would cover approximately five acres each. Lay-down areas would be converted to solar arrays as work is completed in the general area. Within the solar field, 12-foot-wide access roads would also be constructed approximately every 200 to 400 feet to allow access to and maintenance of the solar panels.

Array Assembly

Tracker assembly may include up to 25 small gas-powered generators to power welding machines to assemble trackers and construct tracker arrays. Support piles up would be driven into the ground to a depth of eight to twelve feet using a vibration technology to reduce noise impacts. Torque tubes, electrical wire trays, and panels would then be installed on the piles. Concrete foundations for the drive motors would be poured in place, and electrical equipment for the array would be set in place. A tracked backhoe would drive piles. No blasting or rock breaking is anticipated or proposed. Small truck-mounted cranes or grade-all forklifts would place trackers on support tiles. Tracker installation would include small all-terrain vehicles to transport materials and workers on access roads and array aisles.

Substations

Construction of the substations would involve site preparation, clearing of the switchrack sites, and installation of substructures and electrical equipment. Each site would first be cleared and graded, and then security-fenced for the duration of substation construction. Underground Service Alert would be contacted to mark the locations of existing buried utilities in the vicinity. Substation materials and equipment would be delivered to, and stored at, the substation site, as required, during construction. The sites would be graded to maintain current drainage patterns as much as possible.

Each substation would be constructed with conventional grading and construction equipment. Grading would establish the desired site grade, and minor excavation would provide concrete footings for the substation equipment. The substation sites would be graveled with crushed rock for grounding and employee safety purposes.

O&M Buildings

The O&M building areas would be surveyed and staked. A concrete slab would be poured to the dimensions of each building. The prefabricated steel building structures would then be assembled. The

exterior finish would be constructed as the mechanical and electrical systems are built inside. Interior finishing would follow, and final fixtures and equipment would be installed.

Gen-tie Line

The gen-tie line construction would involve the following activities: (1) construction of staging areas for trailers, office personnel, equipment, material staging, lay-down, and employee parking; (2) construction of access roads to the structure locations; (3) pole erection; (4) conductor installation; (5) tension and pulling sites of conductors; and (6) installation of overhead ground/fiber optic communications systems.

Construction Sequence, Equipment, and Workforce

For the purposes of the Final EIR/EA, construction is anticipated to occur over a three-year period with the construction activities described above occurring simultaneously; peak construction would occur over 24 months. The solar field would be developed in six-month phases, with six blocks constructed at a time (each block 100 acres, for a total of 600 acres at a time). Construction of the substations, gen-tie line, switchyard, and up to two O&M buildings would occur as the arrays are being assembled. The timing and workforce used for each construction activity/phase is illustrated in Table 2-1. After the common facilities (e.g., substations, switchyards, O&M building(s)) are completed in the earlier stages, the workforce would be devoted more to array construction in the later stages.

Approximately 500 daily workers would be present on-site during peak construction. Workers would gain primary access to the site using Seeley Avenue and Riverside Drive off of Neighbors Boulevard. Worker construction traffic would consist of approximately 400 daily vehicle roundtrips (300 employees would travel alone, and 200 employees would carpool). It is anticipated that most workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Anticipated average daily material deliveries would consist of about 20 truck deliveries per day for 24 months. Workers and delivery trucks would access the site using the Neighbors Boulevard off-ramp from I-10. Typical on-site work hours would be from 7:00 a.m. to 6:00 p.m. During the installation period, construction workers are projected to be on-site five days per week, year-round. Due to weather or other major-type delays, times may shift to start as early as 5:00 a.m. and end as late as 8:00 p.m., as well as continue into the weekends. However, in compliance with Noise Ordinance 847, construction within 0.25-mile from a residence would be prohibited during non-typical work hours. Security would be on-site 24 hours per day.

TABLE 2-1 DURATION AND NUMBER OF WORKERS OF EACH CONSTRUCTION PHASE

CONSTRUCTION ACTIVITY/PHASE*	DURATION	WORKERS
Site Preparation/Clearing/Grading	6 months	20
Staging and Assembly Areas (including access roads)	6 months	20
Construction of Solar Array, Substations, O&M Building(s)	24 months	200-500
Installation of 230 kV Gen-tie Line and Fiber Optic Cable	12 months	30
Testing	3 months	20
Clean up/restoration	1 month	20

*Construction would occur over a three-year period with construction activities occurring simultaneously.

During construction, a variety of equipment and vehicles would be operating on the site. Table 2-2 provides a list of the types of equipment and vehicles expected to be involved in each construction phase.

TABLE 2-2 CONSTRUCTION EQUIPMENT BY CONSTRUCTION PHASE

EQUIPMENT	CONSTRUCTION PHASES					
	Site Preparation	Construction of Solar Array	Installation of Gen-tie Line Poles	Fiber Optic Cable	Substation & O&M Building	Clean up & Restoration
Backhoe		X	X		X	
Cranes		X	X	X	X	
Vibratory Post Drivers		X				
Fork Lifts	X	X	X	X	X	
Dozers	X				X	
Excavator	X				X	
Grader	X				X	X
Loaders, Rubber-Tired	X	X	X	X		
Rollers	X				X	
Scrapers	X					
Trenchers		X				
Dump Truck	X	X				
Water Truck	X	X			X	
Concrete Truck	X	X	X			
Flatbed Truck		X	X	X	X	
Light-weight Truck	X	X	X	X	X	
ATV Gator Carts	X	X			X	

2.2.3 Operation and Maintenance

Operation and Maintenance Activities

After the construction phase, the O&M building(s) would serve the Project's approximately 12 permanent full-time employees, which would include one plant manager, five engineers/technicians, and six security staff. Project facilities would be monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection.

The Project would require the use of a water supply to maintain the facility. The solar panels may be cleaned up to two times per year, if necessary to optimize output. Water would also be used to provide fire protection, maintain vegetation, and serve the up to two O&M buildings. No chemicals would be used during cleaning of the solar panels. It is estimated that operational non-potable water requirements would be approximately up to 345 ~~AF/year~~ ac-ft/yr (with a significant portion going to dust control), as well as less than one ~~AF/year~~ ac-ft/yr of groundwater for potable use in the up to two O&M buildings (final use numbers will be further refined pre-construction). ~~The Project would coordinate with Gila Farm Land, LLC (landowner) and the Palo Verde Irrigation District to secure water service and supply during operation.~~ Riverside County Community Service Area #122 (CSA #122) has issued a will-serve letter for the Project's limited potable water needs. Less than one ac-ft of groundwater per year would be required for potable use in the two O&M buildings. The water supply from PVID sources and CSA #122 is sufficient to meet requirements of the proposed Project, including the minor potable groundwater demand under average-year, single-dry year, and multiple-dry year conditions over a 20-year future projection (refer to Appendix G, *Water Supply Assessment*).

No heavy equipment would be used during normal operation. O&M vehicles would include trucks (pickup and flatbed), forklifts, and loaders for routine and unscheduled maintenance and water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the solar facility infrequently for equipment repair or replacement.

Maintenance schedules would be developed to arrange periodic maintenance and equipment replacement in accordance with manufacturer recommendations for the life-term of the Project. Solar panels are warranted for 25 years or longer and are expected to have a life of 30 or more years, with a degradation rate of 0.5% per year. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be performed as necessary.

The solar facility would be secured 24 hours per day by on-site private security personnel and remote security services with motion-detection cameras.

Fire Safety

Solar arrays and PV modules are fire-resistant, as they are constructed largely out of steel, glass, aluminum, or components housed within steel enclosures. As the tops and sides of the panels are constructed from glass and aluminum, PV modules are not vulnerable to ignition from firebrands from wildland fires. In a wildfire situation, the panels would be rotated and stowed in a panel-up noon time position. The rotation of the tracker rows would be controlled remotely via a wireless local area network. All trackers could be rotated simultaneously in a hazard situation. During construction, standard defensible space requirements would be maintained surrounding any welding or digging operations. Fire safety and suppression measures, such as smoke detectors and extinguishers, would be installed and available at the O&M facilities, per code. Interior access roads within the solar facility would be 12 feet wide, which allows sufficient access for fire trucks.

A Fire Management and Protection Plan and Emergency Action Plan would be prepared in coordination with the Riverside County Fire Department or other emergency response organizations to identify the fire hazards and response scenarios that may be involved with operating the solar facility. This would include information on response to accidents involving downed power lines or accidents involving damage to solar arrays and facilities.

Interconnection with Statewide Grid

Power produced by the Project would be conveyed to the statewide electricity grid via a new 230 kV gen-tie line from the Project facilities to the Colorado River Substation approximately 4.5 miles west of the solar facility. The Project has secured an interconnection queue position sufficient for the size of the Project at the Colorado River Substation and has made the necessary reservation deposits to CAISO.

Decommissioning and Repowering

The operational life of the Project is estimated to be 25 years; ~~At~~ at the end of the energy sales contract term, if the energy buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled. Accordingly, the Final EIR/EA analyzes the impacts of potential decommissioning and dismantling. If the Project continues to operate, the impacts described in the Final EIR/EA as the impacts of operation and maintenance would continue indefinitely.

Decommissioning activities would require similar equipment and workforce as construction, but would be less intense. The following activities would be involved:

- Dismantling and removal of all above ground equipment (solar panels, track units, transformers, inverters, substations, O&M building(s), switchyard, etc.)
- Excavation and removal of all above-ground cables
- Removal of solar panel posts
- Removal of roads (both gravel and paved, including the aggregate base)
- Break-up and removal of concrete pads and foundations
- Removal of septic system and leach field
- Dismantling of 34.5 kV distribution lines
- Dismantling of 230 kV gen-tie line
- Scarification of compacted areas

The panels could be sold into a secondary solar PV panel market. It is expected that a robust market for used PV panels will exist in the future because the panels can be used in various configurations and at various scales. Electricity demand is expected to continue to rise and electricity prices are projected to continue their steady increase. Demand for solar energy is rapidly accelerating and is expected to grow for decades to come.

The module's component materials lack toxic metals such as mercury, lead, ~~cadmium telluride,~~ or gallium, and the majority of the components of the solar installation are made of materials that can be readily recycled. A Waste Recycling Plan will be developed for the Project, which will identify: materials that will be generated by construction and development; projected amount of materials; measures and methods that will be taken to recycle, reuse, and or reduce the amount of materials; facilities and haulers; and the target recycling or reduction rate. If the panels can no longer be used in a solar array, the silicon can be recovered, the aluminum resold, and the glass recycled. Other components of the solar installation, such as the tracker structures and mechanical assemblies, can be recycled, as they are made from galvanized steel. Equipment such as drive controllers, inverters, transformers, and switchgear can be either reused or their components recycled. The equipment pads are made from concrete, which can be crushed and recycled. Underground conduit and wire can be removed by uncovering trenches and backfilling when done. The electrical wiring is made from copper and/or aluminum and can be reused or recycled, as well. Following decommissioning and dismantling of the solar facility, the Project site would be made available for reversion to agricultural use.

Interim Agricultural-Related Actions

The initial use of the Project site to be permitted under the conditional use permit will be active agricultural production. The Project proposes a unique approach to encouraging continued agricultural use of the site pending construction of the solar plant. The Project proposes (a) to rezone approximately 1,249 acres from W-2-5 (controlled development areas) and N-A to A-1-10 (light Agriculture) (refer to Figure 2-12). This will make zoning on these parcels consistent with the zoning on the rest of the solar facility site (refer to Figure 1-3, *Existing Zoning*, in Chapter 1). Approximately 1,485 acres, all south of I-10 and representing the land not planned to be developed immediately, would be placed in an agricultural preserve and put in a Williamson Act contract (refer to Figure 2-13). These actions are intended to help ensure the continued economic viability of agricultural production until construction of solar facilities. Because these actions would facilitate continued agricultural uses of existing agricultural lands, they would not cause new significant impacts and therefore are not addressed in detail in this Final EIR/EA. However, as a result of the interim actions, the Project includes potential cancellation of the Williamson Act Contract and agricultural preserve, which is addressed in the Agricultural Resources section of this Final EIR/EA.

2.2.4 Best Management Practices

For the purposes of this Final EIR/EA, the Best Management Practices (BMPs) listed in Table 2-3 below would reduce the environmental impacts associated with the proposed Project. Although BMPs lessen potential impacts by avoiding, minimizing, or reducing/eliminating impacts, BMPs are distinguished from mitigation measures in this Final EIR/EA because BMPs are: 1) requirements of existing policies, practices, and measures required by law, regulation, or local policy; 2) ongoing, regularly occurring practices; and 3) not specific to this proposed Project. In other words, the BMPs identified in this Final EIR/EA are inherently part of the proposed Project and are not additional mitigation measures proposed as a result of the CEQA significance findings. The BMPs listed are measures that would lessen environmental impacts and are referenced throughout Chapter 4 of this Final EIR/EA.

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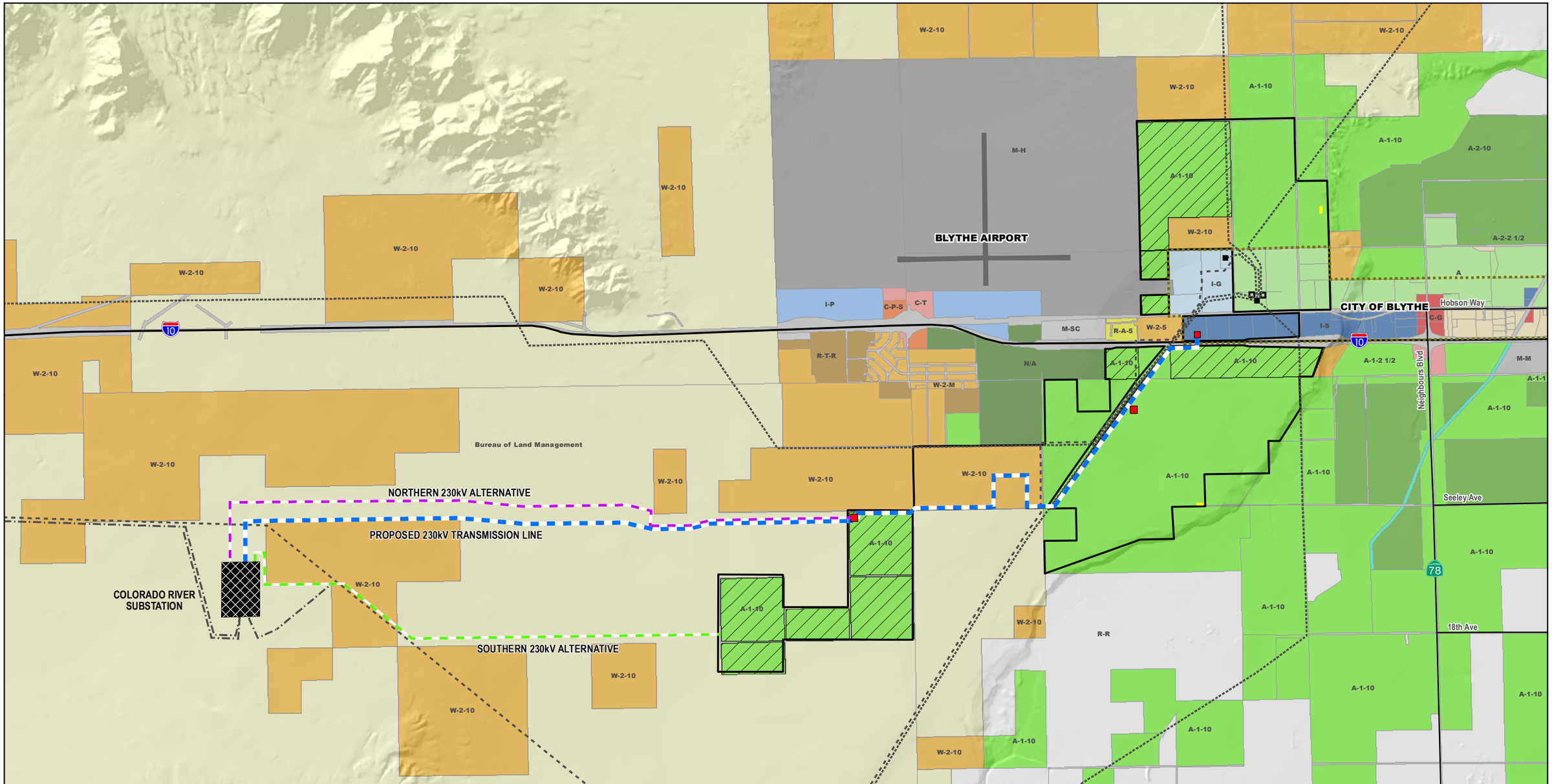

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Northern 230kV Alternative
- Southern 230kV Alternative
- Project Substation
- Operations and Maintenance Building

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities

- Colorado River Substation

Zoning - County of Riverside

- Proposed Zoning Change (to A-1-10)
- A-1-1
- A-1-10
- A-1-2 1/2
- A-2-10
- A-2-2 1/2
- C-P-S
- C-T
- I-P
- M-H
- M-M
- M-SC
- N/A
- R-A-5
- R-R
- R-T-R
- W-1
- W-2-10
- W-2-2 1/2
- W-2-5
- W-2-M

Zoning - City of Blythe

- A
- C-G
- I-G
- I-S
- R-R

Jurisdiction

- City of Blythe
- Bureau of Land Management

N

0 4,000 8,000

Feet

1:48,000

FIGURE 2-12
PROPOSED ZONING CHANGES

BLYTHE MESA SOLAR PROJECT

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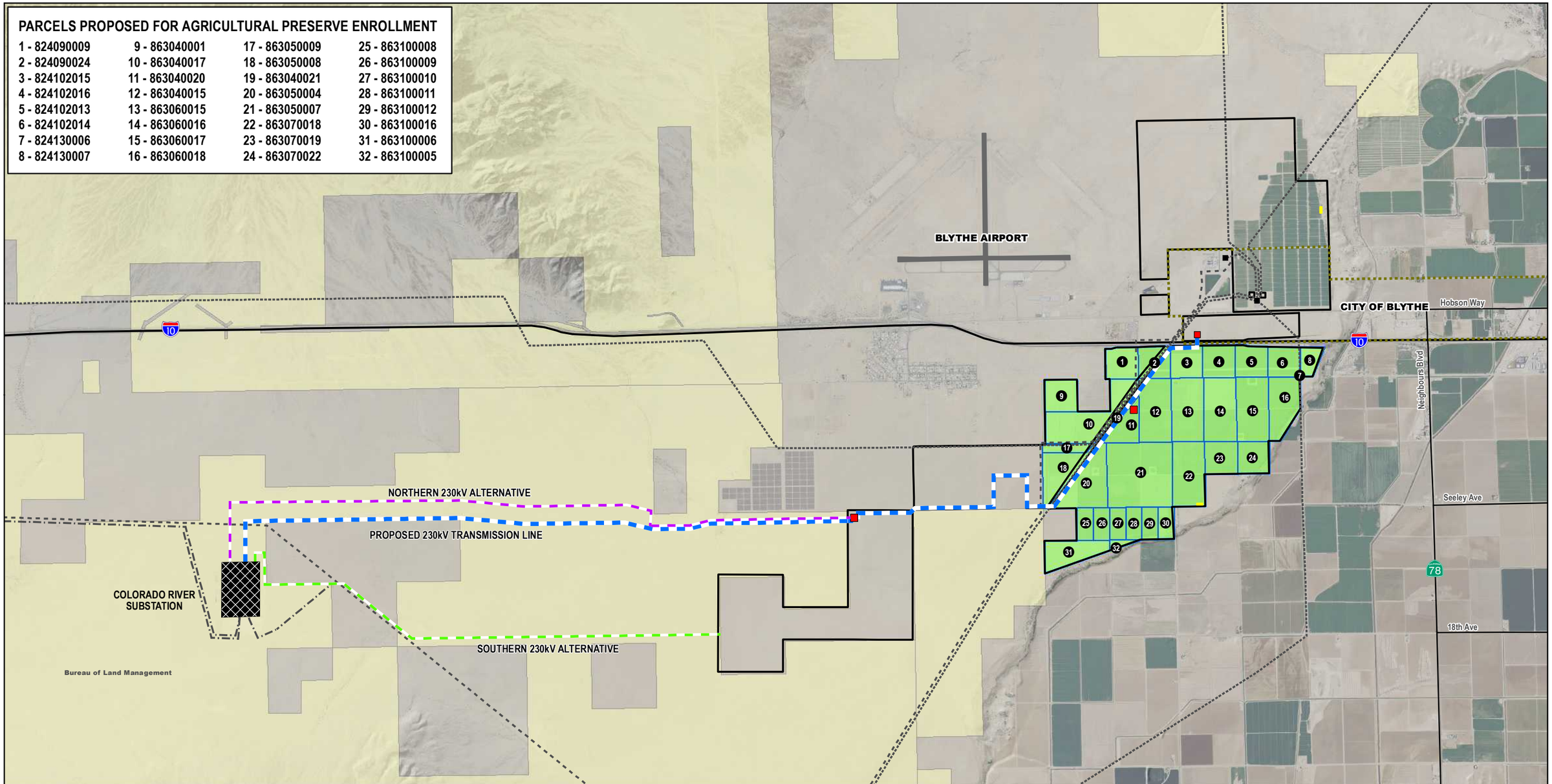

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Northern 230kV Alternative
- Southern 230kV Alternative
- Project Substation
- Operations and Maintenance Building

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities

- Colorado River Substation

Agricultural Preserve

- Agricultural Preserve Enrollment
- Agricultural Preserve Enrollment Parcel Boundary

Jurisdiction

- City of Blythe
- Bureau of Land Management

N

0 4,000 8,000
Feet
1:48,000

FIGURE 2-13
AGRICULTURAL PRESERVE ENROLLMENT

BLYTHE MESA SOLAR PROJECT

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RENEWABLE RESOURCES GROUP

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TABLE 2-3 BEST MANAGEMENT PRACTICES

BMP	DESCRIPTION
BMP-1	Drainage, Erosion, and Sedimentation Control Plan. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation, maintenance, and decommissioning of the Project. For example, any stockpiles created would be kept on-site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation.
BMP-2	Stormwater Pollution Prevention Plan. In compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and prepared for the Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project site and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated stormwater, changes in pre-Project storm hydrographs, or increased soil erosion.
BMP-3	Fugitive Dust Abatement Plan. As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. ~~Alternatively, chemical dust suppressants or durable polymeric soil stabilizers could be used.~~ The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation. The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below: BMP-3.1 The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the

BMP	DESCRIPTION
	contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day: "[Site Name] {four inch text} [Project Name/Project Number] {four inch text} IF YOU SEE DUST COMING FROM {four inch text} THIS PROJECT CALL: {four inch text} [Contact Name], PHONE NUMBER XXX-XXXX {six inch text} If you do not receive a response, Please Call {three inch text} The MDAQMD at 1-800-635-4617 {three inch text}" BMP-3.2 For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits. BMP-3.3 All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.
BMP-4	Fire Management and Protection Plan. As required by existing law (Title 8 California Code of Regulations [CCR] Section 3221), a Fire Management and Protection Plan would be developed in consultation with the Riverside County Fire Department to identify potential hazards and accident scenarios that would exist at the facility during construction, operation, maintenance, and decommissioning of the Project. The Plan would include the identification of the following: potential fire hazards and ignition sources; proper handling and storage of potential fire hazards; control of potential ignition sources; persons responsible for equipment and systems maintenance; location of portable fire extinguishers; automatic sprinkler fire suppression system; water-spray fire system; coordination with local fire department; and recordkeeping requirements.
BMP-5	Emergency Action Plan. As required by Title 8 CCR Section 3220, the Project would develop a site-specific operations phase Emergency Action Plan. The operations Emergency Action Plan would address potential emergency situations requiring emergency response and/or planned evacuation. The plan would describe accident scenarios, evacuation routes, alarm systems, points of contact, assembly areas, responsibilities, and other actions to be taken in the event of an emergency. In particular, the plan would describe arrangements with local emergency response agencies.
BMP-6	Lighting Plan. A lighting plan would be prepared that documents how lighting will be designed and installed to minimize night-sky impacts during facility construction and operations. Lighting for facilities will not exceed the minimum number of lights and brightness required for safety and security and will not cause excessive reflected glare. Light fixtures will not spill light beyond the Project boundary. ~~Where feasible~~, Vehicle-mounted lights will be used for night maintenance activities. ~~Wherever feasible,~~ Consistent with safety and security, lighting will be kept off when not in use. The lighting plan will include a process for promptly addressing complaints about lighting.
BMP-7	Trash Abatement Plan. A Trash Abatement Plan shall be developed that focuses on containing trash and food in closed and secure sealable containers, with lids that latch, and removing them periodically to reduce their attractiveness to opportunistic species, such as common ravens, coyotes, and feral dogs, that could serve as predators of native wildlife and special-status animals. The Plan would also establish a regular litter pick-up procedure within and around the perimeter of the Project site, and removal of construction-related trash containers from the Project site when construction is complete.

BMP	DESCRIPTION
BMP-8	Cleanup and Restoration. Upon completion of construction activities, all unused materials and equipment shall be removed from the Project site. All construction equipment and refuse including, but not limited to, wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers shall be removed from the site and disposed of properly after completion of construction. Any unused or leftover hazardous products shall be properly disposed of off-site.
BMP-9	Hazardous materials. As required by the Clean Air Act, Section 401 of the Clean Water Act, the Toxic Substance Control Act, and the Hazardous Materials Transportation Act, all vehicles and equipment must be in proper working condition to ensure that there is no potential for fugitive emissions or accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials. Equipment must be checked for leaks prior to operation and repaired as necessary. Refueling of equipment must take place on existing paved roads, where possible, and not within or adjacent to drainages. Hazardous spills must be cleaned up immediately. Contaminated soil would be disposed of at an approved off-site landfill, and spills reported to the permitting agencies. Service/maintenance vehicles should carry appropriate equipment and materials to isolate and remediate leaks or spills, and an on-site spill containment kit for fueling, maintenance, and construction will be available. Cleaning of construction vehicles at commercial car washes should be considered rather than washing vehicles on the Project site so that dirt, grease, and detergents are treated effectively at existing facilities designed to handle those types of wastes.
BMP-10	Integrated Weed Management Plan. In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on-site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.
BMP-11	Project structures, gen-tie line, and building surfaces. Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. ~~Solar panel backs will be color-treated to reduce visual contrast with the landscape setting.~~ Materials, coatings, or paints having little or no reflectivity will be used wherever possible. ~~The visual color contrast of graveled surfaces will be reduced with approved color treatment practices.~~
BMP-12	Gen-tie lines. Gen-tie line support structures and other facility structures shall be designed in compliance with current standards and practices to discourage their use by raptors for perching or nesting (e.g., by use of anti-perching devices). This design would also reduce the potential for increased predation of special-status species, such as the desert tortoise. Mechanisms to visually warn birds (permanent markers or bird flight diverters) shall be placed on gen-tie lines at regular intervals to prevent birds from colliding with the lines ~~(APLIC 2006 and USFWS 2010). To the extent practicable, t~~The use of guy wires shall be avoided because they pose a collision hazard for birds and bats. Necessary guy wires shall be clearly marked with bird flight diverters to reduce the probability of

BMP	DESCRIPTION
	collision. Shield wires shall be marked with devices that have been scientifically tested and found to significantly reduce the potential for bird collisions. Gen-tie lines shall utilize non-specular conductors and non-reflective coatings on insulators.
BMP-13	Ground and surface disturbance. Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. ~~To the maximum extent possible,~~ Construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved to the maximum extent possible. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed from the construction area and disposed of in an approved facility. ~~Where feasible,~~ Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.
BMP-14	Travel and traffic. Vehicular traffic on-site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. ~~To the extent practical, t~~Travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated. Construction traffic shall avoid unpaved surfaces ~~to the extent practical~~ (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstabilized surfaces within the construction site, speed limits (e.g., 20 miles per hour [mph]) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The Project developer shall enforce these requirements.
BMP-15	New access roads and parking lots. New access roads shall be designed and constructed to the appropriate road design standards, such as those described in BLM Manual 9113 or County standards, whichever is applicable. New access roads shall be designed to follow natural land contours in the Project area and avoid existing desert washes. The specifications and codes developed by the United States Department of Transportation (DOT) and County of Riverside Transportation Department are also to be taken into account. Primary access roads and parking lots shall be surfaced with aggregate that is hard enough that vehicles cannot crush it and thus cause dust or compacted soil conditions. Paving may also be used on access roads and parking lots. Alternatively, chemical dust suppressants or durable polymeric soil stabilizers would be used on these locations.
BMP-16	Diesel engines. All diesel engines used in the facility would be fueled only with ultra-low sulfur diesel with a sulfur content of 15 parts per million (ppm) or less. The Project would require use of construction diesel engines with a rating of 50 horsepower (hp) or higher that meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression Ignition Engines, as specified in the California Code of Regulations, Title 13, Section 2423(b)(1), unless such engines are not available. Equipment

BMP	DESCRIPTION
	meeting Tier 3 standards shall be used ~~as feasible~~. If a Tier 2 engine is not available for off-road equipment larger than 100 hp, an engine equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NO_x) and diesel particulate matter to no more than Tier 2 levels, may be used; however documentation discussing attempts to utilize Tier 3 vehicles must be provided to the County. Regulatory agencies may determine that use of such devices is not practical when: • There is no available retrofit control device verified by either the California Air Resources Board (CARB) or the United States Environmental Protection Agency (EPA) to control engines in question to Tier 2 equivalent emission levels and the retrofitted or Tier 1 engines use the highest level of available control technology. • The construction equipment is intended to be on-site for five days or less. • It can be demonstrated there is a good faith effort to comply with the recommendation and that compliance is not practical. • The idling time of diesel equipment would be limited to no more than ~~10~~ five minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).
BMP-17	High wind conditions. In compliance with Mojave Desert Air Quality Management District (MDAQMD) Rule 403 criteria, all soil-disturbing activities and travel on unpaved roads must be suspended during periods of high winds, with the exception of those trips necessary to maintain the facility and prevent property damage. A 25 mph wind speed has been determined on the basis of soil properties identified during site characterization. Monitoring of the wind speed would be required at the site during construction, operation, maintenance, and decommissioning.
BMP-18	Noise. The Project would minimize construction- and operation-related noise levels to minimize impacts to wildlife and nearby residents.
BMP-19	Plants and wildlife. In compliance with the California Fish and Game Code while on the Project property, workers or visitors would be prohibited from: feeding wildlife; moving live, injured, or dead wildlife off roads, ROWs, or the Project site; bringing domestic pets to the Project site; collecting native plants; and harassing wildlife. Areas where wildlife could hide or be trapped (e.g., open trenches, sheds, pits, uncovered basins, and laydown areas) would be covered. If the trenches or excavations cannot be covered, a ramp that will sufficiently allow wildlife to escape shall be placed into the trench or excavated area, or exclusion fencing (i.e., silt fencing) shall be installed around the trench or excavation to prevent entrapment of wildlife. Open trenched, or other excavations that could entrap wildlife, shall be inspected by the qualified biologists daily and immediately before backfilling. For example, an uncovered pipe that has been placed in a trench should be capped at the end of each workday to prevent animals from entering the pipe. If a special-status species is discovered inside a component, that component must not be moved, or, if necessary, moved only to remove the animal from the path of activity, until the animal has escaped. As open trenches could impede the seasonal movements of large game animals and alter their distribution, they would be backfilled as quickly as possible. Open trenches could also entrap smaller animals; therefore, escape ramps would be installed along open trench segments at distances identified in the applicable land use plan or by the best available information and science. If traffic is being unreasonably delayed by wildlife in roads, personnel would contact the Project biologist, who will take any necessary action. Any vehicle-wildlife collisions would be immediately reported to the Project biologist. Observations of potential wildlife problems, including wildlife mortality, would be immediately reported to the BLM or other appropriate agency authorized officer.
BMP-20	Waste Recycling Plan. Prior to issuance of a grading and building permit, a Waste Recycling Plan shall be submitted to the Riverside County Water Management Department for approval. The plan shall identify: materials (i.e., cardboard, concrete, asphalt, wood) that will be generated by construction and development; projected amounts of materials; measures/methods that will be taken to recycle, reuse, and/or reduce the amount of materials; the facilities and/or haulers; and the target recycling or

BMP	DESCRIPTION
	reduction rate. During Project construction, the construction site shall have, at a minimum, two bins: one for waste disposal and the other for recycling of construction and demolition materials. An accurate record keeping system of recycling construction and demolition recyclable materials and solid waste disposal shall also be established.

2.3 Alternatives Analyzed in Detail

2.3.1 CEQA and NEPA Requirements for Alternatives

CEQA and NEPA both require consideration of a reasonable range of alternatives to the proposed Project that have the potential to feasibly attain most of the basic objectives of the Project or meet the federal purpose and need. In addition, CEQA requires the consideration of how to avoid or substantially lessen any of the significant or adverse effects caused by the Project. The CEQA and NEPA requirements for the identification of project alternatives are described below.

CEQA Guidelines (Section 15126.6) state the following:

(a) An EIR [Environmental Impact Report] shall describe a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.

(b) The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

(c) The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

(d) The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project.

(e) The EIR shall include the evaluation of the "No project" alternative.

(f) The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

Under NEPA, a federal agency undertaking a "major Federal action" significantly affecting "the quality of the human environment" must prepare an EIS. 42 United States Code [U.S.C.] § 4332(2)(C). As an initial matter, however, an agency can prepare a less detailed EA to assess the need for an EIS (40 CFR ~~Part~~ 1501.4(b)). Based on the conclusions in the EA, the reviewing agency may determine that in lieu of an EIS, it should issue a finding of no significant impact ("FONSI")." *Id.* § 1501.4(e). The Council on Environmental Quality (CEQ) regulations (40 CFR ~~Part~~ 1508.9(b)) further require that an EA shall include brief discussions of the need for the proposal; of alternatives as required by Section 102(2)(E); of the environmental impacts of the proposed action and alternatives; and a listing of agencies and persons consulted. Additionally, BLM NEPA Handbook H-1790-1 Section 8.3.4.2, *Alternatives in an EA,* provides guidance on developing a range of alternatives to permit a reasoned choice among alternatives that meet the purpose and need for the action.

The federal and State lead agencies identified the alternatives below to be carried forward and analyzed in this Final EIR/EA. Figure 1-1 illustrates the proposed Project and alternative 230 kV gen-tie line alignments.

To provide for a direct comparison to the Project, each action alternative incorporates the Best Management Practices applicable to the Project, and the interim agricultural-related actions that are proposed by the Project, resulting in potential Williamson Act Contract and future agricultural preserve and Williamson Act Contract cancellation before construction would occur. Also, each of the action alternatives proposes a similarly condensed construction schedule, to ensure that the most intense level of construction-related impacts is studied.

2.3.2 Alternative 2: No Project/No Action Alternative

The No Project/No Action Alternative must be evaluated under CEQA and NEPA. Under the No Project/No Action Alternative, the construction of a solar generating facility and associated infrastructure would not occur. This alternative discusses existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the Project was not approved and did not take place. The construction of a new gen-tie line and the addition of solar array facilities would not occur. Other transmission lines would likely be constructed in or near the transmission corridor. Current, ongoing operation and maintenance activities associated with the agricultural use of the Project site would continue.

2.3.3 Alternative 3: Northern Alternative 230 kV Gen-tie Line

Similar to Alternative 1 (proposed Project), Alternative 3 would include the interim agricultural-related actions, and the construction, operation, maintenance, and potential decommissioning of an up to 485 MW solar PV electrical generating facility and associated infrastructure. It would occupy a total of 3,665 acres and would utilize the same solar facility site as the proposed Project. The fenced-in solar PV electric generation facility would occupy approximately 3,587 acres on privately-owned land under the jurisdiction of the County, and approximately 334 acres located within the City of Blythe. The primary difference between Alternatives 1 and 3 is the location of the 230 kV gen-tie line that extends outside of the solar facility site to the Colorado River Substation; the same 230 kV gen-tie alignment within the solar facility site would be utilized for both Alternatives 1 and 3. Both Alternatives 1 and 3 would be located within the Riverside East SEZ; however, the Alternative 3 gen-tie on BLM lands would be located to the north and within a 125-foot ROW~~ entirely on BLM-managed lands~~. Under this alternative, the total length of the 230 kV gen-tie line both on-site and off-site would be 8.8 miles; 3.6 miles would be located on private lands within the solar facility site boundary and 5.2 miles would be located entirely off-site on BLM-managed lands. The BLM portion of the ROW would total 78 acres. Similar to Alternative 1, at the end of the energy sales contract term of Alternative 3, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled. Following decommissioning and dismantling of the solar facility, the Alternative 3 site would be made available for reversion to agricultural use.

2.3.4 Alternative 4: Southern Alternative 230 kV Gen-tie Line

Also similar to Alternative 1, Alternative 4 would include the interim agricultural-related actions, and the construction, operation, maintenance, and potential decommissioning of an up to 485 MW solar PV electrical generating facility and associated infrastructure. Alternative 4 would occupy a total of 3,647 acres and would utilize the same solar facility site location as the proposed Project. The fenced-in solar PV electric generation facility would occupy approximately 3,587 acres on privately-owned land under the jurisdiction of the County, and approximately 334 acres located within the City of Blythe. The primary difference between Alternatives 1 and 4 is the location of the 230 kV gen-tie line that extends between the solar facility site and the Colorado River Substation. Under Alternative 4, the gen-tie line would exit the southwestern portion of the solar facility site and extend approximately four miles west to the Colorado River Substation within a 125-foot ROW. To facilitate this alignment, an additional 10,000 feet of 230 kV gen-tie line would need to be built on the solar facility site extending south from the proposed substation 3

and angling west to the site boundary. As illustrated on Figure 1-1, Project Area, the gen-tie line would continue westerly off-site across 3.4 miles of BLM-managed lands and 0.6 mile of private lands before reaching the Colorado River Substation. Under this alternative, the total length of the 230 kV gen-tie line both on-site and off-site would be 9.5 miles; 5.5 miles would be located on private lands within the array site boundary and 4.0 miles would be located off-site. The total area of the ROW off-site would be about 60 acres (50 acres of BLM-managed land and 10 acres of private land). Similar to Alternative 1, at the end of the energy sales contract term of Alternative 4, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled. Following decommissioning and dismantling of the solar facility, the Alternative 4 site would be made available for reversion to agricultural use.

2.3.5 Alternative 5: Reduced Acreage Alternative

Similar to Alternative 1, Alternative 5 would include the interim agricultural-related actions, and the construction, operation, maintenance, and potential decommissioning of a solar PV electrical generating facility and associated infrastructure; however, Alternative 5 would eliminate development north of I-10 (see Figure 2-14). In comparison to the proposed Project, Alternative 5 would reduce electrical generation from a maximum of 485 MW to a maximum of 315 MW. The alternating current solar PV facility would be located on a footprint of approximately 2,476 acres, reduced from 3,660 acres. The Reduced Acreage Alternative would include approximately 2,403 acres for the solar facility and 73 acres for the 230 kV gen-tie line. Components of the Reduced Acreage Alternative that differ from the proposed Project would include the following:

- **Solar facility site (2,403 total acres)**
  - Up to two on-site substations (each approximately 90,000 square feet)
  - One O&M building (approximately 3,500 square feet)
  - One primary off-site access roads and several interior access roads

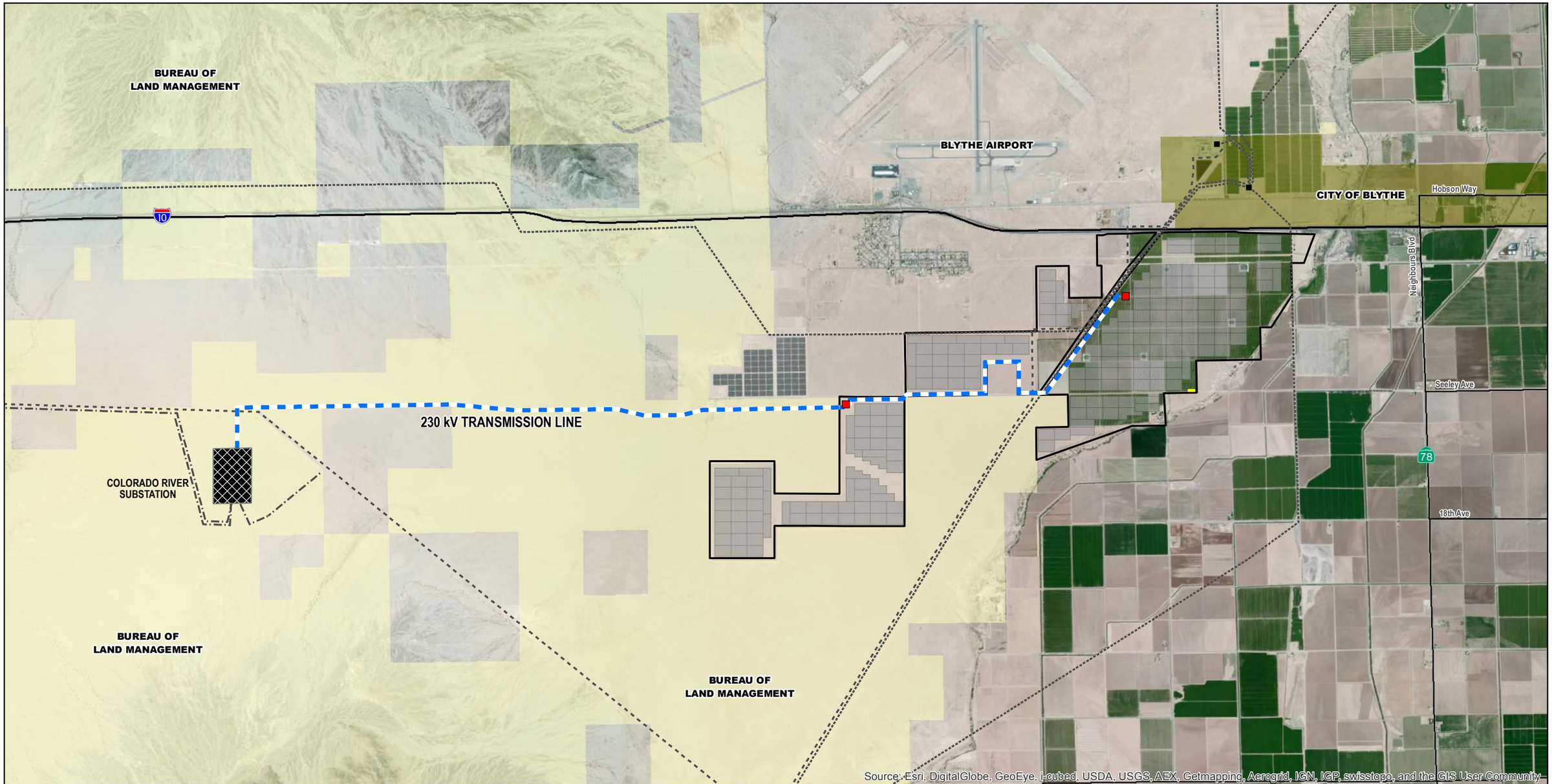
- **Approximately 7.8 miles of 230 kV gen-tie transmission line**
  - Approximately three miles would be located within the solar facility, which would connect all on-site substations
  - Approximately 4.8 miles would extend outside of the solar facility and would be placed within a 125-foot-wide ROW and occupy 73 acres

The fenced-in solar PV electric generation facility would occupy approximately 2,403 acres on privately owned land (all within the County of Riverside). Similar to the proposed Project, the portion of the gen-tie line outside the solar facility site, from the southernmost substation to the Colorado River Substation, would traverse 3.8 miles of BLM-managed lands (approximately 58 acres) and approximately one mile of private land (approximately 15 acres). Similar to Alternative 1, at the end of the energy sales contract term of Alternative 5, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled. Following decommissioning and dismantling of the solar facility, the Alternative 5 site would be made available for reversion to agricultural use.

Reduced Acreage Alternative Project Facilities

230 kV Gen-tie Lines

The Reduced Acreage Alternative would no longer extend a 230 kV overhead gen-tie line from an on-site substation located north of I-10, as this alternative would eliminate all development north of I-10. Therefore, the approximately 8.4-mile-long line associated with the proposed Project would be reduced under this alternative. The Reduced Acreage Alternative would construct an approximately 7.8-mile-long 230 kV overhead gen-tie line from the proposed on-site substation located south of I-10 to the Colorado River Substation, which is currently under construction. Approximately three miles of the gen-tie line would be located within the solar facility. Similar to the proposed Project, the Reduced Acreage Alternative 230 kV gen-tie line would also extend another 4.8 miles within a 125-foot-wide ROW from the southernmost substation to the Colorado River Substation (3.8 miles would traverse BLM-managed



Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Solar Array Location
- Project Substation
- Operations and Maintenance Building

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities

- Colorado River Substation

Jurisdiction

- City of Blythe
- Bureau of Land Management

N

0 4,000 8,000

Feet

1:48,000

FIGURE 2-14
REDUCED ACREAGE ALTERNATIVE

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS | RENEWABLE RESOURCES GROUP

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lands and one mile would traverse private land). The gen-tie line would run parallel to and immediately south of the 500 kV Desert Southwest Transmission Line corridor. The gen-tie line poles and foundations associated with the Reduced Acreage Alternative would be identical to those of the proposed Project.

Access Road

Under the Reduced Acreage Alternative, one access point to the solar facility is planned on Seeley Avenue, accessible from the Neighbours Boulevard off-ramp from I-10 (see Figure 2-14). The primary access road would be improved at the entrance to the site for 100 feet and would be 16 to 20 feet wide. Similar to the proposed Project, unpaved access roads within the solar field would be 12 feet wide and constructed approximately every 200 to 400 feet to allow access and maintenance of the solar panels.

Construction

Site Preparation

Site preparation under the Reduced Acreage Alternative would be similar to the proposed Project, only it would exclude the area north of I-10. During Alternative 1 construction, it is anticipated that up to approximately 1,354 AF of water would be utilized for soil moisture conditioning and dust control over the entire construction period (451 AF per year). Under Alternative 5, it is anticipated that water demand will be less, as there would be a reduced solar development footprint and less associated construction. Similar to the proposed Project, Alternative 5 would require minor demolition of existing site structures (e.g., storage buildings in citrus grove, three on-site residences).

Construction Activities

The Reduced Acreage Alternative would be constructed in similar fashion and in the same phases as the proposed Project (simultaneously on different portions of the site), with the difference of one less substation and O&M building.

Construction Sequence, Equipment, and Workforce

Construction for the Reduced Acreage Alternative is anticipated to be similar to the proposed Project; however, under this alternative, construction would require a reduced workforce. The solar field would be developed in six-month phases, with six blocks constructed at a time (each block 100 acres, for a total of 600 acres at a time). Approximately 400 daily workers (compared to 500 under the proposed Project) would be present on-site during peak construction. Workers would gain primary access to the site using Seeley Avenue off of Neighbours Boulevard. Worker construction traffic would consist of approximately 400 daily vehicle roundtrips (240 employees [compared to 300 under the proposed Project] would travel alone, and approximately 160 employees [compared to 200 under the proposed Project] would carpool). Anticipated average daily material deliveries would consist of about 20 truck deliveries per day for 24 months.

TABLE 2-4 DURATION AND NUMBER OF WORKERS OF EACH CONSTRUCTION PHASE: ALTERNATIVE 5

CONSTRUCTION ACTIVITY/PHASE	DURATION	WORKERS
Site Preparation/Clearing/Grading	6 months	15
Staging and Assembly Areas (including access roads)	6 months	15
Construction of Solar Array, Substations, O&M Building	24 months	200-400
Installation of 230 kV Gen-tie Line and Fiber Optic Cable	12 months	30
Testing	3 months	20
Clean up/restoration	1 month	20

*Construction would occur over a three-year period with construction activities occurring simultaneously.

During construction of the Reduced Acreage Alternative, a similar variety of equipment and vehicles as the proposed Project would be operating on the site. Table 2-2 provided a list of the types of equipment and vehicles expected to be involved in each construction phase.

Table 2-5 lists the estimated disturbance that would occur from the proposed Project and Alternatives. The table separates the disturbance by Project component—solar facility site and gen-tie line corridor. The temporary disturbance within the solar facility site would include: the construction of the solar arrays; fencing; on-site substations; O&M building; main access road; distribution line construction areas; gen-tie line pole construction areas, gen-tie maintenance road; pulling and tensioning sites; sleeving and miscellaneous stringing operations; and guard structure. Permanent disturbance, which is assumed for the life of the Project, within the solar facility site would include the solar arrays; fencing; on-site substation; O&M building; distribution line pole foundations; gen-tie line pole foundations, and gen-tie maintenance road. The temporary disturbance for the gen-tie line corridor includes: the gen-tie line construction areas; gen-tie line poles; pulling and tensioning sites; and sleeving and miscellaneous stringing operations. The permanent disturbance for the gen-tie line corridor includes the gen-tie line pole foundations, and access and spur roads. Table 2-6, Alternatives Comparison Summary, lists the total temporary and permanent disturbance from the proposed Project and Alternatives.

Operation

Operation and Maintenance Activities

Implementation of the Reduced Acreage Alternative would result in the same operation and maintenance activities as the proposed Project. After the construction phase, however, the O&M building would serve the Project's approximately seven permanent full-time employees. It is estimated that operational non-potable water requirements would be less than the estimates for the proposed Project, as well as less than one AF/year of groundwater for potable use in the one O&M building.

Interconnection with Statewide Grid

Power produced by the Reduced Acreage Alternative would also be conveyed to the statewide electricity grid via a new 230 kV gen-tie line from the Project facilities to the Colorado River Substation approximately 4.5 miles west of the solar facility.

Decommissioning and Repowering

The life of the Project is anticipated to be 25 years or less. At the end of the energy sales contract term, if the energy buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled under Alternative 5, similar to the proposed Project. Accordingly, this Final EIR/EA analyzes the impacts of potential decommissioning and dismantling. If the Reduced Acreage Alternative continues to operate, the impacts described in this Final EIR/EA as the impacts of operation would continue indefinitely. Similar to the proposed Project, decommissioning activities would require similar equipment and workforce as construction, but would be less intense.

TABLE 2-5 DISTURBANCE ESTIMATES

DISTURBANCE DESCRIPTION	DISTURBANCE DIMENSIONS	AVERAGE DISTURBANCE	ALTERNATIVE 1	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5
Solar Facility Site						
1.5 MW solar array (panels, trackers, equipment pad, access roads between solar arrays)	660 ft X 470 ft	7.12 acres/1.5 MW array	310 solar arrays 2,207 acres	310 solar arrays 2,207 acres	310 solar arrays 2,207 acres	210 solar arrays 1,495 acres
perimeter fence/maintenance road	20 ft wide	2.42 acres/mile	34.8 miles 84.2 acres	34.8 miles 84.2 acres	34.8 miles 84.2 acres	21.6 miles 52.3 acres
on-site substations	300 ft X 300 ft each	2.07 acres each	3 substations 6.21 acres	3 substations 6.21 acres	3 substations 6.21 acres	2 substations 4.14 acres
O&M building	3,500 sq ft building 10,000 sq ft parking area	0.31 acre	Up to 2 O& M Buildings 0.62 acre	Up to 2 O& M Buildings 0.62 acre	Up to 2 O& M Buildings 0.62 acre	1 O&M building 0.31 acre
	80,000 sq ft temporary	1.84 acres	3.68 acres	3.68 acres	3.68 acres	1.84 acres
distribution line poles	25 ft X 25 ft temporary	0.014 acre/pole	208 poles 2.98 acres	208 poles 2.98 acres	208 poles 2.98 acres	155 poles 2.22 acres
	3 ft X 3 ft permanent	0.0002 acre/pole	0.04 acre	0.04 acre	0.04 acre	0.03 acre
gen-tie poles	100 ft X 100 ft temporary	1.6 acres/mile	3.6 miles 5.76 acres	3.6 miles 5.76 acres	5.5 miles 8.8 acres	3.0 miles 4.8 acres
	10 ft X 10 ft permanent	0.014 acre/mile	0.05 acre	0.05 acre	0.08 acre	0.04 acre
gen-tie line maintenance road	12 ft wide	1.45 acres/mile	5.22 acres	5.22 acres	7.98 acres	4.35 acres
pulling and tensioning sites	200 ft X 500 ft; one site every 2.5 miles	0.9 acre/mile	3.24 acres	3.24 acres	4.95 acres	2.7 acres
sleeving and miscellaneous stringing operations	100 ft X 200 ft; one site every 2.5 miles	0.2 acre/mile	0.72 acre	0.72 acre	1.1 acres	0.6 acre
guard Structure at freeway crossing	(200 ft x 300 ft)	1.4 acres	1.4 acres	1.4 acres	1.4 acres	n/a
Gen-tie Line Corridor						
Gen-tie poles	100 ft X 100 ft temporary	1.6 acres/mile	4.8 miles; 7.68 acres	5.2 miles 8.32 acres	4.0 miles 6.4 acres	4.8 miles 7.68 acres
	10 ft X 10 ft permanent	0.014 acre/mile	0.07 acres	0.07 acre	0.06 acre	0.07 acre
gen-tie line maintenance road	12 ft wide	1.45 acres/mile	6.96 acres	7.54 acres	4.35 acres	6.96 acres
Gen-tie line spur road	12 ft wide and 2,100 ft long	0.58 acres/mile	2.78 acres	3.016 acres	5.2.32 acres	2.78 acres
pulling and tensioning sites	200 ft X 500 ft; one site every 2.5 miles	0.9 acre/mile	4.32 acres	4.68 acres	3.6 acres	4.32 acres
sleeving and miscellaneous stringing operations	100 ft X 200 ft; one site every 2.5 miles	0.2 acre/mile	0.96 acres	1.04 acres	0.8 acre	0.96 acres

Notes: ft = feet/foot; sq ft = square feet; n/a = not available

2.4 Alternatives Comparison Summary

The following sections offer a comparison of the potential environmental impacts associated with the five Project Alternatives (the proposed Project, three other action Alternatives, and the No Project/No Action Alternative), which are summarized in Table 2-6. The solar facility site and interior components (solar panels, substations, O&M buildings, and 34.5 kV distribution lines) are the same for Alternatives 1, 3, and 4 and would result in the same associated impacts. The distinctions among these alternatives focus on the impacts of distinct gen-tie lines. The analysis also considers a reduced solar facility project, which would rely on the same gen-tie line as in Alternative 1 (proposed Project).

2.4.1 Action Alternative Resource Summary (Alternatives 1, 3, 4, and 5)

Among the action alternatives, the proposed gen-tie line for the Reduced Acreage Alternative (Alternative 5) is the shortest at 7.8 miles and traverses the least amount of BLM-managed lands (approximately 3.8 miles). Alternative 4's gen-tie line is the longest at 9.5 miles. Alternative 5 would occupy the least acreage of the action alternatives: 2,476 acres (1,184 acres less than Alternative 1; 1,189 acres less than Alternative 3; and 1,171 acres less than Alternative 4). Alternative 1, Alternative 3, and Alternative 5's gen-tie lines would parallel approved and existing transmission lines and access roads. The gen-tie line would require a maintenance road; however, because of the flat desert landscape no grading would be required. Trucks would access the gen-tie lines poles by crushing over existing vegetation. Alternative 1 and Alternative 5 would require 4.8 miles of new gen-tie line maintenance roads. Alternative 3 would require 5.2 miles of maintenance roads. Alternative 4's gen-tie line would parallel an existing transmission line for approximately one mile; however, approximately three miles would not parallel existing transmission lines and would require approximately three miles of new access roads.

Alternative 5's total gen-tie line length is the shortest of the action alternatives. Alternative 5 would have marginally less annual air emissions and lower impact to vegetation communities such as areas of disturbed creosote bush scrub, bajada community, irrigated alfalfa, non-irrigated wheat. The remaining direct and indirect impacts to vegetation communities under Alternative 5 would be similar to the proposed Project analyzed under Alternative 1. Alternative 1 and Alternative 5's gen-tie line would cross 22.9 acres of Desert Riparian Woodland Wash, the same as Alternative 3 but more than Alternative 4 (11.4 acres). No records or survey results indicated the presence of State- or federal-listed plants or wildlife on Alternative 1, Alternative 3, or Alternative 5. However, based on recent survey records, the desert tortoise has a high potential to occur on the Alternative 4 gen-tie line corridor.

Action Alternatives 1 and 3, and 5 would have no cultural resources eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). Alternative 4 contains two archaeological sites along the gen-tie line that are unevaluated and avoided by Project design. Alternatives 1, 3, and 4 all contain portions of Site 33-018837, the Blythe Army Air Base (BAAB), but the BLM and County agree that the elements of BAAB within the Project area of potential effects (APE) no longer retain integrity and are not themselves eligible to the NRHP or CRHR. As development under Alternative 5 would occur south of I-10, cultural resources found north of I-10, including BAAB, as analyzed under Alternative 1, would be avoided under Alternative 5 construction. None of the gen-tie alternatives contain eligible cultural resources except possibly the Alternative 4 gen-tie line, which contains two unevaluated archaeological sites that would be avoided by Project design.

None of the action Alternatives would use groundwater during construction; rather, they would utilize water provided by the Palo Verde Irrigation District. An ephemeral stream would bisect the solar facility site for Alternative 1, Alternative 3, and Alternative 5 and the gen-tie lines for these Alternatives would also cross one ephemeral stream; an ephemeral stream would bisect Alternative 4 and its gen-tie line would cross one ephemeral stream twice.

All the action Alternatives would promote General Plan and Area Plan policies favoring solar development. The County and City would continue to promote agricultural uses in conformity with the Agricultural Preservation Policy of the Palo Verde Valley Area Plan and the City of Blythe Open Space Guiding Policies 1 and 9, but the Project and the other action Alternatives would cease agricultural use of the Project Site once construction begins.

TABLE 2-6 ALTERNATIVES COMPARISON SUMMARY

ISSUES OR CONCERNS		ALTERNATIVE 1 PROPOSED ACTION	ALTERNATIVE 2 NO PROJECT/NO ACTION	ALTERNATIVE 3 NORTHERN ALTERNATIVE 230 KV GEN-TIE LINE	ALTERNATIVE 4 SOUTHERN ALTERNATIVE 230 KV GEN-TIE LINE	ALTERNATIVE 5 REDUCED ACREAGE ALTERNATIVE
Total acreage of the solar facility site	*Private*	3,587acres	0	3,587acres	3,587 acres	2,476 acres
Jurisdiction crossed (miles) by gen-tie line ROW	*Private (inside solar facility)*	3.6 miles	0	3.6 miles	5.5 miles (3.6 + 1.9)	3.0 miles
	Private (outside solar facility)	1.0 miles (15 acres)	0	0.0 mile	0.6 mile (9 acres)	1.0 mile (15 acres)
	BLM (outside of solar facility)	3.8 miles (58 acres)	0	5.2 miles (78 acres)	3.4 miles (51 acres)	3.8 miles (58 acres)
	TOTAL	8.4 miles	0	8.8 miles	9.5 miles	7.8 miles
Total acreage (solar facility and gen-tie line)		3,660 acres	0	3,665 acres	3,647 acres	2,549
Gen-tie line	*Percentage of new 230 kV gen-tie line parallel to existing and approved transmission lines*	100%	0	100%	68%	100%
	Miles of 230 kV gen-tie line requiring new access roads (unpaved)	4.8	0	5.2	3.0	4.8
Disturbance Estimates	*Solar Facility Site*	2,336 acres (temporary) 2,316 acres (permanent)	0	2,336 acres (temporary) 2,316 acres (permanent)	2342 acres (temporary) 2,320 acres (permanent)	1,579 acres (temporary) 1,567 acres (permanent)
	Gen-tie Line	22.7 acres (temporary) 9.8 acres (permanent)	0	24.6 acres (temporary) 10.6 acres (permanent)	17.5 acres (temporary) 6.73 acres (permanent)	22.7 acres (temporary) 9.8 acres (permanent)
Aesthetics, Visual Resources and Reflection	*Designated Scenic Vista*	No	No	No	No	No
	Designated areas of natural beauty or scenic recreational areas	No	No	No	No	No
	Miles of new gen-tie line that would not parallel existing or proposed transmission lines	0.0	0.0	0.0	3.0	0.0
Agriculture	*Acres of designated Farmland converted to non-agricultural use; cancellation of Williamson Act Contracts and agricultural preserve*	(Land Evaluation Subscore: 27.2) (Site Assessment Subscore 26.1) Total Land Evaluation and Site Assessment (LESA) Score: 53.3 1,681 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve	0	(Land Evaluation Subscore: 27.2) (Site Assessment Subscore 26.1) Total LESA Score: 53.3 1,681 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve	(Land Evaluation Subscore: 27.2) (Site Assessment Subscore 26.1) Total LESA Score: 53.3 1,681 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve	(Land Evaluation Subscore: 25.9) (Site Assessment Subscore 22.4) Total LESA Score: 48.3 1,279 acres of Prime Farmland 16 acres of Unique Farmland 10 acres of Farmland of Statewide Importance Cancellation of Williamson Act Contracts and agricultural preserve
Air Quality	*Conformance with the Mojave Desert Air Quality Management District (MDAQMD)*	Yes	Yes. The air quality of the site is not expected to change noticeably from existing conditions and, as such, the No Project/No Action Alternative would not result in the air quality impacts or benefits described for Alternative 1.	Yes. However, on an annual basis, the additional construction required for the longer 230 kV gen-tie line (8.8 miles versus 8.4 miles) would have greater air emissions than Alternative 1.	Yes. However, on an annual basis, the additional construction required for the longer 230 kV gen-tie line (9.5 miles versus 8.4 miles) would have greater air emissions than Alternatives 1 and 3.	Yes. However, on an annual basis, the reduced number of workers required under the Reduce Acreage Alternative would result in fewer annual air emissions than Alternatives 1, 3 and 4.
	Estimated annual construction emissions	ROG = 4.12 NO_x = 18.44 CO = 34.58 SO_x = 0.39 PM_{10} = 6.16 $PM_{2.5}$ = 2.02	No new emissions	ROG = 4.12 NO_x = 18.52 CO = 34.62 SO_x = 0.39 PM_{10} = 6.17 $PM_{2.5}$ = 2.03	ROG = 4.12 NO_x = 18.65 CO = 34.70 SO_x = 0.39 PM_{10} = 6.16 $PM_{2.5}$ = 2.03	ROG = 4.12 NO_x = 18.44 CO = 34.58 SO_x = 0.39 PM_{10} = 6.16 $PM_{2.5}$ = 2.02

ISSUES OR CONCERNS		ALTERNATIVE 1 PROPOSED ACTION	ALTERNATIVE 2 NO PROJECT/NO ACTION	ALTERNATIVE 3 NORTHERN ALTERNATIVE 230 KV GEN-TIE LINE	ALTERNATIVE 4 SOUTHERN ALTERNATIVE 230 KV GEN-TIE LINE	ALTERNATIVE 5 REDUCED ACREAGE ALTERNATIVE
	Federal Conformity Determination requirement	Annual construction emissions for the portion of Alternative 1 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD.	The air quality of the site is not expected to change noticeably from existing conditions and, as such, the No Project/No Action Alternative would not result in the air quality impacts or benefits described for Alternative 1.	Annual construction emissions for the portion of Alternative 3 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD.	Annual construction emissions for the portion of Alternative 4 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD.	Annual construction emissions for the portion of Alternative 5 on federal lands would be less than the *de minimis* thresholds for all pollutants in the MDAQMD.
Biological Resources	*Vegetation communities crossed by the solar facility site and transmission line*	540 acres creosote bush scrub 3,294 acres of agricultural and fallow fields 18 acres bajada	0	565 acres Creosote bush scrub 3,294 acres of agricultural and fallow fields 18 acres bajada	494 acres Creosote bush scrub 3,294 acres of agricultural and fallow fields 18 acres bajada	427 acres creosote bush scrub 3,086 acres of agricultural and fallow fields
	State- or federal-listed plants detected	No	No	No	No	No
	State- or federal-listed wildlife detected	No	No	No	Desert Tortoise	No
	Conflict with local policies or ordinances protecting biological resources	No	No	No	No	No
	Designated USFWS or CDFW wildlife habitats	No	No	No	No	No
	Acres of riparian habitat crossed	22.9 acres of Desert Riparian Woodland Wash	0.0	22.9 acres of Desert Riparian Woodland Wash	11.4 acres of Desert Riparian Woodland Wash	22.9 acres of Desert Riparian Woodland Wash
Cultural Resources	*NRHP- or CRHR-listed, NRHP- or CRHR--eligible, or unevaluated resources*	No. Portion of proposed Blythe Army Air Base Historic District within the Project APE does not retain integrity and is not eligible.	n/a	No. Portion of proposed Blythe Army Air Base Historic District within the Project APE does not retain integrity and is not eligible.	2 unevaluated archaeological sites. Portion of proposed Blythe Army Air Base Historic District within the Project APE does not retain integrity and is not eligible.	No
	Cultural Resources within each gen-tie line corridor	3 isolated finds (1 prehistoric/historic, 1 prehistoric, and 1 historic). All 3 resources are not eligible for the NRHP or CRHR.	n/a	2 historic archaeological sites (refuse scatters) and 3 isolated finds (2 historic and 1 prehistoric). All 5 resources are not eligible for the NRHP or CRHR.	12 archaeological sites (6 prehistoric, 5 historic, and 1 prehistoric/historic) and 4 isolated finds (2 prehistoric and 2 historic). 10 archaeological sites and all 4 isolated finds have been determined not eligible for the NRHP or CRHR. 2 archaeological sites are unevaluated.	3 isolated finds were documented (1 prehistoric/historic, 1 prehistoric, and 1 historic). All 3 resources are isolated sites and have been determined not eligible for the NRHP or CRHR.
Paleontological Resources	*Resource sensitivity crossed*	Quaternary Alluvium, Eolian Sand (Qs)	No	Quaternary Alluvium, Eolian Sand (Qs)	Quaternary Alluvium	Quaternary Alluvium, Eolian Sand (Qs)
Geology and Soils	*Distinctive geologic features*	None	None	None	None	None
	Miles crossed of high levels of earthquake ground shaking	No	n/a	No	No	No
	Liquefaction hazard zones crossed	Moderately susceptible to liquefaction	n/a	Moderately susceptible to liquefaction	Moderately susceptible to liquefaction	Moderately susceptible to liquefaction
	Potential landslides	No	n/a	No	No	No
	Susceptible to soil and wind erosion	Moderate to High	n/a	Moderate to High	Moderate to High	Moderate to High
	Mineral production	No	n/a	No	No	No
Greenhouse Gas	*Generate greenhouse gas emissions*	Construction emissions: 183 metric tons of CO_2e (amortized over the life of the Project); Operations emissions: 271 metric tons per year of CO_2e. Project emissions due to construction would not exceed CAPCOA thresholds.	No new emissions. Existing emissions do not exceed CAPCOA thresholds.	The total GHG emissions are estimated to be slightly greater than Alternative 1 during construction and would not exceed CAPCOA thresholds.	The total GHG emissions are estimated to be slightly greater than Alternative 1 during construction and would not exceed CAPCOA thresholds.	Construction emissions: less than 183 metric tons of CO_2e (amortized over the life of the Project); Operations emissions: less than 271 metric tons per year of CO_2e for solar facility. Project emissions due to construction would not exceed CAPCOA thresholds.
Hazards and Hazardous Materials	*Located on-site that is included on a list of hazardous materials site complied pursuant to Gov. Code Section 65962.5*	One aboveground storage tank located within solar facility site, however, will be removed in compliance with rules, laws, and regulations.	n/a	One aboveground storage tank located within solar facility site; however, will be removed in compliance with rules, laws, and regulations.	One aboveground storage tank located within solar facility site; however, will be removed in compliance with rules, laws, and regulations.	N/A
	Create hazards	No	No	No	No	No

ISSUES OR CONCERNS		ALTERNATIVE 1 PROPOSED ACTION	ALTERNATIVE 2 NO PROJECT/NO ACTION	ALTERNATIVE 3 NORTHERN ALTERNATIVE 230 KV GEN-TIE LINE	ALTERNATIVE 4 SOUTHERN ALTERNATIVE 230 KV GEN-TIE LINE	ALTERNATIVE 5 REDUCED ACREAGE ALTERNATIVE
Hydrology and Water Resources	*Water supply needs from Palo Verde Valley Irrigation District*	Up to 500 AF/year during construction Up to 302 AF/year during operation, resulting in a net reduction of 2,903 to 3,101 AF/year.	No increase in existing demand. Irrigation for agriculture approximately 3,403 AF/year	Up to 500 AF/year during construction Up to 302 AF/year during operation	Up to 500 AF/year during construction Up to 302 AF/year during operation	Less than 500 AF/year during construction Less than 302 AF/year during operation, resulting in a net reduction of more than 2,903 to 3,101 AF/year.
	Number of ephemeral channel crossings	2 ephemeral	N/A	2 ephemeral	3 (one ephemeral channel crossed twice)	2 ephemeral
	Potential impact from flooding	Yes, but solar facility would be designed outside of floodplain.	No	Yes, but solar facility would be designed outside of floodplain.	Yes, but solar facility would be designed outside of floodplain.	Yes, but solar facility would be designed outside of floodplain.
	Change in absorption rates, surface runoff, or drainage patterns	No; however, the Project would result in the creation of minimal additional impervious surface.	n/a	No; however, the Project would result in the creation of minimal additional impervious surface.	No; however, the Project would result in the creation of minimal additional impervious surface.	No; however, the Project would result in the creation of minimal additional impervious surface.
Land Use Planning	*Conflict with regional/local land use plans, policies, and regulations*	No	No	No	No	No
	Miles of 230 kV gen-tie within federal jurisdiction and within an agency-designated Utility Corridor	3.4	n/a	5.3	4.0	3.4
Noise	*Closest residence*	260 feet	n/a	260 feet	260 feet	580 feet
	Residences within 1 mile of solar facility (no residences within 1,000 feet for gen-tie)	377	n/a	377	377	372
Recreation	*Impact existing parks or other recreational facilities*	No	n/a	No	No	No
	Located within a Community Service Area	No	n/a	No	No	No
Socioeconomics	*Increase population*	Not substantial / temporary during construction	n/a	Not substantial / temporary during construction	Not substantial / temporary during construction	Not substantial / temporary during construction
Traffic and Transportation	*Roads that may require improvement for emergency access*	Seeley Avenue and Riverside Drive	n/a	Seeley Avenue and Riverside Drive	Seeley Avenue and Riverside Drive	Seeley Avenue
	Miles of new gen-tie line requiring new access roads	0.0	0.0	0.0	3.0 miles	0.0

AF = acre-feet
CAPCOA = California Air Pollution Controls Officers Association
CDFW = California Department of Fish and Wildlife
CO = Carbon monoxide
CRHR = California Register of Historical Resources
MDAQMD = Mojave Desert Air Quality Management District
n/a = not applicable
NO_x = Nitrogen oxides
NRHP = National Register of Historic Places
PM_{10} = Particulate matter 10 microns in diameter or larger
$PM_{2.5}$ = Particulate matter 2.5 microns in diameter or larger
ROG = Reactive organic gases
SO_x = Sulfur oxides
USFWS = U.S. Fish and Wildlife Service

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2.4.2 No Project/No Action Alternative (Alternative 2)

Under the No Project/No Action Alternative, ongoing activities would continue, but new impacts associated with the implementation of the No Project/No Action Alternative are not anticipated. Relative to Alternatives 1, 3, 4, and 5, all impacts associated with the construction, operation, maintenance, and decommissioning of the Blythe Mesa Solar Project would be avoided. As such, there would be no effects related to greenhouse gas (GHG) emissions beyond those that already occur on the Project site as a result of existing agricultural operations (zero net increase in GHG emissions). However, the beneficial impacts of the proposed Project associated with providing renewable energy in accordance with the State's adopted RPS and President Obama's Climate Action Plan would also not occur under this Alternative. That is, under the No Project Alternative, renewable energy would not be available to offset the use of energy from other sources, including fossil fuels. Consequently, the No Project Alternative would not achieve the GHG reduction associated with the proposed Project, which was estimated to range from 371,116 to 1,061,829 metric tons of carbon dioxide equivalent (CO_2e) per year.

2.5 Alternatives Considered and Eliminated from Further Analysis

CEQA and NEPA require an EIR/EA to consider a reasonable range of alternatives to the Project that have the potential to feasibly attain most of the basic objectives of the Project (see list below) or meet the federal purpose and need. In addition, CEQA requires the consideration of how to avoid or substantially lessen any adverse effects of the proposed Project. The proposed Project has the potential to have significant adverse effects on Agriculture, Biological Resources, Cultural and Paleontological Resources, Geology and Soils, Hydrology and Water Quality, Noise, and Traffic and Transportation, but would be reduced to less than significant levels with implementation of mitigation measures.

~~The Applicant's objectives for the Project are as follows:~~

- ~~Construct a solar energy facility in order to help meet State and federal renewable energy standards and goals.~~
- ~~Assist with GHG reduction objectives to the maximum extent possible.~~
- ~~Locate the Project facilities as near as possible to electrical transmission facilities with anticipated capacity and reserved CAISO interconnection position.~~
- ~~Site the Project in an area with excellent solar energy resource, in order to maximize energy productivity from the PV panels.~~
- ~~To the extent feasible, site the Project on previously disturbed land with compatible topography in a manner that minimizes environmental impacts.~~
- ~~Use a proven and available solar PV technology to provide cleanly generated electricity at a competitive price for California electric ratepayers.~~
- ~~Eventual decommissioning of the 485 MW solar PV electrical generating facility and associated infrastructure at the end of the energy sales contract term, if the energy buyer is not available for extension or another energy buyer does not emerge.~~

Alternatives to the proposed Project were identified through the scoping process, informational public meetings, and preliminary studies. A number of alternatives to the proposed Project were identified. Some of these alternatives did not have the potential to meet most of the Project objectives, to meet the federal purpose and need, or to avoid or minimize adverse environmental effects, or were considered infeasible through additional study and evaluation. The sections below provide a brief description of each alternative, the alternative's ability to meet the screening criteria, and the rationale for elimination of the alternative from full analysis in this Final EIR/EA. The alternatives considered but eliminated from further analysis included:

- Solar Power Tower Technology
- Distributed Solar Photovoltaic Alternative
- Conservation and Energy Demand Reduction
- Alternative Site on BLM-managed Land
- Palo Verde Valley Floor Alternative

2.5.1 Solar Power Tower Technology

The solar power tower technology uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver at the top of a high tower. The focused energy is used to produce steam and run a center power generator. The transfer fluid is super-heated before being pumped to heat exchangers that transfer the heat to boil water and run a conventional steam turbine to produce electricity. Although concentrated, solar power systems can store heated fluids to deliver electricity even when the sun is not shining. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a concentrated solar energy power tower facility is comparable to that required for a PV project—approximately five acres per MW of installed capacity (NREL 2012).

Project Objectives

A solar power tower system has the potential to meet most of the Project objectives, depending on whether its location is in conformity with guiding principles of local General Plans.

A solar power tower system, if located at least partially on public lands under BLM management, could also meet the BLM's purpose and need.

Feasibility

Concentrated solar power tower systems are typically not compatible with airports (FAA Solar Guide). Blythe Airport's Runway 26 is approximately 2,900 feet from the Project boundary. The proximity of the Project area to the airport could result in significant impacts due to glint and glare caused by heliostats associated with development of a concentrated solar power tower system, which could cause temporary flash blindness to pilots on arrival or departure or to Air Traffic Control Personnel; electromagnetic interference with on- and off-airport radar systems; and thermal plumes emitted in the airport environs by steam turbine generator cooling systems. In addition, approximately 3,300 acres of the solar facility site would be located within the Blythe Airport Influence Area (Airport Compatibility Zones B1, C, D, and E). According to FAA Regulations, Part 77, Section 77.23 (a)(2), objects greater than 200 feet tall from the ground surface, or 200 feet above the elevation of the airport (whichever is higher) that are within three nautical miles (3.45 linear miles) of an airport could be considered an obstruction to aviation activities (refer to Sections 3.2.8 and 4.2.8, *Hazards and Hazardous Materials*, for a detailed discussion regarding the Airport Operations and regulatory information regarding the Riverside County Airport Land Use Compatibility Plan). A concentrated solar power tower which could be up to 750 feet tall and located within the Blythe Airport Influence Area would penetrate the navigable airspace and obstruct aviation activities; therefore, the Solar Power Tower Technology Alternative would be infeasible.

Environmental Advantages

The footprint required for a solar power tower facility would be equivalent to that of a PV solar system; therefore, the impacts relating to land disturbance would be similar to that of the proposed Project.

Environmental Disadvantages

The environmental disadvantages would occur to visual resources, land use, and water supply/quality. The solar power towers are generally taller than a PV system; therefore, it would be seen from greater distances. Solar power tower systems typically use conventional steam plants to generate electricity, which typically consume water for cooling. In arid settings, such as the Palo Verde Mesa, any increase in water demand would strain available water resources. Solar power tower facilities would also adversely impact the operations at the Blythe Airport and the Airport Land Use Commission compatibility requirements.

Alternative Conclusions

The use of a solar power tower technology appears to have the ability to meet most of the basic Project Objectives and would have similar impacts as the proposed Project with respect to biology, cultural resources, paleontology, and geology. However, use of this technology would result in comparatively greater impacts to the Blythe Airport's operations. This alternative would be more visible than the proposed Project due to the height of the power tower and creation of cooling system vapor plumes, and the alternative would not avoid impacts to agricultural resources. Therefore, a solar power tower system alternative was not considered further.

2.5.2 Distributed Solar Photovoltaic Alternative

There is no single accepted definition of distributed solar technology. The California Energy Commission's (CEC) 2011 *Integrated Energy Policy Report* defines distributed generation resources as "(1) fuels and technologies accepted as renewable for purposes of the Renewables Portfolio Standard; (2) sized up to 20 MW; and (3) located within the low-voltage distribution grid or supplying power directly to a consumer." Distributed solar facilities vary in size from several kilowatts to tens of megawatts but do not require transmission to get to the areas in which the generated power is used.

A distributed solar alternative would consist of PV panels that would absorb solar radiation and convert it directly to electricity. Under this Alternative, the PV panels would be installed on residential, commercial, or industrial building rooftops or in other disturbed areas like parking lots or disturbed areas adjacent to existing structures such as substations. To create a viable alternative to the proposed Project, there would have to be sufficient newly installed panels to generate up to 485 MW of capacity. According to the 2012 CEC renewable energy acreage calculator, it would take approximately 3,464 acres to construct a 485 MW Distributed Solar Photovoltaic Alternative (0.4 MW/acre), nearly the size of the proposed Project.

Rooftop PV systems and parking lot systems exist in small areas throughout California. Larger distributed solar PV installations are becoming more common. Examples of different distributed PV systems are:

- Nellis Air Force Base, Nevada: Over 72,000 solar panels, generating 14 MW of energy, were constructed in 2007 by SunPower Corp. on 140 acres of Nellis Air Force Base land (Whitney 2007). Energy generated is used at the base.
- SCE, Ontario, CA and Redlands, CA: SCE's newest solar PV installations have a combined peak generating capacity of 12.5 MW. The Ontario installations involved four solar stations on 1.8 million square feet of leased warehouse roofs owned by ProLogis. The 32,950 solar PV panels are capable of generating 5.5 MW. In Redlands, SCE built three installations, with 34,600 panels spread over 1.5 million square feet of ProLogis warehouse roofs, which can generate 7 MW of power (allvoices 2011).
- Metrolink Industry Station, City of Industry, CA; Metrolink's Industry Station was outfitted with approximately 8,000 PV solar panels covering 940 parking spaces that is capable of generating two MW (Velasco 2012).
- FedEx, Oakland, CA: The FedEx Express hub at Oakland International Airport has 5,769 solar PV panels installed on 81,000 square feet that produce approximately 904 kW (SunPower 2014).

Project Objectives

A distributed solar technology alternative, if constructed at 485 MW, has the potential to meet some of the Project objectives. However, this solar power would be distributed throughout California and thus not subject to the same local planning policies. The distributed solar technology would not necessarily meet the objective to locate the facility in areas of high solar resource, because the distributed technology would be located throughout the state. An implemented distributed generation system would not achieve RPS as efficiently, since scattered, individual solar installations are likely to be less efficient in producing energy because they do not enjoy economies of scale and are less likely to be subjected to rigorous, regular maintenance. Additionally, while 485 MW of rooftop solar has the potential to meet some the Project objectives, contributions from all commercially available renewable technologies are needed to meet California's RPS requirements and to achieve the statewide RPS target for 2020. To meet the 33

percent by 2020 RPS target, CEC staff estimates that the state will need renewable generation in the range of 35,000 to 47,000 gigawatt hours in addition to generation expected from existing facilities (CEC 2011). To meet this goal, Governor Brown's Clean Energy Job Plan calls for adding 20,000 MW of new renewable capacity by 2020 (including 8,000 MW of large-scale wind, solar and geothermal and 12,000 MW of distributed generation).

Distributed solar projects would be located on rooftops and ancillary existing facilities. Consequently, few, if any, of such projects would be located on BLM-managed property. A distributed solar technology alternative could not meet the federal purpose and need to consider the ROW application for the Project in a manner that takes account of the BLM's multiple use mandate for BLM-managed land, and takes account of management objectives to take actions that increase the production and transmission of energy in a safe and environmentally sound manner, to approve non-hydropower renewable energy projects on public lands, and to treat development of renewable energy as a priority for the Department of the Interior.

Feasibility

The rate of PV manufacturing and installation is expected to continue to grow very quickly. In 2011, 311 MW of customer-sited solar was installed, a growth of 60 percent from 2010 (CPUC 2013). Through April 2012, 97 MW of new distributed solar was installed through the California Solar Initiative (CPUC 2012). The addition of a further 485 MW to eliminate the need for the proposed Project cannot be guaranteed. This would require an even more aggressive deployment of PV than the California Solar Initiative program currently employs. As discussed in *Renewable Power in California: Status and Issues* (CEC 2011), challenges to an accelerated implementation of distributed solar PV include:

- **Widely varying codes, standards, and fees.** Local governments with jurisdiction over these projects have widely varying codes, standards, and fees that are a challenge for developers trying to meet permitting requirements.
- **Environmental requirements and permitting.** Distributed generation projects must comply with a number of environmental requirements including permits and approvals from multiple local entities like fire departments, building and electric code officials, and local air districts. Many local jurisdictions do not have energy elements in their general plans or zoning ordinances to provide guidance to renewable development, and developers must request general plan amendments and/or rezoning of developable parcels.
- **Interconnection.** Physical interconnection to the local distribution system may be complicated, depending on the electricity infrastructure in each community. Upgrades to the distribution system can require local permits.
- **Integration of distributed generation.** California utilities need to balance maintaining system reliability and dealing with aging distribution infrastructure. There are issues with integration of large amounts of renewable distributed generation into the distribution system, which brings power from substations to consumers. The increasing amounts of distributed PV solar power generated may exceed load at different times of the day and flow backwards into the circuit or substation. The distribution system needs to be modernized and use technologies that easily allow for two-way flow of electricity as well as improved communication technologies.

Environmental Advantages

Installation of 485 MW of distributed solar PV could require approximately the same acreage as the proposed Project; however, distributed solar PV is assumed to be located on already existing structures or disturbed areas, so little to no new ground disturbance would be required, and there would be few associated biological and cultural impacts. This alternative would also avoid impacts to agricultural resources and air quality impacts resulting from construction activities.

Environmental Disadvantages

None of the environmental impacts of the proposed Project would occur with the Distributed Solar Photovoltaic Alternative. However, the individualized nature of the solar panel installations would

compare unfavorably to a utility scale solar project in terms of ability to regulate visual impacts, ability to regulate use of materials containing hazardous substances, control over potential decommissioning, dismantling and disposal of solar panels, and the applicability and enforceability of other environmentally protective mitigation measures and laws.

Alternative Conclusions

Although there is potential to achieve up to 485 MW of distributed solar energy, the limited number of existing facilities makes it unlikely to be feasible or present environmental benefits. The proposed Project would utilize single-axis PV trackers with high efficiency~~, monocrystalline, silicon~~ solar panels. The panel design minimizes shading~~, and by grouping trackers close together, the technology requires 20 percent less land than conventional crystalline fixed tilt systems and 60 percent less land than thin film systems~~. Rooftop systems typically consist of less efficient fixed-tilt systems that may not be oriented optimally towards the sun, meaning that developers would need to obtain more surface area for the Project if constructed on a rooftop instead of on the ground. The transaction costs of obtaining multiple rooftops, the complexity of mobilizing construction crews across multiple projects including the transporting and deployment of construction materials in a less efficient manner, and the need to develop the deals to secure the same amount of PV-produced electricity can make this type of alternative infeasible.

To the extent that distributed generation projects might have fewer impacts on certain resources because they do not utilize substations and transmission facilities, the discussion here illustrates that distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. Rooftop systems that are not connected to the utility side of the electric grid only generate power for on-site consumption. At the same time, the difficulties in supplying a comparable amount of megawatts of clean energy to the public through the utility sector has its own set of impacts due to failure to offset the impacts of counterpart fossil fuel energy sources.

There are a number of challenges associated with the implementation of a distributed solar technology, which include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; inefficiencies; and integration of distributed generation into the electrical grid. As a result, this technology was eliminated from detailed analysis as an alternative to the proposed Project.

2.5.3 Conservation and Energy Demand Reduction

Conservation and demand reduction consist of a variety of approaches for the reduction of electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution.

Project Objectives

The alternative would not meet the objectives of constructing a solar energy facility to meet renewable energy standards and goals. It would assist with GHG reduction objectives. However, this alternative likely would not meet the projected demand for energy. This alternative would not meet the BLM's purpose and need to consider a ROW, nor help BLM achieve its management objectives or multiple use mandate.

Feasibility

Energy efficiency in general is feasible and would assist with GHG reduction. However, energy efficiency alone would not meet State and federal renewable energy standards and goals. The CEC's 2011 *Integrated Energy Policy Report* takes energy efficiency and conservation into account when determining the RPS assumptions and goals, and concludes that additional sources of renewable energy are required in addition to implementation of conservation measures.

Environmental Advantages

All impacts of the proposed Project would be avoided.

Environmental Disadvantages

Impacts are unknown. Because this alternative would not meet demands, and if no additional power generation facilities were built, it is likely that demand would remain unsatisfied. It is not possible to predict, reasonably, neither what consequences would result from the unmet demand nor where those consequences would occur.

Alternative Conclusions

This alternative is not technically feasible as a replacement for the proposed Project, because California utilities are required to achieve aggressive energy efficiency goals. Additional energy efficiency beyond that occurring in the baseline condition may be technically possible, but it is speculative to assume that energy efficiency alone would achieve the necessary GHG reduction goals. With population growth and increasing demand for energy, conservation and demand management alone is not sufficient to address all of California's energy needs. Therefore, this alternative would not meet Project objectives pertaining to renewable energy goals.

2.5.4 Alternative Site on BLM-managed Lands

Similar to the proposed Project, an Alternative Site on BLM-managed Lands would involve the construction, operation, maintenance, and decommissioning of a 485 MW solar facility and 230 kV gen-tie line. This alternative would be located within the Developable Areas within the Riverside East Solar Energy Zone (SEZ) that was identified by the BLM and Department of Energy (BLM and DOE 2012). Wilderness areas and areas of critical environmental concern (ACECs) were precluded from solar development. Additionally, to achieve the Project objectives, the Alternative Site on BLM-managed Lands would need to be located approximately 20 miles from the Colorado River Substation. It is also assumed that this alternative would require a BLM ROW grant to allow for the construction and operation of solar facilities within BLM-managed lands.

Project Objectives

The construction and operation of a solar facility on an Alternative Site on BLM-managed Lands has the potential to meet the basic Project Objectives. It also has the potential to meet BLM's purpose and need.

Feasibility

Most of the land that would be located in close proximity to the Colorado River Substation and within the Developable Areas of the Riverside East SEZ are in use or proposed for other solar energy projects (see Figure 4.1-1) or within a mountainous area that is not ideal for solar development. It is very unlikely that there would be enough acreage within BLM's Developable Area of the Riverside East SEZ to support a 485 MW solar facility in close proximity to the Colorado River Substation.

Environmental Advantages

This Alternative would avoid adverse impacts to agricultural resources that would result from the implementation of the proposed Project. An Alternative Site would likely be sited farther away from Palo Verde Valley residents and avoid potential less-than-significant impacts to their views.

Environmental Disadvantages

An Alternative Site on BLM-managed Lands would likely be sited closer to wilderness areas and in areas that are generally more natural in appearance compared to lands in the proposed Project; therefore, this Alternative would increase the visual contrast in the area and impacts to visual resources. Also, most of the BLM-managed lands in these areas are undisturbed and would likely experience more severe impacts to biological and cultural resources than the proposed Project, which is located on previously disturbed land. BLM-managed land would likely require more extensive grading because the land has not been previously disturbed, and construction of more or longer access roadways. These activities are likely to result in greater air quality, biological, and cultural impacts.

Alternative Conclusions

The Alternative Site on BLM-managed Lands would avoid impacts to agricultural resources; however, it may not be feasible to find an Alternative Site on BLM-managed Lands, because most of the land within the Developable Areas of the Riverside East SEZ is in use, proposed for other solar energy projects, or within mountainous areas. This alternative would likely have impacts similar to those of the proposed Project for many resource elements, such as air quality and traffic. However, it is likely to have more severe biological, cultural, and visual resource impacts, as it would likely be located on undisturbed lands. This alternative would also be sited closer to wilderness areas and ACECs, which border the developable SEZ areas. The Alternative Site on BLM-managed Lands would not present significant environmental advantages over the proposed Project.

2.5.5 Palo Verde Valley Floor Alternative

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would involve the construction, operation, maintenance, and decommissioning of a 485 MW solar facility and 230 kV gen-tie line. The solar facility would be situated on private lands within the Palo Verde Valley (between the Palo Verde Mesa to the west and the Colorado River to the east), instead of the Palo Verde Mesa, as well as on BLM-managed lands. It is also assumed that this alternative would require a BLM ROW grant for the 230 kV gen-tie line and CUP approvals to allow for the construction and operation of solar facilities.

Project Objectives

The alternative has the potential to meet the Project objectives of constructing a solar energy facility to meet renewable energy standards and goals, which would assist with GHG reduction objectives. If this Alternative were sited at least partially on BLM-managed lands, it would have the potential to meet the federal purpose and need.

Feasibility

Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in CEQA Guidelines Section 15126.6(f)(l)) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan inconsistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

While it would be feasible to construct a solar facility and gen-tie lines on the Palo Verde Valley Floor, the possibility of finding a contiguous area sufficient for siting a 485 MW facility is unlikely. To have the potential to meet most of the Project objectives, an alternative site would need to be of sufficient size to accommodate the 485 MW solar facility. There are no suitable sites that are available or within the control of the Project Applicant. Given the size of the proposed Project, the Project objectives, and the need to arrange a suitable assemblage of parcels, it is impractical and infeasible to propose the Project on an alternative site within Palo Verde Valley Floor and still proceed within a reasonably similar timeframe.

In addition, the Palo Verde Valley Floor contains large areas of land classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Purchasing and converting these prime farmlands, to nonagricultural use would increase the timeframe, effort, and cost of obtaining site control. This alternative has effects that cannot be reasonably ascertained, and its implementation is speculative. Therefore, an alternative site on the Palo Verde Valley Floor has been eliminated from further consideration because it is not considered to be potentially feasible.

Environmental Advantages

In comparison with the Palo Verde Valley Floor Alternative, the proposed Project would be located on the larger contiguous area of designated Prime Farmland. By contrast, the Palo Verde Valley Floor has a mixture of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Impacts to agricultural resources would be transferred from the Palo Verde Mesa to the Palo Verde Valley Floor with implementation of the Palo Verde Valley Floor Alternative, but agricultural impacts would not be reduced.

Environmental Disadvantages

The Palo Verde Valley Floor is one of the richest agricultural regions in California. The soils, deposited by the Colorado River, are classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. The proposed Project is located on the Palo Verde Mesa The Palo Verde Irrigation District is committed to keeping the Palo Verde Valley lands in agriculture and is likely to oppose solar energy development (BrightSource 2011). Maintaining viable agricultural land for future generations is also an important aspect of Riverside County's Palo Verde Valley Area Plan.

The Palo Verde Valley Floor Alternative is also farther away from the Colorado River Substation and would require a longer gen-tie line, which would increase the amount of ground disturbance and potential impacts to aesthetics, air quality, biological resources, cultural resources, hydrology and water quality, and traffic and transportation. This alternative would also be closer to more populated areas than the proposed Project, which would further increase impacts to visual resources. The alternative's proximity to the Colorado River has a potential to increase impacts to migratory birds.

Alternative Conclusions

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would also impact agricultural land. This Alternative would also be farther away from the Colorado River Substation, which would increase ground disturbance and impacts to aesthetics, air quality, biological resources, hydrology and water quality, and traffic and transportation. The proximity to the Colorado River could pose adverse impacts related to migratory birds, water resources, and the risk of flooding, which would not result from implementation of the proposed Project. As a result, this alternative was not analyzed in further detail.

CHAPTER 3: AFFECTED ENVIRONMENT

3.1 Introduction

Chapter 3 describes the affected environment and the existing environmental conditions, or "baseline conditions," associated with the construction, operation, and decommissioning of the Blythe Mesa Solar Project (Project) and Alternatives. The baseline conditions are used for comparison to establish the type and extent of the potential environmental effects of the Project. In the following sections, the environmental setting is described within a defined Project area and a regional vicinity context, with a focus on the particular environmental impacts being discussed. The term "Project area" refers to the proposed 485 megawatt (MW) solar photovoltaic (PV) facility and associated infrastructure (3,587 acres), as well as the proposed 230 kilovolt (kV) transmission line (generation interconnection [gen-tie] line) (73 acres). As discussed in Chapter 2, this Final Environmental Impact Report/Environmental Assessment (Final EIR/EA) analyzes four Alternatives—the No Project (Alternative 2) and three action Alternatives (the Northern Alternative, the Southern Alternative and the Reduced Acreage Alternative). The proposed solar facility site would be the same for Alternative 1 (proposed Project), Alternative 3 (Northern Alternative), and Alternative 4 (Southern Alternative). Alternative 5's (Reduced Acreage Alternative) ~~solar facility site would occupy the same area as proposed Project; however, it~~ would only include development south of the Interstate 10 (I-10) freeway, which would occupy 2,476 acres instead of 3,600 acres. The main difference between the Alternative 3 and 4 is the location of the 230 kV gen-tie line ~~corridor~~ that extends outside the solar facility site. The Northern Alternative gen-tie line ~~corridor~~ would occupy 95 acres and the Southern Alternative gen-tie line ~~corridor~~ would occupy 60 acres. The proposed Project (Alternative 1) and Alternative 5's gen-tie line ~~corridor~~ would have the same alignment and occupy 73 acres. The environmental setting and impacts analysis for the proposed Project and Alternatives utilizes a study area approach, which may vary based on the resource being evaluated and the predicted locations of direct and indirect effects of the proposed Project.

This chapter also includes a discussion of the regulatory framework for each of the environmental resource topics that present regulations, plans, goals, policies, and standards that may be applicable to the proposed Project and Alternatives. The following environmental topics are addressed in detail in this Final EIR/EA:

- 3.2.1 Aesthetics, Visual Resources, and Reflection
- 3.2.2 Agriculture
- 3.2.3 Air Quality
- 3.2.4 Biological Resources
- 3.2.5 Cultural Resources
- 3.2.6 Geology and Soils
- 3.2.7 Greenhouse Gas Emissions
- 3.2.8 Hazards and Hazardous Materials
- 3.2.9 Hydrology and Water Quality
- 3.2.10 Land Use and Planning
- 3.2.11 Noise
- 3.2.12 Paleontological Resources
- 3.2.13 Population, Housing, Public Services, Utilities, and Socioeconomics
- 3.2.14 Recreation
- 3.2.15 Traffic and Transportation

The information and data used to prepare this chapter were obtained from several sources including the City of Blythe General Plan, County of Riverside General Plan, and the California Desert Conservation Area (CDCA) Plan. In addition, information was obtained from various U.S. Department of the Interior, Bureau of Land Management (BLM) planning documents, National Environmental Policy Act (NEPA) documents, California Energy Commission (CEC) documents, research publications prepared by various federal and State agencies, and private sources pertaining to key resource conditions found within the

Project area, Alternatives, and surrounding areas. The discussions in this chapter were also informed by the surveys and studies conducted for the Project, as noted throughout this chapter.

3.2 Regional Setting

The Project would be located in eastern Riverside County, approximately five miles west of the city center of Blythe (refer to Figure 1-2, in Chapter 1); portions of the solar array facility would be within the City of Blythe. The proposed Project and Alternatives are situated on the Palo Verde Mesa, which comprises a series of ancient raised river terraces. The topography is relatively flat and slopes toward the southeast; elevations range from 260 to 400 feet above mean sea level (amsl). The following geographic features are located in proximity to the solar facility site and gen-tie lines: the Big Maria Mountains to the northwest; the McCoy Mountains to the west; the Mule Mountains to the southwest; and the Colorado River to the east. These mountain ranges, which trend northwest to southeast, create a natural barrier between the Colorado River and the greater Colorado Desert.

Land uses in the regional area consist of agricultural fields and groves, residences, Blythe Airport, Blythe Energy Center, Blythe Solar Project (owned by NRG), electrical transmission lines, and commercial businesses. Existing open desert lands consist of creosote bush scrub. The proposed solar arrays would be situated primarily within agricultural land, and the gen-tie line within private, disturbed lands and open public lands.

3.2.1 Aesthetics, Visual Resources, and Reflection

Visual resources are the elements of the landscape that contribute to the aesthetic and/or scenic character and quality of the environment. These elements can be either natural or human-made. This section describes the environmental setting and regulatory framework in regards to aesthetics, visual resources, and reflection for the proposed Project and Alternatives. The visual resources inventory describes the existing landscape character and scenic quality of the Project area, identifies sensitive viewpoints and corridors within the visual resources study area, and describes sensitive views in the Project area.

Methodology

The Project area includes private lands for the solar facility and the gen-tie line that would traverse both BLM and private lands. The methodology used to establish baseline environmental conditions includes the inventory of existing visual conditions (visual setting, scenic quality, sensitive viewpoints, visibility and distance zones, key observation points) and incorporation of BLM's policies and guidelines for managing visual resources.

The assessment of aesthetic resources included a review of the proposed Project development plans, regional and local regulatory guidelines, and current land use data. Existing regional landform, vegetation, and water features were reviewed with aerial photography interpretation. Documentation of existing regional physiography was reviewed to determine broad landscape patterns and regionally significant natural features. Land use was determined to identify potential sensitive viewers, viewpoints, and corridors to be evaluated.

A visual resources study area was developed for the Project based on potential for significant impacts. This was based on the scale of the Project and its visual influence on viewers and the landscape. Solar electrical generating facilities may be visible for long distances due to their large scale and contrast with the landscape, particularly from elevated viewpoints that have open views that may encompass an entire facility. Because the Project would be located on flat agricultural land and potential viewers are located at the same elevation as the Project or at a lower elevation, views of the Project would be generally limited to the edges of the solar facility. Because of the low profile of the solar panels, the flat topography, limited development on the mesa on which the Project would be located, and lack of potentially sensitive viewpoints in the mountain ranges around the desert plain, the study area for the solar facility was defined as a 1.0-mile area around the perimeter of the solar facility. For the 230 kV gen-tie line, a 1.5-mile area on

each side (total of a three-mile-wide study corridor) of the centerline was inventoried for visual setting and sensitive viewpoints. The distance threshold for the gen-tie line was based on previous experience with the assessment of visual impacts on transmission lines and previous studies conducted on the visibility of transmission lines in the landscape (Jones and Jones 1976).

Key observation points (KOPs) were selected from the identified sensitive viewpoints and corridors that are representative of views of the Project that would occur during construction, operation, maintenance and decommissioning. Additional viewpoints, such as the residential areas on the Palo Verde Valley floor, were not selected as KOPs because visibility of the Project would be limited. Several mountain ranges with wilderness areas are located around the edges of the desert plain where the Project would be located. However, they do not contain developed trails, parking/trailheads, or other visitor use facilities. See Section 3.2.14, *Recreation*, for a detailed discussion regarding recreational facilities within the Project vicinity. The closest recreational areas to the Project area are the Palo Verde Municipal Golf Course (approximately three miles away) and Midland Long-Term Visitors Areas (approximately seven miles away). These recreational areas would have very distant views of the site that would be difficult to perceive and, therefore, were not selected as KOPs.

BLM Visual Resource Management System

The BLM's Visual Resource Management (VRM) system, as detailed in the 8400 Series Manuals (BLM 1986, 1986a), was also utilized to assess the Project's aesthetic effects. The BLM must consider the scenic values of BLM-administered public lands before allowing uses that may have negative visual impacts. The BLM's VRM system accomplishes this by inventorying scenic values on BLM lands, establishing VRM objectives, and evaluating proposed activities to determine whether they are compatible with the VRM objectives. VRM classes are assigned based on the management decisions made in Resource Management Plans (RMPs). The applicable RMP for the Project is the CDCA Plan. The CDCA Plan does not contain a visual resource element and has not established VRM Classes. Interim VRM Classifications are typically established when a project is proposed and there are no RMP- or Management Framework Plan-approved VRM Classifications. The portion of the Project's gen-tie line corridor that would traverse BLM lands would be in an area of Interim VRM Class III, which was assigned to the area by the McCoy Solar Energy Project Final Environmental Impact Statement (EIS). The objectives of each VRM classification are as follows:

> **VRM Class I**. The objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
>
> **VRM Class II**. The objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
>
> **VRM Class III**. The objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate or lower. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
>
> **VRM Class IV**. The objective is to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements in the predominant natural features of the characteristic landscape.

Environmental Setting

Existing Visual Setting

The Project would be located in the Colorado Desert in the Great Basin section of the Basin and Range Physiographic Province (Fenneman 1931). The topography of the basin is relatively flat with occasional desert washes and slopes toward the southeast; elevations range from 260 to 400 feet amsl. The steeply rising, barren-sloped McCoy Mountains visually dominate the mesa. The mountain ranges, trending northwest to southeast, create a natural barrier between the Colorado River and the greater Colorado Desert. Developed lands in the Project vicinity include agricultural fields (both active and fallow) and groves, residences, the Blythe Airport, the Blythe Energy Center, the Blythe Solar Project, electrical transmission lines, and commercial businesses. I-10, which is a Riverside County Eligible Scenic Corridor, crosses through the study area in an east-west alignment. Undeveloped lands surrounding the Project include open desert and creosote bush scrub. Views of the surrounding mountains provide the most significant scenic vistas and backdrops in the study area. Areas of similar visual character present within the visual resources study area include the following:

Open Desert/Fallow Agriculture: These areas are open, sparsely vegetated landscapes that are not developed or actively cultivated for agriculture. Based on the Biological Report vegetation mapping, approximately 24 percent of the solar facility was previously disturbed by agricultural or military activities and six percent remains undisturbed (POWER 2012). The gen-tie line corridors would traverse open desert land mainly comprising desert scrub habitat and disturbed lands associated with existing infrastructure. Several utility lines and maintenance roads run through or parallel the gen-tie line corridors. Additionally, the visual resources study area has been previously disturbed by off-highway vehicle (OHV) use, trash dumping, and historic use for military training during World War II.

Cultivated Agriculture: These areas are vegetated, irrigated agricultural areas that include actively cultivated fields and orchards, as well as non-irrigated wheat fields. Based on the Biological Report vegetation mapping, approximately 70 percent of the solar facility area is actively cultivated agricultural land, which includes drip-irrigated citrus orchards, flood-irrigated alfalfa, non-irrigated winter wheat, and abandoned jojoba orchards (POWER 2012).

Development: These areas have a wide variety of architectural styles and development patterns, with secondary structures, such as garages and barns, or occasional commercial operations. Along Hobson Way, to the west and east of the Project boundary, are a number of industrial and commercial businesses.

Blythe Airport: The airport landscape includes the runways, associated structures, and open areas within the airport complex. The Project boundary is approximately 0.5 mile from Blythe Airport's Runway 26. Electrical Facilities: Electrical facilities include power plants, substations, and transmission and distribution lines. The Project area surrounds the Blythe Energy Center, a 507 MW natural gas-fired facility, which includes the Buck Substation. The Blythe Substation is located on the solar facility site, just north of Hobson Way. There are a number of high voltage transmission lines (161 kV and 230 kV) that enter and exit the Buck and Blythe substations, which bisect the proposed solar facility site. The Blythe Solar Project, owned and operated by NRG, is an existing 21 MW utility-scale photovoltaic solar array that is approximately 0.5 mile from the proposed solar facility site and adjacent to the 230 kV gen-tie line. The proposed gen-tie line would be collocated with other existing and proposed transmission lines through private and BLM-managed lands. The portion of the Project gen-tie line that would cross BLM lands would be located within the CDCA's Multiple-Use Class M. Multiple-Use Class M allows energy and utility development (BLM 1980). The gen-tie would also be within or adjacent to BLM's designated Utility Corridor K and Section 368 Federal Energy Corridor 30-52, which overlap, and within the Riverside East Solar Energy Zone (SEZ).

Scenic Quality

Scenic quality is a measure of the visual appeal of an area created by the features of the landscape, including both natural landscape features (landform, vegetation, water, color, adjacent scenery, and scarcity) and man-made features (roads, structures, and agriculture). The scenic quality of the landscape was assessed based on the criteria used in the BLM VRM system's Visual Resource Inventory (VRI) scenic quality rating system, described in BLM Manual H-8410-1, Visual Resource Inventory (BLM 1986). Criteria including distinctiveness, contrast, variety, harmony, and balance are assessed and scenic quality classes A, B, or C are assigned. Scenic quality classes are defined as follows:

> **Class A:** Areas have outstanding diversity or interest; characteristic features of landform, water, and vegetation are distinctive or unique in relation to the surrounding region. These areas contain considerable variety in form, line, color, and texture.
>
> **Class B:** Areas have above-average diversity or interest, providing some variety in form, line, color, and texture. The natural features are not considered rare in the surrounding region but provide adequate visual diversity to be considered valuable.
>
> **Class C:** Areas have minimal diversity or interest; representative natural features have limited variation in form, line, color, or texture in the context of the surrounding region. Discordant cultural modifications (e.g., substations, transmission lines, other cultural modifications) can be highly noticeable, which can reduce the inherent value of the natural setting.

While all lands have scenic value, areas with the most variety and most harmonious composition have the greatest scenic value. The scenic quality of the Project area and the visual resources study area was assessed as being Class C, which is common to the region. The flat desert landscape, with its sparse vegetation cover areas, has a low level of variety and distinctiveness and a limited color palette that is common to the region. Agricultural fields and groves add vibrant greens and some visual variety to the landscape. Cultural modifications in the visual resources study area include existing transmission lines and other electrical facilities, the Blythe Energy Center, the Blythe Solar Project, and the Blythe Airport, as well as residential development and commercial facilities associated with the City of Blythe on the west end of the visual resources study area, which reduce the inherent value of the natural setting.

Sensitive Viewpoints Analysis

Potentially sensitive viewpoints and corridors within the study area were identified from investigation of agency websites, geographic information system (GIS) shapefiles, aerial photo interpretation, and land use data. Viewpoints and corridors considered include residences, developed recreation areas, and transportation corridors. Viewing context and visual sensitivity level were assessed using the criteria of concern level (expectations for maintaining the existing visual condition), duration of view (static, fixed views or short-duration views), and use volume (number of individual viewers).

Sensitive viewpoints and corridors within the study area that were determined to be highly sensitive to scenery alterations included residences and I-10. Residences generally have a low level of use (relatively few occupants), a high user attitude (high expectations for maintaining existing landscape conditions), and a long duration of view (reoccurring, potentially continuous views). I-10 has a high level of use (many travelers), a high user attitude (expectations for maintaining existing landscape conditions are high because it is a Riverside County Eligible Scenic Corridor), and moderate or intermediate duration views (open highway views).

The Project would be located on the broad and relatively flat Palo Verde Mesa. The majority of residences with views of the solar array are located in the Nicholls Warm Springs/Mesa Verde subdivision south of the Blythe Airport and I-10 (see Figure 3.2.1-1). The residences closest to the Project are located just east of the Project on the mesa. Residences on the Palo Verde Valley floor and outskirts of Blythe are scattered within the eastern half of the visual resources study area. These residences generally do

not have views of the Project due to screening from the 30- to 50-foot bluff that descends to the Palo Verde Valley floor.

Visibility and Distance Zones

Distance zones, or visibility thresholds, for this Project were based on review of distance zones used by the BLM for VRI assessment (BLM 1986) and previous studies in similar geographical, topographical, and environmental settings, and reflect the scale and natural landscape of the objects being viewed. Table 3.2.1-1 provides the visibility thresholds and distance zones used for the Project. Because the components of the solar facility would be much shorter than the 230 kV gen-tie line structures and would become indistinct at a shorter distance, the distance zones for the solar facility are composed of shorter distances than those used for the gen-tie line.

TABLE 3.2.1-1 VISIBILITY THRESHOLDS USED IN VISUAL ANALYSIS

VISIBILITY THRESHOLD	PROJECT COMPONENT	
	Solar Facility	230 kV Gen-tie Line
Immediate Foreground	0 to 300 feet	0 to 500 feet
Foreground	300 to 1,500 feet	500 feet to 0.5 mile
Middleground	1,500 feet to 0.5 mile	0.5 mile to 1.5 miles
Background/Seldom Seen	Beyond 0.5 mile	Beyond 1.5 miles

Source: POWER 2012.

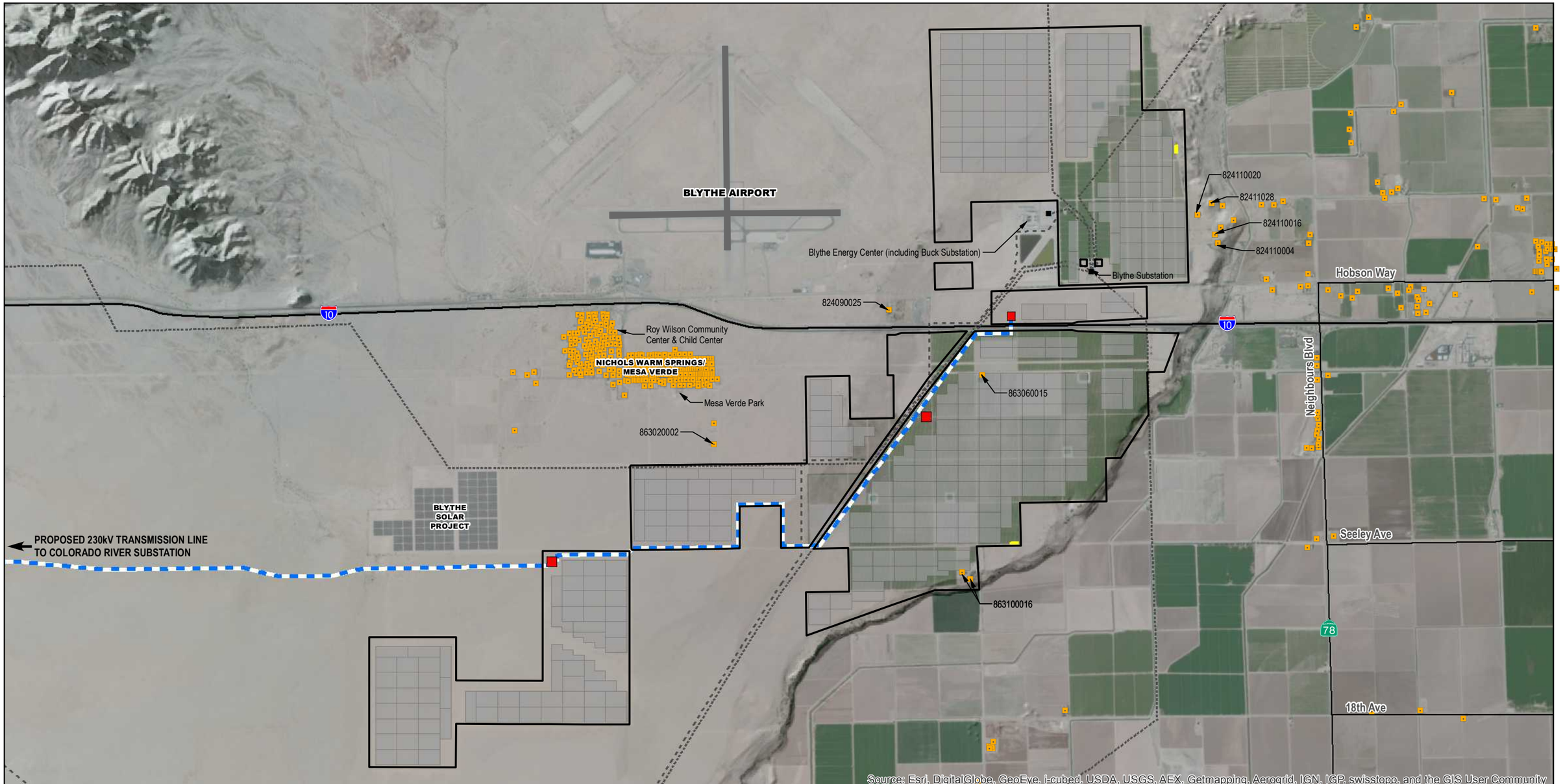
Visibility from sensitive viewpoints were generated by GIS using digital terrain data from the U.S. Geological Survey (USGS) and the viewpoints mapped for this study and identified as sensitive (i.e., residences and I-10). Visibility was mapped using ground visibility for the solar facility and a 105-foot uniform height for the centerline of the proposed 230 kV gen-tie line.

Key Observation Points

The analysis described in this section determined that three KOPs would be sufficient to capture the various types of views of the Project that might be impacted during construction, operation, maintenance, and/or decommissioning. These three KOPs were selected to be representative of the sensitive viewpoints that were identified within the visual resources study area from which the proposed Project would be seen, and were used to evaluate visual impacts.

Photographs were taken at the KOPs with a Canon DSLR Rebel XSI 12-megapixel digital camera fitted with an 18-55 millimeter (mm) zoom lens. The photos were taken with an approximate focal length of 50 mm to represent approximate human viewing conditions. The camera was held at eye-level (approximately five feet from the ground). The date, time of day, global positioning system (GPS) coordinates (latitude/longitude), and weather conditions were documented for each photo location.

The existing visual setting for each KOP is described in the following sections. Figure 3.2.1-2 illustrates the photo locations and views for each KOP's existing condition.



Legend

- Blythe Mesa Solar Project Boundary
- Solar Array Location
- Substation
- Operations & Maintenance Facility
- Proposed 230 kV Transmission Line
- Existing 230 kV Line
- Existing 500 kV Line
- Existing 138-161 kV Line
- Residence

N

0 3,000
Feet
1:36,000

FIGURE 3.2.1-1
RESIDENCES WITHIN THE STUDY AREA

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLERESOURCESGROUP

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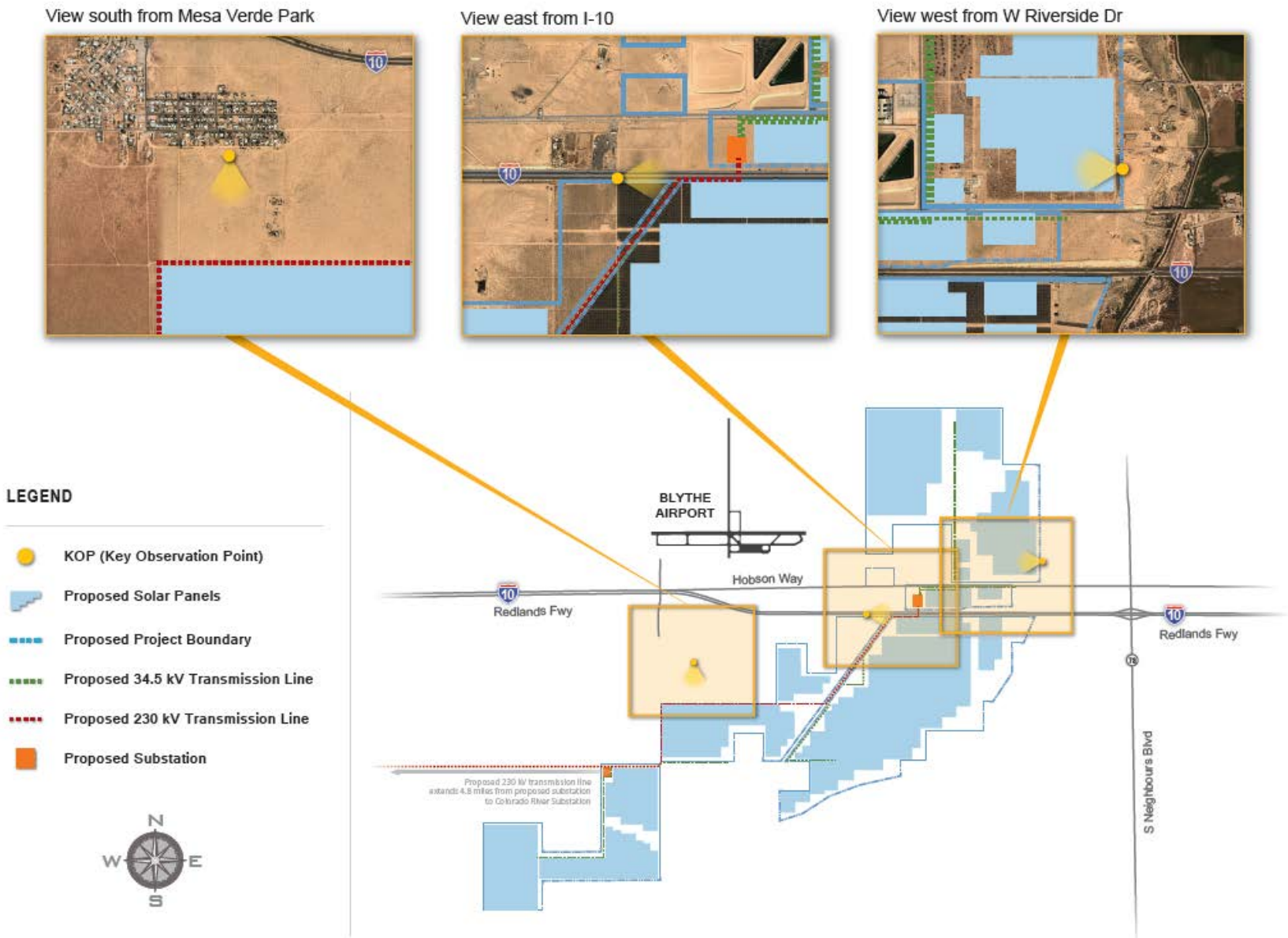
FIGURE 3.2.1-2 KOP LOCATIONS AND CAMERA VIEWS



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KOP 1: View West from West Riverside Drive

This KOP is located near the residences on the mesa, east of the Project. The view is toward the northwest and encompasses agricultural fields that stretch over the broad, flat landscape of the mesa. See Figure 3.2.1-3 for a photograph of the existing condition. The McCoy Mountains extend across the horizon, with the Big Maria Mountains visible at the northern edge of the view. An existing low voltage distribution line crosses the view in the immediate foreground while additional, higher voltage transmission lines are visible farther away. The Blythe Energy Center is a prominent feature on the southern edge of the view. This view is representative of views from the residences on the mesa and public views along Hobson Way and is a high sensitivity viewpoint. The residences in this area would be the closest residences to the solar facility.

FIGURE 3.2.1-3 EXISTING VIEW FROM KOP 1 (RESIDENCES ON MESA)

KOP 2: View from Interstate 10

This KOP is located along I-10, which is a Riverside County Eligible Scenic Corridor and was therefore considered to be a scenic highway. The KOP is representative of views for eastbound and westbound motorists on I-10. See Figure 3.2.1-4 for a photograph of the existing condition.

The photographed view is toward the east and encompasses undeveloped, unvegetated areas and creosote bush scrub, the interstate, several transmission lines, and an agricultural citrus grove. The Sawtooth Mountains are visible on the horizon. Large native shrubs are scattered along the interstate and limit the view on the south side of the roadway.

The view to the west would be similar and would also encompass undeveloped, unvegetated areas and creosote bush scrub, the interstate, and transmission lines. The view to the west would also include the Blythe Airport, the Blythe Energy Center, and the community of Nicholls Warm Springs/Mesa Verde. The Big Maria Mountains to the northwest, the McCoy Mountains to the west, and the Mule Mountains to the southwest provide a backdrop.

FIGURE 3.2.1-4 VIEW FROM KOP 2 (I-10 FREEWAY)

KOP 3: View South from Mesa Verde Park

This KOP is located at a playground on the south end of the community of Nicholls Warm Springs/Mesa Verde. The view is toward the south and encompasses the flat desert landscape of undeveloped, unvegetated areas and creosote bush scrub. An existing transmission line extends across the view. The KOP is representative of views from residences in the Nicholls Warm Springs/Mesa Verde community, which are high-sensitivity viewpoints. See Figure 3.2.1-5 for a photograph of the existing condition.

Palo Verde Valley Residences

Although all residences in the visual resources study are identified as high sensitivity viewpoints, the residences on the Palo Verde Valley floor and outskirts of Blythe were not selected as KOPs because of the limited potential for views of the Project due to topographic screening and distance. However, because some residences may have background views of the Project area, they have been included in the Aesthetics, Visual Resources, and Reflection Affected Environment and Impact Analysis discussions.

Existing Light and Glare

Based on the relatively undeveloped nature of the surrounding landscape, very little light is generated in, or in the vicinity of, the Project area. The primary source of light and glare in the area is motor vehicles traveling on surrounding roadways. During daytime hours, roadways generate glare from the sun's reflection off cars and paved surfaces. Likewise, at night, vehicle headlights on surrounding roadways generate light and glare. Lighting is also located on the Blythe Energy Center site; at the Blythe Airport to alert aircraft of potential hazards in their flight path; and at Palo Verde College.

FIGURE 3.2.1-5 VIEW FROM KOP 3 (NICHOLLS WARM SPRINGS/MESA VERDE)

Regulatory Setting

Federal

BLM VRM System

BLM uses the VRM System to inventory and manage scenic values on lands under its jurisdiction. Guidelines for applying the system are described in the BLM Manual Section 8400 et seq. VRM classes are assigned through RMP). The assignment of VRM classes is based on the management decisions made in RMPs. The applicable RMP for the Project is the CDCA Plan; however, the VRM inventory and management class mapping were not prepared for the CDCA by the BLM and, therefore, VRM Classes were not established for the proposed Project and Alternatives area. Interim VRM Classifications are typically established when a project is proposed and there are no RMP- or Management Framework Plan-approved VRM Classifications. The portion of the Project gen-tie line that would cross BLM lands would be located within a federally designated Section 368 Energy Corridor (BLM 2009).

Federal Land Policy and Management Act

Section 102(a)(8) of the Federal Land Policy and Management Act of 1976 (FLPMA), 43 United States Code (U.S.C.) § 1701(a)(8), states that "...the public lands [are to] be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." Section 103(c) of the Act, 43 U.S.C. § 1702(c), identifies "scenic values" as one of the resources for which public land should be managed. Section 201(a), 43 U.S.C. § 1711(a), states that "[t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resources and other values (including . . . scenic values)." Section 505(a)(ii) requires that "each right-of-way shall contain terms and conditions which will… minimize damage to scenic and esthetic values." 43 U.S.C. § 1765(a) (ii).

CDCA Plan and the Northern and Eastern Colorado Desert Coordination Management Plan

The Recreation Element of the CDCA Plan specifies that VRM objectives and the contrast rating procedure be used to manage visual resources (BLM 1980). VRM is the process the BLM uses to inventory visual resources (inventory of scenic quality, sensitivity levels, and distance zones), prescribe land use visual standards, and guide Project design to meet the established visual standards. VRM objectives provide the visual management standards for future projects and for rehabilitation of existing projects. Activities within the landscape are designed or evaluated using contrast ratings (BLM 1986).

Local

The Project would be subject to visual policies from the following: Riverside General Plan, the Palo Verde Valley Area Plan, and the City of Blythe General Plan.

Riverside County General Plan

The Riverside County General Plan (adopted October 2003) is applicable to all unincorporated lands within Riverside County. Countywide policies that seek to preserve visual quality are located in the Land Use Element, Open Space Element, and Circulation Element of the County General Plan, and include:

Land Use Element (LU)

Policy LU 6.4. *Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.*

Policy LU 8.1. *Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational values.*

Policy LU 13.1. *Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.*

Policy LU 13.3. *Ensure that the design and appearance of new landscaping, structures, equipment, signs or grading within Designated and Eligible State and County Scenic Highways corridors are compatible with the surrounding scenic setting or environment.*

Policy LU 13.4. *Maintain at least a 50-foot setback from the edge of the right-of-way for new development adjacent to Designated and Eligible State and County Scenic Highways.*

Policy LU 13.5. *Requires "new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground."*

Policy LU C 25.2 *Locate new and relocated utilities underground when possible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public.*

Policy LU 13.8. *Avoid the blocking of public views by solid walls.*

Policy LU 24.8. *Require that industrial development be designed to consider the surroundings and visually enhance, not degrade, the character of the surrounding area.*

Policy LU-25.5. Requires that *"public facilities be designed to consider their surroundings and visually enhance, not degrade the character of the surrounding area."*

Open Space and Circulation Element (OS)

The Public Facilities area plan land use designation provides for the development of private uses with similar characteristics to public uses and includes utility facilities such as public and private electric generating station and corridors. Privately held uses with public facility characteristics are not required to

be designated as Public Facilities, but are eligible to be so designated based on site-specific reviews of the characteristics of the use in question.

Policy OS-20.2. Seeks to *"[p]revent unnecessary extension of public facilities, services, and utilities, for urban uses, into Open Space-Conservation designated areas."*

Policy OS-21.1. *Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County.*

Policy C-19.1. *Preserve scenic routes that have exceptional or unique visual features in accordance with Caltrans'* [the California Department of Transportation's] *Scenic Highways Plan.*

Policy C-25.2. *Locate new and relocated utilities underground when possible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public.*

Scenic Corridors

I-10 is not a State- or county-designated scenic highway; however, it has been identified by the County of Riverside in its Circulation Element as eligible for designation as a scenic corridor. The County has indicated in its General Plan Land Use Element that I-10 should be designated a scenic highway and has developed General Plan scenic corridor policies. These policies seek to maintain resources in corridors along scenic highways. Policies for Scenic Corridors include:

- Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.
- Incorporate riding, hiking, and bicycle trails and other compatible public recreational facilities within scenic corridors.
- Ensure that the design and appearance of new landscaping, structures, equipment, signs, or grading within Designated and Eligible State and County Scenic Highway corridors are compatible with the surrounding scenic setting or environment.
- Maintain at least a 50-foot setback from the edge of the right-of-way (ROW) for new development adjacent to designated and eligible State and County Scenic Highways.
- Require new or relocated electric or communication distribution lines that would be visible from Designated and Eligible State and County Scenic Highways to be placed underground.
- Prohibit off-site outdoor advertising displays that are visible from Designated and Eligible State and County Scenic Highways.
- Require that the size, height, and type of on-premise signs visible from Designated and Eligible State and County Scenic Highways be the minimum necessary for identification. The design, materials, color, and location of the signs shall blend with the environment, utilizing natural materials where possible.
- Avoid the blocking of public views by solid walls.

Palo Verde Valley Area Plan

Palo Verde Valley Area Plan (RCTLMA 2008) policies that address visual quality are located in the Local Circulation Policies, Scenic Highways, and include:

PVVAP 10.1. Protect the scenic highways in the Palo Verde Valley planning area from change that would diminish the aesthetic value of adjacent properties in accordance with the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.

PVVAP 10.2. *Encourage the designation of Interstate 10 and US Highway 95 as eligible and subsequently Official Scenic Highways in accordance with the California State Scenic Highway Program.*

City of Blythe General Plan

City policies in the City of Blythe General Plan 2025 (2007) that seek to preserve visual quality are located in the Land Use Element, Open Space Element, Guiding Policies of the City General Plan, and include:

Open Space and Conservation Element

Policy 1: *Maintain hillsides and visible agricultural lands as open space for resource conservation and preservation of views*.

Policy 3: *Maintain existing views of the Mesa and Colorado River from roadways and public uses and other rights-of-way on the valley floor whenever feasible.*

3.2.2 Agriculture

This section describes the environmental setting and regulatory framework in regards to agriculture for the proposed Project and Alternatives. The Project would be located primarily on land zoned for agricultural production. Although timber production is an allowable activity within an agricultural zone, the Project area is not used for timber production, nor is it forested. Because of the arid climate of the area surrounding Project and Alternatives, it is unlikely that the land could support 10 percent native tree cover under natural (i.e., non-irrigated) conditions; therefore, the Project does not meet the definition of "forest land" (Public Resources Code [PRC] Section 12220(g)). The same land is not considered timberland (PRC Section 4526) because the land is not zoned Timberland Production Zone (PRC Section 51104(g)).

The information contained in this section is based on the following resources: Riverside County General Plan; soil classifications by the United States Department of Agriculture's (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey; California Department of Conservation (DOC) Farmland Monitoring and Mapping Program (FMMP) data; Palo Verde Irrigation District Crop Report; aerial photography; and a study prepared by URS for the Project, applying the Land Evaluation Site Assessment methodology.

The California DOC FMMP produces Important Farmland Maps that document resource quality and land use information. The USDA soil survey information and the corresponding Important Farmland candidacy recommendations are used for assessing local land. The FMMP is intended to assist decision-makers in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The FMMP uses eight land classifications, described below.

Prime Farmland: Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance: Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Farmland of lesser-quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. Farmland of Local Importance in Riverside County is defined as:

- Lands with soils that would be classified as Prime or Statewide Important Farmlands but lack available irrigation water.
- Lands planted in 1980 or 1981 in dry land grain crops such as barley, oats, and wheat.
- Lands producing major crops for Riverside County that are not listed as Unique Farmland crops. Such crops are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelon.
- Dairylands, including corrals, pasture, milking facilities, and hay and manure storage areas, if accompanied with permanent pasture or hayland of 10 acres or more.
- Lands identified by the County with Agriculture land use designations or contracts.
- Lands planted with jojoba that are under cultivation and are of producing age.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Urban and Built-up Land. Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than forty acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Land Committed to Nonagricultural Use. Land Committed to Nonagricultural Use is land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors.

Environmental Setting

Riverside County

Agriculture remains a strong component in Riverside County's economy, and Riverside County agriculture competes successfully in the global agricultural market. According to the annual Riverside County Agricultural Production Report (2011), agriculture production accounted for an estimated $1,282,256,116 in 2011. The primary agricultural products from Riverside County include nursery stock, milk, table grapes, hay, bell peppers, and eggs. Nursery stock ranked as the top-valued crop in Riverside County.

The most recent agricultural land conversion data available for Riverside County is for the 2008 to 2010 period. Land converted in this period is shown below in Table 3.2.2-1.

For the two-year period from 2008 to 2010, Riverside County had a decrease of 5,266 acres in the total amount of active agricultural land mapped by the FMMP. (For comparison, during the 2006 to 2008 period, Riverside County had a net decrease in irrigated farmland of approximately 11,173 acres.) This included a decrease of 4,888 acres of Important Farmland (including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance) and a decrease of 378 acres of Grazing Land. The largest decrease was in Prime Farmland, with 3,300 acres converted to non-agricultural uses. There were also decreases in Farmland of Statewide Importance (a net decrease of 567 acres) and Unique Farmland (a net decrease of 1,742 acres) during the 2008 to 2010 period.

TABLE 3.2.2-1 RIVERSIDE COUNTY AGRICULTURAL LAND CONVERSION 2008 TO 2010

LAND USE CATEGORY	TOTAL ACRES INVENTORIED		2008 TO 2010 ACREAGE CHANGES		
	2008	2010	Acres Lost (-)	Acres Gained (+)	Net Acreage Changed
Prime Farmland	122,935	119,635	5,655	2,355	-3,300
Farmland of Statewide Importance	44,653	44,086	1,463	896	-567
Unique Farmland	37,133	35,391	2,780	1,038	-1,742
Farmland of Local Importance	229,156	229,877	7,012	7,733	721
Grazing Land	111,219	110,841	410	32	-378
Agricultural Land Subtotal	545,096	539,830	17,320	12,054	-5,266

Source: California DOC 2010b.

Site Description and Vicinity

Palo Verde Valley

The Project would be located on the Palo Verde Mesa, which is west of the Palo Verde Valley area, and a small portion of the solar facility would be within the City of Blythe. The Palo Verde Valley floor is one of the richest agricultural regions in California. The soils, deposited by the Colorado River, are classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, some of which are under Williamson Act contracts. Based on Sheet 3 of the Riverside County Important Farmland 2010 map, approximately 198,000 acres of Important Farmland are within the Palo Verde Valley. The Palo Verde Valley supports agricultural lands that include alfalfa; cotton: wheat and barley; and Sudan grass and Bermuda grass (Barrows 2007). With its long, hot growing season, the Palo Verde Valley is ideal for agriculture; crops are grown and harvested year-round. Mild winters, with a minimum of frost, permit growing of many crops not suitable for production in other areas. Primary agricultural uses in the City of Blythe include alfalfa, cotton, hay, orchards, and field crops. Land to the north and south of I-10 and east of the Mesa are considered suitable for seasonal livestock (sheep) grazing (City of Blythe 2007).

Colorado River water is supplied through the Palo Verde Irrigation District (PVID) canals and laterals. There are also a number of irrigation ditches that are owned and operated by the water users in the PVID. The PVID contains approximately 131,298 acres, 26,798 acres of which are on the Palo Verde Mesa (PVID 2011). Table 3.2.2-2 details the field crops grown in the entire PVID.

TABLE 3.2.2-2 PALO VERDE IRRIGATION DISTRICT CROP REPORT 2011

DISTRICT CROPS	ACREAGE
Field Crops	
Alfalfa	44,974
Barley	308
Bermuda Grass	1,922
Citrus	1,984
Corn	113
Cotton	16,620
Golf Course	137
Klein Grass	1,939
Milo	134

DISTRICT CROPS	ACREAGE
Multi-Species Conservation Program Habitat	812
Oats	610
Orchard	40
Palm Trees	186
Rye	177
Sudan	2,101
Timothy Grass	5
Wheat	1,645
	Subtotal: 73,707 Acres
Vegetables	
Broccoli	1,242
Cabbage	72
Garlic	0
Lettuce - Spring	478
Lettuce - Fall	885
Mixed Vegetables	25
Onions	0
Squash	30
	Subtotal: 2,732 Acres
Melons	
Cantaloupe	738
Honeydew	683
Watermelon	126
Mixed Melons	804
	Subtotal: 2,351 Acres
Other	
Fish Ponds	81
Fallow	35,626
Idle or Diverted	1,491
	Subtotal: 37,198 Acres
	GROSS ACRES: 115,988 Acres

Source: PVID 2011.

Palo Verde Mesa

The proposed Project is located on the Palo Verde Mesa, generally west of the Palo Verde Valley. Palo Verde Mesa has a higher elevation in comparison to the Palo Verde Valley. Water supplied from the PVID is lifted onto the Mesa by private pumps to irrigate agricultural lands. The PVID provides water to approximately 26,798 acres on the Palo Verde Mesa (PVID 2011).

According to the 2010 FMMP, the solar facility site would occupy 1,707 acres of Important Farmland (1,681 acres of Prime Farmland, 16 acres of Unique Farmland, and 10 acres of Farmland of Statewide

Importance) and 1,880 acres of Farmland of Local Importance designated by Riverside County on Palo Verde Mesa. No Williamson Act contract lands are currently located within the Project boundary. Figure 3.2.2-1 illustrates the Important Farmland Classifications in the Project area and includes a 0.25-mile buffer around the solar facility site. The portion of the proposed 230 kV gen-tie line corridor that extends outside the solar facility site is also located on Palo Verde Mesa; however, it does not contain designated agricultural resources.

The predominant crop on Palo Verde Mesa is citrus (refer to the *Biological Resources Technical Report* in Appendix C1). Approximately 24 percent of the solar facility site was previously disturbed by agricultural or military activities. Based on biological vegetation mapping (Table 3.2.4-1), approximately 75 percent of the proposed solar facility site is actively cultivated agricultural land, which includes:

- Drip-irrigated citrus orchards (1,188.4 acres)
- Flood-irrigated alfalfa (404 acres)
- Non-irrigated winter wheat (1,088.2 acres)

The USDA survey identified 15 soil types on the solar facility site (see Figure 3.2.2-2). These include: Aco gravelly loamy sand; Aco sandy loam; badland; Carrizo gravelly sand; Cibola silty clay loam; duneland; Imperial silty clay; Meloland fine sandy loam; Orita fine sand; Orita gravelly fine sandy loam; Ripley very fine sandy loam; Rositas fine sand 0 to 2 percent slopes and 2 to 9 percent slopes; Rositas fine sand, wet, 0 to 2 percent slopes; and Rositas gravelly loamy sand, 0 to 2 percent slopes.

Within an area that includes the solar facility site and a surrounding 0.25-mile buffer of the solar facility site, most of the lands used for agricultural production are located in the Palo Verde Valley to the east and south. Approximately 7,377 acres are within this area, 1,951 acres of which are in agricultural production (URS 2012). Parcels intersected by the line comprising the outside edge of the 0.25-mile buffer are accounted for in their entirety in the acreage calculations. There are 282.2 acres of Williamson Act contracted lands are within this area (URS 2012).

In the 1970s, large-scale development of irrigated agricultural production was attempted on the Palo Verde Mesa. Groundwater supplies were utilized as the primary water source for the newly developed agricultural crops. However, agricultural development was unsuccessful during these years and the acreage was subsequently abandoned and left without irrigation for an extended period of time. Because of the previous agricultural efforts of the 1970s, 1,319 acres (approximately) of land proposed for the solar facility has been previously irrigated. It is estimated, though, that much of the fertile topsoil has likely eroded away since that time. As a result, the future agricultural suitability of this area has been reduced (Burton 2012).

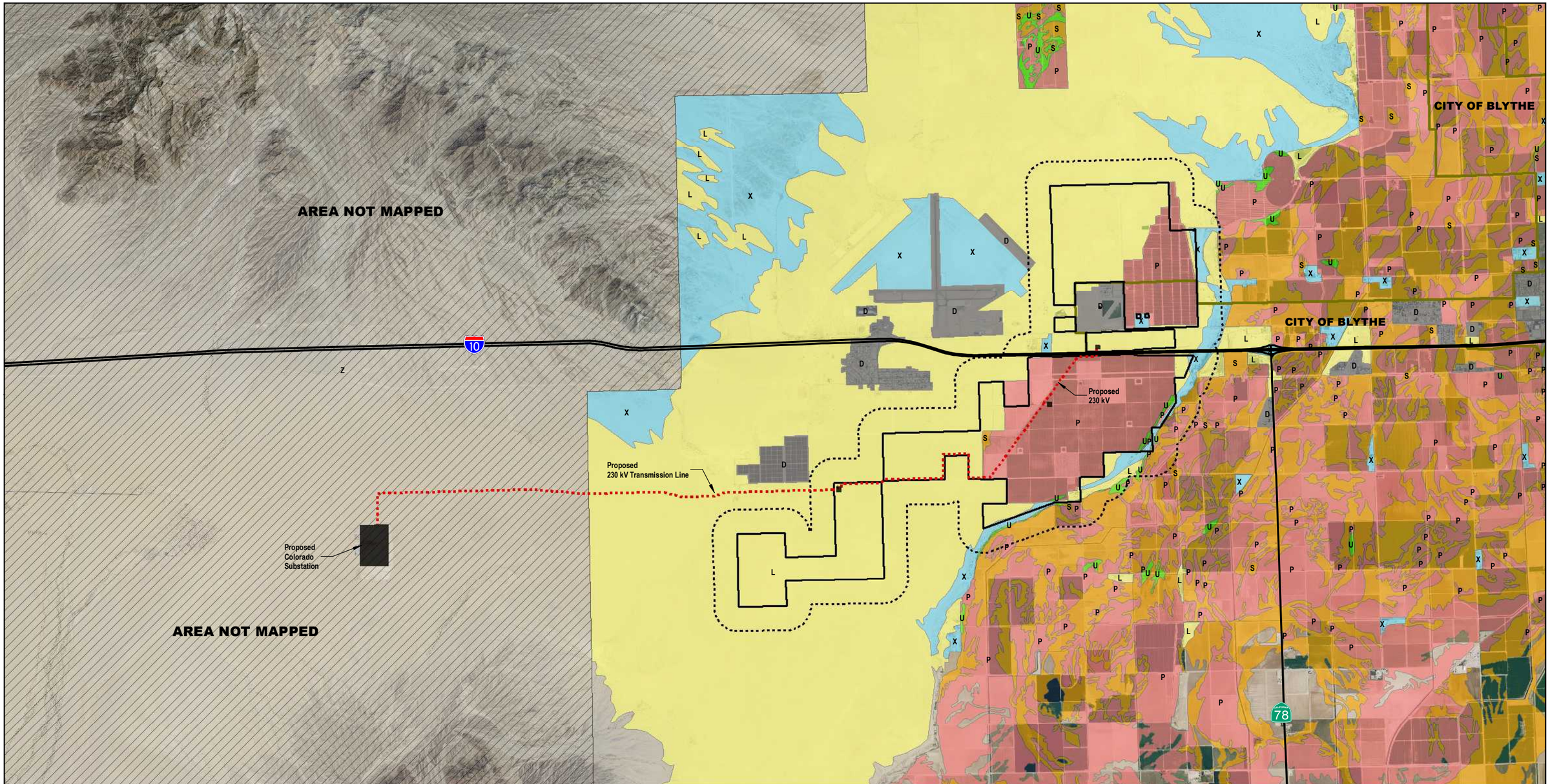
PVID reports that there were 3,911 acre-feet (AF) of groundwater provided to irrigate 768 acres on the Palo Verde Mesa in 2010; however, this groundwater did not support agricultural operations on the Project area. Instead, based on the 2010 PVID report, the agricultural operations on Project area utilized approximately 12,000 AF of water from the PVID surface delivery system to irrigate crops on approximately 1,592 acres. This surface delivery system would also be available to the proposed solar facility. Please refer to Section 3.2.9, *Hydrology and Water Quality*, for a detailed discussion regarding groundwater and water supply.

Regulatory Framework

Federal

Farmland Protection Policy Act (7 U.S.C. § 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. It additionally directs federal programs to be compatible with state and local policies for the protection of farmlands. Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98) containing the



Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- City of Blythe
- 1/4-Mile Project Buffer

Farmland Mapping and Monitoring Program

- Prime Farmland (P)
- Farmland of Statewide Importance (S)
- Farmland of Local Importance (L)
- Unique Farmland (U)
- Other Land (X)
- Urban and Built-Up Land (D)
- Area not mapped (Z)

N

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1:63,360

FIGURE 3.2.2-1
IMPORTANT FARMLAND

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLE RESOURCES GROUP

Source: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2010. USDA NAIP Imagery, 2012.

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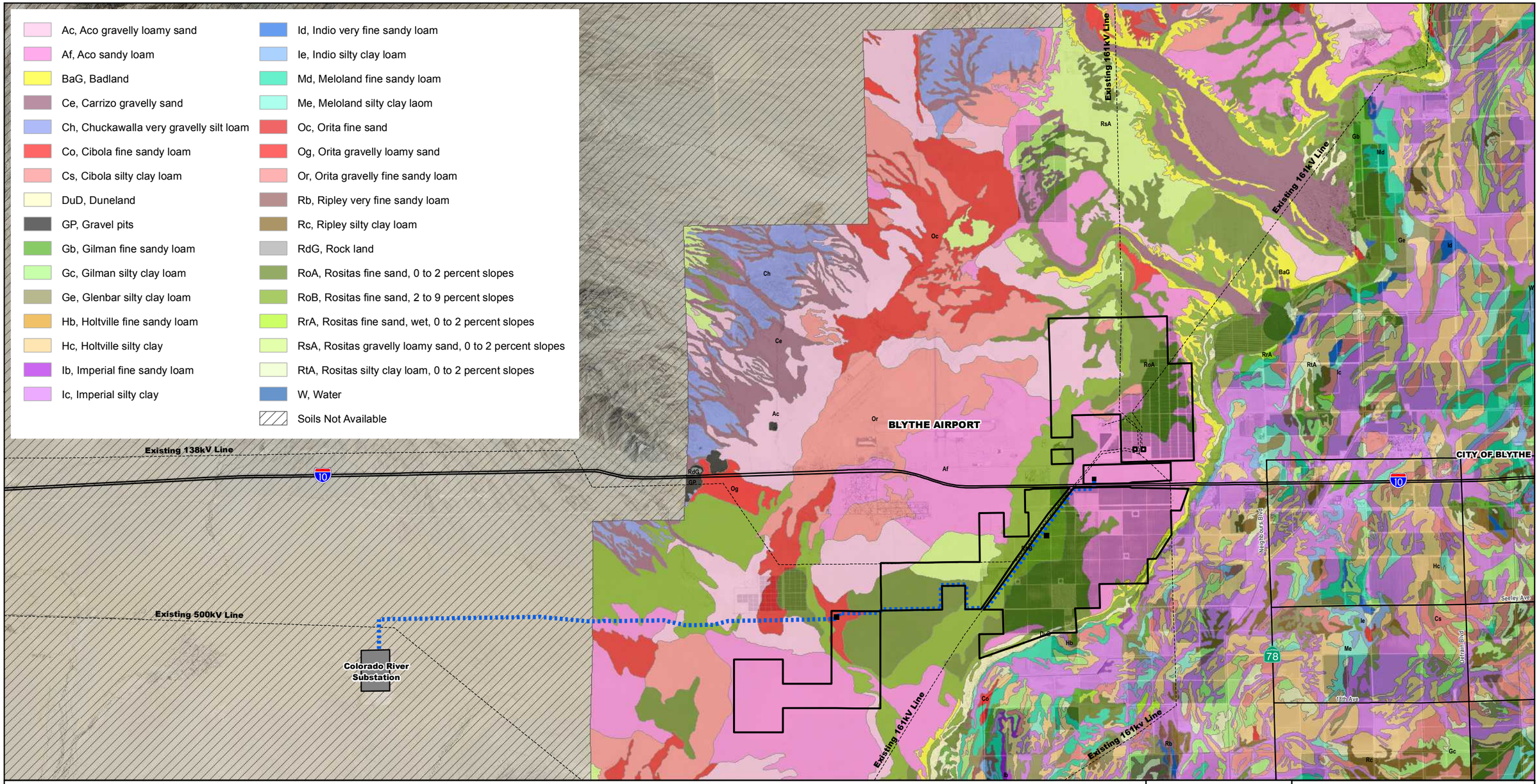

Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Existing Transmission Line
- Colorado River Substation

N

0 1 2

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FIGURE 3.2.2-2
SOILS

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS | RENEWABLE RESOURCES GROUP

Source: USDA, NRCS, Digital General Soil Map of U.S., 2006. USDA NAIP Imagery, 2012.

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FPPA—Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994.

The FPPA was implemented to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses, and to ensure that federal programs are administered in a manner compatible with state and local programs and policies to protect farmland. To fulfill these objectives, the USDA has promulgated criteria and guidelines to assess the effects of the conversion of farmland. The FPPA ensures that, to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a federal agency or with assistance from a federal agency. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. The USDA has developed definitions for Prime Farmland and Unique Farmland that are used for purposes of the FPPA. The federal definitions are similar to the California definitions, which are set forth below. The primary distinction between the State and federal definitions is that Prime Farmland must be irrigated to satisfy the State definitions, while irrigation is not required under the federal regulations. Under the federal regulations, Prime Farmland could be cropland, pastureland, rangeland, forest land, or other land (but not urban built-up land or water), so long as the land meets required physical and chemical criteria. In its FPPA regulations, the USDA recommends that federal agencies use a Land Evaluation and Site Assessment (LESA) system to evaluate prospective farmland conversion for projects in states that have approved LESA models.

State

California Department of Conservation, Division of Land Resource Protection

The California DOC applies the NRCS soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. Pursuant to the California DOC's FMMP, these designated agricultural lands are included in the Important Farmland Maps used in planning for the present and future of California's agricultural land resources. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California. The California DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

The California DOC FMMP produces Important Farmland Maps that document resource quality and land use information. The USDA soil survey information and the corresponding Important Farmland candidacy recommendations are used for assessing local land. The FMMP is intended to assist decision-makers in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The FMMP uses eight land classifications: (1) Prime Farmland, (2) Farmland of Statewide Importance, (3) Unique Farmland, (4) Farmland of Local Importance, (5) Grazing Land, (6) Urban and Built-up Land, (7) Other Land, and (8) Land Committed to Nonagricultural Use.

Public Resources Code

PRC Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. Sections 21061.2 and 21095; and California Environmental Quality Act (CEQA) Guidelines Appendix G, identify the California LESA Model as an optional methodology to access impacts on agriculture and farmland.

The LESA model allows for rating the quality of land for agricultural uses by rating soil resources, project size, water availability, surrounding agricultural lands, and surrounding protected resource lands. The

factors are weighted relative to one another, resulting in a numeric score that is measured against thresholds established by the California DOC. Both Riverside County and the BLM have used the LESA model for assessing impacts. The LESA model allows a more precise characterization of the specific attributes of the Project area than an application of the more generalized farmland categories used in the FMMP.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Section 51200-51297.4, and therefore is applicable only to specific land parcels within the state of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. However, an agricultural preserve must consist of no less than 100 acres; in order to meet this requirement, two or more parcels may be combined if they are contiguous, or if they are in common ownership.

The Williamson Act program is administered by the California DOC in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. An application for immediate cancellation can also be requested by the landowner, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city. Non-renewal or immediate cancellation does not change the zoning of the property. Participation in the Williamson Act program is dependent on county adoption and implementation of the program and is voluntary for landowners. Riverside County implements the Williamson Act and has adopted Rules and Regulations Governing Agricultural Preserves.

As defined by the Williamson Act, prime agricultural land includes: (1) Class I and II soils as classified by the NRCS; (2) land that qualifies for rating 80 through 100 in the Storie Index Rating by the University of California, Division of Agricultural Sciences; (3) land that supports livestock used for the production of food and fiber and with a carrying capacity of at least one animal unit per acre; (4) land planted with fruit or nut-bearing crops that have a nonbearing period of less than five years and that will normally yield not less than $200 per acre annually during commercial bearing periods; or (5) land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than $200 per acre for three of the previous five years (Government Code, Section 51201(c)(1)-(5)). The Williamson Act states that a board or council by resolution shall adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the uses allowed in the preserve. Owners of land within a preserve may then opt to enter into Williamson Act contracts, which restrict the valuation of the property used for property tax purposes in exchange for a long-term commitment to agricultural and compatible uses. Generally, any commercial agricultural use will be permitted within any agricultural preserve and on contracted lands. In addition, local governments may identify compatible uses permitted with a use permit.

California Government Code Section 51238 states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve. Section 51238 also states that boards of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses in conformity with Section 51238.1.

Further, California Government Code Section 51238.1 allows a board or council to allow as compatible any use that without conditions or mitigations would otherwise be considered incompatible. However, this may occur only if that use meets the following conditions:

- The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels on other contracted lands in agricultural preserves.
- The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.
- The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into non-agricultural uses.

Project lands are not under a Farmland Security Act Contract.

Local

Riverside County General Plan

The Riverside County General Plan Land Use Element includes the Agricultural Foundation Component, which contains the agriculture area plan. The Agriculture land use designation has been established to help conserve productive agricultural lands within the county. The intent of the Agriculture Foundation Component and its associated policies is to identify and preserve areas where agricultural uses are the long-term desirable use, as stated in the general plan principles: “Provide for the continued and even expanded production of agricultural products by conserving areas appropriate for agriculture and related infrastructure and supporting services.” In addition, the intent of these policies is to minimize the conflicts between agricultural and urban or suburban uses.

Land Use Element (LU)

Policy LU 6.4. *Retain and enhance the integrity of existing residential, employment, agricultural and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing and traffic*.

Policy LU 16.1. *Encourage retaining agriculturally designated lands where agricultural activity can be sustained at an operational scale, where it accommodates lifestyle choice, and in locations where impacts to and from potentially incompatible uses, such as residential uses, are minimized, through incentives such as tax credits*.

Policy LU 16.2. *Protect agricultural uses, including those with industrial characteristics (dairies, poultry, hog farms, etc.) by discouraging inappropriate land division in the immediate proximity and allowing only uses and intensities that are compatible with agricultural uses*.

Policy LU 16.4. *Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production*.

Multipurpose Open Space Element

The Riverside County General Plan Multipurpose Open Space Element (OS) includes the following policies with respect to agricultural land and describes Farmland of Local Importance as follows:

- These farmlands are not covered by the above categories but are of locally significant economic importance. They include the following:
- Lands with soils that would be classified as Prime or Statewide Important Farmlands but lack available irrigation water.
- Lands planted in 1980 or 1981 in dry land grain crops such as barley, oats, and wheat.
- Lands producing major crops for Riverside County but that are not listed as Unique Farmland crops. Such crops are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelon.
- Dairylands including corrals, pasture, milking facilities, hay and manure storage areas if accompanied with permanent pasture or hayland of 10 acres or more.
- Lands identified by the County with Agriculture land use designations or contracts.
- Lands planted with jojoba that are under cultivation and are of producing age.

Policy OS 7.3. *Encourage conservation of productive agricultural lands and preservation of prime agricultural lands*.

Riverside County General Plan – Palo Verde Valley Area Plan

The majority of the planning area within the Palo Verde Valley is devoted to agriculture and is regulated through the Palo Verde Valley Area Plan (PVVAP). The PVVAP provides for agricultural land use designations along with residential densities and uses. The applicable policy related to agricultural lands included with the PVVAP is provided below.

PVVAP 4.1. *Protect farmland and agricultural resources in Palo Verde Valley through adherence to the Agriculture sections of the General Plan Multipurpose Open Space and Land Use Elements*.

Riverside County Agricultural Preserve Ordinance – Ordinance 509

The Riverside County Agricultural Preserve Ordinance provides for the administration of lands placed in agricultural preserves, including procedures for initiating, filing, and processing requests to establish, enlarge, disestablish, or diminish agricultural preserves, pursuant to the California Land Conservation Act. In establishing the rules under this ordinance, the County found that:

- the preservation of the maximum amount of the limited supply of agricultural land is necessary to the conservation of the County's economic resources, and is necessary not only for the maintenance of agricultural economy of the County, but also for the assurance of adequate, healthful and nutritious food for future residents of the County;
- the discouragement of premature and unnecessary conversion of agricultural land to urban uses is a matter of public interest and will be of benefit to urban dwellers themselves in that it will discourage discontinuous urban development patterns which unnecessarily increase costs of community services to community residents; and
- in a rapidly urbanizing society agricultural lands have a definite public value as open space, and the preservation in agricultural production of such lands, constitutes an important physical, social, aesthetic and economic asset to existing and pending urban or metropolitan development.

There are no locally designated agricultural preserves affected by the Project.

Riverside County Ordinance 348.4705

Zoning ordinance 348.4705 permits a solar power plant in several districts, including agricultural districts, with a use permit. Ordinance 348.4705 was enacted at the same time as and implements General Plan

Policy LU-15.15, which states: "Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside."

Riverside County Ordinance 625, the "Right to Farm" Ordinance

Ordinance 625 factors into Riverside County's standard significance thresholds. It was enacted to conserve, protect, and encourage the development, improvement, and continued viability of agricultural land. The intent of the ordinance is to reduce the loss to the County of its agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. Nothing in the ordinance is to be construed to limit the right of any owner of real property to request that the county consider a change in the zoning classification.

City of Blythe General Plan 2025

Policies related to agricultural lands included with the City of Blythe General Plan 2025 are provided below.

Open Space and Conservation Elements

Open Space

Policy 1: *Maintain hillsides and viable agricultural lands as open space for resource conservation and preservation of views*.

Policy 2: *Minimize conflicts between urban and agricultural uses by requiring buffers and greenbelts.*

Agriculture

Policy 9: *Promote continued agricultural use of important farmland outside the urban area*.

Policy 10: *Minimize conflicts between agricultural and urban uses by requiring buffers or use restrictions or using roads or canals to separate these uses*.

City of Blythe Zoning

The City of Blythe Zoning Code lists utility operations facilities among the uses permitted through obtaining a conditional use permit in the Agricultural zoning district. Utility operations facilities are permitted uses in the Service Industrial zoning district.

3.2.3 Air Quality

This section provides an overview of the technical methodology used in collecting baseline conditions, examines the affected environment, and presents the regulatory framework with respect to air quality. Recent regulatory actions on both the federal and State levels address emissions of greenhouse gases and potential global climate change impacts. Under CEQA guidelines, global climate change is addressed as a cumulative impact. Greenhouse gas emissions are discussed in Section 3.2.7. Recent regulatory action on both the federal and State level addresses emissions of greenhouse gases and potential global climate change impacts.

The information in this section is based on the *Air Quality and Global Climate Change Technical Report*, prepared by Scientific Resources Associated (SRA 2013) (provided in Appendix B of this Final EIR/EA). While this section presents a summary of the findings of the Air Quality and Global Climate Change Technical Report, please refer to that report for more detailed information on the proposed Project and Alternatives' effects on air quality and climate change.

Environmental Setting

Regional Climate

The Project would be located in eastern California in the Colorado Desert. The climate in the Blythe area is categorized as a high desert climate, with dry, hot summers and cool winters. The region is characterized by extreme fluctuations of daily temperatures, strong seasonal winds, and clear skies. January is the coldest month, with a mean low temperature of 37.4 degrees Fahrenheit (°F). July is the hottest month, with a mean high temperature of 108.4°F.

In late winter and early spring, the wind is a prominent feature, with dry winds blowing in the afternoon and evening. Winds in excess of 25 miles per hour (mph), with gusts of 75 mph or more, are not uncommon. Although it is windy during all months, November, December, and January are the calmest. During 2010, the predominant wind direction was from the south approximately 21 percent of the time, with overall average speed of 7.2 mph (SRA 2013). The humidity is below 40 percent most of the year. During most winter nights, and during and after summer rains, the humidity can rise above 50 percent.

Data from the Western Regional Climate Center (WRCC 2010) indicate that temperature and precipitation data have been measured at Blythe from January 1913 through the present. The mean temperature for the Blythe station is 71.6°F, and the mean annual precipitation is 3.8 inches. More than half of the precipitation occurs between November and March. Although rainfall occurs primarily in the winter months, the region is periodically influenced by tropical weather conditions including sudden monsoonal late summer storms. Monthly average temperatures and precipitation for the area are summarized in Table 3.2.3-1.

TABLE 3.2.3-1 MONTHLY AVERAGE TEMPERATURES AND PRECIPITATION, BLYTHE METEOROLOGICAL STATION

MONTH	MONTHLY AVERAGE TEMPERATURES, °F			PRECIPITATION, INCHES
	Maximum	Minimum	Mean	Mean
January	67.6	37.4	52.5	0.51
February	73.0	41.8	57.4	0.46
March	79.4	46.5	57.4	0.34
April	87.4	52.7	70.0	0.12
May	95.5	59.9	77.7	0.03
June	104.2	67.4	85.8	0.05
July	108.4	76.1	92.3	0.19
August	106.8	75.4	91.1	0.61
September	101.8	67.3	84.6	0.39
October	90.5	54.8	72.6	0.27
November	76.7	43.4	60.0	0.27
December	67.7	37.6	52.7	0.57
Annual	75.8	49.9	62.9	3.80

Source: www.wrcc.dri.edu.

Overview of Air Quality Parameters

Air quality is defined by ambient air concentrations of specific pollutants determined by the U.S. Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the general public. Seven major pollutants of concern, called “criteria pollutants,” are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter less than or equal

to 10 microns in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb) (see Table 3.2.3-2). The EPA has established National Ambient Air Quality Standards (NAAQS) for these pollutants. Areas that violate a federal air quality standard are designated as non-attainment areas.

Ambient air quality refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) that occurs at a particular geographic location. The ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. Emission considerations include the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological considerations include wind and precipitation patterns affecting the distribution, dilution, and removal of pollutant emissions. Chemical reactions can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter [$\mu g/m^3$] of air) or as a volume fraction (e.g., parts per million [ppm] by volume).

Pollutant emissions typically refer to the amount of pollutants or pollutant precursors introduced into the atmosphere by a source or group of sources. Pollutant emissions contribute to the ambient air concentrations of criteria pollutants, either by directly affecting the pollutant concentrations measured in the ambient air or by interacting in the atmosphere to form criteria pollutants. Primary pollutants, such as CO, SO_2, Pb, and some particulates, are emitted directly into the atmosphere from emission sources.

Secondary pollutants, such as O_3, NO_2, and some particulates, are formed through atmospheric chemical reactions that are influenced by meteorology, ultraviolet light, and other atmospheric processes. PM_{10} and $PM_{2.5}$ are generated as primary pollutants by various mechanical processes (for example, abrasion, erosion, mixing, or atomization) or combustion processes. However, PM_{10} and $PM_{2.5}$ can also be formed as secondary pollutants through chemical reactions or by gaseous pollutants condensing into fine aerosols. In general, emissions that are considered "precursors" to secondary pollutants in the atmosphere (such as reactive organic gases [ROG] and oxides of nitrogen [NO_x], which are considered precursors for O_3) are the pollutants for which emissions are evaluated to control the level of O_3 in the ambient air.

Toxic air contaminants (TACs) are substances that have the potential to be emitted into the ambient air that have been determined to present some level of acute or chronic health risk (cancer or non-cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion sources. TACs that may be produced by construction and operation of the proposed Project are listed in Table 3.2.3-3, including the most relevant health effects.

Existing Air Quality

The proposed Project and Alternatives are located within the Mojave Desert Air Quality Management District (MDAQMD), which collects ambient air quality data from several air quality monitoring stations within its jurisdiction. The closest monitoring site to the Project is located at 445 West Murphy Street in Blythe and measures O_3. The nearest monitoring station that measures $PM_{2.5}$ is located in Victorville; measurements in Victorville are not likely to be representative of conditions in the Project area (solar facility site and gen-tie line). The nearest monitoring station that measures CO, NO_2, and PM_{10} is located in Barstow, which may also be substantially different from conditions in Blythe. According to the Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan, the ozone standard is exceeded due to long-distance transport of pollutants from the Los Angeles Basin, while the PM_{10} exceedance is due to natural sources found in a desert environment and various land uses. These uses include OHV use, mining, agricultural use, and livestock grazing. The PM_{10} concentrations are from fugitive dust emission sources, rather than from combustion particulate or secondary particulate emission sources. Table 3.2.3-4 provides a summary of available ambient air quality data for the Project region.

Areas that do not meet the NAAQS or California Ambient Air Quality Standards (CAAQS) for a given criteria pollutant are designated as "non-attainment areas" by the EPA and/or the California Air Resources Board (CARB). Further classifications are given to non-attainment areas to identify the severity and number of violations experienced, and the year in which attainment is anticipated based on

TABLE 3.2.3-2 AMBIENT AIR QUALITY STANDARDS AND HEALTH EFFECTS

POLLUTANT	CALIFORNIA STANDARDS	NATIONAL STANDARDS [A]		MOST RELEVANT HEALTH EFFECTS
		Primary [b,c]	Secondary [b,d]	
Ozone (O_3)	0.070 ppm, 8-hour average; (137 µg/m³)	0.075 ppm, 8-hour average; (147 µg/m³)	Same as primary	O_3 is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Exposure to levels of ozone above the current ambient air quality standard can lead to human health effects such as lung inflammation, tissue damage, impaired lung function, coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms. Harmful health effects are associated with outdoor workers, athletes, children and others who spend greater amounts of time outdoors during smoggy periods.
	0.09 ppm, 1-hour average; (180 µg/m³)	—	—	
Carbon monoxide (CO)	9.0 ppm, 8-hour average; (10 mg/m³)	9 ppm, 8-hour average; (10 mg/m³)	—	Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen. Exposure to CO is especially harmful to those with heart disease and has been associated with aggravation of angina pectoris and other aspects of coronary heart disease, decreased exercise tolerance in people with peripheral vascular disease and lung disease, impairment of central nervous system functions, and possible increased risk to fetuses.
	20 ppm, 1-hour average; (23 mg/m³)	35 ppm (40 mg/m³)	—	
Nitrogen dioxide (NO_2)	0.030 ppm, Annual Arithmetic Mean; (56 µg/m³)	0.053 ppm (100 µg/m³)	Same as primary	NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. Exposure to NO_2 along with other traffic-related pollutants, is associated with respiratory symptoms, episodes of respiratory illness and impaired lung functioning.
	0.18 ppm, 1-hour average, 1-hour average; (338 µg/m³)	0.100 ppm (188 µg/m³)	—	
Sulfur dioxide (SO_2)	0.04 ppm, 24-hour average (105 µg/m³)	—	—	Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.
	----	—	0.5 ppm, 3-hour average (1,300 µg/m³)	
	0.25 ppm, 1-hour average; (655 µg/m³)	0.075 ppm (196 µg/m³)	—	

POLLUTANT	CALIFORNIA STANDARDS	NATIONAL STANDARDS [A]		MOST RELEVANT HEALTH EFFECTS
		Primary [b,c]	Secondary [b,d]	
PM_{10}	Annual Arithmetic Mean; 20 µg/m³,	—	—	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
	24-hour average, 50 µg/m³	150 µg/m³	Same as primary	
$PM_{2.5}$[(e)]	Annual Arithmetic Mean; 12 µg/m³	12.0 µg/m³	Same as primary	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
	—	35 µg/m³, 24-hour average	Same as primary	
Lead	—	0.15 µg/m³, rolling 3-month average	Same as primary	Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead is also classified as a probable human carcinogen.
	—	1.5 µg/m³, calendar quarter	Same as primary	
	30-day average; 1.5 µg/m³	—	—	
Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hour average; (42 µg/m³)	—	—	Breathing H_2S at levels above the standard would result in exposure to a very disagreeable odor. The California Air Resources Board (CARB) has concluded that the ambient standard for H_2S is adequate to protect public health.

Source: SRA 2013

Notes: µg/m3 = micrograms per cubic meter; ppm = parts per million

(a) Standards other than the 1-hour ozone, 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages are not to be exceeded more than once a year. The 8-hour ozone national standard has replaced the 1-hour ozone national standard.

(b) Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.

(c) Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the EPA.

(d) Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(e) The NAAQS for $PM_{2.5}$ was lowered to 12 µg/m³ in December, 2012.

TABLE 3.2.3-3 TOXIC AIR CONTAMINANTS AND HEALTH EFFECTS

CONTAMINANT	CHARACTERISTICS	MOST RELEVANT HEALTH EFFECTS
Sulfates	A fully oxidized ionic form of sulfur primarily derived from combustion of petroleum based fuels.	Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease.
Vinyl Chloride	A chlorinated hydrocarbon that is a colorless gas with a mild, sweet odor.	Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure via inhalation.
Visibility Reducing Particles	Suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid.	No specific health effects noted.
Benzene	Benzene is found in the air from emissions from burning coal and oil, gasoline service stations, and motor vehicle exhaust.	Short-term inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Long-term inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects and increased incidences of leukemia have been observed in humans occupationally exposed to benzene. A Group A human carcinogen.
Formaldehyde	Formaldehyde exposure may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air.	Short-term and long-term inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Short-term high exposure may lead to eye, nose and throat irritation, and in the respiratory tract, nasal obstruction, pulmonary edema and dyspnea. Prolonged or repeated exposures have been associated with allergic sensitization, respiratory symptoms, and decrements in lung function. A Group B1 probable human carcinogen.
Diesel Particulate Matter	Diesel particulate matter is emitted from both mobile and stationary sources of diesel powered on-road and off-road equipment.	Occupational exposures to diesel exhaust particles have been associated with significant cross-shift decreases in lung function. Increased cough, labored breathing, chest tightness, and wheezing have been associated with exposure to diesel exhaust in bus garage workers. A number of adverse long-term non-cancer effects have been associated with exposure to diesel exhaust. Occupational studies have shown that there may be a greater incidence of cough, phlegm and chronic bronchitis among those exposed to diesel exhaust than among those not exposed. Reductions in pulmonary function have also been reported following occupational exposures in chronic studies. Exposure to diesel exhaust has also shown cellular changes in laboratory animals.
Acrolein	Acrolein is a powerful irritant.	Short-term exposures to levels above 1.0 ppm result in mucous hypersecretion and exacerbation of allergic airway response in animal models. Moderately higher exposures may result in severe lacrimation, and irritation of the mucous membranes of the respiratory tract. Death due to respiratory failure has been associated with high level exposures. Long term exposure to acrolein may result in structural and functional changes in the respiratory tract, including lesions in the nasal mucosa, and pulmonary inflammation.

CONTAMINANT	CHARACTERISTICS	MOST RELEVANT HEALTH EFFECTS
1,3–Butadiene	Motor vehicle exhaust is a constant source of 1,3-butadiene. Although 1,3-butadiene breaks down quickly in the atmosphere, it is usually found in ambient air at low levels in urban and suburban areas.	Short-term exposure to 1,3-butadiene by inhalation in humans results in irritation of the eyes, nasal passages, throat, and lungs. The EPA has classified 1,3-butadiene as carcinogenic to humans by inhalation.
Naphthalene	Naphthalene is used in the production of phthalic anhydride; it is also used in mothballs.	Short-term exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed to naphthalene by inhalation and ingestion. Long-term exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Hemolytic anemia has been reported in infants born to mothers who "sniffed" and ingested naphthalene (as mothballs) during pregnancy. A Group C, possible human carcinogen.
Polycyclic Organic Matter (POM)	The term polycyclic organic matter (POM) defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAHs), of which benzo[a]pyrene is a member. POM compounds are formed primarily from combustion and are present in the atmosphere in particulate form. Sources of air emissions are diverse and include cigarette smoke, vehicle exhaust, home heating, laying tar, and grilling meat.	Cancer is the major concern from exposure to POM. Epidemiologic studies have reported an increase in lung cancer in humans exposed to coke oven emissions, roofing tar emissions, and cigarette smoke; all of these mixtures contain POM compounds. Animal studies have reported respiratory tract tumors from inhalation exposure to benzo[a]pyrene and forestomach tumors, leukemia, and lung tumors from oral exposure to benzo[a]pyrene. The EPA has classified seven PAHs (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens.

Source: SRA 2013

TABLE 3.2.3-4 SUMMARY OF AVAILABLE AIR QUALITY DATA FOR THE PROJECT AREA (2006-2011)

AIR QUALITY INDICATOR	2006	2007	2008	2009	2010	2011
Ozone (O_3)(1,3)						
Peak 1-hour value (ppm)	0.073	0.092	0.074	0.072	0.072	0.066
Days above state standard (0.09 ppm)	0	0	0	0	0	0
Peak 8-hour value (ppm)	0.059	0.075	0.071	0.066	0.067	0.061
Days above state standard (0.070 ppm)	0	1	1	0	0	0
Days above federal standard (0.075 ppm)(1,2)	0	0	0	0	0	0
Particulate matter less than or equal to 10 microns in diameter (PM10)(4)						
Peak 24-hour value ($\mu g/m^3$)	80	202	93	76	38	108
Days above state standard (50 $\mu g/m^3$)	2	5	2	2	0	2
Days above federal standard (150 $\mu g/m^3$)	0	1	0	0	0	0
Annual Arithmetic Mean (ppm)	21.9	29.8	26.1	26.8	18.8	21.5
Carbon Monoxide(4)						
Peak 8-hour value ($\mu g/m^3$)	1.19	0.70	1.23	0.89	0.89	1.35
Days above state and federal standard (9 ppm)	0	0	0	0	0	0
Peak 8-hour value ($\mu g/m^3$)	3.5	1.4	1.4	1.2	1.1	4.3

AIR QUALITY INDICATOR	2006	2007	2008	2009	2010	2011
Days above state standard (20 ppm)	0	0	0	0	0	0
Days above federal standard (35 ppm)	0	0	0	0	0	0
Nitrogen Dioxide (NO_2) (4)						
Peak 1-hour value (ppm)	0.082	0.073	0.081	0.060	0.062	0.072
Days above state standard (0.18 ppm)	0	0	0	0	0	0
Annual Arithmetic Mean (ppm))	0.022	0.020	0.019	0.016	0.017	0.017

Notes: (1) The federal O_3 standard was revised downward in 2008 to 0.075 ppm.
(2) The federal eight-hour ozone standard was previously defined as 0.08 ppm (1 significant digit). Measurements were rounded up or down to determine compliance with the standard; therefore, a measurement of 0.084 ppm is rounded to 0.08 ppm. The 8-hour ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to the standard.
(3) Data from the Blythe monitoring station.
(4) Data from the Barstow monitoring station. Data for 1-hour CO concentrations unavailable.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; * = not available
Source: http://www.arb.ca.gov/adam/php_files/aqdphp/topfourdisplay.php

implementation of attainment plans. In circumstances where there is not enough ambient data available to support designation as either attainment or non-attainment, the area can be designated as unclassified. An unclassified area is normally treated by the EPA the same as an attainment area for regulatory purposes. The air basin for the Project area is considered an unclassified/attainment area for all of the NAAQS. The air basin is considered a moderate non-attainment area for the CAAQS for O_3 and a non-attainment area for the CAAQS for PM_{10}. The air basin is considered unclassified/attainment for all other CAAQS (refer to Table 3.2.3-3 for air quality in relation to standards).

Sensitive Receptors

Sensitive receptors are people who are considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The site is located in proximity to rural agricultural lands, undeveloped lands, uses associated with the Blythe Airport, power generation, local roads, and interstate highway and other non-sensitive uses. However, some sensitive air quality receptors are located within one mile of the site. There are approximately 369 residences within one mile of the proposed solar facility site, nine of which are individual residences located within 1,000 feet of the site (see Figure 3.2.1-1). The closest residence is located approximately 260 feet away. In addition, the Project would be approximately 0.4 mile (2,200 feet) from the Mesa Verde Park and approximately 0.8 mile (4,400 feet) from the Roy Wilson Community and Child Center. No schools, hospitals, or convalescent homes are located within one mile of the proposed Project.

Regulatory Setting

Air quality in the Project area's air basin is regulated by federal, State, and local regulatory agencies with the responsibility for maintaining ambient air quality within federal and State standards. The EPA is the federal agency responsible for establishing air quality regulations on a federal level. The federal Clean Air Act (CAA) and its subsequent amendments establish air quality regulations and the NAAQS and delegate the enforcement of these standards to the states. In California, the CARB is responsible for enforcing air pollution regulations. The CARB has in turn delegated the responsibility of regulating stationary emission

sources to regional air agencies. In the Project area's air basin, which is located in eastern Riverside County, the MDAQMD has this responsibility.

The following sections summarize the air quality rules and regulations that apply to the Project.

Federal

The federal CAA applies to all air emission sources and to all areas within the United States. Regulations adopted under the CAA that would apply to the Project would include the NAAQS as well as other requirements that have been adopted as part of the MDAQMD's federally approved plans and programs.

As indicated in Federal Register Volume 75, No. 11, Page 2938, the EPA is considering lowering the 8-hour O_3 standard from 0.075 ppm, which is its current level, to a lower level within the range of 0.060 and 0.070 ppm. The lower level is proposed to provide increased protection for children and other "at risk" populations against O_3 health effects.

Federal Emission Standards. The EPA has also adopted on-road and off-road engine emission reduction requirements, including Federal Exhaust and Evaporative Emission Standards for Light-Duty Vehicles and Light-Duty Trucks, Federal Emission Standards for Heavy-Duty and Non-road Engines, and other emission control programs that affect the Project's potential impacts to air quality through the phase-in of clean fuel and engine requirements.

General Conformity Rule. The General Conformity Rule (40 Code of Federal Regulations [CFR] ~~Part~~ 93) requires that federal agencies demonstrate that federal actions conform with the applicable State Implementation Plan (SIP) in order to ensure that federal activities do not hamper local efforts to control air pollution. The EPA general conformity rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The *de minimis* emission thresholds are based on the attainment status of each air basin. Since the Project is located in an air basin that is designated attainment for all federal criteria pollutants, it is not subject to the General Conformity emissions thresholds.

State

The California Clean Air Act (CCAA) was signed into law in 1988 and, for the first time, clearly spelled out in statute California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. The CCAA provides the State with a comprehensive framework for air quality planning regulation. Prior to passage of the CCAA, federal law contained the only comprehensive planning framework. As part of its authority within the state of California, and as allowed under the federal CAA, CARB has established the CAAQS. The CAAQS are at least as stringent as the NAAQS. Both the NAAQS and CAAQS are shown in Table 3.2.3-4.

The CARB has oversight over air quality in the state of California. The CARB is responsible for the development of the SIP, which provides a framework for attaining and maintaining the NAAQS within the state of California. In turn, development of individual inputs to the SIP is the responsibility of local air pollution control agencies. Regulation of individual stationary sources has been delegated to local air pollution control agencies.

The CARB is responsible for developing programs designed to reduce emissions from non-stationary sources, including motor vehicles and off-road equipment. The CARB and the California Office of Environmental Health Hazard Assessment (OEHHA) are also responsible for developing regulations governing TACs. TACs include air pollutants that can cause serious illnesses or increased mortality, even in low concentrations. The CARB and OEHHA identify specific air pollutants as TACs, develop health thresholds for exposure to TACs, and develop guidelines for conducting health risk assessments for sources of TAC emissions.

Local

As discussed above, the Project would be located in the jurisdiction of the MDAQMD. The MDAQMD is responsible for regulating stationary sources of air emissions in the Project area's air basin. Stationary sources that have the potential to emit air pollutants into the ambient air are subject to the Rules and Regulations adopted by the MDAQMD. The following MDAQMD rules are applicable to the Project.

Rule 401 – Visible Emissions. Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines, or
Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A [of the Rules].

Rule 402 - Nuisance. Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust. Rule 403 requires control of fugitive dust emissions during activities such as construction that have the potential to generate dust. The provisions of Rule 403 include the following:

- A person shall not cause or allow the emissions of fugitive dust from any transport, handling, construction or storage activity so that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. (Does not apply to emissions emanating from unpaved roadways open to public travel or farm roads. This exclusion shall not apply to industrial or commercial facilities).
- A person shall take every reasonable precaution to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land and solid waste disposal operations.
- A person shall not cause or allow particulate matter to exceed 100 micrograms per cubic meter when determined as the difference between upwind and downwind samples collected on high volume samplers at the property line for a minimum of five hours.
- A person shall take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of their operations. Reasonable precautions shall include, but are not limited to, the removal of particulate matter from equipment prior to movement on paved streets or the prompt removal of any material from paved streets onto which such material has been deposited.
- Subsections (a) and (c) shall not be applicable when the wind speed instantaneously exceeds 40 kilometers (25 miles) per hour, or when the average wind speed is greater than 24 kilometers (15 miles) per hour. The average wind speed determination shall be on a 15 minute average at the nearest official air-monitoring station or by wind instrument located at the site being checked.
- The provisions of this rule shall not apply to agricultural operations.

Rule 403.2 – Fugitive Dust. Rule 403.2 applies to construction sites, and requires the owner or operator of any Construction/Demolition source to:

- Use periodic watering for short-term stabilization of Disturbed Surface Area to minimize visible fugitive dust emissions. For purposes of this Rule, use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient to maintain compliance;
- Take actions sufficient to prevent project-related Trackout onto paved surfaces;
- Cover loaded haul vehicles while operating on Publicly Maintained paved surfaces;

- Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than thirty days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate Visible Fugitive Dust emissions;
- Cleanup project-related Trackout or spills on Publicly Maintained paved surfaces within twenty-four hours; and
- Reduce non-essential Earth-Moving Activity under High Wind conditions. For purposes of this Rule, a reduction in Earth-Moving Activity when visible dusting occurs from moist and dry surfaces due to wind erosion shall be considered sufficient to maintain compliance.

Rule 403.2 also requires that the owner/operator of a Construction/Demolition source disturbing 100 or more acres shall, in addition to the provisions of subsection (2):

- Prepare and submit to the MDAQMD, prior to commencing Earth-Moving Activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;
- Provide Stabilized access route(s) to the project site as soon as is feasible. For purposes of this Rule, as soon as is feasible shall mean prior to the completion of Construction/Demolition activity;
- Maintain natural topography to the extent possible;
- Construct parking lots and paved roads first, where feasible; and
- Construct upwind portions of project first, where feasible.

Rule 404 – Particulate Matter Concentration. Rule 404 restricts emissions of particulate matter from any source based on the concentrations specified in Table 404(a).

Rule 405 – Solid Particulate Matter Weight. Rule 405 restricts emissions of particulate matter from any source based on the concentrations specified in Table 405(a).

Rule 406 – Specific Contaminants. Rule 406 restricts emissions of sulfur compounds to 500 ppm or less, and restricts emissions of halogens, which are not generally emitted from construction projects.

Rule 407 – Liquid and Gaseous Air Contaminants. Rule 407 restricts emissions of carbon monoxide to 2,000 ppm or less.

Rule 408 – Circumvention. Rule 408 restricts the building, erection, installation or use of any equipment, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Chapter 3 (commencing with Section 41700) of Part 4, of Division 26 of the Health and Safety Code or of the MDAQMD Rules.

Rule 409 – Combustion Contaminants. Rule 409 restricts discharge into the atmosphere from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of carbon dioxide (CO_2) at standard conditions averaged over a minimum of 25 consecutive minutes.

Rule 431 – Sulfur Content of Fuels. Rule 431 restricts the use of any gaseous fuel containing sulfur compounds in excess of 800 ppm calculated as hydrogen sulfide at standard conditions, or any liquid or solid fuel having a sulfur content in excess of 0.5 percent by weight.

Rule 442 – Usage of Solvents. Rule 442 restricts the emission of volatile organic compounds (VOCs) from any solvent material to 1,190 pounds per month, and requires proper storage and handling of VOC-containing solvents.

Riverside County General Plan

The Riverside County General Plan Air Quality Element (AQ) includes policies that limit emissions within the County boundaries. The goal is to support efforts to decrease region-wide pollution emissions, as surrounding jurisdictions significantly impact Riverside County's air quality. Policies were designed to establish a regional basis for improving air quality. The Riverside County General Plan's Air Quality Element (AQ) discusses the following applicable policies regarding air quality within Riverside County: countywide policies that address air quality within the County boundaries are also located in the Land Use Element (LU) of the County General Plan, and include:

Air Quality Element

Policy AQ 1.1. *Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.*

Policy AQ 1.4. *Coordinate with the South Coast Air Quality Management District (SCAQMD) and MDAQMD to ensure that all elements of air quality plans regarding reduction of air pollution emissions are being enforced.*

Policy AQ 1.5. *Establish and implement air quality, land use and circulation measures that improve not only the County's environment but the entire region.*

Policy AQ 2.1. *The County land use planning efforts shall assure that sensitive receptors are separated and protected from polluting point sources to the greatest extent possible.*

Policy AQ 2.2. *Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.*

Policy AQ 2.3. *Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.*

Policy AQ 4.1. *Encourage the use of building materials/methods which reduce emissions.*

Policy AQ 4.5. *Require stationary pollution sources to minimize the release of toxic pollutants through:*

- *Design features;*
- *Operating procedures;*
- *Preventive maintenance;*
- *Operator training; and*
- *Emergency response planning*

Policy AQ 4.6. *Require stationary air pollution sources to comply with applicable air district rules and control measures.*

Policy AQ 4.7. *To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SCAB* [South Coast Air Basin]*, the Environmental Protection Agency and the California Air Resources Board.*

Policy AQ 4.9. *Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.*

Policy AQ 4.10. *Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended.*

Policy AQ 5.1. *Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.*

Policy AQ 16.1. *Cooperate with local, regional, state and federal jurisdictions to better control particulate matter.*

Policy AQ 16.2. *Encourage stricter state and federal legislation on bias belted tires, smoking vehicles, and vehicles that spill debris on streets and highways, to better control particulate matter.*

Policy AQ 16.3. *Collaborate with the SCAQMD and MDAQMD to require and/or encourage the adoption of regulations or incentives to limit the amount of time trucks may idle.*

Policy AQ 16.4. *Collaborate with the EPA, SCAQMD, MDAQMD, and warehouse owners and operators to create regulations and programs to reduce the amount of diesel fumes released due to warehousing operations.*

Policy AQ 17.3. *Identify and create a control plan for areas within the County prone to wind erosion of soil.*

Policy AQ 17.4. *Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates.*

Policy AQ 17.8. *Adopt regulations and programs necessary to meet state and federal guidelines for diesel emissions.*

Land Use Element

Policy LU 6.2(a). *The facility is compatible in scale and design with surrounding land uses, and does not generate excessive noise, traffic, light, fumes, or odors that might have a negative impact on adjacent neighborhoods.*

Policy LU 6.4. *Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.*

City of Blythe General Plan

City policies in the City of Blythe General Plan 2025 (2007) related to air quality are located in the Open Space Element, Guiding Policies of the City General Plan, and include:

Open Space and Conservation Element

Policy 11: *Strive to meet all regional and federal ambient air quality standards and reduce the generation of air pollutants.*

Policy 14: *Whenever feasible, coordinate air quality, transportation, and land use planning efforts with other jurisdictions and public agencies responsible for air quality management.*

3.2.4 Biological Resources

This section describes the environmental setting and regulatory framework in regards to biological resources for the proposed Project and Alternatives.

The information in this section is based on the *Blythe Mesa Solar Project Biological Resources Technical Report,* prepared by POWER Engineers, Inc. 2013 (Appendix C1 of this Final EIR/EA), the *Blythe Mesa Solar Project 230 kV Transmission Line Alternative Habitat Assessment Report,* prepared by POWER

Engineers, Inc. 2013 (Appendix C2 of this Final EIR/EA), the *Western Burrowing Owl Survey Report* prepared by POWER Engineers, Inc. 2013 (Appendices C3 of this Final EIR/EA), the *Bird and Bat Conservation Plan* prepared by POWER Engineers, 2013 (Appendix C4 of this Final EIR/EA), and the *Review of Federal Waters* prepared by POWER Engineers, Inc. 2013 (Appendices C5 of this Final EIR/EA).

Environmental Setting

The Project Area is in the Palo Verde Valley, which is along the western edge of the Colorado River. The topography is relatively flat and slopes toward the southeast; elevations range from 260 to 400 feet amsl. The study area is near the Big Maria Mountains on the northwest, the McCoy Mountains on the west, the Mule Mountains on the southwest, and the Colorado River on the east. These mountain ranges, trending northwest to southeast, create a natural barrier between the Colorado River and the greater Colorado Desert.

Approximately 70 percent of the solar array area is actively cultivated agricultural land, 24 percent is previously disturbed by agricultural or military activities, and six percent remains undisturbed. Agricultural land use within the solar array site includes drip-irrigated citrus orchards, flood-irrigated alfalfa, non-irrigated winter wheat, abandoned jojoba orchards, and fallow fields. The gen-tie line corridors would pass through BLM lands and other private lands mainly comprised of desert scrub habitat and disturbed lands associated with existing infrastructure. Several utility lines and maintenance roads run through or parallel the gen-tie line corridors. Additionally, the Project Area has been previously disturbed by off-road vehicle use, trash dumping, and historic use for military training during World War II. The Project area is located in the Colorado Desert in gently rolling open terrain dominated by desert scrub vegetation. The Colorado Desert is a part of the larger Sonoran Desert, which extends across the southwest United States and into Mexico. The climate is very hot and dry in the summer months, and cool in the winter.

Surface water is minimal on Palo Verde Mesa and consists of limited seasonal and perennial sources. Perennial water comes from McCoy Springs in the McCoy Mountains west of the Project Area and the Colorado River, which lies eight miles east of the eastern edge of the Project Area. The Colorado River is the source of irrigation water for agriculture in the area.

No designated critical habitat, special management areas, wilderness study areas, or Areas of Critical Environmental Concern (ACEC) are located within the solar array site or gen-tie line corridors.

Methodology

The following sections provide an overview of the biological resources evaluation methods that were used in conducting the biological resources assessment for this Project. The study area refers to the solar facility site, the gen-tie line and additional areas to be affected directly or indirectly by the proposed Project. From here on, the study area is defined as the solar facility site and a 500-foot-wide gen-tie line corridor (250 feet on each side of the gen-tie centerline).

Prior to initiating the biological surveys, available data was reviewed from resource management plans and other relevant documents to determine the locations and types of biological resources that have the potential to exist within and adjacent to the biological resources survey area. Database and literature searches included review of numerous biological databases including the California Natural Diversity Database (CDFW 2011c and 2012), California Native Plant Society Inventory (CNPS 2011), U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2011a), California Gap Analysis Program (USGS 2011), and National Wetland Inventory (USFWS 2011b). A quad-based search was conducted to provide information on listed species that may occur in the vicinity and to identify potential biological resource concerns in the Project vicinity. The following USGS 7.5-minute quadrangles were reviewed, Roosevelt Mine, Ripley, McCoy Spring, McCoy Peak, McCoy Wash, Blythe NE, Blythe, Mule Wash, Palo Verde, Thumb Peak, Wiley Well, and Hopkins. These search parameters encompass an approximately 10-mile buffer around the study area. This buffer accounts for the home ranges of all species that could occur, may migrate through, or forage in the Project area. Certain species have larger home ranges, such

as the golden eagle (*Aquila chrysaetos*), and their home ranges may occur primarily outside of this buffer; however, species such as these are expected to readily migrate into and out of the study area based on their habitat needs. The database search, then, was assumed to account for all species that are known to occur near the study area and that are not restricted from migrating or foraging through the study area. However, species that may have more restrictive habitat requirements or home ranges and would be unlikely to be present near the study area based on vegetation, disturbance, soil substrates, or other factors were excluded.

Examinations of aerial photographs and other sensitive species accounts for Riverside County were also conducted. Regional resource planning documents prepared by federal, State, and local agencies were reviewed, including the California Desert Conservation Area Plan (BLM 2005), the Northern and Eastern Colorado Desert Coordinated Management Plan (BLM and CDFG 2002), the Riverside County General Plan (Riverside County 2003), and the USFWS Recovery Plan for the desert tortoise (*Gopherus agassizii*) (USFWS 2011c).

Information gathered from the literature review was used to help identify habitat for all threatened and endangered plant and wildlife species with potential to occur within the study area during the reconnaissance surveys and habitat mapping. The habitat mapping survey was conducted to assess general and dominant vegetation types, community sizes, habitat types, and species present within communities. Community types were based on observed dominant vegetation composition and density. Vegetation communities were classified based on Holland (1986), Sawyer and Keeler-Wolf (1995), and California Department of Fish and Wildlife (CDFW) classifications were used to provide additional detail when needed, such as denoting special vegetation communities that are either known or believed to be of high priority for inventory in California Natural Diversity Database (CNDDB) due to significance or rarity. Plants of uncertain identity were collected and subsequently identified from taxonomic keys (Hickman 1993) and field guides (Stuart and Sawyer 2001). Scientific and common species names were recorded according to The Jepson Manual: Higher Plants of California.

The reconnaissance survey assess the presence of a wildlife species based on direct observation, wildlife sign (e.g., tracks, burrows, nests, scat), or vocalization. Field data compiled for wildlife included the species scientific name, common name, and evidence of sign when no direct observations were made. Wildlife were identified and named based on field guides and other related literature (Burt and Grossenheider 1980; Elbroch 2003; Sibley 2000; and Stebbins 2003).

Prior to conducting focused field surveys, BLM, USFWS and the County were consulted to determine survey needs and appropriate survey time frames. Based on the habitat mapping, reconnaissance surveys and input from the wildlife agencies protocol surveys were conducted for special status plants and the burrowing owl (*Athene cunicularia hypugaea)*.

For the purposes of this document, “special-status” is being defined as species that are:

Listed, proposed for listing, or candidates for listing as threatened or endangered under the Endangered Species Act (ESA) (50 CFR ~~Part~~ 17.12 [listed plants], 50 CFR ~~Part~~ 17.11 [listed animals], 67 Federal Register [FR] 40657 [candidate species], and various notices in the FR [proposed species]]);

- Listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (CDFW 2011a);
- Identified by the California Department of Fish and Wildlife (CDFW) as species of concern or fully protected species, including fish and wildlife that do not have state or federal threatened or endangered status but may still be threatened with extinction (CDFW 2011b);
- California Species of Special Concern, vertebrate species that have been designated as “species of special concern” by the CDFW because declining population levels, limited range, and/or continuing threats have made them vulnerable to extinction (CDFW 2011b);
- On BLM land with the potential to be affected, species that are listed by the BLM as Sensitive (BLM 2010);

- Species that are listed by the California Rare Plant Ranking System (CRPR) as List 1A (presumed extirpated in California), 1B (rare, threatened, and endangered in California and elsewhere), or 2A (presumed extirpated in California, but more common elsewhere), or 2B (rare, threatened, and endangered in California, but more common elsewhere). CRPR List 1A, 1B, 2A and 2B species are considered special-status plant species if they fall within any of these categories as defined in the Native Plant Protection Act, California Fish and Game Code (CFGC) Section 1901, or the CESA, CFGC Sections 2050 through 2098 (CNPS 2001, 2011); or
- Covered as a State-protected furbearing mammal (PFM).

The term "special-status species" excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, protected species under MBTA (50 CFR ~~Part~~ 10.13) are afforded avoidance and minimization measures per federal and State requirements.

Under the CEQA review process, only CRPR List 1 and 2 species are considered since these are the only CRPR species that meet CEQA's definition of "rare" or "endangered" (14 CCR §15380). Impacts to the species listed under the old ranking of CNPS List 3 and 4 are not regarded as significant pursuant to CEQA. Surveys and database and literature searches were also conducted to determine presence or of absence of resources protected by the NECO plan and burros, which are protected under the Wild Free-Roaming Horse and Burro Act (Public Law 92-195).

Results

The following sections describe the results of the biological inventory. The results reflect both the data collected from the literature, database reviews, and physical surveys conducted in the study area. Acreages provided in Table 3.2.4-1 below for the gen-tie line and its Alternatives include a 500-foot survey corridor (250 feet on either side of the centerline) in addition to the area that is part of the Project area. In comparison to the numbers below, which already include a buffer, the proposed gen-tie line by itself is 73 acres, the Northern Alternative is 95 acres, and the Southern Alternative is 60 acres.

Vegetation Communities

Eleven vegetation communities and other cover types were identified within the study area during the field surveys (Table 3.2.4-1; Figure 3.2.4-1). Vegetation communities were mapped according to the second edition of *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Community classifications were based on dominant species comprising approximately 50 percent or more of the total cover within the mapped unit relative to the list of dominant species for a given vegetation community.

TABLE 3.2.4-1 VEGETATION COMMUNITIES AND COVER TYPES

VEGETATION COMMUNITIES AND OTHER COVER TYPES	ACREAGE ON THE SOLAR ARRAY SITE PROJECT BOUNDARY	ACREAGE ON THE PROPOSED GEN-TIE LINE*	ACREAGE ON THE NORTHERN ALTERNATIVE GEN-TIE LINE*	ACREAGE ON THE SOUTHERN ALTERNATIVE GEN-TIE LINE*	ACREAGE ON THE REDUCED ACREAGE ALTERNATIVE SOLAR ARRAY SITE
Bajada	18.1	0.0	0.0	0.0	0.0
Creosote Bush Scrub	41.9	278.8	303.6	232.3	41.9
Desert Riparian Woodland Wash	0.0	22.9	22.9	11.4	0.0
Disturbed Creosote Scrub	220.1	0.0	0.5	0.3	107.1
Disturbed/Ruderal	31.2	0.5	0.0	0.0	31.2
Fallow Agriculture	249.7	0.0	0.0	0.0	41.7
Irrigated Alfalfa	404	0.0	0.0	0.0	0.0

VEGETATION COMMUNITIES AND OTHER COVER TYPES	ACREAGE ON THE SOLAR ARRAY SITE PROJECT BOUNDARY	ACREAGE ON THE PROPOSED GEN-TIE LINE*	ACREAGE ON THE NORTHERN ALTERNATIVE GEN-TIE LINE*	ACREAGE ON THE SOUTHERN ALTERNATIVE GEN-TIE LINE*	ACREAGE ON THE REDUCED ACREAGE ALTERNATIVE SOLAR ARRAY SITE
Irrigation Pond	17.2	0.0	0.0	0.0	13.3
Mixed – Drip-irrigated Jojoba and Disturbed Creosote Scrub	347	0.0	0.0	0.0	347
Non-irrigated Wheat	1,088.2	0.0	0.0	0.0	610.2
Orchard	1,188.4	0.0	0.0	0.0	1,188.4
Total Acreage	3,605.8 acres†	302.1 acres	327 acres	244.1 acres	2,380.8 acres

Source: POWER 2012a.
*500-foot corridor (250 feet on either side of the gen-tie centerline) takes into account potential indirect and direct impacts to biological resources
†While Riverside County's estimate of the parcels within the solar facility is 3,587 acres, the GIS-calculated number listed in this table is 3,605.8 acres.

Bajada. Bajadas are essentially alluvial fans or desert washes. This community is present in the northeastern corner of the study area and is typically characterized as the shallow, sandy, braided bottoms of wide canyons. This community most closely resembles Holland's "Mojave Desert Wash Scrub," Code 63700 (Holland 1986).

Creosote Bush Scrub/Disturbed Creosote Scrub. Within the study area, this community is characterized by sandy soils with a shallow clay pan on a broad gentle southeast-trending slope. Dominant plants within the study area for this community include creosote bush (*Larrea tridentata*), burro bush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and cheesebush (*Hymenoclea salsola)*. This is the most common plant community consisting of non-agricultural plants within the study area. This plant community intergrades into the desert riparian woodland wash. Within the creosote scrub habitat in the study area, there are areas of desert pavement that are covered with rounded cobbles that range in size from one to three inches. Typically, these areas are higher than the surrounding landscape by three to 15 feet. These areas are within creosote bush scrub, though the plant density is lower. Sonoran creosote bush scrub is designated by Holland as Code 33100 and Sawyer Keeler-Wolf and Evens as the Ocotillo Series (Holland 1986; Sawyer et al. 2009).

Within the gen-tie line corridors, the creosote bush scrub is relatively undisturbed, except for occasional vehicle tracks. In these areas, fine sand drifts are interspersed within this community type; the Emory's indigo bush occurs in stands and is more prevalent than in other portions of the creosote bush scrub.

There are more areas of disturbed creosote bush scrub in the solar array area compared to the gen-tie line. Past disturbances in these areas consist of military training and agricultural use, including cultivation of jojoba (*Simmondsia chinensis*). These disturbances occurred in the past, and the Sonoran creosote bush scrub within the solar array area has been recovering through natural recruitment. Two invasive plant species, Russian thistle (*Salsola tragus*) and Sahara mustard (*Brassica tournefortii*), can be found in disturbed areas throughout the study area, especially near roads and fallow and active agricultural areas. Another exotic plant, Mediterranean grass (*Schismus* sp.), is prevalent throughout the creosote bush scrub.

Desert Riparian Woodland Wash. This vegetation community consists of open, drought-deciduous, riparian scrub woodland and is made up of three primary components: wash-dependent vegetation, vegetated ephemeral dry wash, and islands of Sonoran creosote bush scrub (e.g., riparian interfluves). Dominant and indicator plants of this community within the study area include honey mesquite (*Prosopis glandulosa*), palo verde (*Cercidium floridum*), desert ironwood (*Olneya tesota*), cat-claw acacia (*Acacia greggii*), and rush milkweed (*Asclepias subulata*). Creosote bush and burro brush were scattered throughout the canopy. The herbaceous layer is dominated by desert plantain (*Plantago ovata*),

Cryptantha spp., and Mediterranean grass (*Schismus barbatus*). Of the vegetation communities listed in Table 3.2.4-1, the CDFW considers desert riparian woodland wash to be a sensitive habitat/biological resource. In addition, desert riparian woodland wash is a special community type (i.e., high priority for inventory in the CNDDB) per the CDFW's Vegetation and Mapping Program. Desert riparian woodland wash is equivalent to Holland's desert dry wash woodland (Code 62200) and Sawyer, Keeler-Wolf and Evens' Catclaw Acacia Series (Holland 1986; Sawyer et al. 2009).

Irrigated Cropland/Irrigation Pond/Orchard/Jojoba/Wheat. These community types fall into the broader category of agriculture. The majority of agricultural land within the proposed solar array disturbance area is fallow and active agriculture. It includes lands that are currently under cultivation and those that are abandoned (e.g., fallow). Within abandoned agriculture areas, native vegetation is growing back; Russian thistle, Sahara mustard, and other exotic plants were observed interspersed with the native vegetation and are indicative of past agricultural disturbance.

Disturbed/Ruderal. Disturbed/Ruderal communities have been previously disturbed and have been converted to mostly non-native, weedy areas. Ruderal vegetation is that which grows quickly in disturbed areas and may consist of native species, such as fire-following plants, or non-native species, such as invasive grasses or forbs. Examples of invasive species that would occur in these areas include redstem filaree (*Erodium cicutarium*), Sahara mustard, and Mediterranean grass. Ruderal areas in the study area are primarily concentrated within the proposed solar array area.

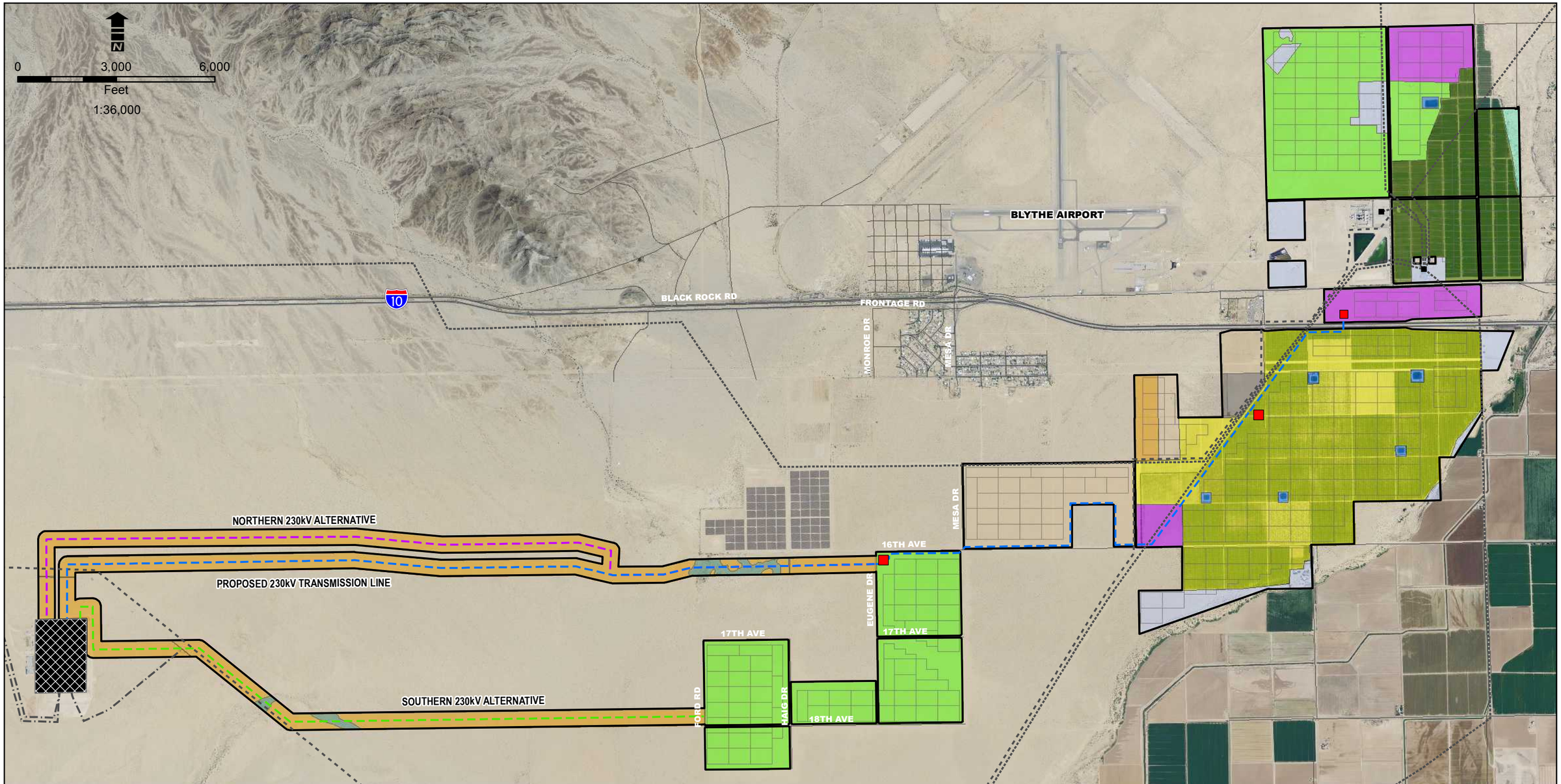
Flora

In total, 79 plant species were detected in the Project Area during vegetation mapping, including 15 non-native plant species. Data was collected on plant species during the database search and protocol-level special-status plant surveys conducted in the Spring of 2011 (refer to the *Biological Resources Technical Report* in Appendix C1 and the *Blythe Mesa Solar Project 230 kV Transmission Line Alternative Habitat Assessment Report* in Appendix C2 of this Final EIR/EA). It should be noted that spring 2011 was a dry year and therefore the survey data was supplemented by a records search from surrounding projects that overlapped with the study area (AECOM 2010; CH2M Hill 2010). In addition to the supplemented data conducted in wet years (2009-2010) additional pre-construction surveys shall be conducted for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in a 250-foot radius around all areas subject to ground-disturbing activity.

Of the 79 species recorded, a total of 15 special-status plant species have potential to occur within the study area (Table 3.2.4-2). No federally listed or State-listed plant species was observed within the study area during the protocol-level surveys or during surveys that crossed the study area (POWER 2012a; CH2M Hill 2010; AECOM 2010). Two of the special-status species detected are CRPR List 1B or List 2 (rare) and therefore require consideration under CEQA: Harwood's woollystar (*Eriastrum harwoodii*) and Harwood's milkvetch (*Astragalus insularis* var. *harwoodii*). The remaining species are formally listed as CNPS List 4 (watch-list) and no longer tracked by the CRPR System; they include desert unicorn (*Proboscidea althaeifolia*) and winged cryptantha (*Cryptantha holoptera*). In addition to no longer being tracked, they are also not considered special- status by, CEQA standards, the County or by the BLM. Species accounts are provided in the Biological Technical Report for special-status plant species that occur or have potential to occur in the study area. Table 3.2.4-2 provides a summary of the special-status plant species with the potential to occur within the study area.

State-listed Plant Species. Based on site-specific habitat evaluations conducted by Project biologists and a literature and database review, including a CNDDB record search, no State-listed plant species have been recorded near the study area or have potential to occur in the study area.

Other Special-Status Plant Species. Harwood's woollystar was observed within the study area. Harwood's woollystar, a CRPR 1B.2 (rare, threatened, or endangered in California and elsewhere) species, was detected in all three Alternative gen-tie line corridors. Forty-nine individuals were observed in flower within the survey area. These individuals are displayed as point locations on Figure 3.2.4-2.



Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230kV Transmission Line
- Northern 230kV Alternative
- Southern 230kV Alternative
- Solar Array
- Colorado River Substation
- Substation

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Vegetation Communities

- Disturbed/Ruderal
- Non-irrigated Wheat
- Fallow
- Irrigated Alfalfa
- Orchard
- Irrigation Pond
- Mixed - Drip-irrigated Jojoba and Disturbed Creosote Bush Scrub
- Bajada
- Creosote Bush Scrub
- Desert Riparian Woodland Wash
- Disturbed Creosote Bush Scrub

FIGURE 3.2.4-1
VEGETATION COMMUNITIES WITHIN THE STUDY AREA

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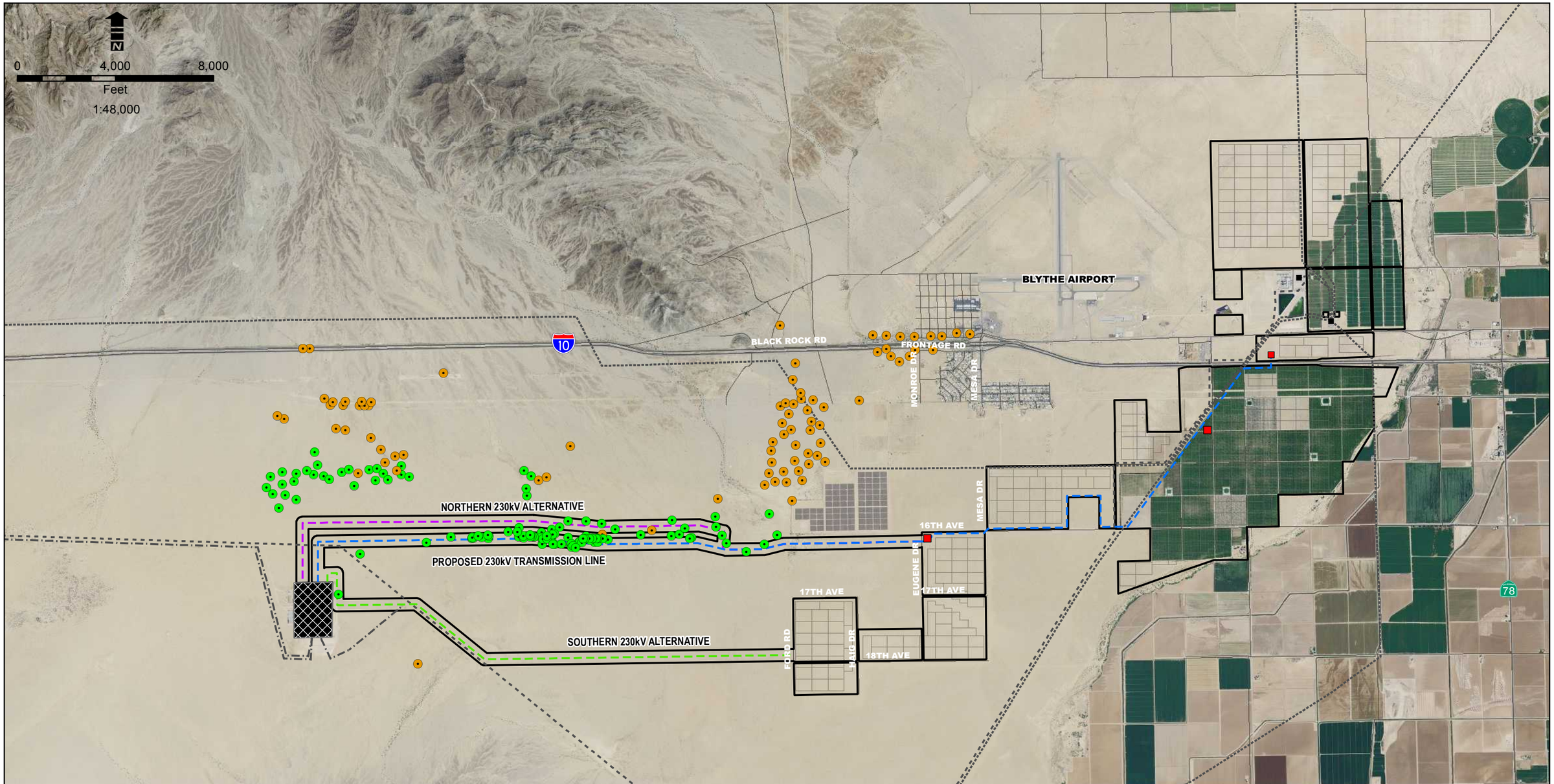

Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230kV Transmission Line
- Northern 230kV Alternative
- Southern 230kV Alternative
- Solar Array
- Colorado River Substation
- Substation

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Special Status Plant Inventory Results

- Harwood's Woolystar
- Harwood's Milkvetch

FIGURE 3.2.4-2
SPECIAL STATUS PLANTS INVENTORY RESULTS

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TABLE 3.2.4-2 SPECIAL-STATUS PLANT SPECIES RELEVANT TO THE PROPOSED PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

COMMON NAME SCIENTIFIC NAME	SENSITIVITY STATUS[1,3]	PLANT HABIT AND GENERAL HABITAT DESCRIPTION (CNPS 2012)	FLOWERING PERIOD (CNPS 2012)	DISCUSSION	POTENTIAL FOR OCCURRENCE WITHIN THE SOLAR ARRAY[2]	POTENTIAL FOR OCCURRENCE WITHIN THE PROPOSED GEN-TIE LINE (BLM JURISDICTION)[2]	POTENTIAL FOR OCCURRENCE WITHIN THE NORTHERN GEN-TIE LINE (BLM JURISDICTION)[2]	POTENTIAL FOR OCCURRENCE WITHIN THE SOUTHERN GEN-TIE LINE (BLM JURISDICTION)[2]
Angel trumpets (Acleisanthes longiflora)	CRPR 2.3 NECO Plan	Prostrate to ascending perennial stems less than three feet. Occurs in dry places, generally on carbonate or limestone derived soils in mountainous areas 30 to 8,000 feet.	May	The closest record of this species is in the Big Maria Mountains.	Low	Low	Low	Low
Coachella Valley Milkvetch (Astragalus lentiginosus var. coachellae)	ESA: Endangered CRPR 1B.2 BLM: Sensitive	Sonoran Desert, in sandy areas growing at elevations of 0 to 1,150 feet.	Annual or perennial herb that flowers February to May.	Habitat for this species occurs within sandy washes. Most populations are restricted to the Coachella Valley, approximately 50 miles west of the Study Area.	Low	Low	Low	Low
Harwood's milkvetch (Astragalus insularis var. harwoodii)	CRPR 2.2 NECO Plan	Annual plant. Occurs in the Sonoran Desert in sandy to gravely areas 0 to 1,000 feet.	January to May	This species was detected in the Project vicinity toward the northwestern limits in 2009 (CEC).	Moderate	High	High	High
Gravel milkvetch (Astragalus sabulonum)	CRPR 2.2	Annual and perennial herb. Occurs in desert dunes and Mojavean and Sonoran desert scrub in sandy or gravelly areas. Also in washes or along roadsides. Occurs between 195 and 3,050 feet.	February to June	The nearest CNDDB record is approximately 1.5 miles north of the Study Area in a "best guess" location.	Low	Moderate	Moderate	Moderate
Pink fairyduster (Calliandra eriophylla)	CRPR 2.3 NECO Plan	Shrubs less than one foot in height. Occurs in Sonoran Desert, sandy washes, slopes, and mesas typically between 390 and 5,000 feet.	January to March	Some suitable habitat is present. Species most often occurs at sites above 500 feet.	Low	Low	Low	Low
Saguaro (Carnegiea gigantea)	CRPR 2.2 NECO Plan	Perennial stem succulent. Occurs in Sonoran desert scrub in rocky areas, typically between 165 and 4,920 feet.	May to June	The only CNDDB record is approximately 15 miles south of the Study Area.	None	None	None	None
Crucifixion horn (Castela emoryi)	CRPR 2.3 NECO Plan	Shrub less than 10 feet in height. Occurs in Mojavean and Sonoran desert scrub on dry, gravelly washes from 295 to 3,000 feet.	April to May	This large shrub was not observed in the surveys, which were conducted within the appropriate blooming period.	None	None	None	None

COMMON NAME SCIENTIFIC NAME	SENSITIVITY STATUS[1,3]	PLANT HABIT AND GENERAL HABITAT DESCRIPTION (CNPS 2012)	FLOWERING PERIOD (CNPS 2012)	DISCUSSION	POTENTIAL FOR OCCURRENCE WITHIN THE SOLAR ARRAY[2]	POTENTIAL FOR OCCURRENCE WITHIN THE PROPOSED GEN-TIE LINE (BLM JURISDICTION)[2]	POTENTIAL FOR OCCURRENCE WITHIN THE NORTHERN GEN-TIE LINE (BLM JURISDICTION)[2]	POTENTIAL FOR OCCURRENCE WITHIN THE SOUTHERN GEN-TIE LINE (BLM JURISDICTION)[2]
Abrams' spurge (Chamaesyce abramsiana)	CRPR 2.2	Annual herb. Occurs in Mojavean and Sonoran desert scrub on sandy soils up to 3,000 feet.	September to November	37 records totaling over 2,000 individuals within a 10 mile radius recorded by CNDDB (2013). Nearest location approximately 0.6 miles north of the west end of the solar array (CNDDB EO Index 88392)	Moderate	Moderate	Moderate	Moderate
Las Animas colubrine (Colubrina californica)	CRPR 2.3 NECO Plan	Perennial, deciduous shrub generally less than three feet in height. Occurs in Sonoran creosote bush scrub less than 3,500 feet.	April to June	According to CEC 2009 data, specimens were observed in flower during April, an early blooming period for this species. Similar habitat is expected to occur in the Study Area.	Low	Moderate	Moderate	Moderate
Harwood's woollystar (Eriastrum harwoodii)	CRPR 1B.2 BLM: Sensitive	Annual herb. Occurs in desert dunes and Sonoran Desert scrub on sandy soils from 400 to 3,000 feet.	March to June	Observed in abundance in an area between the northern and southern alternatives in 2011. Not observed in 2012 possibly due to below average precipitation.	Low	Present	Present	Present
Bitter hymenoxys (Hymenoxys odorata)	CRPR 2	Annual herb. Occurs in chaparral, coastal scrub, Mojavean Desert scrub, and meadows and seeps, often in alkali soils, and riparian scrub with mesic soils. Most often found on sandy sites from 145 to 490 feet.	February to November	Habitat for this species is limited to the desert riparian woodland wash located in the easternmost portion of the proposed transmission line.	Low	Low	Low	Low
California satintail (Imperata brevifolia)	CRPR 2.1	Perennial grass. Occurs in San Bernardino Mountains and Mojave Desert in cultivation. Found near wet springs, meadows, stream sides and flood plains up to 1,700 feet.	September to May	The habitat for this species (wet springs, meadows, stream sides, and flood plains) does not occur within the Study Area.	None	Low	Low	Low
Darlington's blazing star (Mentzelia puberula)	CRPR 2.2	Perennial herb. Occurs in sandy or rocky areas of Mojavean and Sonoran desert scrub, between 295 and 4,200 feet.	March to May	The only CNDDB record is approximately 14.5 miles south of the Study Area.	Low	Low	Low	Low

COMMON NAME SCIENTIFIC NAME	SENSITIVITY STATUS[1,3]	PLANT HABIT AND GENERAL HABITAT DESCRIPTION (CNPS 2012)	FLOWERING PERIOD (CNPS 2012)	DISCUSSION	POTENTIAL FOR OCCURRENCE WITHIN THE SOLAR ARRAY[2]	POTENTIAL FOR OCCURRENCE WITHIN THE PROPOSED GEN-TIE LINE (BLM JURISDICTION)[2]	POTENTIAL FOR OCCURRENCE WITHIN THE NORTHERN GEN-TIE LINE (BLM JURISDICTION)[2]	POTENTIAL FOR OCCURRENCE WITHIN THE SOUTHERN GEN-TIE LINE (BLM JURISDICTION)[2]
Orocopia sage (Salvia greatae)	CRPR 1B.3 NECO Plan	Southeast Sonoran Desert (Orocopia, Chocolate Mtns.) on alluvial slopes between 100 to 800 feet.	Evergreen shrubs less than 3 feet in height with white blooms from March to April.	Nearest known occurrence near Desert Center, 35 miles west of the Project.	Low	Low	Low	Low
Desert spikemoss (Selaginella eremophila)	CRPR 2.2	Eastern Peninsular Ranges to the Sonoran Desert at elevations less than 3,000 feet. Shaded sites among rocks, in crevices and gravelly soils.	Rhizomatous mat-forming non-flowering herb.	The habitat for this species (shaded gravel soil in crevices and rocks) is limited in the Study Area.	Low	Low	Low	Low
Dwarf germander (Teucrium cubense ssp. depressum)	CRPR 2.2	Annual plant up to six inches tall. Occurs in sandy soils, washes, and fields in the Sonoran Desert below 1,200 feet.	March to November	Habitat for this species is present within the Study Area and vicinity.	Low	High	High	Moderate
Jackass clover (Wislizenia refracta ssp. refracta)	CRPR 2.2 NECO Plan	Sandy washes, roadsides, alkaline flats in the Mojave Desert, and northern Sonoran Desert between 1,600 to 2,000 feet.	Annual; flowers between April and November.	Habitat is not present based on elevation criteria.	None	None	None	None
Orcutt's woodyaster (Xylorhiza orcuttii)	CRPR 1B.2 BLM Sensitive	Arid canyons between 60 and 1,000 feet.	Shrubs less than 5 feet in height; blooms March to April.	According to CEC data, one plant recorded north of the San Diego / Imperial County border in Indio (Riverside County).	Low	Low	Low	Low

[1]Sensitivity Status Key
ESA Federal Endangered Species Act
CRPR California Rare Plant Rank
1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
1B: Considered rare, threatened, or endangered in California and elsewhere.
2A: Plants presumed extirpated in California, but more common elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
Threat Ranks/ Decimal notations: A CNPS extension added to the CRPR
- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
– Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
[2]Species Potential for Occurrence
Low Potential – low potential to occur because suitable habitat is of marginal quality.
Moderate Potential – has moderate potential to occur because suitable habitat was expected to be present but was not found during focused plant surveys
High Potential – has high potential to occur because suitable habitat was expected to be present, and species is known to occur within the vicinity but was not found during focused plant surveys
Present – detected during surveys or recorded in previous surveys
[3]Only CRPR 1 and 2 are included in the rare plant table for Blythe Mesa
BLM Sensitive Plants: plant species found on public lands administered by the Bureau of Land Management whose survival is of concern due to limited distribution, low number of individuals and/or populations, and potential threats to habitat.
NECO Plan: Northern and Eastern Colorado Desert Coordinated Management Plan special-status species

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Based on a CNDDB search, Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), a CNDDB List 2.2 species, has a high potential to occur within the proposed gen-tie line disturbance area. Additional species have lower potentials to occur as reflected in Table 3.2.4-2. There are numerous records in the vicinity and several that are just outside the survey corridor area. Ribbed cryptantha and winged cryptantha are both CNPS List 4.3 and were detected within the study area. Both species are not discussed in detail and are not considered special-status due to being on CNPS List 4.3; refer to the methodology section for a description of special-status species.

Fauna

In total, 57 wildlife species were detected during general reconnaissance and protocol wildlife surveys (refer to the biological resources technical reports in Appendix C1 and C2 of this Final EIR/EA), as well as reported in the database search. Of the wildlife species detected during the survey work and literature review, seven special-status wildlife species or their sign were observed within the study area (Table 3.2.4-3), including Mojave fringe-toed lizard (*Uma scoparia*) (Figure 3.2.4-4), western burrowing owl (*Athene cunicularia hypugaea*), Le Conte's thrasher *(Toxostoma lecontei*), loggerhead shrike (*Lanius ludovicianus*), Nelson's bighorn sheep (*Ovis canadensis nelson*), American badger (*Taxidea taxus*), and desert kit fox *(Vulpes macrotis arsipus*). In total, 11 insect, nine reptile, 28 bird, and nine mammal species were detected during biological surveys. Figure 3.2.4-3 illustrates the special-status wildlife inventory results.

Wildlife species observed during the reconnaissance and focused surveys conducted for this Project are listed in the Biological Technical Report. The species most commonly observed during biological surveys included lizards, such as the common side-blotched lizard (*Uta stansburiana*), desert iguana (*Dipsosaurus dorsalis*), and western whiptail (*Aspidoscelis tigris*), along with desert ironclad beetle (*Asbolus verrucosus*), common raven (*Corvus corax*), great-tailed grackle (*Quiscalus mexicanus*), and white-tailed antelope squirrel (Ammospermophilus leucurus). Species accounts are provided in the *Biological Resources Technical Report* and the *230 kV Transmission Line Alternatives Habitat Assessment Report* (Appendix C1 and C2, respectively) for the special-status species that could occur within the study area. This includes species that both were and were not detected during surveys. Razorback sucker, while federally- and State-listed with a record in CNDDB (CDFW 2011a), is expected to be absent due to a lack of habitat within the study area and is not discussed. Table 3.2.4-3 provides a summary of the species accounts and potential to occur.

Federally Listed Wildlife Species

No federally listed wildlife species were detected within the study area during spring 2011 or 2012 survey work. However, despite no detection during the survey effort there is a moderate potential for one federally listed threatened wildlife species, the desert tortoise (Gopherus agassizii), to occur within Alternatives 1, 3, and 5. The moderate potential is based on consultation with USFWS and review of surrounding Project data and a CNDDB records search (USFWS 2012; CDFW 2012a). Along Alternative 4 the species has a high potential to occur based on existing records, sign and potential habitat that was found to support the desert tortoise during the survey effort (POWER 2012a, POWER 2012b, CDFW 2013).

State-listed Wildlife Species

No State-listed wildlife species were detected within the study area during spring 2011 or 2012 survey work. There is a potential for the Swainson's hawk (*Buteo swainsoni*) to forage within the study area; however, the species was not detected during the survey effort. Based on existing records and potential habitat, Alternative 4 has the potential to support the desert tortoise. Based on existing records and potential habitat, Alternative 4 has the potential to support the desert tortoise.

Non-listed Special-Status Wildlife Species

Seven non-listed special-status wildlife species or their sign were detected on-site, including the Mojave fringe-toed lizard, western burrowing owl, Le Conte's thrasher, loggerhead shrike, desert kit fox, Nelson's

bighorn sheep, and American badger. These detections are discussed in detail in the biological resources technical reports (Appendix C1 and C2, respectively).

The golden eagle (*Aquila chrysaetos*) is a CDFW Fully Protected Species and Watch List Species and a USFWS Bird of Conservation Concern. Golden eagles or their nests were not observed during surveys for this Project and there are no known golden eagle nests in the general vicinity of the Project area (AECOM 2010; Tetra Tech 2011). The golden eagle does not have any nesting habitat within the study area and there are no active nests known to be present within 10 miles (CDFW 2013). However, abundant foraging habitat is present in and around the study area, particularly south of I-10, and it may enter into the study area while foraging away from its nesting sites.

Jurisdictional Waters

A hydrology study was performed in 2012 to review potential jurisdictional waters (provided in Appendix C5, *Review of Federal Waters,* of this Final EIR/EA). POWER found that there are two discontinuous ephemeral channels within the Project area. The discontinuous ephemeral channels consist of swales and erosional features including gullies and potential small washes characterized by low volume, infrequent or short duration flow. Based on the data collected the two discontinuous ephemeral channels are considered potential federal waters. For additional discussion on jurisdictional waters, refer to Section 3.2.9, Hydrology and Water Quality. There are 29.2 acres of Desert Riparian Woodland Wash, considered potential waters of the State (POWER 2012a). There is an agricultural irrigation ditch running close to the eastern edge of the proposed solar array, but it does not cross the study area and is approximately 75 to 90 feet below the edge of the study area. There are several palustrine open-water wetlands, likely stock ponds, located in a block in an area that is surrounded by the Project east of the Blythe Airport and north of I-10, but there are no palustrine open-water wetlands within the Project boundaries.

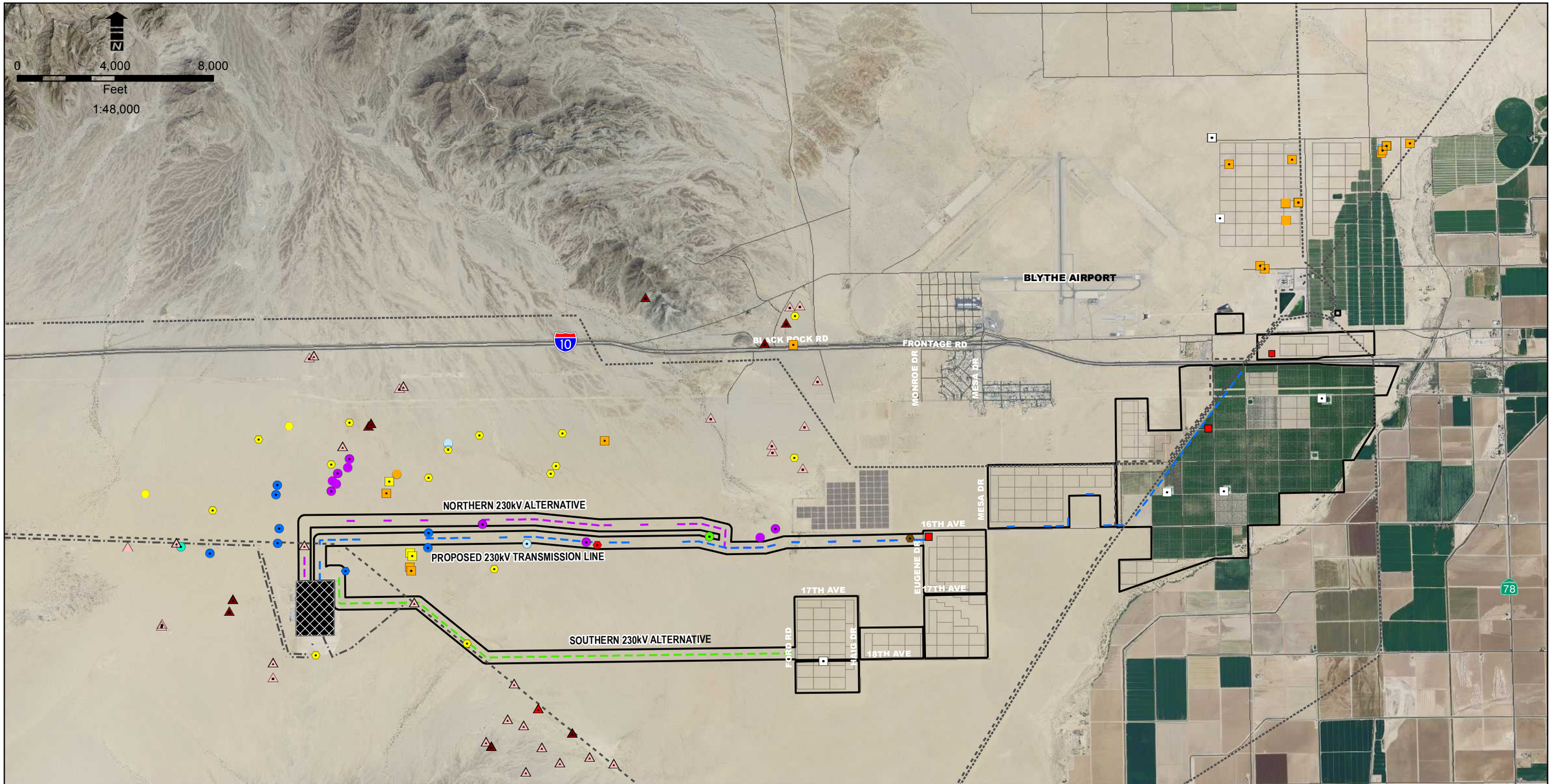
Wildlife Movement

The solar array site and gen-tie line corridors could be used by a variety of wildlife species for movement purposes. Wildlife movement activities typically fall into one of three movement categories: 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 (foraging for food or water, defending territories, or searching for mates, breeding areas, or cover).

Local movement for wildlife across the proposed solar array site and gen-tie line corridors is currently limited by the existing agriculture use and paralleling existing transmission lines. Habitat exists outside of both the solar array site and gen-tie line corridors that would facilitate movement around the site for species.

Critical and Designated Habitat

The study area does not include any designated critical habitat for special-status plant or wildlife species. The Chuckwalla Unit, an area of designated critical habitat for the desert tortoise (59 FR 5820, 5866), is approximately 15 miles west of the study area. The NECO Plan addresses conservation of the bighorn sheep through the designation of Bighorn Sheep wildlife-habitat management areas. The two closest Bighorn Sheep wildlife-habitat management areas, McCoy Mountains and Mule Mountains, are currently listed as unoccupied range (BLM and CDFG 2002). No special management areas, wilderness study areas, or ACECs are located within the solar array site or gen-tie line corridors.



Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230kV Transmission Line
- Northern 230kV Alternative
- Southern 230kV Alternative
- Solar Array
- Colorado River Substation
- Substation

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Wildlife Inventory Results

- Adult Desert Tortoise
- Desert Tortoise Sign
- Desert Tortoise Burrow
- Kit Fox Burrow
- Potential Coyote or Kit Fox Den
- Coyote/Badger Burrow
- Coyote Burrow
- Burrow
- Ferruginous Hawk
- Le Conte's Thrasher
- Loggerhead Shrike
- Northern Harrier
- Swainson's Hawk
- Unknown Raptor Nest
- Burrowing Owl
- Burrowing Owl Burrow
- Burrowing Owl Sign

FIGURE 3.2.4-3
WILDLIFE
INVENTORY RESULTS

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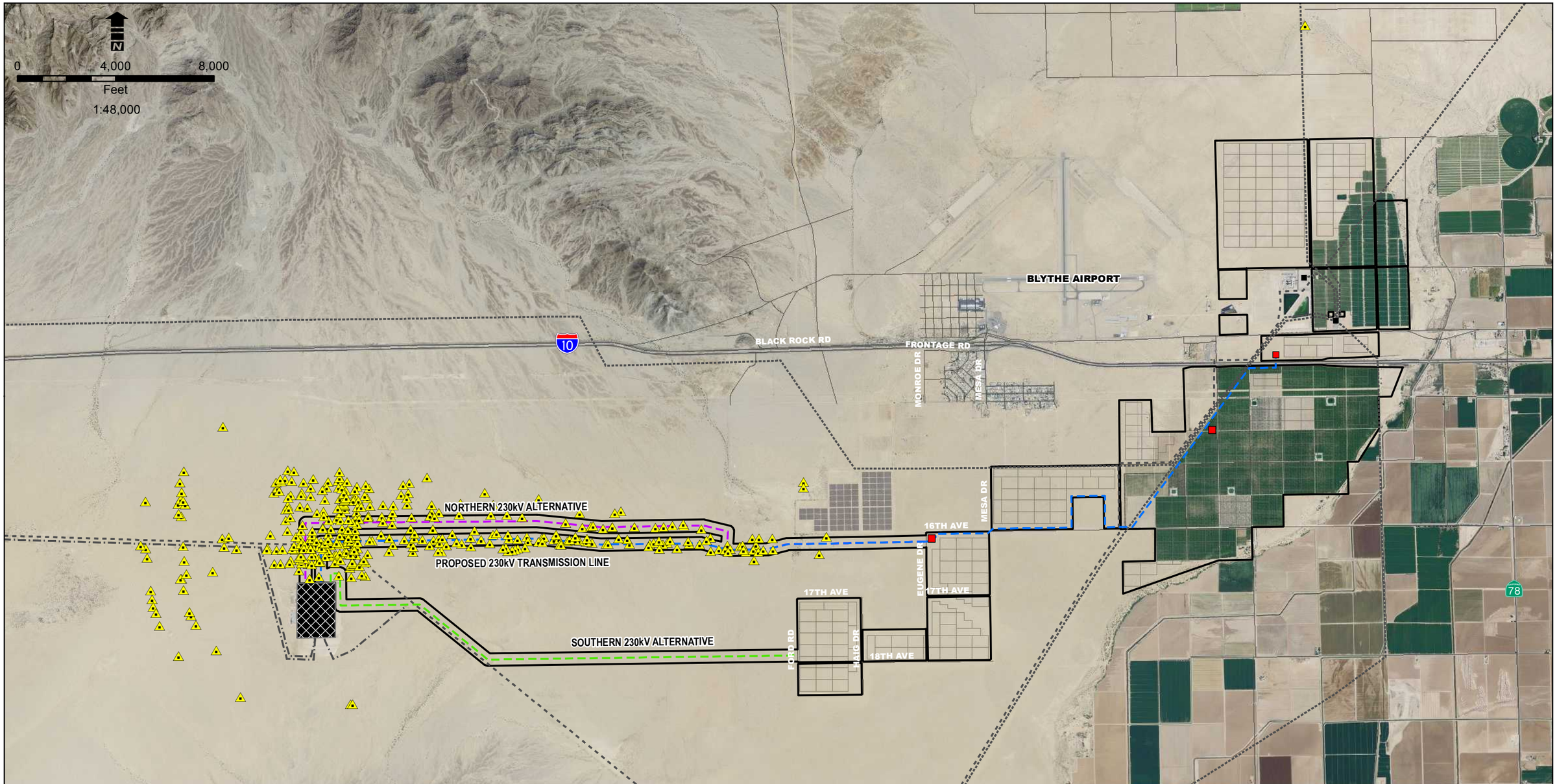

Legend

Proposed Project

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- Colorado River Substation
- Substation

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Mojave Fringed-toed Lizard Inventroy Results

- Mojave Fringe-toed Lizard

FIGURE 3.2.4-4
MOJAVE FRINGED-TOED LIZARD INVENTORY RESULTS

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TABLE 3.2.4-3 SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE STUDY AREA

COMMON NAME SCIENTIFIC NAME	SENSITIVITY STATUS1	HABITAT REQUIREMENTS	DISCUSSION	POTENTIAL FOR OCCURRENCE WITHIN THE SOLAR ARRAY PROJECT BOUNDARY2	POTENTIAL FOR OCCURRENCE WITHIN THE PROPOSED GEN-TIE LINE (BLM JURISDICTION)2	POTENTIAL FOR OCCURRENCE WITHIN THE NORTHERN GEN-TIE LINE (BLM JURISDICTION)2	POTENTIAL FOR OCCURRENCE WITHIN THE SOUTHERN GEN-TIE LINE (BLM JURISDICTION)2
Amphibians							
Couch's spadefoot toad (*Scaphiopus couchii*)	CDFW: Species of Special Concern BLM: Sensitive NECO Plan	Various arid and semiarid environments. Breeds in desert ponds quickly following rainfall.	Suitable habitat is not known to be present, but some areas may still support ponded water after rain events. There is a 2012 CNDDB record located approximately three miles southwest of the Colorado River Substation (CDFW 2013).	Low	Low	Low	Low
Reptiles							
Desert tortoise (*Gopherus agassizii*)	ESA: Threatened CESA: Threatened NECO Plan	Various desert scrubs and desert washes up to about 5,000 feet, but not including playas.	Desert tortoise was documented approximately 0.5 mile south of the southern alignment (CH2M Hill 2010) and sign was scattered around the Colorado River Substation (AECOM 2010). There was a high number of desert tortoise sightings in 2011 and 2012 in the washes spreading out from Mule Mountain, south of the Colorado River Substation (CDFW 2013). POWER walked transects along both alternatives in suitable habitat but did not observe desert tortoise or its sign.	Low	Moderate	Moderate	High
Mojave fringe-toed lizard (*Uma scoparia*)	CDFW: Species of Special Concern BLM: Sensitive NECO Plan	Fine, wind-blown sand in creosote bush scrub of the Mojave and northern Colorado Deserts. From below sea level to 2,952 feet.	Species detected in the northern alternative and proposed gen-tie line during habitat mapping. This species was detected in 2011 within 50 feet of the southern alternative's survey corridor (CDFW 2013).	High	Present	Present	Present
Birds							
Western burrowing owl (*Athene cunicularia hypugaea*)	CDFW: Species of Special Concern BLM: Sensitive USFWS: Bird of Conservation Concern NECO Plan	Found mainly in grassland and open scrub from the seashore to foothills. Also found in deserts and scrublands.	Habitat marginally suitable for this species within the gen-tie line corridors. May be occasionally present as foragers but unlikely to be present as residents. Suitable habitat and the species were detected within the solar array site during the survey work. High number of sightings in the general region (AECOM 2010, CDFW 2013).	Present	Moderate	Moderate	Moderate
Golden Eagle (*Aquila chrysaetos*)	CDFW: Fully Protected Species USFWS: Bird of Conservation Concern	Golden Eagles favor partially or completely open country, especially around mountains, hills, and cliffs. Also found in desert, shrublands, grasslands, farmland, and areas along rivers and streams.	The golden eagle does not have any nesting habitat within the study area and there are no active nests known to be present within 10 miles (AECOM 2010, Tetra Tech 2011, CDFW 2013). However, abundant foraging habitat is present in and around the study area, particularly south of I-10, and it may enter into the study area while foraging away from its nesting sites.	Low (foraging only)	Low (foraging only)	Low (foraging only)	Low (foraging only)
Ferruginous hawk (*Buteo regalis*)	CDFW: Watch List (wintering)	Open country, primarily plains, prairies, badlands, sagebrush, shrubland, desert.	The species is known to winter in the Colorado River Valley. They are most often seen in agricultural fields around Blythe, but occasionally in the open desert as well. There is no breeding habitat on-site. This species was detected just north of the northern gen-tie line during surveys for the Blythe Mesa Solar Project. The species is expected to be present within the Project area, which it may use for wintering habitat, but not for breeding (AECOM 2010).	Low (non-breeding only)	Present (non-breeding only)	Present (non-breeding only)	Present (non-breeding only)
Swainson's hawk (*Buteo swainsoni*)	CESA: Threatened, USFWS: Bird of Conservation Concern, USFS: Sensitive	Nesting habitat consists of open habitats with trees, either isolated, scattered or in windrows.	Migrants more frequently occur near western edge of desert such as Borrego and Morongo valleys, as reflected in annual data from the various regional hawk-watch reports. No suitable breeding habitat exists on-site. However, this species was detected just north of the northern gen-tie line during surveys for the Blythe Mesa Solar Project (AECOM 2010).	Low (non-breeding only) High (foraging)	Present (non-breeding only) High(foraging)	Present (non-breeding only) High (foraging)	Present (non-breeding only) High(foraging)

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Northern harrier (*Circus cyaneus*)	CDFW: Species of Special Concern	Typically occurs in grasslands around coastal salt or freshwater marshes. Nests are constructed on the ground in shrubby vegetation, usually near the edges of marshes.	This species was not detected during Project surveys but was detected in and around the Project during surveys for the Blythe Mesa Solar Project (AECOM 2010). There is foraging habitat around the transmission line alternatives but limited or no nesting habitat. The solar array presents limited habitat, as it consists of large cleared areas or areas with sparse vegetation.	Low	Present	Present	High
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	ESA: Candidate CESA: Endangered USFWS: Bird of Conservation Concern	Nests along large river systems, typically in areas dominated by willows and cottonwoods.	No suitable habitat observed in study area. Records in the vicinity of the Colorado River (CDFW 2013).	None	None	None	None
Sonoran yellow warbler (*Dendroica petechia sonorana*)	CDFW: Species of Special Concern USFWS: Bird of Conservation Concern NECO Plan	Occurs in riparian deciduous habitat, such as cottonwood and willow areas, nesting in understories. Summer resident of the Colorado River Valley.	The only suitable habitat for this species is close to where the proposed and northern gen-tie alternatives diverge, where there is a desert dry wash woodland. Historic records located around the Colorado River (CDFW 2013). This species was detected in a wash adjacent to the proposed and northern gen-tie alternatives in 2011 (Tetra Tech 2011a).	None	Present	Present	None
Southwestern willow flycatcher (*Empidonax traillii extimus*)	ESA: Endangered CESA: Endangered NECO Plan	Riparian woodlands.	No suitable habitat observed in study area. Records in the vicinity of the Colorado River (CDFW 2013).	None	None	None	None
Yellow-breasted chat (*Icteria virens*)	CDFW: Species of Special Concern	Inhabits riparian willow thickets near watercourses. Nests in low, dense riparian areas. Summer resident.	No suitable habitat observed in study area. Records in the vicinity of the Colorado River (CDFW 2013).	None	None	None	None
Loggerhead shrike (*Lanius ludovicianus*)	CDFW: Species of Special Concern USFWS: Bird of Conservation Concern	Occurs in semi-open country with utility posts, wires, and trees to perch on.	Pair detected just north of the northern alternative. This species was detected in 2012 just west of the Colorado River Substation, approximately 0.75 mile from the southern alternative (CDFW 2013), and in 2010 in areas overlapping all three gen-tie line boundaries (AECOM 2010).	High	Present	Present	Present
Gila woodpecker (*Melanerpes uropygialis*)	CESA: Endangered USFWS: Bird of Conservation Concern NECO Plan	Nests in cottonwoods or other desert riparian trees, shade trees, or date palms.	Limited suitable habitat available in the study area. Nearest occupied habitat is near Blythe on the Colorado River.	Low	Low	Low	Low
Gila woodpecker (*Melanerpes uropygialis*)	CESA: Endangered, USFWS: Bird of Conservation Concern	Requires live tree-size cactus or dead trees (Winkler et al. 1995).	Nearest occupied habitat is near Blythe on the Colorado River.	Low	Low	Low	Low
Elf owl (*Micrathene whitneyi*)	CESA: Endangered USFWS: Bird of Conservation Concern NECO Plan	In California, nests only in cottonwood-willow and mesquite riparian areas along the Colorado River.	No suitable nesting habitat in study area. May forage in or near the study area. Historic records along the Colorado River (CDFW 2013).	Low	Low	Low	Low
Summer tanager (*Piranga rubra*)	CDFW: Species of Special Concern	Requires cottonwood-willow riparian forests for nesting and foraging. Summer resident on the Colorado River.	No suitable habitat present in the study area. Historic records along the Colorado River (CDFW 2013).	None	None	None	None

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Vermilion flycatcher (*Pyrocephalus rubinus*)	CDFW: Species of Special Concern NECO Plan	Open farmlands, shrubby grasslands, streamsides, and small wooded ponds in desert habitat. Found in diverse areas near open water.	Limited suitable habitat within the proposed alternatives. No recent records. Closest record is from 1919, approximately 2.2 miles away (CDFW 2013).	Moderate	Low	Low	Low
Yuma clapper rail (*Rallus longirostris yumanensis*)	ESA: Endangered CESA: Threatened CDFW: Fully Protected	Nests in freshwater marshes surrounded by tules and cattails. Found along the Colorado River.	No suitable habitat within the study area. Local occurrences primarily constrained to the Colorado River (CDFW 2013).	None	None	None	None
Crissal thrasher (*Toxostoma crissale*)	CDFW: Species of Special Concern NECO Plan	Occurs in dense riparian and mesquite scrub, microphyll woodland, and riparian washes with a dense understory of shrubs	Some habitat present that could support species foraging but not typical for nesting. Riparian wash present south of the southern alternative. An unidentified thrasher was heard calling during the survey on the northern alternative. This species was identified in 2012 within 500 feet of the southern alignment centerline (CDFW 2013).	Low	Moderate	Moderate	Present
Le Conte's thrasher (*Toxostoma lecontei*)	USFWS: Bird of Conservation Concern NECO Plan	Arid and open plains that are sparsely vegetated and dominated by saltbush and creosote bush	This species was previously detected in 2011 in an area between the northern and southern alternatives. Suitable habitat for this species is present mainly in the creosote bush areas of the Project. An unidentified thrasher was heard calling during the survey on the northern alternative. This species was identified in 2012 west of the Colorado River Substation within one mile of all three alternatives (CDFW 2013).	High	Present	Present	Present
Arizona bell's vireo (*Vireo bellii arizonae*)	CESA: Endangered USFWS: Bird of Conservation Concern	Summer resident along the Colorado River. Nests in willow, mesquite, or small trees and shrubs, but typically in willow thickets with an understory of marsh baccharis.	No suitable habitat present in the study area. Recent (2012) record along the Colorado River (CDFW 2013).	None	None	None	None
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	CDFW: Species of Special Concern	Nests along the borders of lakes, ponds, or freshwater marshes and wetlands. Found in areas of dense vegetation.	This species was detected several times by POWER in 2013 within three miles of the solar array during surveys of the adjacent Palo Verde Mesa Solar Project. It has a high potential to occur in any vegetated wet basins in the area.	High	Low	Low	Low
Mammals							
Pallid bat (*Antrozous pallidus*)	CDFW: Species of Special Concern BLM: Sensitive NECO Plan	This gregarious species usually roosts in small colonies in rock crevices and buildings, but may nest in caves, mines, rock piles, and tree cavities.	Roosting habitat for pallid bats is present in tree cavities in desert riparian woodland wash in the southeastern portion of the survey area. The closest documented occurrence in the CNDDB is from 1992, approximately 30 miles to the southwest of the airport near Corn Springs. The only CNDDB records within 10 miles are both from 1919 (CDFW 2013).	Low	Low	Low	Low
Burro (*Equus asinus)*	BLM: Wildlife Free Roaming Horse and Burro Act	This species is found in the vicinity of the Colorado River, below 7,800 ft. Habitats include sagebrush, bitterbrush, Joshua tree, and pinyon-juniper.	Potential habitat is not documented within the study area, although south of the Project area BLM has documented a BLM Herd Area (HA) where species are known to roam. The HA is approximately 3 miles south of the study area.	Low	Low	Low	Moderate
Pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*)	CDFW: Species of Special Concern	Along desert borders in eastern San Diego County in desert washes, desert scrub, desert succulent scrub, and pinyon-juniper areas. Usually in rocky or gravelly areas.	Very little habitat observed within the study area. Closest CNDDB occurrence is from 1957 approximately 11 miles southwest (CDFW 2013).	Low	Low	Low	Low

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Townsend's big-eared bat (*Corynorhinus townsendii*)	CDFW: Species of Special Concern BLM: Sensitive NECO Plan	Occurs in a wide variety of habitats but most commonly in mesic areas. Roosts in open areas.	Suitable foraging habitat within the study area but limited roosting habitat. The closest CNDDB record is from 1919 and is approximately seven miles southeast of the surveyed areas (CDFW 2013).	Low	Low	Low	Low
Western yellow bat (*Lasiurus xanthinus*)	CDFW: Species of Special Concern	Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees and forages over water and in trees.	Limited roosting habitat available in the study area; no water observed during surveys. The only CNDDB record is from 1980 and is mapped in Blythe.	Low	Low	Low	Low
California leaf-nosed bat (*Macrotus californicus*)	CDFW: Species of Special Concern BLM: Sensitive NECO Plan	Lowland desert scrub, desert riparian and wash areas, alkali scrub, or palm oases. Requires rugged or rocky terrain with mines or caves for roosting.	Suitable foraging habitat is present throughout the study area, although roosting habitat is limited in the immediate region, due to lack of a rugged or rocky terrain. A 2002 CNDDB record lists a colony of bats in the general vicinity (in the Roosevelt Mine quad), but specific location information is suppressed and it is unclear which species of bat may be present.	Low	Low	Low	Low
Arizona myotis (*Myotis occultus*)	CDFW: Species of Special Concern	Lowlands of the Colorado River and adjacent desert mountain ranges. Roosts in tree hollows, rock crevices, and similar areas.	The closest documented occurrence in the CNDDB is from 1942, approximately five miles south of the Project (CDFW 2013).	Low	Low	Low	Low
Cave myotis (*Myotis velifer*)	CDFW: Species of Special Concern BLM: Sensitive NECO Plan	Low elevation arid regions near the Colorado River and in adjacent mountains. Requires caves or mines for roosting.	Suitable foraging habitat is present throughout the study area, although roosting habitat is limited in the immediate region. A 2002 CNDDB record lists a colony of bats in the general vicinity (in the Roosevelt Mine quad), but specific location information is suppressed and it is unclear which species of bat may be present (CDFW 2013).	Low	Low	Low	Low
Yuma myotis (*Myotis yumanensis*)	BLM: Sensitive	Prefers open forests and woodlands. Requires water for foraging. Roosts in mines, caves, buildings, and crevices.	No roosting or foraging habitat available within the study area. Local CNDDB records are on the Colorado River (CDFW 2013).	None	None	None	None
Colorado Valley woodrat (*Neotoma albigula venusta*)	NECO Plan	Low-lying deserts in southeastern California, particularly those with beavertail cactus (*Opuntia basilaris*) and mesquite (*Prosopis* sp.).	While there is ample foraging habitat for this species, there is very little rocky habitat for constructing middens into. There were no obvious signs of woodrat at the burrows that were observed. The closest CNDDB record is from 1919, approximately 2.25 miles east of the solar array (CDFW 2013).	Low	Low	Low	Low
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	CDFW: Species of Special Concern NECO Plan	Occurs in rocky areas with high cliffs in pine-juniper woodland, desert scrub, palm oasis, desert wash, and desert riparian habitat.	No suitable habitat in study area.	None	None	None	None
Nelson's bighorn sheep (*Ovis canadensis nelson*)	BLM: Sensitive NECO Plan	Mountain slopes with sparse growth of trees above the desert floor in California.	Nelson's bighorn sheep is known within the region. While the species is generally associated with mountainous areas, desert floor areas are important for dispersal and seasonal movement. However, no records were found within the study area. In addition, the survey work conducted in 2011 and 2012 did not detect the species. ~~or sign that is utilizes this area.~~ However, a bighorn sheep skull was observed during the 2011 survey in a wash, but could not be confirmed if the skull originated from where it was located or if it washed down from a higher elevation.	Low	Low	Low	Low

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Colorado River cotton rat (*Sigmodon arizonae plenus*)	CDFW: Species of Special Concern	Occurs in alluvial areas along the Colorado River in areas supporting marshy vegetation.	No suitable habitat in study area.	None	None	None	None
American badger (*Taxidea taxus*)	CDFW: Species of Special Concern	Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon-juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils.	Suitable badger habitat occurs throughout the vicinity in undeveloped areas. Some large burrows were observed within the study area but were likely kit fox and/or coyote. A live badger was found in 2012 three miles west of the Colorado River Substation (CDFW 2013).	High	High	High	High
Desert kit fox (*Vulpes macrotis arsipus*)	Calif. Code of Regulations: PFM	Suitable habitat for this fossorial mammal consists of arid open areas, shrub grassland, and desert ecosystems.	Suitable kit fox habitat occurs throughout the vicinity in undeveloped areas. A kit fox den was detected on the southern alternative.	High	High	High	Present
Fish							
Razorback sucker (*Xyrauchen texanus*)	ESA: Endangered CESA: Endangered CDFW: Fully Protected	Colorado River. Uses both quiet and swift waters and spawns in shallow water where there is abundant sand, gravel, and rocks.	There is no suitable habitat to support this species within the study area. This species occurs along the Colorado River (CDFW 2013).	None	None	None	None

Source: POWER 2012a.
[1]Sensitivity Status Key
Federal
Endangered Species Act (ESA)
U.S. Fish and Wildlife Service (USFWS)
State
California Department of Fish and Game (CDFW)
California Endangered Species Act (CESA)
California Code of Regulations PFM: Protected furbearing mammal
BLM
Sensitive
[2] Species Potential for Occurrence
Low Potential–low potential to occur because suitable habitat present, but of marginal quality
Moderate Potential–moderate potential to occur because suitable habitat present; not found during surveys
High Potential–high potential to occur because suitable habitat present, and species known to occur within the vicinity; not found during surveys
Present–Species detected during Project surveys on adjacent areas.

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Regulatory Framework

The Project must comply with various federal, State, and local laws. While some laws and policies provide constraints, others provide intent and direction for certain actions to occur. The following is a general overview of such guidance, which gives intent or direction for the proposed Project relevant to biological resources.

Federal

Endangered Species Act of 1973; 16 U.S.C. § 1531 et seq.; 50 CFR ~~Parts~~ 17, 222, and 402

The ESA includes provisions for protection and management of species that are federally listed as threatened or endangered or proposed for such listing and of designated critical habitat for these species. The administering agency for the above authority for non-marine species is the USFWS.

Migratory Bird Treaty Act: 16 U.S.C. § 703-711; 50 CFR Subchapter B

The Migratory Bird Treaty Act (MBTA) includes provisions for protection of migratory birds, including basic prohibitions against any taking not authorized by federal regulation. The administering agency for the above authority is the USFWS. The law contains no requirement to prove intent to violate any of its provisions. Wording in the MBTA makes it clear that most actions that result in “taking” or possession (permanent or temporary) of a protected species can be a violation of the act. The word “take” is defined as “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (including nests, eggs, and feathers).”

Bald and Golden Eagle Protection Act

Bald eagle protection began in 1940 with the passage of the Eagle Protection Act, which was later amended to include golden eagle and was renamed. The Bald and Golden Eagle Protection Act makes it unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Exceptions may be granted by USFWS for scientific or exhibition use, or for traditional and cultural use by Native Americans. However, no permits may be issued for import, export, or commercial activities involving eagles.

Clean Water Act (33 U.S.C. § 1251 et seq.)

The Clean Water Act (CWA) is the principal federal statute protecting navigable waters and adjoining shorelines from pollution. The Clean Water Act is administered by the EPA and the United States Army Corps of Engineers (USACE). The USACE is responsible for regulating the discharge of fill material into waters of the United States. Waters of the United States include lakes, rivers, streams and their tributaries, as well as wetlands. Since its enactment, the CWA prohibits the discharge of pollutants into waters of the United States without a permit. Section 404 of the CWA provides that whenever any person discharges dredged or clean fill material into Waters of the United States including, without limitation, wetlands, streams, and bays (e.g., while undertaking road construction, bridge construction, or streambed alteration), a permit is required from the USACE. Through field reconnaissance surveys and analyses of National Wetlands Inventory (NWI) and watershed data, it is unlikely that there are any jurisdictional waters of the United States.

Northern and Eastern Colorado Desert Coordinated Management Plan

The NECO Plan (BLM and CDFG 2002) is a landscape-scale, multi-agency planning effort that protects and conserves the natural resources of the California portion of the Sonoran Desert while also managing its use for humans. This plan was prepared under the same regulations that implement the FLPMA of 1976. The NECO planning area of the CDCA spans 5.5 million acres in the southeastern California Desert, and covers the Project area. The NECO Plan, which was adopted in December 2002, provides

management direction for a variety of sensitive species and habitats on BLM and National Park Service land, as well as the U.S. Marine Corps Chocolate Mountain Aerial Gunnery Range.

The NECO Plan primarily addresses recovery of the desert tortoise (*Gopherus agassizii*), conservation of a variety of other species, and modification of management of wild burro herds in the planning area, and updates policies regarding OHV use and public lands access and use. As part of its focus on desert tortoise recovery and sensitive species protection, the NECO Plan has established several Desert Wildlife Management Areas, which cover much of the designated critical habitat for the desert tortoise. Specifically, these Wildlife Management Areas consist of a system of integrated ecosystem management for special-status species and natural communities on federal lands, and regional standards and guidelines for public land health on BLM lands. The NECO Plan also establishes several Wildlife Habitat Management Areas, which include habitat for desert bighorn sheep and other sensitive species in the planning area (BLM and CDFG 2002).

California Desert Conservation Area Plan

The CDCA Plan guides the management of all BLM-administered lands in the Mojave, Sonoran, and a small portion of the Great Basin Deserts. In total, the CDCA Plan includes an area of approximately 25 million acres, 12 million of which are public lands. The primary goal of the CDCA Plan is to provide guidance for the overall maintenance of the land while simultaneously planning for multiple uses and balancing the human needs with the need to protect the natural environment.

The CDCA Plan includes 12 elements: Cultural Resources; Native American; Wildlife; Vegetation; Wilderness; Wild Horse and Burro; Livestock Grazing; Recreation; Motorized Vehicle Access; Geology, Energy and Mineral Resources; Energy Production and Utility Corridors; and Land-Tenure Adjustment. Each of the elements contains goals and specific actions for the management, use, development, and protection of the resources and public lands within the CDCA, and is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. In addition, each element provides both a desert-wide perspective of the planning decisions for one major resource or issue of public concern as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

Wild Horse and Burro Act of 1971, as amended

Herd Areas are those geographic areas where wild horses and/or burros were found at the time of the passage of the Wild Horse and Burro Act in 1971. Herd Management Areas are those areas within Herd Areas where the decision has been made, through Land Use Plans, to manage for populations of wild horses and/or burros. Herd Areas boundaries may only be changed when it is determined that areas once listed as Herd Areas are later found to be used only by privately owned horses or burros, or the Herd Area boundary does not correctly portray where wild horses and burros were found in 1971. Chocolate Mule Mountains Herd Area is located approximately 1,000 feet away from the Southern Alternative's gen-tie line.

Executive Order 11312

This Executive Order from 1999 requires all federal agencies to prevent and control the introduction of invasive non-native species in cost-effective and environmentally sound manners. It established a nationwide Invasive Species Council and Invasive Species Advisory Committee to oversee and facilitate the implementation of the Executive Order.

State

California Endangered Species Act of 1984, California Fish and Game Code § 2050-2098

The CESA includes provisions for the protection and management of species listed by the State as endangered or threatened, or designated as candidates for such listings. CESA includes a requirement

for consultation "to ensure that any action authorized by a state lead agency is not likely to jeopardize the continued existence of any endangered or threatened species… or result in the destruction or adverse modification of habitat essential to the continued existence of the species" (§ 2090). Plants of California declared to be endangered, threatened, or rare are listed at 14 California Code of Regulations (CCR) § 670.2. Animals of California declared to be endangered, threatened, or rare are listed at 14 CCR § 670.5. The administering agency for the above authority is the CDFW.

California Fish and Game Code Section 3503, 3511, 4700, 5050, and 5515

These California Fish and Game Codes (CFGC) list bird (primarily raptor), mammal, amphibian, and reptile species that are classified as fully protected in California. Fully protected species are prohibited from being taken or possessed except under specific permit requirements. These Codes also prohibit the take, possession, or needless destruction of the nests or eggs of any bird, including birds of prey or their nests or eggs, except as otherwise provided by the code or any regulation made pursuant thereto.

Native Plant Protection Act (CFGC Section 1900 et seq.)

The California Native Plant Protection Act prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but rather under CEQA.

California Fish and Game Code Sections 1600-1616 – Streambed Alteration Agreement

This Code requires that any person, State or local government agency, or public utility notify the CDFW and obtain a streambed alteration agreement before they begin any construction project that will divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake, use materials from a streambed, or result in the disposal or disposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. In general, CDFW jurisdiction extends to the top of the stream or bank, or to the outer edge of riparian vegetation, whichever is wider.

Porter-Cologne Water Quality Control Act of 1969 (California Water Code Section 13000 et seq.)

The Porter-Cologne Water Quality Control Act provides State coordination with the CWA, which is described above. It provides a mechanism by which the Regional Water Quality Control Boards certify that federal actions that result in a discharge to waters, including federally issued CWA permits to ensure the compatibility of federal and State water quality guidelines, are in compliance with Section 401 of the CWA, which requires such federal actions to comply with state water quality standards. The act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Basin plans are primarily implemented by using the National Pollution Discharge Elimination System permitting system to regulate waste discharges to ensure that water quality objectives are met. Waste discharges may include fill, any material resulting from human activity, or any other "discharge" that may directly or indirectly impact Waters of the State relative to the implementation of Section 401 of the CWA.

California Desert Renewables Energy Conservation Plan

The California Desert Renewables Energy Conservation Plan (DRECP) is a Natural Community Conservation Plan being developed by a joint federal and State Renewable Energy Action Team (REAT) to provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The REAT consists of the CEC, CDFW, BLM, USFWS, and counties impacted by the DRECP. The DRECP is intended to provide long-term endangered species permit assurances, facilitate the review and approval of renewable energy projects in the Mojave and Colorado deserts in California, and provide a process for conservation funding to

implement the DRECP. It is anticipated that the DRECP also would serve as the basis for one or more habitat conservation plans under the federal ESA and provide biological information necessary for consultation under ESA Section 10. The proposed Project would be located within the DRECP planning area. The DRECP is not yet final, and no decision has been made for the DRECP.

Local Ordinances

Riverside County General Plan

The Riverside County General Plan includes policies that address biological resources within the County boundaries. Countywide policies that seek to preserve biological resources are located in the Land Use Element and Open Space Element of the County General Plan, and include:

Land Use Element (LU)

Policy LU 8.1. *Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational values.*

Policy LU 8.2. *Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.*

Policy LU 18.2. *Cooperate with the* [former] *California Department of Fish and Game (CDFG)* [now California Department of Fish and Wildlife (CDFW)]*, United States Fish and Wildlife Service (USFWS), and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats.*

Multipurpose Open Space Element (OS)

Policy OS 18.1. *Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs* [Multiple Species Habitat Conservation Plans]*, if adopted.*

City of Blythe General Plan

Policies that seek to preserve biological resources are located in the Open Space Element of the City General Plan, and include:

Open Space and Conservation Element

Policy 15*: Protect habitats that are sensitive, rare, declining, unique or represent valuable biological resources in the Planning Area.*

Policy 16: *Preserve and protect populations and supporting habitat of special status species within the Planning Area, including species that are State or federally-listed as Rare, Threatened, or Endangered, all federal "candidate" species for listing and other species on officially adopted federal and/or State listings, and all California Species of Special Concern.*

Policy 17: *Minimize impacts to sensitive natural habitats throughout the Planning Area. In new developments, emphasis should be placed on protecting and preserving valuable and sensitive natural habitats, the comprehensive habitat mapping and biological resource inventory prepared, as part of Plan preparation, shall be consulted when reviewing development applications.*

Policy 18: *Preserve and protect areas determined to function as regional wildlife corridors, particularly those areas that provide natural connections permitting wildlife movement between designated sensitive habitats and all areas being considered for future conservation because of their high value.*

3.2.5 Cultural Resources

Cultural resources were inventoried and are described for the proposed Project and Alternatives. This section summarizes the results of a literature review, records searches, archaeological resource and historic built environment survey, and communications with Native American representatives regarding cultural resources that could potentially be impacted by the Project. The information in this section is based on the *Blythe Mesa Solar Project Archaeological Resource and Built Environment Survey, prepared by* POWER Engineers, Inc. (2013a) and the *Blythe Mesa Solar Project Archaeological Resource and Built Environment Survey, Transmission Line Alternatives Supplemental Report*, prepared by POWER Engineers, Inc. (2013b) (provided in Appendix D1 and D2, respectively, of this Final EIR/EA). This section describes the affected environment and regulatory setting for cultural resources.

Environmental Setting

Prehistory

Paleoindian Period (San Dieguito) (12,000 to 7,000 before present [BP])

The Paleoindian period experienced profound environmental changes, as the cool, moist conditions of the Pleistocene (from 2.5 million to 12,000 years ago) gave way to the warmer, drier climate of the Holocene (from 12,000 years ago to present). The earliest record of habitation in eastern Riverside County occurred during the Paleoindian Period. Settlement patterns of this period suggest that habitation occurred along prehistoric lakeshores and on mesas near springs and washes. Away from the Colorado River, the Palo Verde Mesa area was not conducive to settlement due to the limited water resources available and was likely used as a travel corridor between the mountains and river (von Werlhof 2004). Within the larger Riverside County region, Paleoindian sites may be found on stable landforms, in protected caves above floodplains and valley/riparian environments, and along ridge systems and in mountain passes that may have served as travel routes.

The Paleoindian inhabitants were nomadic large-game hunters whose tool assemblage included choppers; percussion-flaked scrapers and knives; large, well-made, fluted, leaf-shaped, or stemmed projectile points (e.g., Lake Mojave, Silver Lake); crescents; heavy core/cobble tools; hammerstones; bifacial cores; and scraper planes (Rogers 1939, 1966; Warren 1968). The subsistence strategy used during the San Dieguito period focused primarily on hunting both large and small game as well as gathering plants throughout the seasons. Near the end of this period the climate began to warm, which caused the lakes and marshes to dry, resulting in the need for different subsistence and settlement strategies (Moratto 1984).

Archaic Period (Pinto and Amargosa) (7,000 to 1,500 BP)

The climatic patterns of the late Paleoindian period continued into the early Archaic period. The beginning of the late Archaic coincides with a period of increased moisture in the region. Research suggests the California desert environment was unstable during these periods, forcing the hunter-gatherers towards more hospitable regions (Crabtree 1981; Schaefer 1994; Weide 1974). However, late Archaic sites have been recorded in more southern portions of Riverside County's low desert near the Peninsular Ranges, where water was more available.

Late Archaic site types include residential bases with large, diverse artifact assemblages, abundant faunal remains, and cultural features; temporary bases; temporary camps; and task-specific activity areas. Diagnostic projectile points of this period include more refined notched (Elko), concave base (Humboldt), and small-stemmed (Gypsum) forms (Warren 1984). The mortar and pestle were used to process acorns, an important storable resource. *Haliotis* and *Olivella* shell beads and ornaments and split-twig animal figurines indicate that interior California occupants were in contact with populations on the California coast and in the southern Great Basin (Warren 1984).

Late Prehistoric (Patayan Complex) (1,500 to 150 BP)

A period of even more persistent drought began by 1,500 years ago, and conditions became significantly warmer and drier (Jones et al. 1999; Kennett and Kennett 2000). The dry period continued until 750 years ago (Spaulding 2001).

The Patayan Complex is marked by strong regional cultural development relative to the economic system and settlement patterns. In the Southern California desert regions, cultural development was heavily influenced by the Patayan culture of the lower Colorado River area (Warren 1984). This period includes a pre-ceramic transitional phase ranging between 1,500 and 1,200 years BP. The Patayan complex is distinguished from the transitional phase by the introduction of pottery using the paddle-and-anvil technique as well as the use of bow-and-arrow technology. Also noted is the use of floodplain agriculture (Rogers 1945). These technological advancements are believed to be from Mexico or the ancestral Pueblo cultures of the Southwest deserts (McGuire and Schiffer 1982; Rogers 1945; Schroeder 1979).

Diagnostic artifacts include Saratoga Springs projectile points, small triangular projectile points, mortars and pestles, steatite ornaments and containers, perforated stones, circular shell fishhooks, numerous and varied bone tools, and bone and shell ornaments (Schaefer 1994). Elaborate mortuary customs and extensive trade networks are also characteristic of this period. Additionally, abundant amounts of obsidian were being imported into the region from the Obsidian Butte source that had been exposed by the desiccation of Lake Cahuilla (Warren 1984).

According to Schaefer and Laylander (2007), the preponderance of evidence suggests that pottery was not introduced or was rarely used in the California desert area before *Anno Domini* (A.D.) 870 to 1010. Two ceramic types have been identified as the most prevalent for the Palo Verde Valley area, Lower Colorado Buffware and Tizon Brown Ware. Harner (1957) observed that in the Chuckwalla Valley (20 miles west of the Project) the frequency of Lower Colorado Buff was double that of Tizon Brown. When this pottery was compared and cross-dated with a collection from the Bouse Site in Arizona, Harner (1957) found that the pottery from the Chuckwalla Valley could date between A.D. 1300 and 1900. However, Griset (1996), cited in Schaefer and Laylander (2007), also saw evidence of pottery in the region as early as A.D. 800.

Lower Colorado Buffware is made from riverine and lacustrine clay, usually with fine grains of subangular to sub-round quartz, feldspars, and other opaque spars. Most vessels are highly oxidized due to the firing process. The surface finish is typically smoothed with faint wipe marks left by mops. The larger vessels may display anvil marks on the interior surfaces. A thick cream-colored scum coat is common in the desert regions, and stucco treatment is also common along the Colorado River and in the desert. The surface color is usually tan with pink tones. Recurved rims are common, polish is rare, and decorations often include fingernail impressions, in casing and punched holes. Colorado Buff dates to Patayan III (A.D. 1500 to post-1900) (Waters 1982).

Tizon Brown Ware is made from clays from decomposing granite outcrops in the California-Colorado desert regions, and usually contains higher iron content. The vessels are typically reddish brown and contain little to no temper. Both Tizon Brown and Lower Colorado Buff were usually made using coils, smoothed and shaped by a paddle and anvil (Lyneis 1988).

By the late Prehistoric period there appears to have been a transition to more mobile patterns of travel and trade between the Colorado River and Lake Cahuilla (Pendleton 1984). Long-range travel for resource procurement and trade resulted in a system of trails through the Colorado Desert. The increased mobility along the trail system allowed the opportunity for interaction between neighboring tribes. As the Spanish began to explore the area, native trails and trade routes were used and expanded.

In an ongoing study, Laylander and Schaefer (2010) have applied a regional perspective to evaluate and treat cultural resources within a broad landscape approach. The current Project falls within their Prehistoric Trails Network Cultural Landscape area, which includes the Palo Verde Valley and McCoy Wash and Palen Valley. No historic trails are documented within the proposed Project solar facility site or alternative gen-tie line ROWs. For this reason and because of the extensive past military-related and

agricultural disturbance of the Project area, the Prehistoric Trails Network Cultural Landscape is not analyzed in detail in this Final EIR/EA.

Three prehistoric trails are outside the Project boundaries but in the Project vicinity; these were likely used to travel to and from springs and other water sources. McCarthy (1993) explained that trails in the McCoy Springs region are un-bordered and do not indicate evidence of deliberate construction.

Early research in the area noted recognizable trail types, including major long distance, minor long distance, and subsidiary trails between settlements and resource areas (Rogers 1941). McCarthy (1993) defines two types of trails, primary and secondary. Primary trails are based around a destination that is fixed on the landscape, such as a spring. McCoy Springs was the destination spot for all of the trail segments in the current Project vicinity. Secondary trails branch off from primary trails. McCarthy identified CA-RIV-53 (known as the Halchidhoma Trail), east and northwest of the Project, as the predominant trail that leads to McCoy Springs. The trails along the southern flank of the McCoy Mountains probably emanate from the Colorado River (Palo Verde Valley) and lead toward the Chuckwalla Valley. Between the McCoy and the Chuckwalla Mountains, several springs (McCoy, Chuckwalla, and Corn Springs), tanks (Palen and Mule Tanks), and dry lake beds (Ford Dry Lake and Palen Lake) were linked with a network of trails. The trails that were found within the desert pavement setting were in excellent condition. These trails include CA-RIV-53; CA-RIV-885, less than a mile southwest of the Project; and CA-RIV-3673, less than a mile northeast of the Project. The historic Bradshaw trail, discussed below, followed ancient Native American trails that linked water sources across the Colorado Desert. These trails passed through the San Gorgonio Pass, turned south and ran to the Salton Sink and between the Orocopia and Chocolate mountains, skirted the southern edge of the Chuckwalla Range, crossed through the Mule Mountains, and reached the Palo Verde Valley.

Other trails lead toward canyons containing temporary water sources. Petroglyph sites have been documented in these canyons; two short trail segments that lead to a large canyon southeast of McCoy Peak have been documented outside the Project but within the Project vicinity. In addition to water sources, other resource areas would include lithic quarries and assay areas. A line of pebble terraces line the southern flank of the McCoy Mountains. Several extremely large prehistoric lithic sources and assay sites have been recorded in these terraces. Trail segments between these sites have been documented. One segment, CA-RIV-3671, is within one mile of the Project (von Werlhof 1987). McCarthy speculates shorter trail segments in the area of McCoy Wash were used to connect specialized activity areas within larger habitation areas (McCarthy 1993).

Trails were also used for trade routes. Trade between Southern California and the Southwest may have begun more than 9,000 years ago (Ruby 1970), but the predominant trading activity ranged between A.D. 900 and A.D. 1300. Exchange items included California marine shell and Southwestern pottery. Johnston and Johnston (1957) found segments of trails from the Colorado River through the San Gorgonio Pass and into Riverside County. The system connected the Palo Verde Valley to the McCoy Mountains through the Chuckwalla Valley into the Chuckwalla Mountains. Trails are also discussed in Warren and Roske (1981) and Johnston (1980).

Trails are also a significant element in the Native American sacred landscape; they link the spiritual world to the natural landscape. Trails have been marked with rock shrines and artifacts such as pottery drops and flaked stone scatters, particularly white quartz. Songs and stories contain named places such as mountains, water sources, valleys, and other geographical locations along known trails (Fowler 2009).

Ethnography

The Colorado Desert area of Riverside County is within the ethnographic boundaries of several different eighteenth and nineteenth century Native American groups.

Colorado River Peoples: the Quechan, Halchidhoma, and Mojave

The first Europeans to encounter and document the traditional inhabitants of the Lower Colorado River area were the Spanish, followed by American explorers. Kroeber (1920, 1925) conducted extensive

fieldwork at the turn of the twentieth century; in particular, he studied the Mojave tribe in the Needles area. Spanish missionary influence did not reach the desert cultures, which enabled them to retain much of their language, religion, and cultural practices. Early ethnographers were able to conduct fieldwork and documented many details about oral histories, ritual and burial practices, and life-ways practiced prior to contact and those during the first half of the twentieth century. Malcolm Rogers studied the Colorado River tribes in the 1930s and documented information that included the lithic and ceramic technologies.

After A.D. 1000, the Colorado River tribes appear to have become more mobile and extended their travel between the river and Lake Cahuilla, and consequently expanded their resource procurement patterns (Pendleton 1984). This resulted in the development of an extensive trail network throughout the Colorado Desert. Evidence of travel and trade is noted by the presence of pottery drops and shrines lining the trails (McCarthy 1993). The trails network was also a major component of the tribes' belief system, interconnecting important geographical locations and ceremonial sites with song cycles and rituals.

Lithic quarries along various mountain ranges were used for tool material; springs within these mountains provided water. Several springs are located within a day's travel of the Project area; in addition to McCoy Springs, Corn and Chuckwalla springs are less than 30 miles to the west.

The lower Colorado River region, including the Project area, was inhabited by numerous tribes at the time of the first Spanish contact. Alarcon and Diaz were the first to travel up the Colorado River in 1540; their description of the interaction between tribes indicates shifting boundaries and inter-tribal hostilities. (Forbes 1965). A later expedition by Oñate in 1605 documents several tribes, including the Halchidhoma, the Quechan, and the Mojave, at various points along the river. By 1774, the Anza Expedition noted the Halchidhoma living between the Mojave and Quechan territories near Parker, Arizona. Historical accounts describe constant conflict among the tribes, with the Quechan and Mojave against the Halchidhoma. Ultimately, the Halchidhoma left the area and resettled in the mid-1800s in the Gila River area.

Settlement was determined primarily by proximity to permanent water sources. Villages and camp sites were most often in the foothills and less frequently on the open areas of the desert floor and mesas, depending on the availability of water. Tribal boundaries and territories were dynamic as a result of interactions and warfare between tribes (Dobyns et al. 1963; Kroeber 1925).

Like some of the other river Yuman tribes, the Mojave focused on agriculture, producing close to half of their dietary needs from crops, including maize, squash, melons, beans, and a variety of grasses (Bee 1983; Castetter and Bell 1951). Similarly, the Quechan also relied on agriculture as well as fish from the Colorado River. In addition, both small game and large game were hunted, adding important dietary protein.

The Colorado River tribes share similar beliefs that are strongly linked to dreaming and ritual songs that apply to daily life and personal knowledge. These beliefs are based on real places that are visited physically or in dreams (Kroeber 1925). Forbes noted that religion, cultural identity, various aspects of daily life, and the landscape on which the tribes lived were intricately intertwined. Important ceremonial locations include intaglios, petroglyphs, lithic scatters, and cleared circles along the Colorado River and in the surrounding hills. As previously mentioned, one key component of the cultural landscape is the regional trail system (Forbes 1965).

Chemehuevi

The Chemehuevi tribe is the southernmost group of the Southern Paiutes (Kelly and Fowler 1986). Their territory included the western side of the Colorado River into the Palo Verde Mountains and north toward Cadiz Dry Lake.

The Chemehuevi share many cultural elements with the Mojave, including habitation structures, ground stone tool types, and spiritual beliefs. The Chemehuevi were organized in small mobile groups who traveled widely, interacting with neighboring tribes. They subsisted on small game, hunting as far west as San Bernardino, and on harvesting seasonal plant resources throughout the region. They hunted with the Quechan in Arizona and the Serrano in Tehachapi, and were reported to have collected abalone in the

Santa Barbara Channel and to have journeyed east to the Hopi villages (Kelly and Fowler 1986). They were not known to have used pottery but rather chose basketry and other woven implements, often decorated. The Chemehuevi who settled along the Colorado River lived in relatively permanent structures and utilized agriculture to a greater extent than related groups to the west (Laird 1976). Historically, they grew a variety of crops including vegetables, beans, winter wheat, and grasses.

Chemehuevi spiritual beliefs include a sacred landscape that incorporates both the spirit world and the natural world. These rituals include songs and dreams that are the basis of their daily lives, linking their beliefs, material existence, and the cultural landscape. Kroeber states that knowledge is acquired by each man according to his dreams (Kroeber 1925). The "Salt Song" describes a ceremonial trail that traverses through three states and explains the significance of the mountains and the medicines found in them.

Cahuilla

The Cahuilla are one of several groups that migrated into California from the Great Basin; although the specific time, duration, and process is unclear, it is estimated to have taken place around 1,500 BP (Kroeber 1925; Laylander 1985). The Cahuilla's traditional territory encompassed diverse topography ranging from 273 feet below sea level at the Salton Sink to 11,000 feet amsl in the San Bernardino Mountains. The Cahuilla's territory extended from the summit of the San Bernardino Mountains in the north to the Chocolate Mountains and Borrego Springs in the south. Its eastern border included the Colorado Desert west of Orocopia Mountain, and its western border included the San Jacinto Plain near Riverside and the eastern slopes of Palomar Mountain (Bean 1978).

Numerous land-holding clans claim territory within this area, each of which ranged from the desert to the mountain areas. Clans could include more than one lineage, each of which had independent community areas that were owned within the larger clan area (Wilke and Lawton 1975).

Cahuilla villages usually were in canyons or along alluvial fans near adequate sources of water and food plants. The immediate village territory was owned in common by a lineage group or band. The other lands were divided into tracts owned by clans, families, or individuals. Trails used for hunting, trading, and social interaction connected the villages. Each village was near numerous sacred sites (places of importance such as locations of traditional ceremonies or activities) that included rock art panels (Bean and Shipek 1978).

Cahuilla belief system and oral tradition indicate that when Lake Cahuilla dried up, the desert floor was settled; 17 or more rancherias have been identified in Coachella Valley. These rancheria locations are associated with hand-dug wells, springs, or palm oases. Water collection and conveyance features and associated agricultural fields have been documented from the early 1800s (Wilke and Lawton 1975).

Euro-American History

European presence in the Colorado River region began with explorations in the sixteenth century. Permanent settlement occurred in the mid-nineteenth century as a result of the development of transportation and water conveyance. Exploration was primarily for travel routes in search of interior waterways and from Mexico north toward Monterey for the establishment of the California missions by the Spanish. The end of the Mexican War of 1846 to 1848, the discovery of gold in California in 1849, and the establishment of California as a state on September 9, 1850 all contributed to a steady influx of non-Hispanic settlers into the area. Later, mining, agriculture, and military training brought settlement to the Riverside County area.

Transportation

Prior to the European presence in the Colorado Desert area, transportation was limited to foot trails used by the Native Americans. As the Spanish began to explore the area, these native trails and trade routes were further used and expanded. One of the more important routes, known as the Bradshaw Trail, was developed as the result of the search for gold in the region, specifically in the area of La Paz, along the

eastern side of the Colorado River (Gunther 1984; Johnston 1972, 1987) and north of the Project area. William D. Bradshaw, a forty-niner working in the San Bernardino County area, was determined to find an overland route from the Pacific Ocean to the Colorado River, where gold had been recently discovered in what is now Ehrenberg. Bradshaw had previously mined for gold in Sutter's Mill in 1849, and anticipated La Paz to become a gold strike boom-town. To accommodate the expected influx of miners headed toward La Paz, Bradshaw recruited a group of eight men to scout out a direct route.

Bradshaw worked with Chief Cabazon, the leader of the Desert Cahuilla, and a Coco Maricopa Indian mail runner to map a route using an ancient native trail. The Bradshaw Trail passed through the San Gorgonio Pass through Palm Springs, then turned south and ran through Martinez to the north side of the Salton Sink and between the Orocopia and Chocolate Mountains ranges. The route then skirted the southern edge of the Chuckwalla range crossed through the Mule Mountains and reached the Palo Verde Valley. Bradshaw also established a ferry service to cross the Colorado River and proceeded to promote his new trail and ferry enterprise (Gunther 1984; Johnston 1972, 1987). The Bradshaw Trail is 5.5 miles south of the Project area.

Also paramount to the development of the Colorado Desert was the arrival of the Southern Pacific Rail Road (SPRR), a transcontinental railroad system. The SPRR was founded as a land holding company in 1865 and acquired various smaller railroad companies that would eventually link New Orleans, Texas, New Mexico, Arizona, and California through Los Angeles and then north into San Francisco through to Portland, Oregon. Numerous communities sprang up along the route and greatly accommodated the mining boom in the local area (Vredenburgh et al. 1981). The railroad was instrumental in settlement of the Colorado Desert areas by providing access to immigrants as well as shipping consumer goods and produce between the east and west coasts (Fickewirth 1992). The SPRR reached Yuma, Arizona in 1877, and links north on the river were provided by commercial river boat traffic (Vredenburgh et al. 1981). Later, to facilitate the mining activities in the Blythe area, a spur was constructed to the Atchison, Topeka, and Santa Fe Blythe-Ripley Line in 1916.

Mining

With the signing of the Treaty of Guadalupe-Hidalgo in 1848, the southwest came under the control of the United States. The Colorado Desert was the scene of prolonged mining from 1850, with the beginning of the gold rush in California. The small town of La Paz, 45 miles northeast of Blythe on the eastern bank of the Colorado River, was a boomtown in the 1860s (Wilson 1961). The mid-1860s saw the town of La Paz swell in population to over 5,000, but by 1870 the miners had gleaned most of the gold-bearing ore from this site.

Mining and prospecting were primarily focused in the mountains and high desert north of Blythe, and small-scale mining occurred from the 1860s until after the Great Depression in the 1930s (Morton 1977). Although gold was found only in small amounts, mining of gypsum and manganese were more successful ventures. To the north in the McCoy Mountains, several significant manganese mines provided ore for armaments during both World Wars I and II (Butler 1998). Other minerals that were mined from the areas in the Project vicinity include fluorite, copper and uranium (Warren et al. 1981).

Homesteading and Agriculture

The passage of the Homestead Act in 1862 and the Desert Land Act in 1877 were instrumental in the settlement of the Lower Colorado River area. The Homestead Act offered the opportunity for United States citizens to file a claim on 160 acres or less of land for $1.25 per acre. The Act stipulated that the claim be for purposes of actual settlement and cultivation, and the claimant was required to "improve" the plot by building a dwelling and cultivating the land. After five years on the land, the original filer was entitled to the property, free and clear (National History Day n.d.).

The Desert Land Act was similar to the Homestead Act in that it was enacted to encourage and promote economic development of the desert lands of the western states. This act also required the filer to irrigate and cultivate the land within three years. A married couple could pay $1.25 per acre for a maximum of 640 acres, whereas a single man would receive half the land but pay the same price. Proof of irrigation

was required for the filer to obtain title. This act was revised to offer a maximum of 320 acres with proof of irrigation required within four years (Library of Congress n.d.).

Agriculture in the Palo Verde Valley was made possible by the construction of canals and pipelines as well as the securing of water appropriations. Thomas Blythe came to the lower Colorado River area and established water rights along the Colorado River. His efforts in irrigation and cultivation of the land were successful. The first irrigation project was not completed until 1883, after his death (Warren 1981), but eventually 40,000 acres were irrigated as a result of his diverting water from the Colorado River (Blythe Chamber of Commerce 2011). The valley was still subject to flooding, however, until after the completion of Boulder Dam in the 1930s.

World War II Desert Training Center/California-Arizona Maneuver Area

Soon after the United States entered World War II, General George S. Patton, Jr. was assigned the task of developing a training center to prepare Army troops for combat against German forces in North Africa. Patton identified an area in the California desert that offered realistic terrain and combat conditions to train the troops. The lack of water, extreme heat, and difficult terrain as well as the remote location would assist preparing troops for mobilization and combat tactics. Ultimately, training missions were both ground and air; all manner of equipment and battle strategies were tested and perfected there (Bischoff 2000).

Patton established base operations headquarters at Camp Young, near Indio, and began training troops in April 1942. The Desert Training Center (DTC) facility extended from Desert Center in California to the Colorado River, as far north as Searchlight, Nevada and as far south as Yuma, Arizona. To accommodate the massive number of troops brought to the region, several desert airfields were taken over by the Army in 1942, including the airfield that was to become Blythe Army Air Base (BAAB). The name of the DTC was changed to the California-Arizona Maneuver Area (C-AMA) in October 1943, and the mission of the C-AMA was expanded to include simulation of large-scale operations and logistics beyond exclusively desert warfare tactics.

The DTC/C-AMA consisted of 11 major camps, seven in California and four in Arizona. The larger camps included Camp Iron Mountain, Camp Granite, and Camp Coxcomb, north of Desert Center. All of the facilities were connected by railroads and major roads (Vrendenburgh et al. 1981).

The DTC/C-AMA was where actual battle simulation was first used. The training offered in surviving the elements, tactical mobility, and mastering ordinance and engagement provided unparalleled experience for troops and commanding officers. In April 1944, the facilities began evacuations and closing, eventually being turned back to the United States Department of the Interior and private landowners (Bischoff 2000).

Blythe Army Air Base

The Project area is on the eastern side of BAAB that, beginning in 1942, supported the military training missions associated with the DTC/C-AMA and later provided aerial bombardment training between 1942 and 1944. As a cultural resource, BAAB was documented in 2010 as P-33-18837 and evaluated for the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR); a brief summary based on Mitchell (2010a, 2010b) and information provided by Art Wilson (2008, personal communication 2011), a local historian, is provided below.

Under the Civil Aeronautics Act of 1938, the Civil Aeronautics Administration was charged with developing civilian airfields throughout California that could be used for defense. BAAB had humble beginnings in 1940 as a private, unpaved airstrip, originally known as Intermediate Flying Field Site 21. In addition, Site 21 was intended for emergency landings for flights between Los Angeles and Phoenix. The following year (1941) the Works Progress Administration provided funds to upgrade the airfield to two paved runways as part of the National Defense Program, with Riverside County sponsoring the project and maintaining the airfield.

In February 1942, General Patton was tasked to identify a location suitable for training troops in desert warfare as preparation for deployment to North Africa. The selected location became the DTC.

Construction was planned for DTC airfields at Thermal, Desert Center, Rice, and Shaver's Summit (now Chiriaco Summit). Because construction for the Site 21 airfield outside Blythe was already underway, it was incorporated into General Patton's DTC operation and used immediately for air support until the four new airfields became operational.

On April 7, 1942, approval was given for Site 21 to become BAAB, and improvements were begun in preparation for the arrival of the 46th Bombardment Group, whose initial mission was to provide medium bomber crews in support of Patton's rigorous desert warfare training. This group was joined by the 3rd Observation Squadron to perform observation missions in support of the army ground forces on maneuvers at the DTC. For five months, General Patton oversaw the operations of the DTC, including BAAB. In September 1942, General Henry "Hap" Arnold and Lt. Col. Richard Lee took over command of the base from General Patton; by the end of that year the base population was 800 officers and 5,400 enlisted men (Wilson 2008).

Construction continued on the base throughout 1942; by December a deep water well, a small hanger, an engineering building, the base theater, four warehouses and 60 barracks had been completed, and four runways with aprons had been paved and were in use. However, by the end of 1942, DTC airfields were operational at Thermal, Rice and Desert Center and support from BAAB was no longer needed. At that point, BAAB was relieved of its DTC air support role and changed to heavy bomber training under the 2nd Air Force. The 34th Bombardment Group was assigned to BAAB; its mission was training in B-17 Flying Fortress and B-24 Liberator aircraft (Wilson 2008). In total, BAAB's direct association with the DTC lasted eight months, from April 1942 to the end of the same year, and its association with General Patton lasted only five months.

In 1943, the base hospital, an officer's club, and the pool were opened for use. Also, a mess hall, a base chapel, a barber shop, and additional hangars were completed. Numerous bombardment groups trained at the base for the next two years. Included in the troops assigned to the base for short periods were the Women's Army Auxiliary Corps and the 99th Fighter Squadron, also known as the Tuskegee Airmen (Wilson 2008).

By March 1944, the training mission at BAAB began to gear down. Most of the troops had completed training and were deployed to new assignments; no new crews were being assigned to BAAB for training. The DTC/C-AMA was closed in 1944; BAAB became an alternative landing site for March Field in Riverside. BAAB remained staffed for providing emergency landing for airplanes unable to land at their designated home fields due to weather. By October 1945, BAAB was downgraded to an airfield, being closed and surplus government property the following year. It continued to be used for various training purposes until 1948 when the government transferred the property to the County of Riverside, which currently operates a portion of the property as the Blythe City Airport. Farming on the airfield property during the 1970s and 1980s destroyed most of the original buildings and features (Wilson 2008).

City of Blythe

Thomas Blythe, an Englishman, arrived in the area in 1882 in search of gold and real estate development possibilities. Having been successful in real estate investments in San Francisco, Blythe came to the lower Colorado River area and established water rights along the Colorado River. His efforts in irrigation and cultivation of the land were successful (Blythe Chamber of Commerce 2011). Further development of the desert lands into fertile agricultural fields continued. Most noteworthy was the formation of the Palo Verde Land and Water Company by Frank Murphy, Ed Williams and W.A. Hobson.

The City of Blythe was incorporated in 1916. In that same year, the California Southern Railroad built a railroad to the community. Even with the railroad and despite the development of irrigation, growth was limited because of the threat of flooding from the Colorado River. An especially devastating flood occurred in 1922. Development of Hoover Dam and other structures in the 1930s stabilized the flow of the Colorado River, leading to an improved economy and population growth.

Historic Background and Records Search

Records searches were conducted at the Eastern Information Center, housed at the University of California, Riverside on April 7, 2011 and May 31, 2012. California Historical Resources Information System records were reviewed to determine the location of previously recorded archaeological and historic architectural resources and the locations of prior cultural resource surveys within one mile of the ~~area of potential effects (~~APE~~)~~. The APE is defined for this Project as the land within the boundaries of the proposed solar facility site and land within a 300-foot corridor along each of the gen-tie alternatives. In this section, APE is used interchangeably with "Project area." Also consulted were the NRHP, National Park Service (NPS), Focus CRHR, California Historic Landmarks (CHL) lists, and California Points of Historic Interest. In addition, the online BLM General Land Office patent information was consulted. Also consulted were Art Wilson, a local historian, the General George S. Patton Memorial Museum and the Palo Verde Historical Museum and Society.

The records searches conducted at the Eastern Information Center indicated that 34 cultural resource studies were previously conducted within one mile of the solar facility site and the collective area covered by a one mile buffer on each side of the three gen-tie route alternatives). Fourteen of the previous surveys occurred entirely or partly within the APE, but only nine percent (360 acres) of the APE had been surveyed.

A total of 250 cultural resources were previously recorded within one mile of the Project area (see Appendices C1 and C2, respectively, for information about cultural resources identified in the records searches). Twenty cultural resources were previously recorded within the Project APE.

Of the 250 resources identified during the record searches, 163 are archaeological sites, 75 are isolated finds, four are historic built resources (transmission lines), and eight have missing information. Of the archaeological sites, 60 had prehistoric components, 82 had historic components, and 21 had both prehistoric and historic components. Of the isolated finds, 45 had prehistoric artifacts, 24 had historic artifacts, four had both prehistoric and historic artifacts, and two inventory forms lacked descriptions of the artifacts. The prehistoric sites are predominantly lithic and ceramic scatters. The historic sites are primarily refuse deposits, many related to World War II training in the area, but also include survey markers, fence lines, and roads.

Field Inventory

An intensive BLM Class III archaeological and historic built environment survey was conducted of the Project ~~area that could potentially experience direct impacts from construction and operation of the proposed Project and Alternatives~~APE. ~~The survey covered the APE, defined as the solar array site boundary and a 150-foot area on each side of the centerline of the proposed and alternative gen-tie routes.~~ The APE included privately owned lands and public lands managed by the BLM. During the surveys, archaeologists walked parallel transects, using 15-meter (50-foot) intervals, to locate archaeological and architectural resources within the APE. The ground surface was visually examined for evidence of prehistoric or historic archaeological materials and historical structures. Ground visibility was excellent. Visible ground surfaces were examined, including fence lines, drainage channels, and other exposures. No subsurface surveys (e.g., shovel test pits) were conducted. A sub-meter GPS was used to document the location of each ~~cultural~~ archaeological or built-environment resource.

The archaeological field survey was conducted in five sessions between April and June, 2011, and between June and July, 2012. Isolated finds were recorded at the time of discovery by collecting GPS data, photographs, and measurements of the artifact. The archaeological sites were point-located when discovered and ~~later~~ recorded during a later session. Overview photographs of survey areas and comprehensive field notes were also taken. In addition, a site visit of selected areas of the solar generation site was conducted by County Archaeologist Leslie Mouriquand and Riverside County Historic Preservation Officer Keith Herron on November 22, 2011.

The records search results, existing and new archaeological sites and isolated finds within the solar facility site and gen-tie line corridor alternatives, and other details of the surveys are described in detail in Appendices C1 and C2, respectively. There are a total of 55 resources within the APE. There are seven prehistoric archaeological sites, 12 historic archaeological sites, one multi-component site with prehistoric and historic artifacts, two historic architectural resources (transmission lines), one proposed historic district that includes archaeological remains plus a single standing building, and 32 isolated finds (nine are prehistoric, 21 are historic, and two have both prehistoric and historic artifacts). The survey results for existing and new ~~cultural~~ archaeological and built-environment resources within the APE and~~with~~ the BLM's NRHP eligibility ~~recommendations~~ determinations ~~within the APE~~ are summarized in Table 3.2.5-1 and discussed below.

Solar Generation Site: The field survey resulted in the identification of five newly recorded archaeological sites and 23 isolated finds. Of the five archaeological sites, one is prehistoric (P-33-020001) and four are historic (P-33-019996; P-33-019997; P-33-019999; P-33-020000). Of the isolated finds, 16 are historic and seven are prehistoric (five contain ceramic sherds and two contain flakes). During the field survey, four previously documented historic resources were revisited and their site records updated. The previously documented historic sites consist of one refuse scatter (P-33-009186); two architectural resources (P-33-012532; P-33-014083); and the proposed BAAB Historic District (P-33-018837).

Proposed Gen-tie Route: Two isolated finds were identified, one of which is prehistoric (P-33-021136) and the other historic (P-33-021137). During the field survey, one previously documented ~~cultural resource~~ isolated artifact (P-33-019770) was revisited but not re-recorded because it was recorded in 2011 and conditions had not changed.

Northern Alternative Gen-tie Route: One newly recorded historic archaeological site (P-33-021133), one historic isolated find (P-33-021135), and one prehistoric isolated find (P-33-021134) were identified. Two previously documented ~~cultural~~ archaeological resources (P-33-017319, a historic refuse scatter; and P-33-019612, a historic isolated find) were revisited but not re-recorded because they were recorded in 2008 and 2011, respectively; and the site conditions had not changed.

Southern Alternative Gen-tie Route: One newly recorded historic archaeological site (P-33-021132); two newly recorded prehistoric archaeological sites (P-33021130, and P-33-021131); and one prehistoric isolated find (P-33-021134) were identified. Twelve previously recorded resources were within this alternative alignment: four historic archaeological sites (P-33-014150, P-33-019682, P-33-019703, and P-33-019736); four prehistoric archaeological sites (P-33-019733, P-33-019737, P-33-019739, and P-33-019760); one multi-component site with prehistoric and historic artifacts (P-33-019714); and three isolated finds (two historic: P-33-019704, P-33-019712; and one prehistoric: P-33-020317). These previously recorded sites were revisited but not re-recorded because they were recorded as recently as 2011 and site conditions have not changed.

TABLE 3.2.5-1 CULTURAL RESOURCES WITHIN THE APE[1]

PRIMARY NUMBER	TRINOMIAL	DESCRIPTION	LAND OWNERSHIP	AGE	NRHP / CRHR ELIGIBILITY DETERMINATION
Within Solar Facility Site APE					
P-33-009186	--	Refuse scatter – 10x30 meters – WW II dump containing food cans, miscellaneous metal pieces, and other debris.	Private	Historic	Not Eligible
P-33-012532	--	Transmission line – 100 feet x 2.5 miles (within the APE). 161 kV transmission line with wooden pole, H-frame structures.	Private	Historic	Not Eligible

PRIMARY NUMBER	TRINOMIAL	DESCRIPTION	LAND OWNERSHIP	AGE	NRHP / CRHR ELIGIBILITY DETERMINATION
P-33-014083	--	Transmission line – 125 feet x 1.9 miles (within the APE). 161 kV transmission line with wooden pole, H-frame structures.	Private	Historic	Not Eligible
P-33-018837	--	Blythe Army Air Base (BAAB) Historic District. Remains of the former military are base in the vicinity of the Blythe Municipal Airport. A portion of the BAAB (approx. 383 acres) extends into the Project APE, including one standing utility building; remains of demolished warehouses, barracks, and hospital; other infrastructure (fire hydrants, manholes); and three clusters of refuse.	Private	Historic	Elements within APE – Not Eligible
P-33-019996	CA-RIV-10165	Refuse scatter – 66x42 meters – Sparse scatter of bottles, jars, cans, and miscellaneous metal debris.	Private	Historic	Not Eligible
P-33-019997	CA-RIV-10166	Refuse scatter – 50x10 meters – Two concentrations of debris, primarily cans and glass.	Private	Historic	Not Eligible
P-33-019999	CA-RIV-10168	Refuse scatter – 67x58 meters – Cans, porcelain fragments, bottles, and whiteware, mixed with modern trash.	Private	Historic	Not Eligible
P-33-020000	CA-RIV-10169	Refuse scatter – 36x70 meters – Sparse scatter of cans, bottles, and glass, mixed with modern trash.	Private	Historic	Not Eligible
P-33-020001	CA-RIV-10170	Ceramic scatter – 17x17 meters – 16 sherds	Private	Prehistoric	Not Eligible
P-33-020003	--	Isolated find - 1 bottle	Private	Historic	Not Eligible
P-33-020004	--	Isolated find - 1 hole-in-top can	Private	Historic	Not Eligible
P-33-020005	--	Isolated find - 1 hole-in-top can	Private	Historic	Not Eligible
P-33-020006	--	Isolated find - 1 hole-in-top can	Private	Historic	Not Eligible
P-33-020007	--	Isolated find - 1 hole-in-top can	Private	Historic	Not Eligible
P-33-020008	--	Isolated find - 3 hole-in-top cans, 2 sanitary cans	Private	Historic	Not Eligible
P-33-020009	--	Isolated find - 1 bottle fragment	Private	Historic	Not Eligible
P-33-020010	--	Isolated find - 2 hole-in-cap cans, 1 tin, 2 glass fragments	Private	Historic	Not Eligible
P-33-020011	--	Isolated find - 1 hole-in-top can, 1 tin, 1 lid	Private	Historic	Not Eligible
P-33-020012	--	Isolated find - 2 hole-in-top cans, 1 tobacco tin	Private	Historic	Not Eligible
P-33-020013	--	Isolated find - 1 sherd, 1 hole-in-top can	Private	Prehistoric/Historic	Not Eligible
P-33-020014	--	Isolated find - 2 sherds	Private	Prehistoric	Not Eligible
P-33-020015	--	Isolated find – 1 hammerstone	Private	Prehistoric	Not Eligible

PRIMARY NUMBER	TRINOMIAL	DESCRIPTION	LAND OWNERSHIP	AGE	NRHP / CRHR ELIGIBILITY DETERMINATION
P-33-020016	--	Isolated find - 1 sherd	Private	Prehistoric	Not Eligible
P-33-020017	--	Isolated find - 1 sherd	Private	Prehistoric	Not Eligible
P-33-020020	--	Isolated find - 1 tobacco tin	Private	Historic	Not Eligible
P-33-020021	--	Isolated find - 1 bottle	Private	Historic	Not Eligible
P-33-020022	--	Isolated find - 1 oil can	Private	Historic	Not Eligible
P-33-020023	--	Isolated find - 1 hole-in-top can	Private	Historic	Not Eligible
P-33-020024	--	Isolated find - 1 tested cobble	Private	Prehistoric	Not Eligible
P-33-020025	--	Isolated find - 1 hole-in-top can	Private	Historic	Not Eligible
P-33-020026	--	Isolated find - 1 bottle	Private	Historic	Not Eligible
Within Proposed Gen-tie Line Corridor APE					
P-33-019770		Isolated find – 1 flake, 1 hole-in-top can	BLM	Prehistoric/Historic	Not eligible
P-33-021136		Isolated find – 3 sherds	BLM	Prehistoric	Not eligible
P-33-021137		Isolated find – 3 key-opened cans	BLM	Historic	Not eligible
Within Northern Alternative Gen-tie Line Corridor APE					
P-33-017319	CA-RIV-9009	Refuse scatter – 3x5 meters -- a small scatter of cans, glass, and metal associated with WW II military use	BLM	Historic	Not eligible
P-33-019612	--	Isolated find – 1 can	BLM	Historic	Not eligible
P-33-021133	--	Refuse Scatter – 15x10 meters – 10 WW II K-ration cans.	BLM	Historic	Not eligible
P-33-021134	--	Isolated find – 3 sherds	BLM	Prehistoric	Not eligible
P-33-021135	--	Isolated find – 3 hole-in-top cans, 1 beer can	BLM	Historic	Not eligible
Within Southern Alternative Gen-tie Line Corridor APE					
P-33-014150	CA-RIV-9100	Road – 6 feet x 2 miles (in 9 segments) -- Two-track road.	BLM	Historic	Determined not eligible by SHPO 2/11/09
P-33-019682	CA-RIV-9997	Refuse scatter – 6x22 meters – 30 cans and more than 100 can fragments related to military use.	BLM	Historic	Not eligible
P-33-019703	CA-RIV-10018	Military feature and refuse scatter – 8x11 meters -- WW II fighting hole and food cans.	BLM	Historic	Not eligible
P-33-019704	CA-RIV-10019	Isolated find – 1 wire, 1 can, 1 metal disk.	BLM	Historic	Not eligible
P-33-019712	--	Isolated find – Survey marker	BLM	Historic	Not eligible
P-33-019714	CA-RIV-10028	Refuse scatter and isolated stone tool – 5x10 meters – Scatter of WW II-related food cans, 1 piece of lumber, 1 quartzite core	BLM	Prehistoric/Historic	Unevaluated and avoided
P-33-019733	CA-RIV-10047	Lithic scatter – 162x70 meters – Sparse lithic assay site with chert and quartzite flakes and cobbles.	BLM	Prehistoric	Not eligible

PRIMARY NUMBER	TRINOMIAL	DESCRIPTION	LAND OWNERSHIP	AGE	NRHP / CRHR ELIGIBILITY DETERMINATION
P-33-019736	CA-RIV-10050	Wood debris –30x15 meters -- Over 50 fragments of wooden boards next to an abandoned two-track road.	BLM	Historic	Not eligible
P-33-019737	CA-RIV-10051	Lithic scatter – 54x44 meters -- Sparse scatter of about 24 y flakes and 1 core.	BLM	Prehistor ic	Not eligible
P-33-019739	CA-RIV-10053	Lithic scatter – 40x27 meters -- Sparse scatter of 3 cores and two dozen quartzite and chert flakes.	BLM	Prehistor ic	Not eligible
P-33-019760	CA-RIV-10073	Lithic scatter – 7x57 meters -- Small scatter of 4 chert flakes and 1 piece of shatter	BLM	Prehistor ic	Unevaluated and avoided
P-33-020317	--	Isolated find – 1 hammerstone.	BLM	Prehistor ic	Not eligible
P-33-021130	CA-RIV10962	Ceramic scatter – 2x2 meters – Small concentration of 22 sherds, probably a pot drops.	BLM	Prehistor ic	Not eligible
P-33-021131	CA-RIV-10963	Ceramic Scatter – 6x2 meters – 10 sherds, probably a pot drop	BLM	Prehistor ic	Not eligible
P-33-021132	CA-RIV-10964	Refuse scatter – 3x3 meters – Debris scatter with cans and bottles	BLM	Historic	Not eligible
P-33-021134	--	Isolated Find – 3 sherds	BLM	Prehistor ic	Not eligible

Source: POWER 2013a, 2013b.
[1] Some cultural resources described in the survey report (POWER 2013a, 2013b) are not included in this table because the sites are no longer within the APE as a result of changes in Project design.

Native American and Agency Coordination

~~In the course of developing information about the archaeological and historic resources that could be affected by the Project, contacts were made with Native American tribes and relevant public agencies, including representatives of the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Morongo Band of Mission Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseño Indians, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians. Contacts also included the cultural resource representatives of relevant public agencies including the Native American Heritage Commission (NAHC), State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP) and the County of Riverside. Please refer to Chapter 6 of this Final EIR/EA for more information about this coordination.~~

The BLM invited Indian tribes to consult on the Project on a government-to-government basis. Letters from the BLM dated March 12, 2012 were sent informing the tribes about the application submitted by the Applicant for a ROW grant, explaining BLM's role in the environmental review process, and inviting them to consult in a government-to-government manner pursuant to Executive Order 13175, the Executive Memorandum of April 29, 1994, and other relevant laws and regulations including Section 106. The letters also requested assistance in identifying any issues or concerns about the proposed Project, including the identification of sacred sites and places of cultural significance that might be affected by the Project. In a response letter dated March 26, 2012, the Chairperson of the Augustine Band of Cahuilla Indians reported no specific resources in the Project area, requested that tribal monitors be used during the cultural resource survey, and asked to be notified if cultural resources were identified.

The BLM sent follow up letters to Native American tribes on August 8, 2013, reiterating its invitation for the tribes to enter into government-to-government and Section 106 consultation. This letter also: (1) provided an update on the environmental review process and cultural resources identification efforts; (2) offered to provide copies of the *Blythe Mesa Solar Project: Archaeological Resources and Built Environment Survey, Riverside County, California* and the *Blythe Mesa Solar Project: Archaeological Resources and Built Environment Survey, Transmission Line Alternatives Supplemental Report, Riverside County, California*; (3) summarized BLM determinations of eligibility for cultural resources within the APE; and 4) summarized BLM findings of effect for historic properties. Responses were received from two Native American tribes, the Aqua Caliente Band of Cahuilla Indian and the Cocopah Indian Tribe, requesting copies of the survey reports. Copies of the two reports were sent to both tribes on September 24, 2013.

The BLM also made a Project update call on October 21, 2012 with the Historic Preservation Officer of the Fort Yuma Quechan Tribe. This call was part of on-going staff coordination between BLM and Quechan regarding all Palm Springs Field Office projects.

As part of its consultation effort, BLM acknowledged the traditional importance and value of traditional cultural properties (TCPs) and the surrounding landscape as an integral part of tribes' history and continuing culture. As of August 2014, BLM has not received information about TCPs or landscapes in the Project area from the tribes. Based on the limited response during the consultation period, BLM assumes there are no TCPs within the Project area eligible under Criterion A of the NRHP for their traditional and cultural significance. However, BLM continues to seek information from tribes about TCPs, should they exist in the Project area.

Regulatory Setting

Federal

Regulations Relating to Archaeological and Architectural Resources

NEPA (42 U.S.C. §§ 4321-4346) establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage." The act is implemented by the Council on Environmental Quality (CEQ) regulations at 40 CFR ~~Parts~~ 1500-1508. Refer to Sections 1.3 and 1.4 for more information regarding NEPA as it relates to this Project.

National Historic Preservation Act

The National Historic Preservation Act (NHPA), as amended (16 U.S.C. § 470f), is the principal federal law in the United States protecting cultural resources. Section 106 of the NHPA directs all federal agencies to take into account the effects of their undertakings (i.e., actions, financial support, and authorizations) on properties included in or eligible for inclusion in the NRHP and to allow the ACHP an opportunity to comment. ACHP regulations at 36 CFR ~~Part~~ 800 implement Section 106 of the NHPA. These regulations establish the NRHP as a planning tool to help federal agencies evaluate cultural resources in consultation with the SHPO, Native American tribes, and other interested parties. The criteria for determining whether cultural resources are eligible for listing in the NRHP is provided in 36 CFR ~~Part~~ 60.4. These criteria are:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

A) Are associated with events that have made a significant contribution to the broad patterns of our history;

B) Are associated with the lives of persons significant in our past;
C) Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or
D) Have yielded, or may be likely to yield, information important in prehistory or history.

A cultural resource that is eligible for the NRHP is called a historic property regardless of the time period to which it dates. To be listed in, or determined eligible for, the NRHP a cultural resource must meet one or more of the above criteria and possess integrity. Integrity is defined as the authenticity of a resource's historic identity as evidenced by the survival of physical characteristics that existed during the prehistoric or historic period of use. The NRHP recognizes seven aspects, which in various combinations define integrity: location, design, setting, materials, workmanship, feeling, and association. Integrity of location means that the resource has not been moved from its historic location. Integrity of design, materials, and workmanship mean that the resource's original building materials, plan, shape, and design elements remain intact. Integrity of setting means that the surrounding landscape has changed very little since the period of importance for the resource. Integrity of feeling and association means the resource retains a link to an earlier time and place and is able to evoke that era. Historic properties must generally be at least 50 years old; however, a younger resource may be considered eligible if it is of exceptional importance.

An undertaking results in adverse effects~~, or impacts~~, to a historic property (i.e., a cultural resource eligible to or listed in the NRHP) when it alters the resource's characteristics, including relevant features of its environment or use, that qualify it for inclusion in the NRHP. Potential effects could include (36 CFR Part 800.5(a) (2)):

- Physical destruction, damage, or alteration of all or part of the property;
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR ~~Part~~ 68);
- Removal of the property from its historic location;
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect of a property resulting in its deterioration or destruction; and
- Transfer, lease, or sale of the property.

Compliance with Section 106 is required whenever a project has a federal nexus, meaning that the project is on federal land, uses federal funds, or is permitted by a federal agency. The BLM is reviewing an application for, and will make a decision on, issuing a new ROW grant for the proposed gen-tie line on public lands. This activity constitutes an undertaking as defined in 36 CFR ~~Part~~ 800.16(y) and requires compliance with Section 106.

The BLM considers the development of the proposed solar generation site to be a connected action, even though the solar facility would not be on federal land. The BLM's 8100 manual series on cultural resources explains BLM's Section 106 responsibility on non-federal lands. Factors taken into consideration include the degree of federal involvement; the nature and extent of potential effects on historic properties; the likely nature and the location of historic properties in the APE; and the views of the SHPO, Native American tribes, and interested public. However, the primary factor is the extent to which BLM's authorization (in this case of the proposed gen-tie line) could result in effects to historic properties, including properties within the proposed solar facility.

Antiquities Act

The Antiquities Act of 1906 (16 U.S.C. § 431-433) was the first law to protect and preserve cultural resources on federal lands. It makes it illegal to remove cultural resources from federal lands without a

permit and establishes penalties for illegal excavation and looting. The Archaeological Resources Protection Act (see below) reinforces and replaces portions of the Antiquities Act as the authority for special use permits regarding archaeological investigations.

Federal Land Policy and Management Act

The FLPMA (43 U.S.C. § 1701) requires the BLM to manage its lands on the basis of multiple use in a manner that will "protect the quality of...historical...resources and archaeological values." FLPMA is a comprehensive law that provides for the periodic inventory of public lands and resources, for long-range, comprehensive land use planning, for permits to regulate the use of public lands, and for the enforcement of public land laws and regulations. FLPMA compels agencies to manage all cultural resources on public lands through the land management planning process.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 (16 U.S.C. § 470 aa-mm) establishes civil and criminal penalties for the unauthorized excavation, removal, damage, alteration, or defacement of archaeological resources; prohibits trafficking in resources from public lands; and directs federal agencies to establish educational programs on the importance of archaeology. The act also establishes permit requirements for removal or excavation of archaeological resources from federal lands. The law applies to archaeological resources more than 100 years old found on public lands. No distinction is made regarding NRHP eligibility.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 requires federal agencies to consult Native American groups when a proposed land use might conflict with traditional Indian religious beliefs or practices; to avoid interference with these beliefs to the extent possible; and to maintain access to religious or sacred areas whenever feasible.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 U.S.C. § 3001) provides a process for federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants and culturally affiliated Indian tribes. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional excavation and unanticipated discovery of Native American cultural items on federal lands, and penalties for noncompliance and illegal trafficking. Permits for the excavation or removal of cultural items protected by the act require Tribal consultation, as do discoveries of cultural items made during activities on federal lands. The Secretary of the Interior's implementing regulations are at 43 CFR ~~Part~~ 10.

Executive Order 11593, Protection and Enhancement of the Cultural Environment

Issued in 1971, Executive Order 11593 directs land-holding federal agencies to identify and nominate historic properties to the NRHP and requires that these agencies avoid damaging historic properties that might be eligible to the NRHP. It also directs agencies to treat resources eligible for listing in the NRHP as if they were already listed.

Executive Order 13007, Indian Sacred Sites

Executive Order 13007, issued in 1996, directs federal agencies responsible for managing federal lands to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners; avoid adversely affecting the physical integrity of such sacred sites; and maintain the confidentiality of sacred sites.

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

Executive Order 13175, issued in 2000, directs federal agencies to establish regular and meaningful consultation and collaboration with Tribal officials in the development of federal policies that have Tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes.

Executive Order 13287, Preserve America

This Executive Order, issued in 2003, encourages the federal government to take a leadership role in the protection, enhancement, and contemporary use of historic properties and establishes new accountability for agencies with regard to inventories and stewardship.

Memorandum for the Heads of Executive Departments and Agencies Regarding Government-to-Government Relations with Native American Tribal Governments

The Presidential memorandum, issued in 2009, directs each federal agency to operate within a government-to-government relationship with federally recognized Tribal governments; consult with Tribal governments; assess the impact of plans, projects, programs, and activities on Tribal trust resources; and ensure that Tribal rights are taken into account during consideration of such plans, projects, and activities.

State

The principal State law relevant to the protection of cultural resources within the solar generation site and gen-tie Alternatives is CEQA, with particular reference to California PRC 21083.2 to 21084.1, which addresses historical resources, unique archaeological resources, and Native American human remains.

Section 5097.5 of the PRC specifies that any unauthorized disturbance or removal of archaeological and historical resources located on public lands is a misdemeanor. This Section also prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. In addition, Section 30244 of the PRC requires reasonable mitigation for adverse impacts on archaeological resources as identified by the SHPO. Further, California Penal Code, Section 622.5, provides misdemeanor penalties for willfully injuring or destroying objects of historic or archaeological interest located on public or private lands, but specifically excludes the landowner.

Historical Resources

Lead agencies are required to identify historical resources that may be affected by any undertaking involving State or county lands, funds, or permitting. Also, the significance of such resources that may be affected by the undertaking must be evaluated using the criteria for listing in the CRHR (PRC §5024.1, Title 14 CCR, Section 4852). Under CEQA, a resource is considered historically significant if the resource satisfies any of the following criteria:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR (PRC §5024.1, Title 14 CCR, Section 4850 et seq.).
2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource

meets the criteria for listing on the CRHR (PRC §5024.1, Title 14 CCR, Section 4852) including the following:

A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
B) Is associated with the lives of persons important in our past;
C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
D) Has yielded, or may be likely to yield, information important in prehistory or history.

4) The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Resources already listed or determined eligible for the NRHP and CHL (No. 770 and above) are by definition eligible for the CRHR. Historical resources included in resource inventories prepared according to California State Office of Historic Preservation (OHP) guidelines or designated under county or city historic landmark ordinances may be eligible.

For a resource to be eligible for the CRHR, it must satisfy each of the following three standards:

- A property must be significant at the local, state or national level, under one or more of the following criteria:

  1) It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.
  2) It is associated with the lives of persons important to the nation or California's past.
  3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
  4) It has yielded, or may be likely to yield, information important to the prehistory or history of the state or the nation:

- A resource must retain enough of its historic character or appearance to be recognizable as a historic property, and to convey the reasons for its significance; and
- It must be fifty years old or older (except for rare cases of structures of exceptional significance).

Integrity is defined as the authenticity of a historical resource's physical identity, evidenced by the survival of characteristics that existed during the resource's period of significance. CRHR regulations specify that integrity is a quality that applies to historical resources in seven ways: location, design, setting, materials, workmanship, feeling, and association.

Unique Archaeological Resources

Lead agencies must also determine whether a proposed project will have a significant effect on unique archaeological resources. PRC 21083.2(g) states:

> "…a 'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> - Contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information.

- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

A non-unique archaeological resource does not meet these criteria and does not need to be given further consideration other than simple recording, unless it happens to qualify as a historical resource.

Native American Human Remains

The CEQA Guidelines (Section 15064.5 (d)) provide that when an initial study identifies the existence of, or probable likelihood of, Native American human remains within the Project, a lead agency will work with the appropriate Native Americans as identified by the NAHC.

Native American Consultation

Pursuant to Senate Bill (SB) 18 (California Government Code §65352.3), local governments are required to consult with California Native American tribes identified by the NAHC for the purpose of protecting and/or mitigating impacts to cultural places. SB 18 requires formal consultation with Native American tribes as part of a project that enacts or amends a general plan or specific plan. The proposed Project would not require a general plan or specific plan amendment; therefore, SB 18 does do not apply to the proposed Project. However, as described above, Native American Coordination has been initiated with Native American groups with historic ties to, and interest in, the proposed Project area.

Local

Riverside County General Plan- Multipurpose Open Space Element

The Multipurpose Open Space Element of the Riverside County General Plan (amended March 22, 2011) outlines policies intended to promote the preservation of cultural resources in the County of Riverside, as follows:

OS 19.2 -The County of Riverside shall establish a cultural resources program in consultation with Tribes and the professional cultural resources consulting community. Such a program shall, at a minimum, address each of the following: application processing requirements; information database(s); confidentiality of site locations; content and review of technical studies; professional consultant qualifications and requirements; site monitoring; examples of preservation and mitigation techniques and methods; and the descendant community consultation requirements of local, state, and federal law. (AI-A)

OS 19.3 - Review proposed development for the possibility of cultural resources and for compliance with the cultural resources program.

OS 19.4 - To the extent feasible designate as open space and allocate resources and/or tax credits to prioritize the protection of cultural resources preserved in place or left in an undisturbed state, (AI-B)

OS 19.5 - Exercise sensitivity and respect for human remains form both prehistoric and historic time periods and comply with all applicable laws concerning such remains.

City of Blythe General Plan

The City of Blythe General Plan Open Space and Conservation Element addresses archaeological, historic, and paleontological resources. The purpose of the Open Space and Conservation Element is to identify those areas located within the City's Planning Area boundary that merit recognition or preservation because of their location use and/or natural, topographic, or aesthetic features. The applicable policy related to archaeological and paleontological resources is provided below.

Open Space and Conservation Element

Policy 25. Protect archaeological, historic, and paleontological resources for their aesthetic, scientific, educational, and cultural value.

3.2.6 Geology and Soils

This section describes the existing regional and local geology, soil conditions, and mineral resources, as well as regulatory framework in regards to geology, soils, and mineral resources for the proposed Project and Alternatives. Though the impact of the existing environment on the Project or Alternatives is not an impact encompassed by CEQA or NEPA, this section also identifies seismic hazards that could potentially affect structures associated with the Project to assist decision-makers in addressing regulatory concerns. The study area relevant to geology, soils, and geologic hazards is the physical footprint of Project construction, operation and maintenance, and decommissioning. The study area relevant to faulting and seismic hazards includes the larger Southern California region, because distant faults can produce ground shaking and secondary seismic hazards at the Project area. The information in this section is based on the *Limited Geological Reconnaissance Evaluation: Blythe Mesa Solar Project, Blythe, California*, prepared by Ninyo & Moore Geotechnical and Environmental Sciences Consultants, 2012 (provided in Appendix E of this Final EIR/EA).

Environmental Setting

Regional Geology and Seismicity

The Project and Alternatives would be located on the eastern edge of the Colorado Desert Geomorphic Province in Riverside County, California. Within California, this geomorphic province encompasses an area that extends from the Colorado River on the east, the eastern Transverse Ranges on the north, the Mexican border on the south, and the Peninsular Ranges on the west. The Colorado Desert province is generally characterized by broad alluvial valleys separated by steep, discontinuous, sub-parallel mountain ranges that generally trend northwest-southeast.

The Project and Alternatives would be located in a seismically active region of Southern California. Based on data compiled by the California Geological Survey, there are no known active faults that intersect the Project area, nor is the site located within a State of California Earthquake Fault Zone, formerly known as an Alquist-Priolo Special Studies Zone (Ninyo & Moore 2012). Specifically, the Project area is situated within the Sonoran zone, which is a relatively more stable tectonic region than areas further west. The California Geological Survey defines an active fault as one that has had surface displacement during the Holocene age (roughly the last 11,000 years). Potentially active faults are those that show evidence of surface displacement during the Quaternary age (roughly the last 1.6 million years) but for which evidence of Holocene movement has not been established. An inactive fault is one that has not shown evidence of surface displacement during the Quaternary age. The nearest faults to the Project and Alternatives are inactive and located in the McCoy Mountains, approximately three miles east of the solar facility site and approximately two miles from the gen-tie line. The inactive faults are illustrated as bold black lines on Figure 3.2.6-1. Table 3.2.6-1 lists principal known active faults within 60 miles of the Project area, the approximate fault-to-site distances, and the maximum moment magnitudes[3] (Mmax).

[3] The *moment magnitude scale* is used by seismologists to measure the size of earthquakes in terms of the energy released.

TABLE 3.2.6-1 PRINCIPAL ACTIVE FAULTS

FAULT	APPROXIMATE FAULT-TO-SITE DISTANCE (MILES)	MAXIMUM MOMENT MAGNITUDE (MMAX)
Brawley Seismic Zone	57.9	6.4
Elmore Ranch	58.4	6.6
San Andreas (Coachella)	58.4	7.2

Source: Ninyo & Moore 2012.

Site Geology

Soils

According to the geotechnical study prepared for the proposed Project, the site is generally underlain by Quaternary age alluvium consisting of unconsolidated to weakly consolidated sand, silt, and gravel. Surficial deposits of aeolian sand (blow sand), gravels, and minor fill are also present across portions of the Project area. Generalized descriptions of the units encountered are described below. Generalized descriptions of the units encountered are described below and shown on Figure 3.2.6-1.

- Holocene age alluvium associated with modern washes (designated Qw) has been mapped near the northeastern portion of the Project area. These deposits are the result of erosion, transport, and deposition of sediments caused by winter storm systems or intense summer thunderstorms. The alluvial materials generally consist of fine to coarse sand with scattered to abundant gravel to cobble-size clasts.
- Holocene age alluvium of the modern Colorado River flood plain (designated Qr) has been mapped near the eastern boundary of the Project area. These deposits are associated with flood events associated with the Colorado River and are expected to consist of fine to coarse sand, silt, and clay.
- Holocene age aeolian sand (designated Qs) has been mapped near the western portion of the solar facility under the western portion of the Project's proposed gen-tie line, and consists of unconsolidated sand dunes and sheets. The dunes are partially stabilized by vegetation.
- Holocene age alluvial-fan and alluvial-valley deposits (designated Qa6) have been mapped under portions of the Project's proposed gen-tie line. This unit is characterized by sand, pebbly sand, sandy gravel, and occasional aeolian sand deposits. These sediments lack desert varnish, a dark coating on exposed rock surfaces in arid environments.
- Pleistocene age alluvial deposits in Palo Verde Mesa (designated Qpv) have been mapped across the majority of the solar facility. This unit consists of generally loose to very dense, silty, fine to medium sand with scattered interlayers of gravel.

Topsoil and alluvium (surficial soils) are also present in the Project vicinity; the boundaries of these soils are depicted on Figure 3.2.2-2 (see Section 3.2.2 above), with a legend that list regional and site-specific soils. Much of the site has been or is currently being utilized for agricultural purposes and it is expected that the upper one to two feet of soil have been disturbed as a result of agricultural activities.

Groundwater Conditions

According to the geotechnical report prepared for the proposed Project, the static groundwater table is anticipated to be below the depth of the proposed excavations. Based on previous borings performed by Ninyo & Moore at the Blythe Energy Center (located adjacent to the northern portion of the proposed solar facility), the static water table is in excess of 90 feet below the existing ground surface or at an elevation of approximately 245 feet amsl. Shallow perched groundwater or groundwater seepage may also be present at the Project area, particularly in or near areas of active citrus groves or other agricultural activities. Groundwater levels near the City of Blythe were reported at approximately 250 feet amsl (Ninyo & Moore 2012). It should be noted that groundwater levels are influenced by seasonal variations, variations in ground surface topography, precipitation, irrigation practices, soil/rock types,

groundwater pumping, and other factors and are subject to fluctuations. For a more detailed description of hydrology and water resources, refer to Section 3.2.~~10~~ 9, *Hydrology and Water Quality*.

Minerals

Riverside County contains diverse mineral resources, which include extensive deposits of clay, limestone, iron, sand, and aggregates. Geologic factors restrict mining operations to the relatively few locations where mineral deposits are feasible for extraction. MRZs (Mineral Resources Zones) within Riverside County are depicted on Figure OS-5, Mineral Resources, of the *Riverside County General Plan Multipurpose Open Space Element* (Riverside County 2003). The Project area is not used for mineral production, nor is it under claim, lease, or permit for the production of locatable, leasable, or salable minerals or mineral materials. However, the Project area is underlain by sand and gravel, which could potentially represent a source of saleable minerals or mineral materials if there is a sufficient local demand for construction aggregate. However, the Project area and vicinity have been classified as MRZ-4 for mineral resources (areas of unknown mineral resource significance) and is not designated as being of regional or state-wide importance (Ninyo & Moore 2012).

According to the geotechnical report prepared for the proposed Project, there are no past or present mines and no locatable mineral activity located on the Project area. Sand and gravel deposits are ubiquitous throughout the Quaternary geologic deposits in the vicinity of the Project area and the region. There are several past producers and one current producer of sand and gravel on the west side of the McCoy Wash, approximately five miles east of the Project area. In addition, there is one former producer of sand and gravel immediately to the east of the access road. None of the past or current producers of sand and gravel intersects the Project area.

According to review of the Mineral Resources Data System online database, metallic resources and occurrences (such as gold, silver, manganese, and copper) are restricted to the surrounding mountains, including the McCoy, Big Maria, and Mule Mountains, located outside of the Project area (USGS 2011). Numerous land sections within the mountainous areas have active mining claims, and there are two sites listed in the Mineral Resources Data System as mineral producers. However, none of these resources occurs within the vicinity of the Project area and they are unlikely to be found within the geologic units that underlie the Project area.

The California DOC, Division of Oil, Gas, and Geothermal Resources, indicates that there are no oil, gas, or geothermal resources present within or in the vicinity of the Project area (DOGGR 2013).

Regulatory Setting

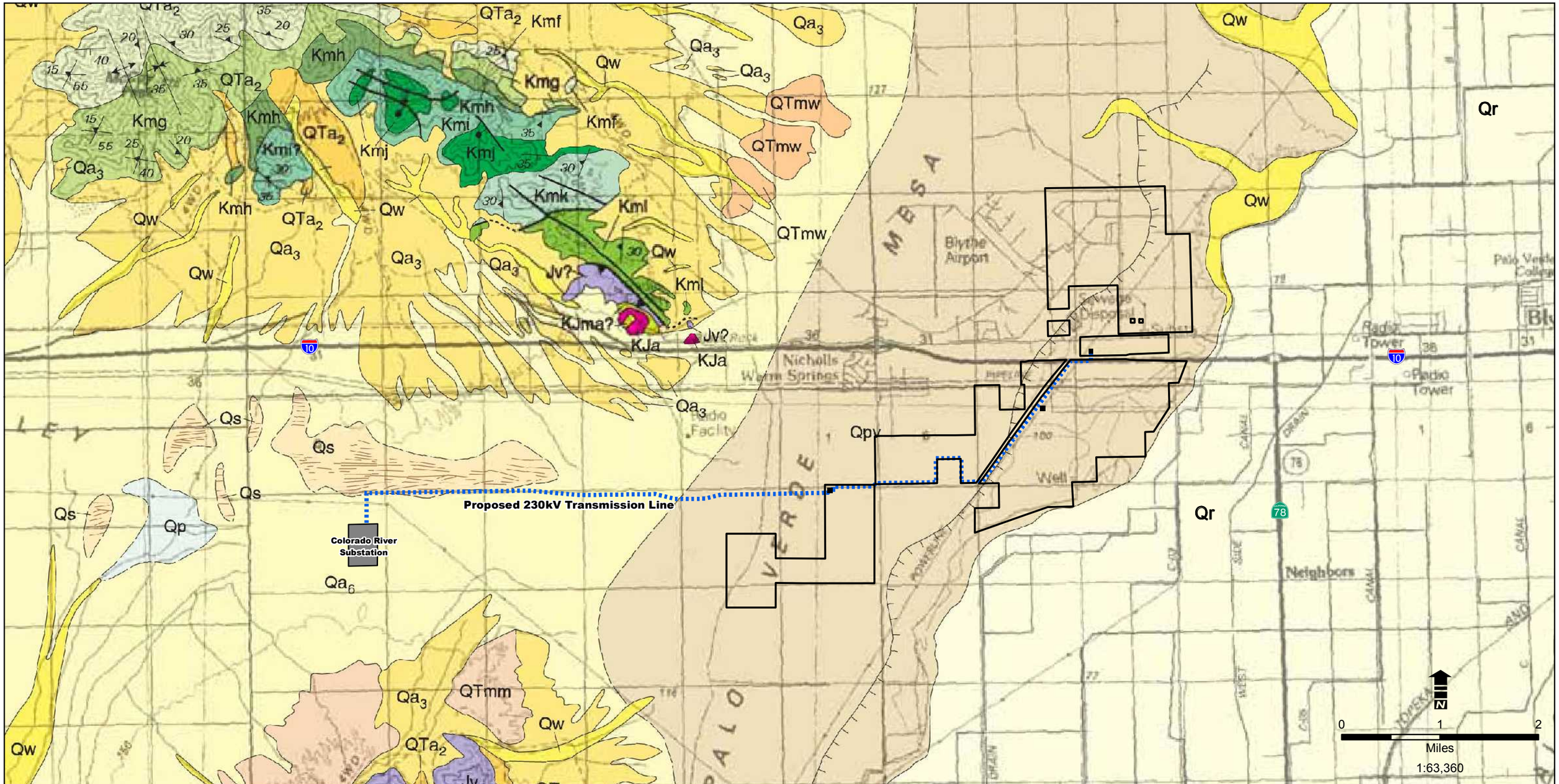
Federal

International Building Code

The International Building Code (IBC) is published by the International Code Council (ICC) and is the national model building code. The 2012 IBC is the most recent edition of the International Building Code, and applies to all structures currently being constructed in California (ICC 2012). The national model codes are incorporated by reference into the building codes of local municipalities, such as the California Building Code (CBC) and County of Riverside Building Code as discussed below.

California Desert Conservation Area Plan

The CDCA Plan defines multiple-use classes for BLM-managed lands within the CDCA, which includes land area encompassing the Project area. With respect to mineral resources, the CDCA Plan aims to maintain the availability of mineral resources on public lands for exploration and development. A portion of the Project's gen-tie line extends through BLM-managed lands designated Class L, or limited use. Mineral exploration and development is allowed on Class L lands provided that NEPA requirements are met.



Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230kV Transmission Line
- Colorado River Substation

Qw	Alluvium of Modern Washes (Holocene)
Qr	Alluvium of Modern Colorado Rive Flood Plain (Holocene)
Qp	Playa Lake Deposits (Holocene)
Qs	Eolian Sand (Holocene)
Qa_6	Alluvial-fan and Alluvial-Valley Deposits Unit 6 (Holocene)
Qa_3	Alluvial-fan and Alluvial-Valley Deposits Unit 3 (Holocene and Pleistocene)
QTa_2	Alluvial-fan and Alluvial-Valley Deposits Unit 2 (Pleistoene to Miocene)
Qpv	Alluviul Deposits of Palo Verde Mesa (Pleistocene)
QTmw	Alluvial Deposits of the McCoy Wash Area (Pleistocene and/or Pliocene)
QTmm	Alluvial Deposits of the Mule Mountains (Pleistocene and/or Pliocene)
KJa	Bouse Formation Andesite (Cretaceous or Jurassic)
Kml	McCoy Mountains Formation Member L (Cretaceous)
Kmj	McCoy Mountains Formation Member J (Cretaceous)
Kmi	McCoy Mountains Formation Member I (Cretaceous)
Kmh	McCoy Mountains Formation Member H (Cretaceous)
Kmg	McCoy Mountains Formation Member G (Cretaceous)
KJma	McCoy Mountains Formation Member A (Cretaceous or Jurassic)
Jv	McCoy Mountains Formation Volcanic Rocks (Jurassic)

FIGURE 3.2.6-1
SITE GEOLOGY

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS | RENEWABLERESOURCESGROUP

Source: Geologic map of the west half of the Blythe 30' by 60' quadrangle, Riverside County, California and La Paz County, Arizona, 2006.

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State

California Building Code

The CBC is promulgated under the CCR, Title 24, Parts 1 through 12 (also known as the California Building Standards Code), and is administered by the California Building Standards Commission. The Project is subject to the applicable sections of the CBC. The Riverside County Building Department is responsible for implementing the CBC for the Project. The Project would comply with applicable seismic design and construction criteria of the most recent CBC.

State Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (PRC §2710 et seq.) mandated the initiation by the State Geologist of mineral land classification in order to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land uses that would preclude mineral extraction. The Surface Mining and Reclamation Act also allowed the State Mining and Geology Board, after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance. Mineral lands are mapped according to jurisdictional boundaries (i.e., counties), mapping all mineral commodities at one time in the area, using the California Mineral Land Classification System.

The objective of classification and designation processes is to ensure, through appropriate lead agency policies and procedures, that mineral deposits of statewide or of regional significance are available when needed. The State Mining and Geology Board, based on recommendations from the State Geologist and public input, prioritizes areas to be classified and/or designated. Areas that are generally given highest priority are those areas within the state that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction.

Classification is completed by the State Geologist in accordance with the State Mining and Geology Board's priority list, into MRZs, as defined below. Classification of these areas is based on geologic and economic factors without regard to existing land use and land ownership. As stated above, the Project area and vicinity have been classified as MRZ-4 for mineral resources and are not designated as being of regional or state-wide importance (Ninyo & Moore 2012). The following MRZ categories are used by the State Geologist in classifying the state's lands:

***MRZ-1*:** Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where well developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is nil or slight.

***MRZ-2a*:** Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.

***MRZ-2b*:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered deposits that are either inferred reserves or deposits that are presently sub-economic as determined by limited sample analysis, exposure, and past mining history.

MRZ-3a: Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits.

***MRZ-3b*:** Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. MRZ-3b is applied to land where geologic evidence leads to the conclusion that it is plausible that economic mineral deposits are present.

***MRZ-4*:** Areas where geologic information does not rule out either the presence or absence of mineral resources. It must be emphasized that MRZ-4 classification does not imply that there is little likelihood for the presence of mineral resources, but rather there is a lack of knowledge regarding mineral occurrence.

Local

Riverside County General Plan – Palo Verde Valley Area Plan

Portions of the Palo Verde Valley planning area may be subject to seismic hazards. Threats from seismic events include ground shaking, fault rupture, liquefaction, and landslides. In the Palo Verde Valley planning area, liquefaction poses the most significant threat from a seismic event. Generally, the use of building techniques and practical avoidance measures help mitigate potentially dangerous seismic events. The PVVAP provides the policy related to seismic hazards below.

PVVAP 15.1. *Protect life and property from seismic related incidents through adherence to the Seismic Hazards section of the General Plan Safety Element.*

Riverside County contains diverse mineral resources, which include extensive deposits of clay, limestone, iron, sand, and aggregates. Geologic factors restrict mining operations to the relatively few locations where mineral deposits are feasible for extraction. MRZs within Riverside County are depicted on Figure OS-5, Mineral Resources, of the Riverside County General Plan Multipurpose Open Space Element (Riverside County 2003). The solar facility currently consists of undeveloped and agricultural land. A portion of the Project's gen-tie line extends through BLM-managed lands. The Project area appears to contain no mineral resources, and no mining activities occur in the vicinity of the Project.

City of Blythe General Plan

The City of Blythe General Plan Safety Element addresses hazards and disasters, and sets forth the policy basis for the City's response to potential seismic hazards. Applicable policies related to seismic hazards are included in the City of Blythe General Plan 2025 and are provided below.

Safety Element

Policy 5: *Maintain and enforce appropriate building standards and codes to avoid and/or reduce all risks associated with geologic constraints.*

Policy 6: *Ensure through available engineering solutions that buildings designed for human habitation will not be adversely impacted by geological hazards*.

Policy 7: *Educate the public about potential geologic hazards in Blythe and maintain emergency response policies*.

3.2.7 Greenhouse Gas Emissions

This section describes the environmental setting and regulatory framework in regards to greenhouse gas (GHG) emissions for the proposed Project and Alternatives. Emissions and impacts associated with criteria air pollutants were addressed in Section 3.2.3.

Environmental Setting

Characteristics and Definition

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which are known as GHGs. These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Gases that trap heat in the atmosphere are often called greenhouse gases, analogous to a greenhouse, and are emitted by both natural processes and human activities. GHGs in the atmosphere influence regulation of the Earth's temperature. Emissions from human activities, such as burning fossil fuels for electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

Scientific evidence indicates a trend of increasing global temperature over the past century, which a number of scientists attribute to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

Recent observed changes due to global warming include shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (IPCC 2007). Generally accepted predictions of long-term environmental impacts due to global warming include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems, including the potential loss of species, and a significant reduction in winter snowpack.

~~The State of California has been at the forefront of developing solutions to address global climate change.~~ Global climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Global climate change may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of land.

The United Nations Intergovernmental Panel on Climate Change (IPCC) developed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 ppm CO_2 equivalent concentration is required to keep global mean warming below 3.6ºF (2º Celsius [2ºC]), which is assumed to be necessary to avoid dangerous climate change (AEP 2007).

The State of California has been at the forefront of developing solutions to address global climate change. State law defines greenhouse gases as any of the following compounds: CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) (California Health and Safety Code Section 38505(g)). CO_2, CH_4, and N_2O are the most common GHGs that result from human activity.

GHG Inventory

The State of California GHG Inventory performed by the CARB~~,~~ compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO2, CH4, N2O, SF6, HFCs, and PFCs. The current inventory covers the years 1990 to 2009, and is summarized in Table 3.2.7-1. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

Total GHG emissions from a source are often reported as a CO2 equivalent (CO2e). The CO2e is calculated by multiplying the emission of each GHG by its global warming potential and adding the results together to produce a single, combined emission rate representing all GHGs. GHG emissions are typically quantified in metric tons (MT) or millions of metric tons (MMT).

TABLE 3.2.7-1 STATE OF CALIFORNIA GHG EMISSIONS BY SECTOR

SECTOR	TOTAL 1990 EMISSIONS (MMT CO2E)	PERCENT OF TOTAL 1990 EMISSIONS	TOTAL 2009 EMISSIONS (MMT CO2E)	PERCENT OF TOTAL 2009 EMISSIONS
Agriculture	23.4	5%	32.13	7%
Commercial	14.4	3%	13.41	3%
Electricity Generation	110.6	26%	103.68	23%
Forestry (excluding sinks)	0.2	<1%	0.19	<1%
Industrial	103.0	24%	81.38	18%
Residential	29.7	7%	28.61	6%
Transportation	150.7	35%	172.92	38%
Recycling and Waste			7.32	2%
High Global Warming Potential Gases			16.32	4%
Forestry Sinks	(6.7)		(3.80)	

Source: CARB 2011a.

GHGs have varying global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (EPA 2006). The global warming potential rating system is standardized to CO2, which has a value of one. For example, CH4 has a global warming potential of 21, which means that it has a global warming effect 21 times greater than CO2 on an equal-mass basis. Table 3.2.7-2 presents the global warming potential and atmospheric lifetimes of common GHGs.

TABLE 3.2.7-2 GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES OF GHGS

GHG	FORMULA	100-YEAR GLOBAL WARMING POTENTIAL	ATMOSPHERIC LIFETIME (YEARS)
Carbon Dioxide	CO_2	1	Variable
Methane	CH_4	21	12 ± 3
Nitrous Oxide	N_2O	310	120
Sulfur Hexafluoride	SF_6	23,900	3,200

Source: EPA 2006.

Human-caused sources of CO2 include combustion of fossil fuels (coal, oil, natural gas, gasoline, and wood). Data from ice cores indicate that CO2 concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO2 have increased in the atmosphere since the industrial revolution.

CH4 is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure, and cattle farming. Human-caused sources of N2O include combustion of fossil fuels and industrial processes such as production of nylon or nitric acid.

Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

Regulatory Setting

On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and Executive Orders; most recently, Executive Order 13423 Strengthening Federal Environmental, Energy, and Transportation Management (January 24, 2007) was enacted. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020.

Federal

Recent actions by the EPA have allowed for the regulation of GHGs. On April 17, 2009, the EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed and finalized two distinct findings regarding greenhouse gases under Section 202(a) of the Clean Air Act:

> **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.
>
> **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009 and adopted on April 1, 2010. As finalized in April 2010, the emissions standards rule for vehicles will improve average fuel economy standards to 35.5 miles per gallon by 2016. In addition, the rule will require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of CO_2 per mile.

On March 10, 2009, in response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), the EPA proposed a rule that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and it was published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. The rule will collect accurate and comprehensive emissions data to inform future policy decisions.

The EPA is requiring suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the EPA. The gases covered by the proposed rule are CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and other fluorinated gases, including nitrogen trifluoride (NF_3) and hydrofluorinated ethers (HFE).

State

The State of California enacted some of the first legislation in the United States to regulate GHGs. The following subsections describe regulations and standards that have been adopted by the State of California to address GHG emissions.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed Assembly Bill (AB) 32 into law. AB 32 required that, by January 1, 2008, the CARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. The

CARB adopted its Scoping Plan, which provided estimates of the 1990 GHG emissions level and identified sectors for the reduction of GHG emissions, in December 2008. The CARB has estimated that the 1990 GHG emissions level was 427 MMT net CO_2e (CARB 2007). The CARB estimates that a reduction of 173 MMT net CO_2e emissions below business-as-usual would be required by 2020 to meet the 1990 levels (CARB 2007). This amounts to roughly a 30 percent reduction from projected business-as-usual levels in 2020 (CARB 2008).

Senate Bill 97

Senate Bill (SB) 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. SB 97 directed the Governor's Office of Planning and Research to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directed the California Natural Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The Office of Planning and Research published a technical advisory on CEQA and climate change on June 19, 2008. The guidance did not include a suggested threshold, but stated that the Office of Planning and Research had asked the CARB to "recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state." The Office of Planning and Research technical advisory does recommend that CEQA analyses include the following components:

- identification of greenhouse gas emissions;
- determination of significance; and
- mitigation of impacts, as needed and as feasible.

On December 31, 2009, the California Natural Resources Agency adopted the proposed amendments to the CEQA Guidelines. These amendments became effective on March 18, 2010.

Executive Order S-3-05

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions below 1990 levels by 2050. Executive Order S-3-05 also calls for the California EPA to prepare biennial science reports on the potential impact of continued global climate change on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California," and its supporting document, "Scenarios of Climate Change in California: An Overview," were published by the California Climate Change Center in 2006.

Executive Order S-21-09

Executive Order S-21-09 was enacted by the Governor on September 15, 2009. Executive Order S-21-09 requires that the CARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target. Under Executive Order S-21-09, the CARB will work with the Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities. The CARB will also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the CARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

California Code of Regulations Title 24

Although not originally intended to reduce GHG emissions, Title 24 of the California Code of Regulations, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first

established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions. Therefore, increased energy efficiency results in decreased GHG emissions.

The GHG emission inventory was based on Title 24 standards as of October 2005; however, Title 24 has been updated as of 2008 and standards are currently being phased in.

Senate Bill 1078, Senate Bill 107, and Executive Order S-14-08

SB 1078 initially set a target of 20 percent of energy to be sold from renewable sources by the year 2017. The schedule for implementation of the renewable portfolio standard (RPS) was accelerated in 2006 with the Governor's signing of SB 107, which accelerated the 20 percent RPS goal from 2017 to 2010. On November 17, 2008, the Governor signed Executive Order S-14-08, which establishes a goal of having all retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020. The Governor signed Executive Order S-21-09 on September 15, 2009, which directs the CARB to implement a regulation consistent with the 2020 33 percent renewable energy target by July 31, 2010.

State Standards Addressing Vehicular Emissions

California Assembly Bill 1493 (Pavley), enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by the CARB would apply to 2009 and later model year vehicles. The CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030 (AEP 2007). Overall within the state of California, implementation of the Pavley standards are anticipated to reduce GHG emissions by 17.23 percent (CARB 2011).

The CARB has adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments, approved by the CARB Board on September 24, 2009, are part of California's commitment toward a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016, and prepare California to harmonize its rules with the federal rules for passenger vehicles.

Executive Order S-01-07

Executive Order S-01-07 was enacted by the Governor on January 18, 2007, and mandates that: 1) a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) a Low Carbon Fuel Standard for transportation fuels be established for California. On April 23, 2009, the CARB adopted regulations to implement the Low Carbon Fuel Standard.

Senate Bill 375

SB 375 finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so, "…it will be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." Therefore, SB 375 requires that regions with metropolitan planning organizations adopt sustainable community strategies, as part of their regional transportation plans, which are designed to achieve certain goals for the reduction of GHG emissions from mobile sources.

Local

To date, the MDAQMD has not enacted regulations governing GHGs. Likewise, Riverside County and the City of Blythe have not adopted policies or regulations addressing greenhouse gas emissions or climate change.

3.2.8 Hazards and Hazardous Materials

This section describes the environmental setting and regulatory framework in regards to hazards and hazardous materials for the proposed Project and Alternatives. The affected environment for public health and safety includes evaluation of several program areas, including aircraft operations, hazardous materials, public health, and electric and magnetic field exposure (EMF). The affected environment related to flooding or seismic hazards is discussed in Section 3.2.7, *Geology and Soils* and Section 3.2.~~10~~ 9, *Hydrology and Water Quality*.

Environmental Setting

A consideration for hazardous materials analyses is the proximity of residential and other sensitive receptors, such as schools, daycare centers, emergency response facilities, and long-term care facilities. The Project's solar array field and gen-tie line would be located within Riverside County and portions of the proposed site would be located within the City of Blythe.

There are 369 residences within one mile of the solar facility site. The three existing residences (two residences on APN 863060015 and one residence on APN 863100016) on the solar facility site would be removed as part of the Project and therefore would not be considered sensitive receptors of the Project. Seven individual residences are located within 1,000 feet of the solar facility site. The closest residence (APN 824110004) is approximately 260 feet away from the property boundary and adjacent to an area of the Project that is proposed to contain solar arrays. In addition, the Project is approximately 0.4 mile (2,200 feet) from the Mesa Verde Park and approximately 0.8 mile (4,400 feet) from the Roy Wilson Community and Child Center. Outside the solar facility site boundary, the closest occupied residence to the Project's proposed gen-tie line is approximately 0.7 mile (3,670 feet); the closest unoccupied mobile home is approximately 0.4 mile (1,960 feet). No schools, hospitals, or long-term care facilities are located within one mile of the proposed Project.

Environmental Site Assessment

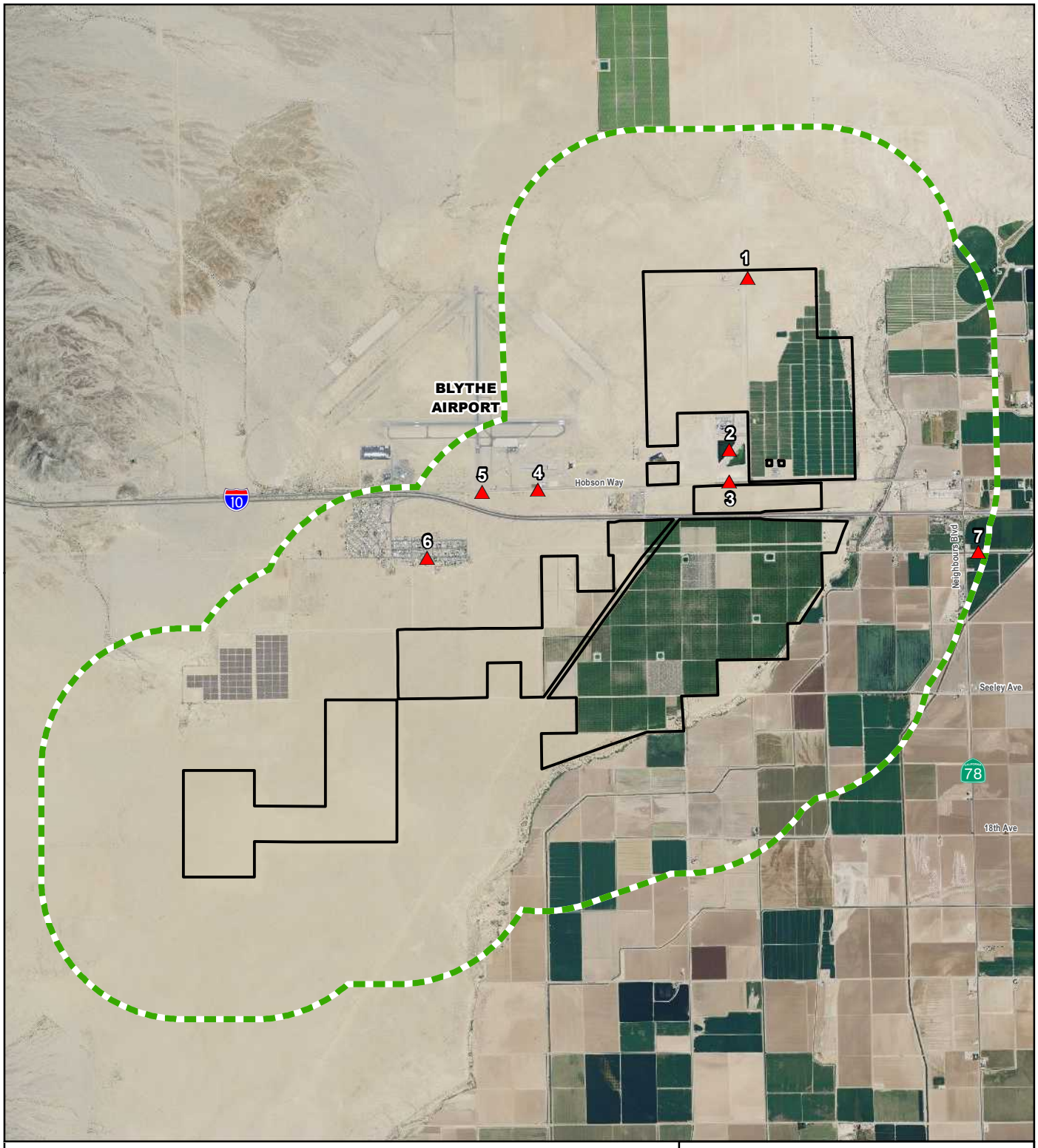
Environmental Data Resources, Inc. (EDR) prepared the EDR DataMap™ Area Study, which contains a summary of environmentally affected sites and other sites that are within a one-mile radius surrounding the Project area (refer to Appendix F). The EDR report includes descriptions of each agency database, site names and addresses, and status, with some repetition existing among the different databases. Figure 3.2.8-1 illustrates the location of hazardous sites.

Federal Database Records

The following provides discussion of the federal databases reviewed in the EDR.

Comprehensive Environmental Response Compensation Liability Information System (CERCLIS) and No Further Remedial Action Planned Report (CERC-NFRAP)

CERC-NFRAP contains information on archived sites that have been removed from the inventory of CERCLIS sites. CERCLIS contains information on sites identified by the EPA as abandoned, inactive, or uncontrolled hazardous waste sites that may require cleanup. CERCLIS sites are in the evaluation stage to determine whether these sites are to be included on the federal NPL (priority for clean up under the Superfund program). Archived status indicates that, to the best of the EPA's knowledge, assessment has been completed and the EPA has determined no further steps will be taken to list the CERCLIS site on



Legend

- Blythe Mesa Solar Project Boundary
- Listed Site
- 1-Mile Search Boundary

1. Blythe Lemon Ranch
2. Blythe Airport Dump
3. Sunworld #1, Blythe Lemon Ranch #41
4. Blythe Airport
5. Farmer Air Service
6. Woten Aviation - Blythe
7. West Coast Flying Service

N

0 1
Miles
1:63,360

FIGURE 3.2.8-1
HAZARDOUS SITES

BLYTHE MESA SOLAR PROJECT

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the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

The EDR database indicates no sites are listed within the Project area; however, two sites within the one-mile search radius of the Project area do appear on the CERC-NFRAP list:

- Farmer Air Service, 17500 W. Hobson Way, Blythe.
- West Coast Flying Service, 13-400 W. 14th Save, Blythe.

Resource Conservation and Recovery Act (RCRA) and Corrective Action (CORRACTS) List

The CORRACTS list contains information concerning RCRA facilities that have conducted or are currently conducting corrective action. The EDR database indicates that no sites are listed within the Project area; however, two sites appear on the RCRA and the CORRACTS list as located within one mile of the solar facility site:

- Farmer Air Service, 17500 W. Hobson Way, Blythe.
- West Coast Flying Service, 13-400 W. 14th Ave., Blythe.

RCRA and Non-Generators (NonGen)

The RCRA-NonGen is an EPA comprehensive information system, providing access to data supporting the RCRA of 1976 and the Hazardous and Solid Waste Amendments of 1984. The database includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by the RCRA. Non-Generators do not presently generate hazardous waste.

The EDR database indicates that no sites are listed within the Project area; however, two sites appear on the RCRA-NonGen list as located within the one-mile search radius of the Project area:

- Farmer Air Service, 17500 W. Hobson Way, Blythe.
- West Coast Flying Service, 13-400 W. 14th Ave., Blythe.

The Facility Index System (FINDS)

The FINDS contains both facility information and “pointers” to other sources of information that contain more detail. The EDR database indicates that no sites are listed within the Project area; however, two sites appear on the FINDS list as located within the one-mile search radius of the Project area:

- Farmer Air Service, 17500 W. Hobson Way, Blythe.
- West Coast Flying Service, 13-400 W. 14th Ave., Blythe.

State and Local Database Records

The following provides discussion of the State and local data bases reviewed in the EDR.

The Waste Management Unit Database System/Solid Waste Assessment Test (WMUDS/SWAT)

WMUDS/SWAT is used for program tracking and inventory of waste management units. The EDR database indicates that no sites are listed within the Project area; however, one site appears on the FINDS list, located within the one-mile search radius of the Project area:

- Blythe Airport Dump, Blythe Airport.

Hazardous Waste and Substances Sites (HIST CORTESE)

The HIST CORTESE list identifies sites designated by the State Water Resources Control Board, integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (CALSITES) as

those that have had documented leaking underground storage tanks. The EDR database indicates that two sites are listed within the Project area and one site is listed on the CORTESE database as located within the one-mile search radius of the Project area.

On-Site:

- Sunworld #1: 15550 West Hobson Way, Blythe. The EDR indicates this is a leaking underground storage tank (LUST) clean-up site with the status as Completed – Case Closed.
- Blythe Lemon Ranch #41: 15550 West Hobson Way, Blythe.

Off-site:

- Blythe Airport: 17240 Blythe Airport, Blythe. The EDR indicates this is a LUST clean-up site with the status as Completed – Case Closed.

Leaking Underground Storage Tank (LUST)

The LUST database tracks all of the known leaking underground storage tanks. The database also provides some information on the status of the remedial action on those sites. The EDR database indicates three sites listed on the LUST database within the Project area, and one within the one-mile search radius of the Project area. The locations are as follows:

On-Site:

- Sunworld #1: 15550 West Hobson Way, Blythe. The EDR indicates this is a LUST clean-up site with the status as Completed – Case Closed.
- Sunworld: 15550 West Hobson Way, Blythe. The EDR indicates the status of this listing as Site Closed 10/23/93 – Case referred to the Regional Water Board.
- Sunworld Facility: The EDR indicates this is a LUST clean-up site with the status as Completed – Case Closed.

Off-Site:

- Blythe Airport: 17240 Blythe Airport, Blythe. The EDR indicates this is a LUST clean-up site with the status as Completed – Case Closed.

Spills, Leaks, Investigation and Cleanup (SLIC)

SLIC database (has been replaced by Geotracker) is the California Regional Water Quality Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks [USTs], Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites The EDR database revealed that there is one SLIC site within the one-mile search radius (not located on the Project area):

- Woten Aviation, Blythe AFSFO: 17798 Blythe Way, Blythe.

Historical Underground Storage Tank (HIST UST)

The HIST UST is a database of historical listings of underground storage tanks. The EDR database revealed that there is one HIST UST site within the one-mile search radius (not located on the Project area):

- Blythe RCAG, Blythe AFSFO.

California Hazardous Material Incident Report System (CHMIRS)

CHMIRS contains information on reported hazardous material (e.g., accidental releases of spills). The EDR database revealed that there is one CHMIRS site within the one-mile search radius (not located on the Project area):

- Blythe Airport Dump, Blythe Airport.

Aboveground Storage Tank (AST)

The AST database contains registered ASTs. The data comes from the State Water Resources Control Board's Hazardous Substance Storage Container Database. The EDR database revealed that there is one 3,500 gallon AST registered on the Project area:

- Blythe Lemon Ranch, 10151 Buck Blvd., Blythe (referenced as Listed Site #1 on Figure 3.2.8-1).

Airport Operations

The Blythe Airport is to the north and west of the proposed solar facility site. The 8.4 miles of gen-tie line would be located to the west and south of the Blythe Airport. The airport is a public facility, owned by Riverside County. The 3,094-acre facility is the largest airport serving eastern Riverside County and serves primarily general aviation demand in the Blythe area. The Airport is classified in the National Plan of Integrated Airport Systems as a general aviation transport airport, designed to accommodate business jets, cargo-type aircraft, light private planes, and flight school training activities. The Blythe Airport currently has two runways (8/26 and 17/35). The primary runway is Runway 8/26, which is oriented generally east-west. Aircraft operations average 69 flights per day (AirNav 2012). The airport is often used as a base for crop spraying operations, flight rental, and flight instruction (County of Riverside 2003-2008).

The proposed Project would be located within the area covered by the Riverside County Airport Land Use Compatibility Plan (RCALUCP), which was adopted by the Riverside County Airport Land Use Commission (ALUC) in 2004 and replaced the compatibility plans for individual airports. The RCALUCP identifies Airport Influence Areas (AIAs) to protect the public from the adverse effects of aircraft noise, ensure that facilities and people are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect or encroach upon the use of navigable airspace (ALUC 2012).

The proposed Project would be located within the Blythe AIA. According to the RCALUCP (Appendix D, Compatibility Guidelines for Specific Land Uses), electrical facilities (such as power plants, electrical substations, and transmission lines) located in airport land use compatibility zones must meet the restrictions designated for each zone so that they are generally compatible or potentially compatible. This is to ensure that electrical facilities do not create obstructions to the navigable air space and safe operations at the airport. Land uses, concentrations of population, and height of proposed development within this airport influence area are restricted in certain areas of the AIA and listed in Table 3.3.8-2 under the RCALUCP discussion. Airport land use compatibility zones within the Project area are illustrated in Figure 3.2.8-2.

The proposed Project would fall within airport Compatibility Zones B1, C, D, and E. The majority of the proposed Project's PV panel structures would be located within Zones D and E, with a smaller portion located within Zone C; no solar panels are proposed in Zone B1. A portion of the solar array field would be partially outside of the Blythe AIA. The gen-tie lines (poles would be approximately 85 to 120 feet in height) would traverse Zones D and E, and would proceed generally from I-10 in a southwesterly direction and then in a westerly direction, ultimately terminating at the planned Colorado River Substation located outside the Blythe AIA.

Table 3.3.8-2 below lists the approximate tower heights by voltage for existing and planned transmission lines within Blythe AIA.

TABLE 3.3.8-2 APPROXIMATE TOWER HEIGHTS FOR TRANSMISSION LINES IN THE BLYTHE AIA

TRANSMISSION LINE VOLTAGE	APPROXIMATE TOWER HEIGHT
Planned 500 kV	125 to 200 feet
Existing 220 kV/230 kV	75 to 135 feet
Planned Blythe Mesa Solar Project 230 kV	85 to 125 feet
Existing 161 kV	60 to 80 feet
Existing 138 kV	60 to 80 feet

Source: POWER, LIDAR data from Blythe 230 kV Transmission Line and Devers-Palo Verde No. 2 Transmission Project Final EIR/EIS

Electric and Magnetic Fields

EMFs are invisible lines of force that surround any electrical device. Both fields occur together whenever electricity flows, hence the general practice of describing exposure together as EMF exposure. Electric fields are produced by voltage and increase in strength as the voltage increases. Magnetic fields result from the flow of current through wires or electrical devices and increase in strength as the current increases. Most electrical equipment has to be turned on, i.e., current must be flowing, for a magnetic field to be produced. Electric fields, on the other hand, are present even when the equipment is switched off, as long as it remains connected to the source of electric power. Both electric and magnetic fields decrease as the distance from the source increases.

Regulatory Setting

Federal

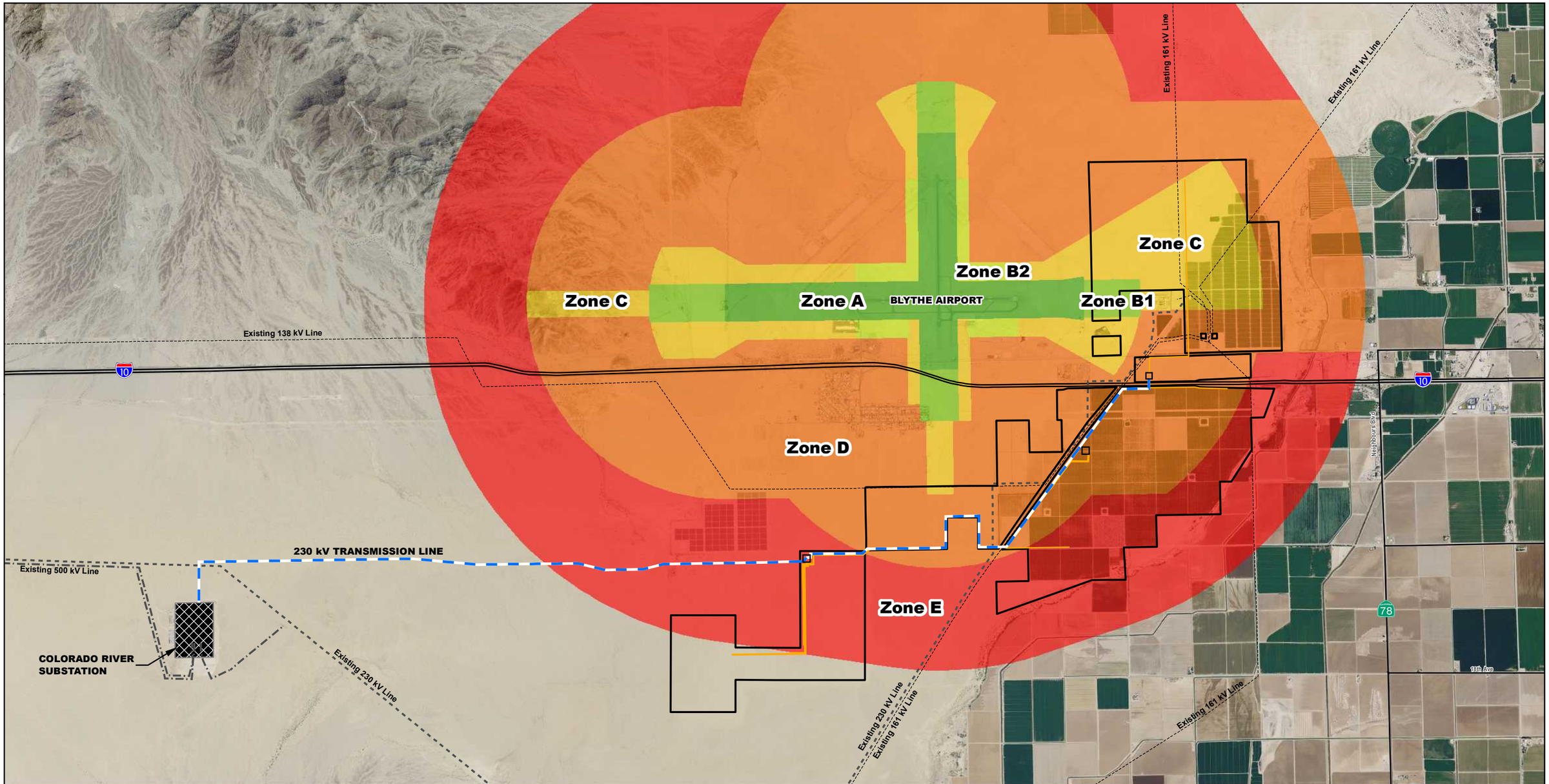
Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq.)

The RCRA grants authority to the EPA to control hazardous waste from start to finish. This covers the production, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid waste. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Federal Water Pollution Control Act (Clean Water Act)

The CWA is a comprehensive statute focused on restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Originally enacted in 1948, the CWA was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost on an annual basis.

Primary authority for the implementation and enforcement of the CWA rests with the EPA. The CWA authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and Tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways. The Project would be subject to a National Pollutant Discharge Elimination System (NPDES) Construction General Permit during construction and a General Industrial Permit during operations and maintenance to address water quality.



Legend

Proposed Project
- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Proposed 34.5 kV Transmission Line

Existing Transmission Lines
- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities
- Colorado River Substation

Blythe Airport Zoning
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Zone E

N

0 4,000 8,000
Feet
1:48,000

FIGURE 3.2.8-2
AIRPORT COMPATIBILITY ZONES

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Source: USDA NAIP Imagery, 2012.

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Occupational Safety and Health Act

Congress passed the Occupational Safety and Health Act (OSHA) to ensure safe and healthful working conditions for working men and women. OSHA authorized enforcement of the standards developed under the Act and assisted states in their efforts to ensure safe and healthful working conditions. OSHA also provides for research, information, education, and training in the field of occupational safety and health. The Project would be subject to OSHA requirements during construction, operations and maintenance, and decommissioning.

Federal Aviation ~~Administration~~ Regulations Part 77 - Objects Affecting Navigable Airspace

Federal Aviation ~~Administration~~ Regulation ~~(FAA)~~ (FAR) ~~regulations,~~ 14 Code of Federal Regulations (CFR) ~~Part~~ 77 – Objects Affecting Navigable Airspace, establish standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effects of construction or alteration on operating procedures; determining the potential hazardous effect of the proposed construction on air navigation; identifying mitigation measures to enhance safe air navigation; and charting of new objects.

These regulations apply to the following:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
  - within 20,000 feet of a public use or military airport that exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet long
  - within 10,000 feet of a public use or military airport that exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet long
  - within 5,000 feet of a public use heliport that exceeds a 25:1 surface;
  - Any highway, railroad or other traverse way whose prescribed adjusted height would exceed the above-noted standards:
  - when requested by the FAA; and
  - any construction or alteration located on a public use airport or heliport regardless of height or location.

FAA Advisory Circular No. ~~70/7460-1G~~ - 70/7460-1K

FAA Advisory Circular No. ~~70/7460-1G~~ 70/7460-1K, *Obstruction Marking and Lighting*, ~~"Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space,"~~ identifies the need to file the "Notice of Proposed Construction or Alteration" form (FAA Form ~~7640~~ 7460-1) ~~with~~ to notify the FAA regarding any type of construction or alteration of a structure that may affect the National Airspace System (NAS) in cases of potential for an obstruction hazard. The proposed Project includes towers to support the gen-tie line that could be between 85 and 125 feet in height.

Title 47 CFR ~~Part~~ 15.2524, Federal Communications Commission

Title 47 CFR ~~Part~~ 15.2524, Federal Communications Commission (FCC) prohibits operation of devices that can interfere with radio-frequency communication. The proposed gen-tie line, as a high-voltage gen-tie line, represents a potential source of radio-frequency communication interference.

State

California Environmental Protection Agency

The California Environmental Protection Agency (Cal EPA) and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Department of Toxic Substances Control

The Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law. Enforcement is delegated to local jurisdictions that enter into agreements with the DTSC.

California's Secretary of Environmental Protection established a unified hazardous waste and hazardous materials management regulatory program as required by Health and Safety Code Chapter 6.11. The unified program consolidates, coordinates, and makes consistent portions of the following six existing programs:

- Hazardous Waste Generations and Hazardous Waste On- site Treatment
- Underground Storage Tanks
- Hazardous Material Release Response Plans and Inventories
- California Accidental Release Prevention Program
- Aboveground Storage Tanks (spill control and countermeasure plan only)
- Uniform Fire Code Hazardous Material Management Plans and Inventories

The statute requires all counties to apply to the Cal EPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements within the county. Most CUPAs have been established as a function of a local environmental health or fire department.

The Office of the State Fire Marshal participates in all levels of the CUPA program including regulatory oversight, CUPA certifications, evaluations of the approved CUPAs, training, and education. The Riverside County Department of Environmental Health serves as the CUPA in Riverside County.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste:

- identification and classification;
- generation and transportation;
- design and permitting of recycling, treatment, storage, and disposal facilities;
- treatment standards;
- operation of facilities and staff training; and
- closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from

generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Title 8, California Code of Regulations, Section 2700 et seq. "High Voltage Safety Orders"

Title 8 of the CCR specifies requirements and minimum standards for safety when installing, operating, working around, and maintaining electrical installations and equipment. The proposed Project would be subject to Title 8.

National Electrical Safety Code

The National Electrical Safety Code specifies grounding procedures to limit nuisance shocks and specifies minimum conductor ground clearances. The proposed Project would be subject to this code and would be designed with a grounding system providing an adequate path to ground to permit the dissipation of current created by lightning and ground faults.

14 California Code of Regulations, Sections 1250 – 1258, "Fire Prevention Standards for Electric Utilities"

14 CCR provides specific exemptions from electric pole and tower firebreak. 14 CCR also provides conductor clearance standards and specifies when and where standards apply. These standards address hazards that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and combustible objects. The proposed Project would be subject to these standards.

Local

Riverside County General Plan

The Riverside County General Plan Safety Element provides policies for development of the Project area within Riverside County. In compliance with State law, the primary objective of the Safety Element is to "reduce death, injuries, property damage, and economic and social impact from hazards." Countywide policies that address health and safety within the County boundaries are also located in the Land Use Element of the County General Plan.

Safety Element (S)

Fire Hazards – Building Code and Performance Standards

Policy S 1.1. *Mitigate hazard impacts through adoption and strict enforcement of current building codes, which will be amended as necessary when local deficiencies are identified.*

Policy S 5.1. *Develop and enforce construction and design standards that ensure that proposed development incorporates fire prevention features through the following:*

- *All proposed construction shall meet minimum standards for fire safety as defined in the County Building or Fire Codes, or by County zoning, or as dictated by the Building Official or*

the Transportation Land Management Agency based on building type, design, occupancy, and use.

- *In addition to the standards and guidelines of the Uniform Building Code and Uniform Fire Code fire safety provisions, continue additional standards for high-risk, high occupancy, dependent, and essential facilities where appropriate under the Riverside County Fire Protection Ordinance. These shall include assurance that structural and nonstructural architectural elements of the building will not:*

    - impede emergency egress for fire safety staffing/personnel, equipment, and apparatus; nor
    - hinder evacuation from fire, including potential blockage of stairways or fire doors.

- *Proposed development in Hazardous Fire areas shall provide secondary public access, unless determined otherwise by the County Fire Chief.*
- *Proposed development in Hazardous Fire areas shall use single loaded roads to enhance fuel modification areas, unless otherwise determined by the County Fire Chief.*

Hazardous Waste and Materials – Hazardous Waste Management Plan

Policy S 6.1. *Enforce the policies and siting criteria and implement the programs identified in the County of Riverside Hazardous Waste Management plan, which includes the following: (AI 98)*

- *Comply with federal and state laws pertaining to the management of hazardous wastes and materials.*
- *Ensure active public participation in hazardous waste and hazardous materials management decisions in Riverside County.*
- *Coordinate hazardous waste facility responsibilities on a regional basis through the Southern California Hazardous Waste Management Authority (SCHWMA).*
- *Encourage and promote the programs, practices, and recommendations contained in the County Hazardous Waste Management Plan, giving the highest waste management priority to the reduction of hazardous waste at its source.*

Policy S 7.2. *Require commercial businesses, utilities, and industrial facilities that handle hazardous materials to:*

- Install automatic fire and hazardous materials detection, reporting and shut-off devices; and
- Install an alternative communication system in the event power is out or telephone service is saturated following an earthquake.

Land Use Element (LU)

Policy LU 6.2(b). *The location of the proposed use will not jeopardize public health, safety, and welfare, or the facility is necessary to ensure the continual public safety and welfare.*

Policy LU 14.7. *Ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace.*

Palo Verde Valley Area Plan

PVVAP 14.1. *Protect life and property from wildfire hazards through adherence to the Fire Hazards section of the General Plan Safety Element.*

Riverside County Airport Land Use Compatibility Plan

The proposed Project would be located within the area covered by the RCALUCP. The RCALUCP sets forth the criteria and policies that the Riverside County ALUC uses in assessing the compatibility between the principal airports in Riverside County and proposed land use development in the areas surrounding them. The RCALUCP primarily deals with review of local general plans, specific plans, zoning ordinances, and other land use documents covering broad geographic areas. Certain individual land use development proposals also may be reviewed by the ALUC as provided in the policies identified in the RCALUCP. The ALUC does not have authority over existing incompatible land uses or the operation of any airport.

The ALUC adopts Airport Land Use Compatibility Plans for the areas surrounding the airports within its jurisdiction. Local development approvals must be found consistent with the RCALUCP unless approved by a 4/5th supermajority vote. The RCALUCP identifies AIAs to protect the public from the adverse effects of aircraft noise, ensure that facilities and people are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect or encroach upon the use of navigable airspace (ALUC 2012). The Compatibility Plan for Blythe Airport is based upon the Airport Master Plan adopted by the Riverside County Board of Supervisors in 2001.

The following RCALUCP county-wide policies are applicable to the proposed Project:

Policy 1.5.3. *Major Land Use Actions: The scope or character of certain major land use actions, as listed below, is such that their compatibility with airport activity is a potential concern. Even though these actions may be basically consistent with the local general plan or specific plan, sufficient detail may not be known to enable a full airport compatibility evaluation at the time that the general plan or specific plan is reviewed. To enable better assessment of compliance with the compatibility criteria set forth herein, ALUC review of these actions may be warranted. The circumstances under which ALUC review of these actions is to be conducted are indicated in Policy 1.5.2 above.*

- *Actions affecting land uses within any compatibility zone.*

    - *Any proposed expansion of the sphere of influence of a city or special district.*
    - *Proposed pre-zoning associated with future annexation of land to a city.*
    - *Proposed development agreements or amendments to such agreements.*
    - *Proposed residential development, including land divisions, consisting of five or more dwelling units or lots.*
    - *Any discretionary development proposal for projects having a building floor area of 20,000 square feet or greater unless only ministerial approval (e.g., a building permit) is required.*
    - *Major capital improvements (e.g., water, sewer, or roads) which would promote urban uses in undeveloped or agricultural areas to the extent that such uses are not reflected in a previously reviewed general plan or specific plan.*
    - *Proposed land acquisition by a government entity for any facility accommodating a congregation of people (for example, a school or hospital).*
    - *Any off-airport, non-aviation use of land within Compatibility Zone A of any airport.*
    - *Proposals for new development (including buildings, antennas, and other structures) having a height of more than:*

        - *35 feet within Compatibility Zone B1, B2, or a Height Review Overlay Zone;*
        - *70 feet within Compatibility Zone C; or*
        - *150 feet within Compatibility Zone D or E.*

    - *Any obstruction reviewed by the Federal Aviation Administration in accordance with Part 77 of the Federal Aviation Regulations that receives a finding of anything other than "not a hazard to air navigation."*
    - *Any project having the potential to create electrical or visual hazards to aircraft in flight, including:*

- *Electrical interference with radio communications or navigational signals;*
- *Lighting which could be mistaken for airport lighting;*
- *Glare in the eyes of pilots of aircraft using the airport; and*
- *Impaired visibility near the airport.*

- *Projects having the potential to cause attraction of birds or other wildlife that can be hazardous to aircraft operations to be increased within the vicinity of an airport.*
- *Proposed non-aviation development of airport property if such development has not previously been included in an airport master plan or community general plan reviewed by the Commission. (See Policy 1.2.5 for definition of aviation-related use.).*
- *Regardless of location within Riverside County, any proposal for construction or alteration of a structure (including antennas) taller than 200 feet above the ground level at the site. (Such structures also require notification to the Federal Aviation Administration in accordance with Federal Aviation Regulations, Part 77, Paragraph 77.13(a) (1).).*
- *Any other proposed land use action, as determined by the local planning agency, involving a question of compatibility with airport activities.*

Policy 3.1.4. *Nonresidential Development: The compatibility of nonresidential development shall be assessed primarily with respect to its usage intensity (the number of people per acre) and the noise-sensitivity of the use. Additional criteria listed in Table 2A shall also apply.*

- *The total number of people permitted on a project site at any time, except for rare special events, must not exceed the indicated usage intensity times the gross acreage of the site.*
- *Usage intensity calculations shall include all people (e.g., employees, customers/ visitors, etc.) who may be on the property at any single point in time, whether indoors or outside.*
- *Rare special events are ones (such as an air show at an airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.*
- *No single acre of a project site shall exceed the number of people per acre indicated in Policy 4.2.5(b) and listed in Table 2A unless special risk reduction building design measures are taken as described in Policy 4.2.6.*
- *The noise exposure limitations cited in Policy 4.1.4 and listed in Table 2B shall be the basis for assessing the acceptability of proposed nonresidential land uses relative to noise impacts. The ability of buildings to satisfy the interior noise level criteria noted in Policy 4.1.6 shall also be considered.*

Policy 3.1.5. *Prohibited Uses: Regardless of usage intensity, certain types of uses are deemed unacceptable within portions of an airport influence area. See Policy 4.2.3 and Table 2A. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria.*

Policy 3.1.6. *Other Development Conditions: All types of proposed development shall be required to meet the additional conditions listed in Table 2A* [Table 3.3.8-1 ~~above~~] *for the respective compatibility zone where the development is to be located. Among these conditions are the following:*

- *Aviation Easement Dedication: See Policy 4.3.5.*
- *Deed Notice: See Policy 4.4.3.*
- *Real Estate Disclosure: See Policy 4.4.2.*
- *Noise Level Reduction: See Policy 4.1.6.*
- *Airspace Review: See Policy 4.3.3.*

TABLE 3.3.8-1 BASIC COMPATIBILITY CRITERIA

ZONE	LOCATIONS	MAXIMUM DENSITIES/INTENSITIES (PEOPLE PER ACRE)[1]		REQUIRED OPEN LAND[4]	PROHIBITED USES[5]	OTHER DEVELOPMENT CONDITIONS[6]
		Average[2]	Single Acre[3]			
B1	Inner Approach/Departure Zone	25	50	30%	• Children's schools, day care centers, libraries • Hospitals, nursing homes • Places of worship • Buildings with >2 aboveground habitable floors • Highly noise-sensitive outdoor nonresidential uses • Aboveground bulk storage of hazardous materials • Critical community infrastructure facilities • Hazards to flight	• Locate structures maximum distance from extended runway centerline • Minimum noise level reduction (NLR) of 25 decibels (dB) in residences (including mobile homes) and office buildings • Airspace review required for objects >35 feet tall • Avigation easement dedication
C	Extended Approach/Departure Zone	75	150	20%	• Children's schools, day care centers, libraries • Hospitals, nursing homes • Buildings with >3 aboveground habitable floors • Highly noise-sensitive outdoor nonresidential uses • Hazards to flight	• Minimum of NLR of 20 dB in residences (including mobile homes) and office buildings • Airspace review required for objects >70 feet tall • Avigation easement dedication
D	Primary Traffic Patterns and Runway Buffer Area	100	300	10%	• Highly noise-sensitive outdoor nonresidential uses • Hazards to flight	• Airspace review required for objects >70 feet tall • Children's schools, hospitals nursing homes discouraged • Deed notice required

ZONE	LOCATIONS	MAXIMUM DENSITIES/INTENSITIES (PEOPLE PER ACRE)[1]		REQUIRED OPEN LAND[4]	PROHIBITED USES[5]	OTHER DEVELOPMENT CONDITIONS[6]
		Average[2]	Single Acre[3]			
E	Other Airport Environs	No Limit	No Limit	No Requirement	• Hazards to flight	• Airspace review required for objects>100 feet tall • Major spectator-oriented sports stadiums, amphitheaters, concert halls discouraged beneath principal flight tracks

Source: Riverside County Airport Land Use Compatibility Plan Policy Document Table 2A, October 2004.
Notes:

1) Usage intensity calculations shall include all people (e.g., employees, customers/visitors) who may be on the property at a single point in time, whether indoors or outside.
2) The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the gross acreage of the site. Rare special events are ones (such as an air show at the airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.
3) Clustering of nonresidential development is permitted. However, no single acre of a project site shall exceed the indicated number of people per acre.
4) Open land requirements are intended to be applied with respect to an entire zone. This is typically accomplished as part of a community general plan or a specific plan, but may also apply to large (10 acres or more) development projects.
5) The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria.
6) As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law.

Riverside County Hazardous Waste Management Plan

The Riverside County Hazardous Waste Management Plan (CHWMP) uses a framework of 24 existing and recommended programs. The CHWMP serves as the County's primary planning document for the management of hazardous substances. Although the title refers only to hazardous waste, the CHWMP is a comprehensive document containing all of the County programs for managing both hazardous materials and waste.

Southern California Hazardous Waste Management Authority

The SCHWMA was formed through a joint powers agreement between Santa Barbara, Ventura, San Bernardino, Orange, San Diego, Imperial, and Riverside Counties and the Cities of Los Angeles and San Diego. Each SCHWMA county has agreed to take responsibility for the treatment and disposal of hazardous waste in an amount that is at least equal to the amount generated within that county. This responsibility can be met by siting hazardous waste management facilities (transfer, treatment, and/or repository) capable of processing an amount of waste equal to or larger than the amount generated within the county, or by creating intergovernmental agreements between counties to provide compensation to a county for taking another county's waste, or through a combination of both facility siting and intergovernmental agreements. When and where a facility is to be sited is primarily a function of the private market. However, once an application to site a facility has been received, the county will review the requested facility and its location against a set of established siting criteria to ensure that the location is appropriate, and may deny the application based on the findings of this review. The County of Riverside does not presently have any of these facilities within its jurisdiction and therefore must rely on intergovernmental agreements to fulfill its fair share responsibility to SCHWMA.

Riverside County Department of Environmental Health

The Riverside County Department of Environmental Health, under the Health and Safety Code, is responsible for oversight of activities pertaining to the generation, storage, handling, disposal, treatment, and recycling of hazardous waste. Ordinance No. 615.3 has been implemented for the purpose of monitoring establishments where hazardous waste is generated, stored, handled, disposed, treated, or recycled and to regulate the issuance of permits and the activities of establishments where hazardous waste is generated. The Department of Environmental Health also contains a Hazardous Materials Management Branch, which is the CUPA for the entire County, and oversees all hazardous materials and hazardous waste-related activities.

Riverside County Brush Clearance

County of Riverside Ordinance No. 695 provides brush clearance requirements on unincorporated County land that are designed to reduce risks from wildland fires. The code requires that every owner, occupant, and person in control of any unimproved parcel of land clear vegetation on a 100-foot-wide strip of land at the boundary of the parcel adjacent to a roadway and/or a 100-foot-wide strip of land around any structures located on an adjacent improved parcel. The Riverside County Fire Department can require different clearance distances based upon a visual inspection of the parcel and factors including local weather conditions, fuel types, topography, and the environment where the property or adjoining structures are located.

City of Blythe General Plan 2025

Policies related to hazards included with the City of Blythe General Plan 2025 are provided below.

Safety Element

Policy 18: *Identify facilities utilizing, storing, or transporting hazardous materials in Blythe.*

Policy 19: *Ensure that new facilities involved with handling hazardous materials are located at a safe distance from other land uses that may be adversely affected by this activity.*

Policy 20: *Apply, as appropriate, provisions of the Riverside County Hazardous Waste Management Plan to decisions involving hazardous materials in Blythe.*

Policy 21: *Coordinate enforcement of the Hazardous Materials Disclosure Law with the City of Blythe Fire Department.*

Policy 23: *Minimize the impact of transportation related accidents involving hazardous materials.*

Policy 25: *Ensure that hazardous obstructions to the navigable airspace do not occur.*

Policy 27: *Minimize the risks associated with visual hazards including distracting lights, glare and sources of smoke.*

EMF Recommendations and Standards

Several entities have developed guidelines for EMF exposure, including individual states, the FCC, the Institute of Electrical and Electronics Engineers (IEEE), and the American Conference of Governmental Industrial Hygienists (ACGIH). Neither the national nor state governments have regulations limiting EMF exposure from power transmission lines. However, the California EMF Program has been established by the California Public Utilities Commission's (CPUC) Decision 93-11-013. The program is a research, education, and technical assistance program concerned with the possible health effects of EMF from power lines, appliances, and other uses of electricity. The California EMF Program's goal is to find a rational and fair approach to dealing with the potential risks, if any, of exposure to EMF (CaEMF 2012).

The IEEE has developed guidelines for EMF exposure. The IEEE levels are recommendations only, not regulations. The IEEE Standard C95.6 recommends limits on exposures to magnetic fields, electric fields, and contact currents in the frequency range of 0 to 3000 hertz (Hz). Exposure limits are derived for both controlled (occupational, live-line workers) and uncontrolled (publicly accessible) environments, for uniform and non-uniform fields, and for whole-body and extremity exposures. The FCC's standards are mandatory for occupational exposure to EMF for FCC licensees and grantees and only cover the frequency range from 300 kHz to 100 GHz (FCC 1999). The ACGIH provides that occupational exposures should not exceed 10 Gauss (G) (10,000 mG). The ACGIH guideline level is intended to prevent effects, such as induced currents in cells or nerve stimulation. However, the ACGIH guidelines are for occupational exposure, not general public exposure (AIHA 2002).

The United States does not have any regulations on EMF exposure; however, the European Union has developed EMF guidelines based on recommendations by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The ICNIRP has made a series of recommendations for limiting EMF exposure to humans based on the epidemiological data available from verifiable research studies (ICNIRP 1998). Based on the ICNIRP's work, the EU has adopted these same standards for EMF exposure (Council Recommendation 1999). While the guidelines are voluntary, the levels are designed to prevent undue health risks associated with EMF exposure. Table 3.3.8-3 ICNIRP EMF Limits

FREQUENCY	ELECTRIC FIELD STRENGTH (V/M)	MAGNETIC FIELD (µT)
Occupational: 60 Hz	10,000	1
Public: 60 Hz	5,000	200

Source: ICNIRP 1998.
V/M = volts per meter, Hz = frequency in Hertz
µT= microtesla

3.2.9 Hydrology and Water Quality

The purpose of this section is to inventory and describe existing water resources in the vicinity of the proposed Project and Alternatives. In addition to describing the existing conditions, this analysis presents the regulatory framework and examines the affected environment within the Project footprint and vicinity, where appropriate. This section utilizes information from the *Water Supply Assessment for the Blythe Mesa Solar Project,* prepared by POWER Engineers, Inc. 2013 (provided in Appendix G of

this Final EIR/EA), as well as the *Blythe Mesa CUP 03685 Wash Feature Summary of Findings*, prepared by POWER Engineers, Inc. 2013 (provided in Appendix H of this Final EIR/EA).

Existing Setting

The proposed Project and Alternatives are located in the Colorado Desert, which is part of the greater Colorado Desert Geomorphic Province. The physiography of the area consists of mountains, alluvial fans, alluvial fan remnants, and alluvial valleys, including active drainages and fluvial terraces, and internally drained basins (USDA 2006). Elevations in the Project vicinity range from 260 feet near the Colorado River to 2,054 feet on McCoy Peak. The Project area is characterized by rural development intermixed with agricultural and undeveloped lands. Extensive areas to the north and east are preserved open space, set aside for recreation, wildlife, and protected species.

The Colorado Desert has the lowest annual precipitation and highest temperatures in North America. In the Blythe area, temperatures range from average summer highs of 108.5°F (42.5°C) to average winter highs of 67.6°F (19.8°C). Precipitation occurs in the form of rainfall; the average annual rainfall for Blythe is 3.83 inches, primarily from late summer thunderstorms moving north from Mexico (Colorado RWQCB 2006).

Surface Waters

The Project is located in an undefined Hydrologic Sub-Area (HSA 715.40) of the Palo Verde Hydrologic Area (Palo Verde Mesa) within the Colorado (River) Hydrologic Unit in eastern Riverside County, California. The Colorado River is the largest river in the region, with a watershed encompassing approximately 244,000 square miles in portions of seven states (Wyoming, Utah, Colorado, Nevada, New Mexico, Arizona, and California), and provides water to over 25 million people and approximately 3.5 million acres of agricultural lands in the United States and Mexico. In addition, hydroelectric generation facilities in the Colorado River Basin provide approximately 12 billion kilowatt hours of energy annually (MSCP 2004).

Due to the low precipitation rates, surface water is generally minimal on the Palo Verde Mesa, limited to ephemeral and intermittent drainages with the exception of the Colorado River. [4] The Project would be located near the eastern edge of the Palo Verde Mesa, above the Palo Verde Valley and west of the 100-year floodplain of the Colorado River. Lands in this area that are not utilized for agriculture are crossed by a number of small ephemeral drainages, generally flowing from northwest to southeast toward the Colorado River, either dissipating prior to reaching the edge of the Mesa or flowing into the valley. An ephemeral drainage bisects the southern portion of the proposed Project and transmission line. This drainage originates in the McCoy Mountains northwest of the proposed Project, and flows southeast, partially contained by a berm. Approximately one mile south of highway I-0 the dike ends and the drainage continues as a broad, shallow channel beneath the proposed gen-tie line and through the proposed solar array field. During larger storm events flow from this ephemeral drainage eventually connects with the Colorado River, as described below.

Precipitation in the form of sheet flow typically flows overland toward the edge of the Mesa. In areas used for agriculture, flow may be diverted by earthen berms or irrigation ditches. Sheet flow eventually reaches the edge of the Mesa and flows in the canal and drain system of the Palo Verde Valley south of 10th Street. This system eventually returns water to the Colorado River via the Outfall Drain, located approximately 18 miles south of the Project area. Water supplies for the Project area comes from the Colorado River, which lies eight miles to the east and is the primary source of Irrigation Water for ~~the~~ existing agriculture in the area. In 2010, the PVID reported that the Project area used approximately 12,000 ac-ft/ye of surface water to irrigate the agricultural fields.

[4] An ephemeral drainage has flowing water only during, and for a short duration after, precipitation events in a typical year whereas an intermittent drainage has regular flows during certain times of the year.

Floodplains

The Palo Verde Mesa is located above the 100-year floodplain of the Colorado River (FEMA 2013). Within the Project area, a 100-year floodplain is associated with the ephemeral drainage discussed above. This floodplain was delineated based on site topography and predicted flow elevations and is illustrated in Figure 3.2.9-1. The majority of this floodplain lies within the setback for this ephemeral drainage; however, due to the relatively flat topography of the area and lack of defined bed and bank, small portions of this floodplain may lie outside the limits of the setback (POWER 2013b).

Jurisdictional Waters

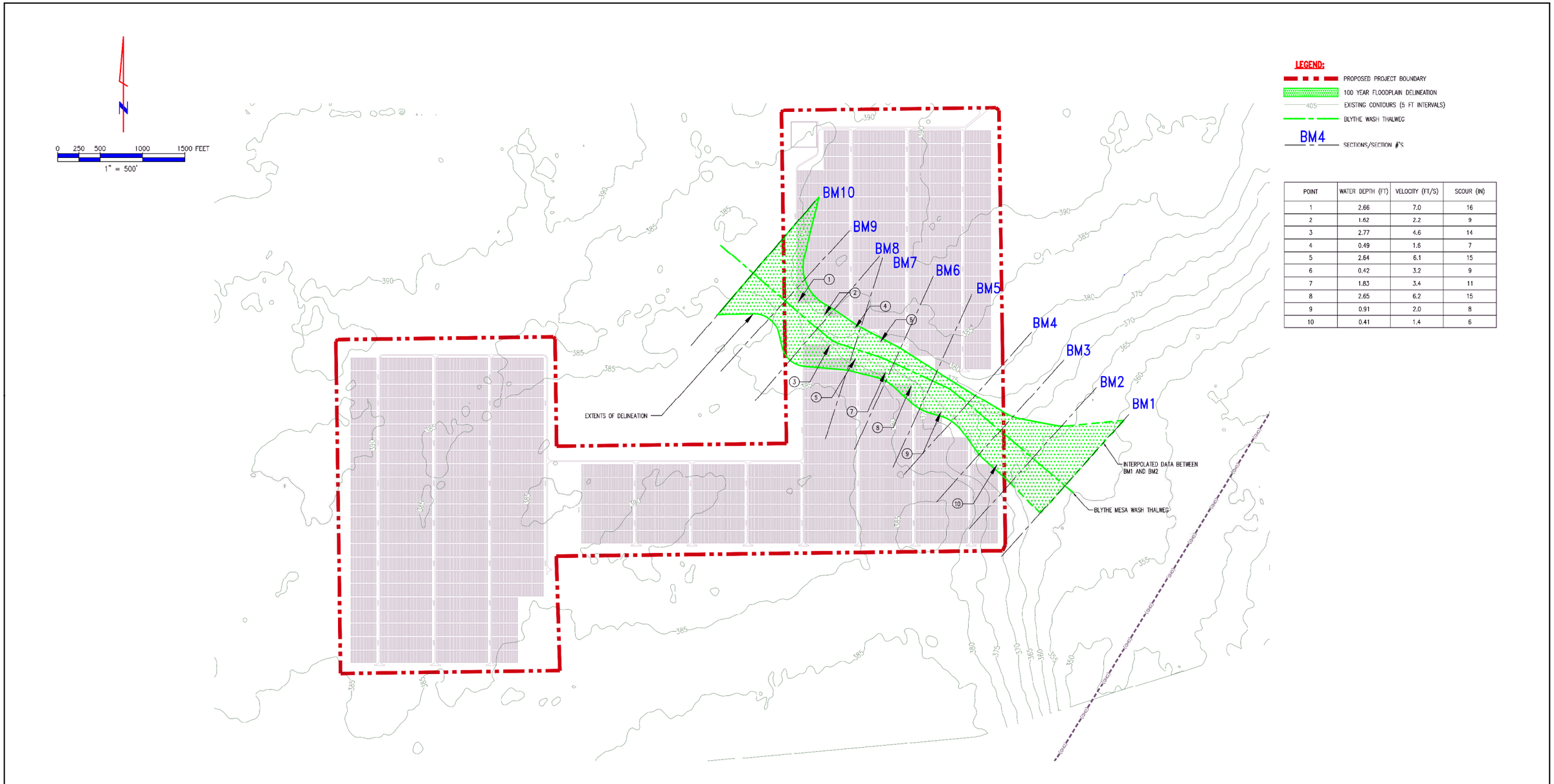
During large storm events, many of the ephemeral streams and washes in the Project area flow across the mesa and into the canal and drain system of the Palo Verde Valley; from this system, stormwater eventually flows into the Colorado River via the Outfall Drain, as described previously. As the Colorado River is a Traditional Navigable Water of the United States, tributaries that drain into it are likewise considered Waters of the United States as defined in Section 404 CWA. Stormwater within the ephemeral channel that crosses the southern portion of the Project eventually reaches the canal and drain system as sheet flow (see Figure 3.2.9-2). The USACE delineated the potential Ordinary High Water Mark (OHWM) of this drainage within Project limits, as illustrated in Figure 3.2.9-3. The potential OHWM lies within the Project area setback with the exception of one gen-tie line pole.

Water Supply

Non-potable water needs for the Project would be taken from existing PVID water entitlements that support the agricultural operations currently on the proposed solar facility site rather than from evaporation ponds which are common to other solar developments in this region; current operations are not supported by groundwater wells. The proposed Project would use a fraction of the water supply that is presently used for irrigation demand on the Project site. The present use at the Project site is about 12,000 acre feet per year (ac-ft/yr) of water, used to irrigate agriculture. During the 36-month (3-year) construction period for the proposed Project, approximately 1,354 acre-feet (ac-ft) of water (or about 451 ac-ft/yr) would be required. Construction water (non-potable) would be used for dust suppression, concrete manufacturing, and fire safety.

During operations, non-potable water would be used for solar array washing, fire water supply, and on-site maintenance activities (such as may be required for landscape maintenance to support dust control). Operation and maintenance activities could include daily operations and routine maintenance activities, such as PV panel washing, which are anticipated to occur up to two times per year, if necessary, to optimize output. Cleaning of the panels would require up to 345 ac-ft/yr of untreated non-potable water to maintain panel efficiency. Panel washing crews would clean the panels up to twice a year with a lightweight to medium-duty truck. The truck would be fitted with a water tank and air compressor to operate a high-pressure sprayer and cleaning brush system. The operational needs would be further refined pre-construction. It is emphasized that operational needs would be well below the existing (pre-Project) irrigation use of approximately 12,000 ac-ft/yr. Since the existing water used under the PVID's water right would be used for the Project, no new source of water would be required. Therefore, the Project does not represent a new demand for water supply, but converts a portion of the existing agricultural irrigation use to the proposed solar Project. Based on the existing water right, sufficient supply is available to serve the Project over a 20-year period.

Two O&M buildings would require a total of up to 150 gallons per day of potable water. Riverside County Community Service Area #122 (CSA #122) has issued a will-serve letter for the Project's limited potable water needs. Less than one ac-ft of groundwater per year would be required for potable use in the two O&M buildings. The water supply from PVID sources and CSA #122 is sufficient to meet requirements of the proposed Project, including the minor potable groundwater demand under average-year, single-dry year, and multiple-dry year conditions over a 20-year future projection (refer to Appendix G, *Water Supply Assessment*).



POINT	WATER DEPTH (FT)	VELOCITY (FT/S)	SCOUR (IN)
1	2.66	7.0	16
2	1.62	2.2	9
3	2.77	4.6	14
4	0.49	1.6	7
5	2.64	6.1	15
6	0.42	3.2	9
7	1.83	3.4	11
8	2.65	6.2	15
9	0.91	2.0	8
10	0.41	1.4	6

FIGURE 3.2.9-1
FLOODPLAIN DELINEATION

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Source: POWER Engineers, 2013.

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Water Quality

The Project area lies within the East Colorado River Basin Planning Area of the Water Quality Control Plan (Basin Plan) for the Colorado River Regional Water Quality Control Board (RWQCB). This Basin Plan describes surface and groundwater quality objectives for the Planning Area; the objectives were established to protect the existing and potential beneficial uses of surface and groundwater in the region. Beneficial uses are reasonable uses of a water body as specified in the Basin Plan, and may include existing, proposed, or intermittent uses. Beneficial uses for water bodies in the Project area (solar facility site and gen-tie line) are listed in Table 3.2.9-1, and include the following: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Aquaculture (AQUA), Industrial Service Supply (IND), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Hydropower Generation (POW), and Preservation of Rare, Threatened, or Endangered Species (RARE).

Water quality is the physical, chemical, and biological characteristics of water, when assessed according to standards related to ecosystem health, the safety of drinking water, and the safety of human contact. The State of California Water Resources Control Board (SWRCB) and the nine RWQCBs are responsible for setting policies and developing regulations for the implementation of water quality control programs mandated by federal and State water quality statutes and regulations. Basin Plans, developed and implemented by the RWQCBs, consider regional beneficial uses, water quality characteristics, and water quality problems.

TABLE 3.2.9-1 BENEFICIAL USES OF SURFACE WATERS IN THE PROJECT AREA

	MUN	AGR	AQUA	IND	GWR	REC-1	REC-2	WARM	WILD	POW	RARE
Colorado River and associated lakes and reservoirs	E	E	E	E	E	E	E	E	E	E	E
Palo Verde Valley Canals	P	E	E		E	E	E	E	E		
Palo Verde Drains						E	E	E	E		
Palo Verde Lagoon and Outfall drain						E	E	E	E		E
Washes (Ephemeral Streams)					I		I	C	I		

*Note: Adapted from the Water Quality Control Plan for the Colorado River Basin – Region 7 (RWQCB 2006).
E – Existing use
P – Potential Use
I – Intermittent Use
C – Conditional use, to be determined on a case-by-case basis

Under Section 303(d) of the CWA, states, territories, and authorized Tribes are required to develop a list of surface waters with impaired water quality. These waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for surface waters on the lists and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

On June 28, 2007, the EPA gave final approval to California's 2006 Section 303(d) List of Water Quality Limited Segments. Section 303(d)-listed or impaired streams and completed TMDL requirements are identified as part of the resource inventory of the Project area. Impaired streams are considered sensitive resources in the routing of transmission lines and are protected from water quality impacts.

Within the Project region, one water body is listed as impaired on the Section 303(d) list. The Palo Verde Outfall Drain and Lagoon are listed as impaired by dichlorodiphenyltrichloroethane (DDT) and pathogens, both from unknown sources.

Groundwater

The Project area is located within the Palo Verde Mesa Groundwater Basin (Groundwater Basin Number 7-39), which has a drainage area of approximately 353 square miles. Groundwater in this basin is located in alluvial deposits with no known barriers that inhibit groundwater flow. Groundwater in this basin is likely recharged from percolation of runoff from the surrounding mountains; percolation of precipitation to the valley floor and subsurface inflow from the adjacent Chuckwalla Valley Groundwater Basin (Groundwater Basin Number 7-5 and adjacent irrigation canals and drains may be additional sources of recharge). According to groundwater level data provided by the California Department of Water Resources (2011), depth-to-groundwater near the Project area ranges from approximately 148 feet below the surface, just north of the Blythe Airport, to approximately 83 feet below the surface near the intersection of Hobson Way and Keim Boulevard. It should be noted that groundwater levels are influenced by seasonal variations, variations in ground surface topography, precipitation, irrigation practices, soil/rock types, groundwater pumping, and other factors and are subject to fluctuations. The storage capacity of the Palo Verde Mesa Groundwater Basin is estimated to be approximately 6,840,000 acre-feet (AF) (DWR 1975). Groundwater quality in this basin is calcium-sodium chloride or calcium-sodium sulfate in character, and is impaired by arsenic, selenium, fluoride, chloride, boron, sulfate, and total dissolved solids (TDS) content (DWR 2004).

A water budget for the Palo Verde Mesa Groundwater Basin estimates an inflow of approximately 817 AF per year (~~ac-ft~~af/yr), based on inflow estimates from the surrounding groundwater basins irrigation return flow, infiltration from precipitation events, and infiltration from canal seepage. Recharge by underflow from Chuckwalla Valley is estimated to be 400 af/yr (DWR 2004).

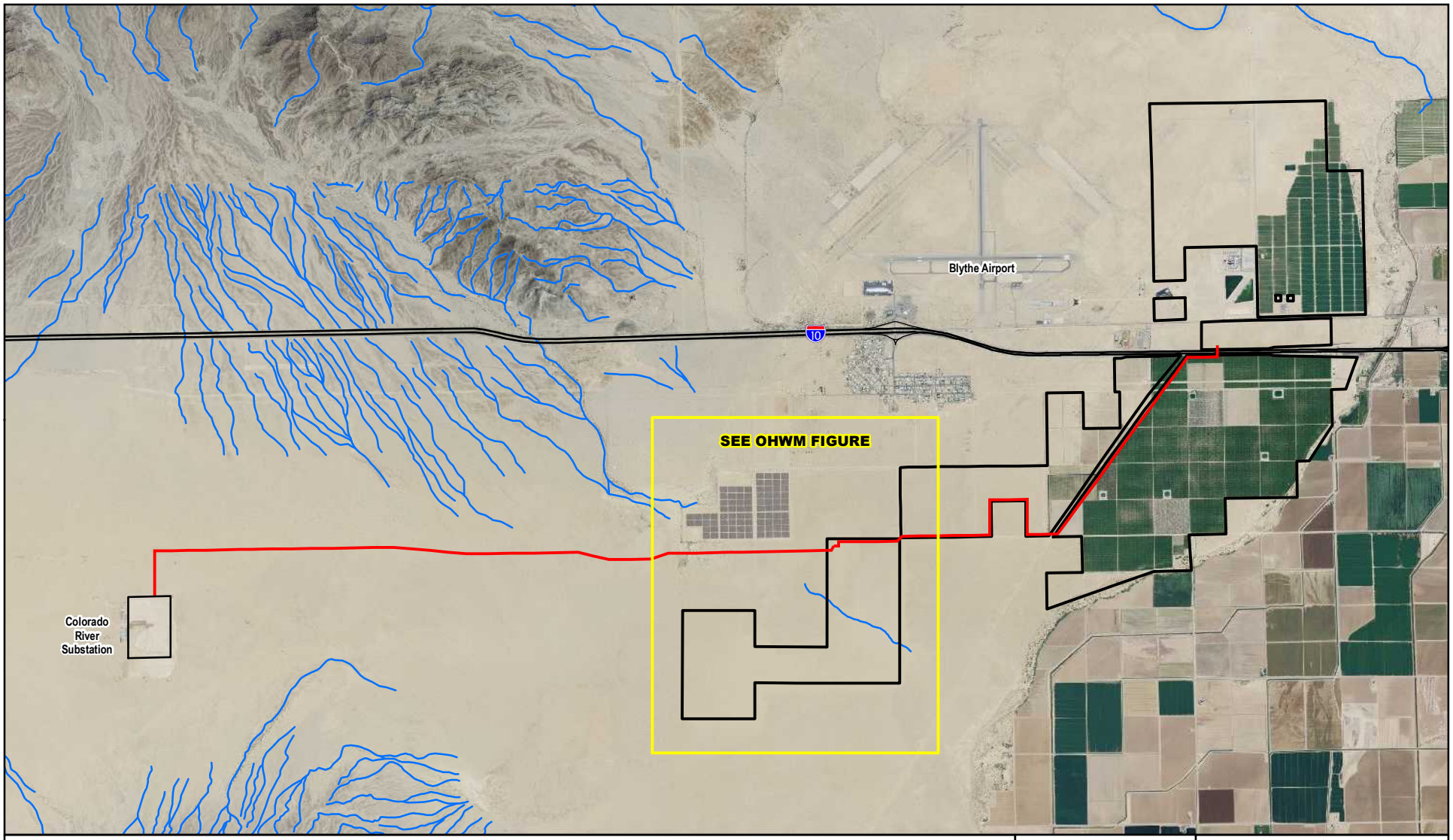
Regulatory Setting

Federal

Section 404 CWA. Waters of the United States including wetlands are subject to USACE jurisdiction under Section 404 of the CWA. A Section 404 permit is required for the discharge of dredged or fill material into Waters of the United States. The Los Angeles District of the USACE would provide review and permitting services for this Project. Field reconnaissance surveys, analyses of NWI and watershed data have determined the presence of one jurisdictional water of the United States within the Project area, as discussed previously

Section 401 CWA. Pursuant to Section 401 of the CWA, a water quality certification (Certification) is required from the Colorado River RWQCB if a federal agency proposes to license or permit a discharge into waters of the United States, to ensure such discharge does not violate state water quality standards. ~~The~~ This is generally understood to apply to, but is not limited to, Section 404 permits. The Colorado River RWQCB certifies that discharges to Waters of the United States or Waters of the State complies with State water quality standards and ensures that there is no net loss of wetlands through impact avoidance, minimization, and mitigation. Most Certifications are issued in connection with USACE CWA Section 404 permits; however, the RWQCB regulates isolated waters under Section 401(c) of the CWA as Waters of the State regardless of USCAE jurisdiction.

Section 303(d) CWA. Section 303(d) unites the water quality management strategies of the CWA. Section 303(d) requires that states make a list of waters that exceed the minimum level of pollutants put in place by the CWA. For waters on this list, the states must develop TMDLs that account for all sources of the pollutants that caused the water to be listed. The TMDLs must account for contributions from both point sources and nonpoint sources, as defined by Section 502 of the CWA. In California, the SWRCB has interpreted State law (see Porter-Cologne Water Quality Control Act below) to require that implementation of TMDLs be addressed when incorporated into Basin Plans.



Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- Jurisdictional Waters

N

0 1
Miles
1 in=1 miles

FIGURE 3.2.9-2
JURISDICTIONAL WATERS

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Source: USDA NAIP Imagery, 2012.

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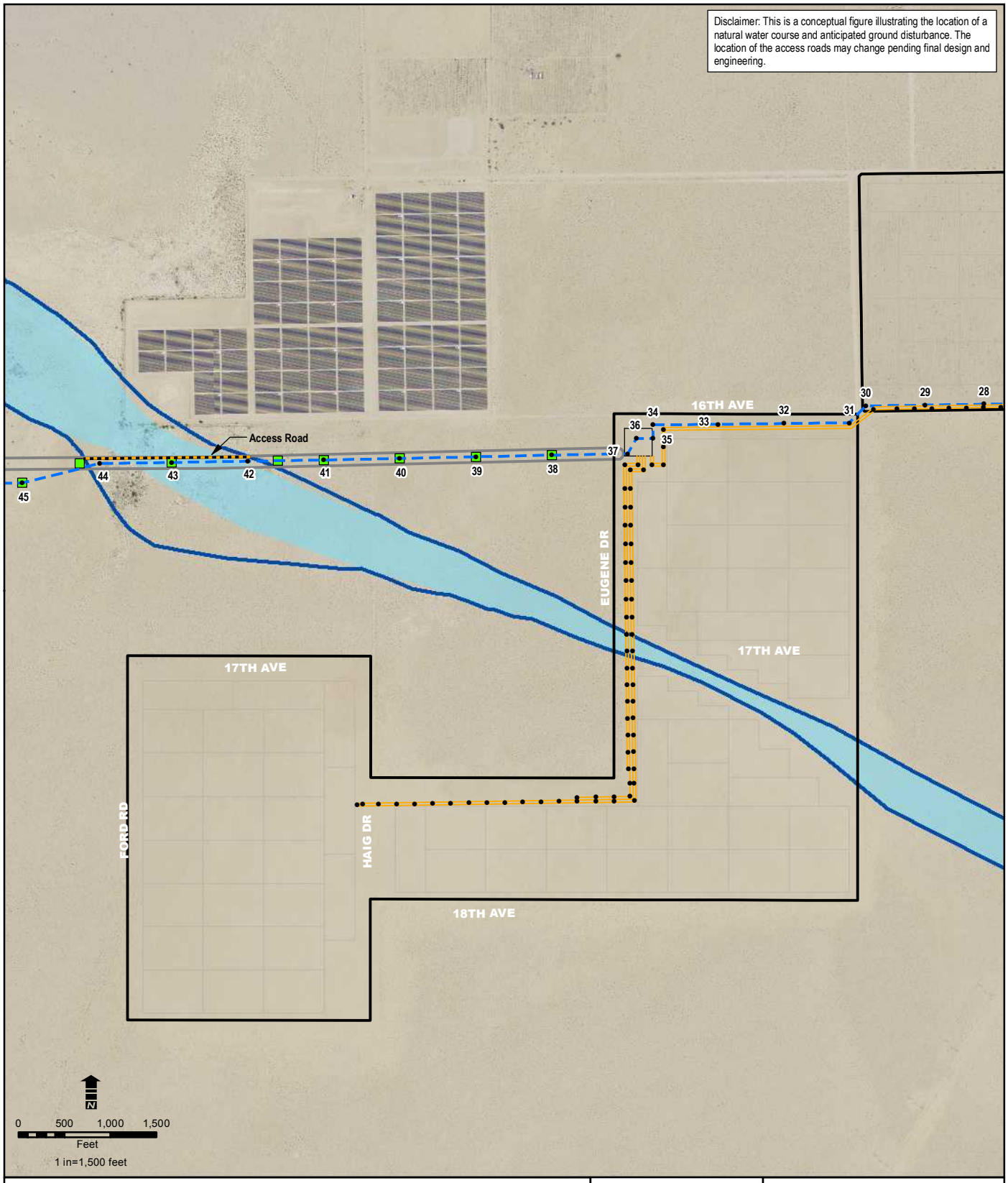

Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Proposed 230kV Transmission Line
- Proposed 35.4 kV Transmission Line
- Transmission Line 125-foot Corridor
- Proposed Tower Location
- Temporary Conventional Construction Disturbance for Transmission Line Poles
- Conceptual Access Road (12 ft wide)

Hydrologic Feature

- Ephemeral Channel
- Estimated Ordinary High Water Mark (per June 6 2013 Corps field visit)

FIGURE 3.2.9-3
ORDINARY HIGH WATER MARK WITHIN PROJECT LIMITS

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State

Construction Stormwater Program. The SWRCB and the nine RWQCBs implement water quality regulations under the federal CWA and the California Porter-Cologne Water Quality Control Act. Existing water quality regulations require compliance with the NPDES for discharges of stormwater runoff associated with construction activity.

Dischargers are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction and Land Disturbance Activities (Construction General Permit, 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) that shows the construction site perimeter, existing and proposed structures, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a monitoring program for visible and non-visible pollutants and changes in water quality, such as substantial alteration in pH (a measure of acid and base properties).

Lake or Streambed Alteration Agreement. Sections 1601-1603 of the CDFW Fish and Game Code protect the natural flow, bed, channel, and bank of any river, stream, or lake designated by the CDFW, in which there is at any time an existing fish or wildlife resource, or from which these resources derive benefit. General Project plans must be submitted to the CDFW in sufficient detail to indicate the nature of a project for construction, if the project would:

- Divert, obstruct, or change a streambed, bank, or riparian zone.
- Use material from the streambeds.
- Result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a stream.

The Inland Deserts Region of the CDFW serves Riverside County.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act defines "water quality objectives" as the allowable "limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Thus, water quality objectives are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water. Water quality objectives apply to both Waters of the United States and Waters of the State.

Basin Plans. The SWRCB requires individual RWQCBs to develop Basin Plans (water quality control plans) designed to preserve and enhance water quality and protect the beneficial uses of all Regional waters. Specifically, Basin Plans designate beneficial uses for surface waters and groundwater, set narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy, and describe implementation programs to protect all waters in the Regions. In addition, Basin Plans incorporate by reference all applicable State and Regional Board plans and policies, and other pertinent water quality policies and regulations. The Project is under the jurisdiction of the Basin Plan of the Colorado River Regional Water Quality Control Board.

Regional and Local

City of Blythe General Plan

Portions of the Project fall within the jurisdiction of the City of Blythe. The Open Space and Conservation Element of the City of Blythe General Plan 2025 (2007) sets forth guiding policies for the preservation of water quality within the zoning area of the City.

Open Space and Conservation Element

Policy 20: *Enhance the quality of surface water resources of the Planning Area and prevent their contamination*.

Policy 21: *Comply with the Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality in the Planning Area*.

Policy 22: *Where feasible, given flood control requirements, maintain the natural condition of waterways and flood plains and protect watersheds to ensure adequate groundwater recharge and water quality*.

3.2.10 Land Use and Planning

This section describes the environmental setting and regulatory framework in regards to land use and planning for the proposed Project and Alternatives. Applicable local land use plans include the General Plans and Zoning Ordinances/Codes for Riverside County and the City of Blythe and the Riverside County Airport Land Use Compatibility Plan. Approximately 3.8 miles of the 230 kV gen-tie line would traverse public lands managed by the BLM. The gen-tie line is located within or adjacent to CDCA Utility Corridor K and Section 368 Federal Energy Corridor 30-52, which overlap, and is within the Riverside East (SEZ). BLM-administered lands are not zoned, and may be encumbered by easements, ROWs, mining claims, and permits. Information regarding BLM ROW authorizations and easements were obtained from the Land & Mineral Legacy Rehost 2000 System of automated records (LR2000). Applicable federal land use plans include~~,~~ the CDCA Plan (BLM 1980), as amended, and the Northern and Eastern Colorado Desert Coordinated Management Plan. The CDCA Plan was amended by the Approved Resource Management Plan Amendments/Record of Decision for Solar Energy Development in Six Southwestern States (Western Solar Plan) (2012) to identify all SEZ lands within the CDCA as sites associated with power generation or transmission (at p. 36). The Project area is also encompassed within the Blythe Airport Land Use Compatibility Plan. Please see Section 3.2.8, Hazards and Hazardous Materials above for a discussion of compatibility with the ALUCP.

Environmental Setting

Regional Setting

The Project area is located in the Palo Verde Valley along the western edge of the Colorado River in the Colorado Desert. Palo Verde Valley consists of the valley floor and the Palo Verde Mesa. The proposed Project and Alternatives are on Palo Verde Mesa. The topography on the Palo Verde Mesa is relatively flat and slopes toward the southeast. Elevations range from 260 to 400 feet amsl. The Project area is near the Big Maria Mountains on the northwest, the McCoy Mountains on the west, the Mule Mountains on the southwest, and the Colorado River on the east. These mountain ranges, trending northwest to southeast, create a natural barrier between the Colorado River and the greater Colorado Desert. Development in the surrounding area consists of agricultural fields and groves, residences, the Blythe Airport, the Blythe Generating Plant, electrical transmission lines, and commercial businesses. The Project area also includes undeveloped open desert that is managed by the BLM (refer to Figure 1-1, in Chapter 1). The Project area would be located in eastern Riverside County, approximately five miles west of the Colorado River and 40 miles east of Desert Center (refer to Figure 1-2, in Chapter 1). The Project would be located north and south of I-10 and west of State Route 89 and Highway 95.

On-Site Land Uses

The Project is located within unincorporated Riverside County, City of Blythe Sphere of Influence, the City of Blythe, and on BLM-managed lands. The proposed 485 MW PV electrical generating facility and 8.4-mile gen-tie line would occupy a total of 3,660 acres. The fenced-in solar PV electric generation facility would occupy 3,587 acres on privately owned land—3,253 acres under the jurisdiction of the County and 334 acres under the jurisdiction of the City of Blythe. The solar facility would be located on the Palo Verde Mesa. Within the solar facility site, the 230 kV gen-tie line would connect all three proposed on-site substations, extending a distance of approximately 3.6 miles on-site. From the southernmost on-site substation to the Colorado River Substation, the gen-tie line would extend another 4.8 miles within a 125-foot-wide ROW (or 73 acres), traversing 3.8 miles of BLM-managed lands (58 acres) and one mile of private land (15 acres). The gen-tie line situated on BLM land would traverse open access roads (i.e., access by motorized vehicles is allowed).

Agriculture is the predominant land use on-site. The proposed solar facility includes both active and previously farmed agricultural lands. Active agricultural uses include a citrus grove, wheat, and alfalfa fields. Jojoba was previously grown for commercial purposes. Two existing occupied housing units are located on the proposed solar facility. The Project would be situated on both the north and south sides of I-10, a major regional transportation corridor extending east-west through the area. The site is located generally west of Neighbors Boulevard, north of 20th Avenue, and south of 10th Avenue. The zoning for the Project area is illustrated in Figure 1-3 in Chapter 1.

Portions of the Project located within the Palo Verde Valley Area Plan are currently zoned as follows:

- Controlled Development Areas (W-2-10) (10-acre minimum)
- Controlled Development Areas (W-2-5)
- Light Agriculture (A-1-10)
- Heavy Agriculture (A-2-10)

Portions of the Project located within the City of Blythe are currently zoned:

- Agriculture (A)
- Service Industrial (I-S)

Surrounding Land Uses

Land uses surrounding the Project consist primarily of open space and agricultural land to the east and south. Other uses in the area include the unincorporated community of Mesa Verde/Nicholls Warm Springs, Blythe Airport, Blythe Energy Center, NRG Solar – Blythe Solar Project, Blythe Substation, electrical transmission lines, ancillary agricultural facilities, and dirt roads.

The residential development known as Mesa Verde (Nicholls Warm Springs) is located on the south side of I-10. This community is mainly composed of single-family dwellings and mobile homes. There are also a small number of dispersed farm and rural residences near the solar facility, mostly located to the south and east. The nearest residence is located approximately 260 feet east of the proposed solar facility.

The Blythe Airport is located one mile to the west, and highway-serving commercial uses are located at the interchange south of the Airport on the north side of I-10. The 3,094-acre airport is the largest in eastern Riverside County and serves primarily general aviation demand in the Blythe area. The Airport is classified in the National Plan of Integrated Airport Systems as a general aviation transport airport, designed to accommodate business jets, cargo type aircraft, light private planes, and flight school training activities. The Blythe Airport currently has two runways (8/26 and 17/35). The primary runway is Runway 8/26, which is oriented generally east-west. This public facility, owned by Riverside County and managed by the City of Blythe, is often used as a base for crop spraying operations, flight rental, and flight instruction. Aircraft operations average 69 per day (AirNav 2012). The Blythe Airport has been designated

as a County redevelopment area with the intent to encourage expansion of airport facilities and commercial and industrial development at the airport.

Blythe Substation, situated east of the Blythe Airport, is owned by the Western Area Power Administration and connects five existing 161 kV transmission lines serving the region. The Blythe 230 kV gen-tie line also crosses the site in a northeasterly to southwesterly direction.

The area is also served by a spur line of the Arizona and California Railroad, I-10, and two State Highways. State Highway 95 runs north from Blythe to Needles and Las Vegas. State Highway 78 traverses the desert southwest from Blythe to the Imperial Valley.

Table 3.2.10-1 summarizes the existing land uses and general and area plan land use designations for the Project and surrounding area.

TABLE 3.2.10-1 SURROUNDING LAND USES, GENERAL PLAN, AND ZONING DESIGNATIONS

DIRECTION FROM PROJECT SOLAR FACILITY	EXISTING LAND USE	EXISTING LAND USE DESIGNATION
North	Vacant and Agriculture	Riverside County
		Agriculture
		Estate Density Residential
		Medium Density Residential
		Commercial Retail
		City of Blythe
		General Industrial (I-G)
East	Vacant and Agriculture	Riverside County
		Agriculture
		Estate Density Residential
		Commercial Tourist
		City of Blythe
		Agriculture (A)
		Service Industrial (I-S)
		General Commercial (C-G)
		Rural Residential (R-R)
		General Industrial (I-G)
South	Vacant and Agriculture	Riverside County
		Agriculture
		City of Blythe
		General Industrial (I-G)
West	Residential, Public Use, Vacant and Agriculture	Riverside County
		Agriculture
		Estate Density Residential
		Public Facilities
		City of Blythe
		General Industrial (I-G)

Source: General Plan and Zoning Map for City of Blythe (03/29/07).
Riverside County Land Information System (accessed 08/04/11).

The Project would be located on lands under the jurisdiction of the County of Riverside, the BLM, and the City of Blythe. A majority of the Project would be located within the County of Riverside and within the PVVAP. A portion of the solar array would be in the City of Blythe, and is subject to the City's General Plan. A portion of the Project's 230 kV gen-tie line would traverse BLM-managed lands. Refer to Figure 1-3 in Chapter 1, which illustrates the zoning for the County of Riverside and City of Blythe.

The adjacent and surrounding zonings within the PVVAP area consist of the following:

- Rural Residential (R-R)
- Light Agriculture (A-1-2 1/2 and A-1-10)
- Controlled Development Areas (W-2-10 and W-2-2 1/2)
- Residential Agricultural (R-A-5)
- Manufacturing-Service Commercial (M-SC)
- Controlled Development with Mobile Homes (W-2-M)
- Tourist Commercial (C-T)
- Scenic Highway Commercial (C-P-S)
- Industrial Park (I-P)
- Manufacturing-Heavy (M-H)
- Mobile Home Subdivision-Rural (R-T-R)
- Heavy Agriculture (A-2-10 and A-2-2 1/2)
- Natural Assets (N-A)

The adjacent and surrounding City of Blythe zoning consists of the following:

- Agriculture (A)
- Rural Residential (R-R)
- General Commercial (C-G)

Figure 1-4 in Chapter 1 illustrates the portion of the Project's gen-tie line that would traverse BLM-managed lands within the CDCA. These lands are designated Multiple-Use Class M (Moderate) which allows energy and utility development (BLM 1980). Within the CDCA, the Project's gen-tie line would be located within <u>or adjacent to</u> BLM's Utility Corridor K, which is also designated as Section 368 Federal Energy Corridor 30-52. Where it crosses public land, the gen-tie would be within the Riverside East SEZ. A majority of the private land portion of the Project would overlap BLM's Utility Corridor J.

Numerous authorized and proposed BLM ROWs are located within and adjacent to BLM Utility Corridor J and Utility Corridor K. Table 3.2.10-2 presents information on the existing and proposed ROWs, including the BLM ROW number, ROW width, total acreage, owner, and project type, which was obtained from BLM's LR2000. The table is organized based on location of the project within (1) Utility Corridor J or (2) Utility Corridor K and Corridor 30-52, which overlap, or (3) both Utility Corridors J and K and Corridor 30-52. Most projects listed in the table are existing ROW authorizations. A few of the proposed solar projects and transmission lines in Table 3.2.10-1, which are identified in bold font, are also listed in Table 4.1-1.

Regulatory Framework

<u>Federal</u>

Federal Land Policy and Management Act, 1976 as Amended

The United States Congress passed the FLPMA in 1976. Title V, "Rights-of-Way," of the FLPMA establishes public land policy and guidelines for administration, provides for management, protection, development, and enhancement of public lands, and provides the BLM authorization to grant ROW. Authorization of systems for generation, transmission, and distribution of electric energy is addressed in Section 501(4) of Title V. In addition, Section 503 specifically addresses "Right of Way Corridors" and requires <u>utilization of ROWs in</u> common ~~ROWs~~ "to the extent practical." ~~FLPMA, Title V, Section 501(a)(6)~~

TABLE 3.2.10-2 EXISTING AND PROPOSED ROWS WITHIN UTILITY CORRIDORS J AND K

BLM ROW NUMBER	ENTIRE ROW (1) DIMENSIONS, ACRES	OWNER	PROJECT/LAND USE TYPE	PROJECT NAME
Utility Corridor J				
CACA 004163	Unknown	SCE	500-kV Transmission Line	NA
CACA 08974	50 ft wide x 214,398 ft (246.10 acres)	Imperial Irrigation District	161-kV Transmission Line	Niland-Blythe
CACA 021597	10 ft wide x 2,609 ft (0.6)	Verizon California Inc.	Telecomm Line	NA
CACA 042662	Unknown	North Baja Pipeline LLC	30" Gas Pipeline	NA
CACA 046331	95 ft wide x 44.6 miles (513 acres)	FPL Energy Cabazon Wind LLC	Transmission Line	NA
CARI 000214	25 ft wide x 18,342 ft long (10.53) acres)	SCE	12-kV Transmission Line	Midland Extension
CARI 000489	Two 100-foot x 100-foot sites	USGS	Observation Wells	NA
CARI 0003583	50 ft wide x 1,305 ft long (1.5 acres)	Eddie Basha	Water Pipelines	NA
Utility Corridor K and Corridor 30-52				
CACA 013506	2.2 acres	FAA	Road & Comm. Site – Federal Facility	McCoy Mtn.
CACA 016385	40 ft wide x 48.5 miles (235.15 acres)	AT&T	Telecomm Line	NA
CACA 016386	40 ft wide x 49.5 miles (237 acres)	AT&T	Telecomm Line	NA
CACA 018888	15 ft wide x 48 miles (87.27 acres)	Sprint Communications	Telecomm Line	NA
CACA 020252	10 ft wide x 41,580 ft (9.54 acres)	Verizon California	Underground Telecomm Line	NA
CACA 024660	50 ft wide x 68,805 ft (78.97 acres)	Southern CA Gas Co.	36" Natural Gas Pipeline	NA
CACA 047307	6 ft wide x 1,189 ft (.016 acre)	SCE	Energy Transmission	NA
CACA 051475	640 acres	Palo Verde Solar I LLC	*Solar Energy; pending addition of land to CACA 048811.*	Blythe
CACA 051476	NA	Palo Verde Solar I LLC	*Non-Energy (Pipeline-Other) related pending development associated with CACA 048811.*	Blythe
CALA 0053795 or 0053821	400 ft wide x 2,640 ft long (24.24 acres)	CA Dept. of Public Works	Federal Highway Facility	NA
CACA 051477	NA	Palo Verde Solar I LLC	*Non-Energy (Telecomm) related pending development associated with CACA 048811*	Blythe
CALA 0110795	50 ft wide x 319,199 ft (366.4 acres)	Southern CA Gas Co.	Gas Pipeline	NA
CALA 0149780	100 ft wide x 181,875 ft (417.52 acres)	SCE	161-kV Transmission Line	Blythe – Eagle Mountain
CARI 004694	25 ft wide x unknown length (16.31 acres)	SCE	Transmission Line	NA
CARI 0001515	30 ft wide x unknown length (1 acre)	FAA	Airport Station	NA
CACA 044491	280 ft wide x 580,000 ft (3,729.2 acres)	Imperial Irrigation District	Transmission Line	NA

BLM ROW NUMBER	ENTIRE ROW (1) DIMENSIONS, ACRES	OWNER	PROJECT/LAND USE TYPE	PROJECT NAME
CACA 049980	Unknown	FERC	Pumped Storage Project	Eagle Mountain
CACA 051967	12,269 acres	BrightSource Energy	*Pending 540 MW Power Tower Solar Energy Project*	Sonoran West SEGS
CACA 052347	0.79 acre	SCE	Unknown Non-Energy Facility	NA
CARI 0001009	70 acres	FAA	Air Navigation Site	FAA Vortec Site, PLO 3205
CACA 027244	0.3 acres	Mountain West Communications	Telecomm Site and Access Road	Lower McCoy Peak
Utility Corridors J and K and Corridor 30-52				
CALA 0054204 CALA 000136 CARI 0004946	1,153.524 acres	CA Dept. of Public Works	Federal Highway	Interstate 10
CACA 020241	20 ft wide x 10 miles (23.2 acres)	SCE	33-kV Transmission Line	Chanslor
CACA 048811	7,025 acres	Palo Verde Solar I LLC	968 MW Photovoltaic Solar Energy Facility	Blythe
CACA 052175	0.1 acre	Genscape Inc.	Transmission line monitoring sites	Palo Verde Mesa
CALA 0054204 CALA 000136	1,153.524 acres	CA Dept. of Public Works	Federal Highway	Interstate 10
CALA 0107395	50 ft wide x 39 miles (24.25.56 acres)	Southern CA Gas Co.	30" Gas Pipeline	NA
CAAZLA 0077757 CACA 052663	50-100 ft. wide x unknown length (651.92 acres)	Bureau of Reclamation/Western Area Power Administration	161-kV Transmission lines	Parker-Blythe No. 1, Blythe-Knob, Gila/ Pilotknob
CACA 015563	20 ft wide x 5,200 ft. (2.38 acres)	Riverside County Transportation	Water pipeline	NA
CACA 029236FD	512.7 acres	Nature Conservancy	FLPMA Sec. 206 Exchange land	Dos Palmas/Salt Creek

BLM ROW NUMBER	ENTIRE ROW (1) DIMENSIONS, ACRES	OWNER	PROJECT/LAND USE TYPE	PROJECT NAME
CALA 0080941	Unknown	Bureau of Reclamation	Power Transmission/Irrigation Project	NA
CACA 017905 CACA 053059	130 ft wide x 57.2 miles (~ 901 acres)	SCE	500-kV Transmission line	**Devers-Palo Verde II**
CACA 049397	7,236.5 acres	First Solar Development Inc.	*Pending 600 MW photovoltaic solar energy project*	**Desert Quartzite**
CACA 053138	4,396 acres	Brightsource Energy	*Pending 750 MW concentrating solar energy project*	**Rio Mesa SEGP**

Source: BLM 2012c; BLM 2012d.

Notes: (1) Projects may be partially or entirely located within a Utility Corridor.
The data in the table is based on existing BLM GIS spatial data that identified J and K corridors as being two miles wide.
The data in the table are based on data from LR 2000 that was last updated in July 2010, accessed April 2012.
(2) Project names that are in a bold font are also listed in Table 4.1-1, *Cumulative Projects*.

Key: CACA - Assigned California BLM ROW serial numbers for projects
FERC – Federal Energy Regulatory Commission
ft – feet
NA – Not Available
SCE – Southern California Edison

~~states, "[t]he Secretary, with respect to the public lands (including public lands, as defined in section 103(e) of this Act, which are reserved from entry pursuant to section 24 of the Federal Power Act (16 U.S.C. § 818)) [P.L. 102-486, 1992] and, the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for roads, trails, highways, railroads, canals, tunnels, tramways, airways, livestock driveways, or other means of transportation except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System."~~

The Applicant is requesting a grant of ROW approval from the BLM (Palm Springs-South Coast Field Office) for the portion of the gen-tie line on land under the jurisdiction of the BLM.

See also Sections 3.2.1, *Aesthetics, Visual Resources, and Reflection*, and 3.2.5, *Cultural Resources*.

California Desert Conservation Area Plan, 1980 as Amended

Section 601 of the FLPMA required preparation of a long-range plan for the CDCA. The CDCA Plan was adopted in 1980 to provide for the use of public lands and resources of the CDCA in a manner that enhances, wherever possible, and does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million acres. Approximately 12 million acres (about half) of this total are public lands administered by the BLM. These public lands are dispersed throughout the California Desert, which includes the Mojave Desert, the Sonoran Desert, and a small portion of the Great Basin Desert.

The CDCA Plan includes 12 elements: Cultural Resources; Native American; Wildlife; Vegetation; Wilderness; Wild Horse and Burro; Livestock Grazing; Recreation; Motorized Vehicle Access; Geology, Energy and Mineral Resources; Energy Production and Utility Corridors; and Land-Tenure Adjustment. Each of the elements contains goals and specific actions for the management, use, development, and protection of the resources and public lands within the CDCA, and is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. In addition, each element provides both a desert-wide perspective of the planning decisions for one major resource or issue of public concern as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

Chapter 2 of the CDCA Plan identifies four multiple-use classes, which are used to describe a different type and level or degree of use that is permitted within that particular geographic area. The four multiple-use classes are defined below. The Energy Production and Utility Corridors Element of the CDCA Plan indicates that the width of joint-use corridors vary in width from two to five miles. There is an acceptable two-mile standard for separation of existing facilities. A two-mile width generally provides sufficient flexibility in selecting alternative routes for a ROW. Also, a two-mile width generally provides sufficient space for evaluating a number of possible alternate routes. However, the CDCA Plan goes on to explain that the five-mile standard is selected where there is no existing facility and, therefore, little or no engineering and environmental data to define a narrower corridor alignment. The CDCA Plan states that the five-mile standard is also selected in those cases where there are so many facilities or merging corridors that a five-mile width is needed to ensure sufficient space for system integrity and flexibility.

Multiple-Use Class C

Multiple-Use Class C has two purposes. First, it shows those areas that are being "preliminarily recommended" as suitable for wilderness designation by Congress. This process is fully explained in the Wilderness Element in the CDCA Plan. Second, it will be used in the future to show those areas formally designated as wilderness by Congress. The Class C guidelines are different from the guidelines for other classes, as they summarize the kinds of management likely to be used in these areas in the CDCA when and if they are formally designated wilderness by Congress.

Multiple-Use Class L

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.

Multiple-Use Class M

Multiple-Use Class M (Moderate Use) is based upon a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources that permitted uses may cause.

Multiple-Use Class I

Multiple-Use Class I is an "intensive use" class. Its purpose is to provide for concentrated use of lands and resources to meet human needs. Reasonable protection will be provided for sensitive natural and cultural values. Mitigation of impacts on resources and rehabilitation of impacted areas will occur insofar as possible. The proposed gen-tie line would be situated within Multiple-Use Class M under the BLM's CDCA Plan. Multiple-Use Class M allows energy and utility development (BLM 1980).

Utility Corridor K

The CDCA Plan identifies "planning" and "contingency" utility corridors on BLM-administered land. One of the broad goals of the BLM system of utility corridors is to implement the network of joint-use planning corridors to meet projected utility needs. Planning corridors, commonly referred to as "designated" corridors, are the locations where the BLM requests that applicants focus their attention in developing proposals for linear facilities on BLM-administered land. "Contingency" corridors are identified as having potential for use in the future and can become a "designated" corridor after completion of a land use plan amendment. Both types of corridors are identified in the CDCA Plan using an alphabetic designation.

The Project's gen-tie line would be located within BLM Designated Utility Corridor K, as identified ~~in~~ within or adjacent to the CDCA Plan. The CDCA Plan designated utility Corridor K for "multi-modal use," allowing the following types of facilities:

- New electrical gen-tie towers and cables of 161 kV or above;
- all pipelines with diameters greater than 12 inches;
- coaxial cables for interstate communications; and
- major aqueducts or canals for interbasin transfers of water.

Utility Corridor K is also designated as Section 368 Federal Energy Corridor 30-52 in the Record of Decision for the West-Wide Energy Corridor Programmatic EIS (BLM 2009). Energy Corridor 30-52 is identified for "multi-modal use," which allows for electricity transmission and distribution facilities, as well as oil, gas, and hydrogen pipelines. Section 368 corridors are identified with a numeric designation and are often overlain on locally designated corridors, as is the case with the east-west Section 368 Corridor 30-52 overlying BLM Designated Utility Corridor K.

Northern and Eastern Colorado Desert Coordinated Management Plan

Refer to Section 3.2.4, *Biological Resources*, and Section 3.2.14*, Recreation*.

Wild Horse and Burro Act of 1971, as Amended

Refer to Section 3.2.4, *Biological Resources*.

California Desert Renewables Energy Conservation Plan

Refer to Section 3.2.4, *Biological Resources*.

Programmatic Environmental Impact Statement to Develop and Implement Agency-Specific Programs for Solar Energy Development

In response to direction from Congress under Title II, Section 211 of the Energy Policy Act of 2005, as well as Executive Order 13212, Actions to Expedite Energy-Related Projects, the BLM and the U.S. Department of Energy have prepared a Solar Programmatic EIS (PEIS) pursuant to NEPA and CEQ regulations. The Solar PEIS evaluates utility-scale solar energy development in a six-state area, including that portion of the CDCA that is open to solar energy development in accordance with the provisions of the CDCA Plan. The Solar PEIS planning effort has focused on identifying locations on BLM lands that are most suitable for solar energy development. Portions of the proposed 230 kV gen-tie line would be within BLM-managed lands and the Riverside East SEZ; the proposed solar facility is located on private lands and therefore would not be within the Riverside East SEZ. The Final Solar PEIS was released on July 24, 2012. The BLM issued a Record of Decision on October 12, 2012, that amended the CDCA Plan to identify all SEZ lands within the CDCA as sites associated with power generation or transmission.

Local

Land use and planning decisions within and adjacent to the Project area are guided and regulated by the Riverside County General Plan, PVVAP, City of Blythe General Plan, Riverside County Zoning Ordinance, and City of Blythe Zoning Ordinance. The relevant plans contain goals, policies, and implementation measures that provide an overall foundation for establishing land use patterns. This section lists relevant goals, objectives, policies, and implementation measures related to the proposed land use. The Riverside County and City of Blythe Zoning Ordinances contain regulations through which the applicable General Plan's provisions are implemented. The RCALUCP establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports. The most relevant regulations pertaining to solar energy development are presented below.

Regional Comprehensive Plan and Regional Transportation Plan

Refer to Section 3.2.15, *Traffic and Transportation*.

Riverside County General Plan

Adoption of the 2003 Riverside County General Plan (RCGP) was on October 7, 2003. Through a series of resolutions, the Board of Supervisors adopted an update in 2008. This subsection draws primarily upon the most current, 2008 update. The RCGP consists of a vision statement and the following elements: Land Use, Circulation, Multi-purpose Open Space, Safety, Noise, Housing, Air Quality, and Administration. The RCGP sets forth County land use policies and guidance for implementation. The RCGP is augmented by more detailed Area Plans covering the County's territory. Area Plans provide a clear and more focused opportunity to enhance community identity within the County and stimulate quality of life at the community level.

RCGP land use designations within the Project area include Agriculture (AG) and Estate Density Residential-Rural Community (EDR-RC). The Agriculture land use designation is established to help conserve productive agricultural lands within the County. These include row crops, nurseries, citrus groves and vineyards, dairies, ranches, poultry and hog farms, and other agriculture-related uses. Areas designated AG generally lack an infrastructure that is supportive of urban development. This land use designation allows one single-family residence per 10 acres except as otherwise specified by a policy or an overlay. The RC designation is a foundation component in the RCGP that identifies communities that exhibit a rural character and allows limited development. The EDR land use designation allows single-family detached residences on large parcels of two to five acres. Limited agriculture and intensive equestrian and animal keeping uses are expected and encouraged.

Policies at the General Plan and Area Plan levels implement the vision and goals of Riverside County. The County of Riverside Vision details the physical, environmental, and economic qualities that the County aspires to achieve by the year 2020. Using that Vision as the primary foundation, the RCGP establishes policies for development and conservation within the entire unincorporated County territory (Riverside County 2008). The General Plan's policy goals that are potentially relevant to land use for the Project are provided below. Additional County of Riverside General Plan policy goals are detailed in other sections of this chapter, as applicable to the environmental resource topic analyzed.

Land Use Element (LU)

Policy LU 2.1.c. *The County shall provide a broad range of land uses, including a range of residential, commercial, business, industry, open space, recreation and public facility uses (General Plan pg. LU-20).*

Policy LU 5.1. *The County shall ensure that development does not exceed the ability to adequately provide supporting infrastructure and services (General Plan LU-24).*

Policy LU 6.1. *Require land uses to develop in accordance with the Riverside County General Plan (RCGP) and area plans to ensure compatibility and minimize impacts.*

Policy LU 6.2. *Notwithstanding the Public Facilities designation, public facilities shall also be allowed in any other land use designation except for the Open Space- Conservation and Open Space- Conservation Habitat land use designations. For purposes of this policy, a public facility shall include all facilities operated by the federal government, the State of California, the County of Riverside, any special district governed by the County of Riverside or any city, and all facilities operated by any combination of these agencies.*

Policy LU 7.1. *The County shall accommodate the development of a balance of land uses that maintain and enhance the County's fiscal viability, economic diversity and environmental integrity (General Plan LU-26).*

Policy LU 8.1. *The County shall provide for the permanent preservation of open space lands that contain important natural resources and scenic and recreational values (General Plan LU-28).*

Policy LU 8.2*. Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the RCGP and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.*

Policy LU 9.1. *Require that new development contribute their fair share to fund infrastructure and public facilities such as police and fire facilities.*

Policy LU 13.1. *The County shall preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public (General Plan LU-31).*

Policy LU 13.5. *Require new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground.*

Policy LU C 25.2 *Locate new and relocated utilities underground when possible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public.*

Policy LU 15.15. *The County shall permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside (General Plan LU-37).*

Multi-Purpose Open Space Element (OS)

Policy OS 11.3. *Permit and encourage the use of passive solar devices and other state-of-the-art energy resources.*

Policy OS 15.2. *Development of renewable resources should be encouraged.*

Palo Verde Valley Area Plan

The Project is located on the Palo Verde Mesa in the Palo Verde Valley area within unincorporated Riverside County. The Project is within the planning area for the PVVAP. The PVVAP provides customized direction specifically for this easternmost reach of the County. The PVVAP guides the evolving character of the agricultural and desert area. The PVVAP focus is on the Colorado River and is anchored in the City of Blythe. The PVVAP planning area is bordered by Imperial County on the south, desert lands on the north and west, and the Colorado River on the east. The PVVAP is an extension of the RCGP and vision. The PVVAP's policy goals most relevant to the Project are provided in Sections 3.2.1, *Aesthetics, Visual Resources, and Reflection*; 3.2.2, *Agriculture*; 3.2.6, *Geology and Soils*; and 3.2.13, *Recreation*.

Riverside County Land Use Ordinance

Ordinance No. 348.4596 amends Ordinance No. 348 to authorize solar power plants on lots ten acres or larger, subject to a conditional use permit in the following zone classifications: General Commercial (C-1/C-P), Commercial Tourist (C-T), Scenic Highway Commercial (C-P-S), Rural Commercial (C-R), Industrial Park (I-P), Manufacturing Servicing Commercial (M-SC), Medium Manufacturing (M-M), Heavy Manufacturing (M-H), Mineral Resources (M-R), Mineral Resource and Related Manufacturing (M-R-A), Light Agriculture (A-1), Light Agriculture with Poultry (A-P), Heavy Agriculture (A-2), Agriculture-Dairy (A-D), Controlled Development (W-2), Regulated Development Areas (R-D), Natural Assets (N-A), Waterways and Watercourses (W-1), and Wind Energy Resource Zone (W-E). Ordinance No. 348.4596 was last updated in 2010.

Portions of the proposed solar facility site would be located within unincorporated Riverside County and areas currently zoned[5] as Controlled Development Areas (W-2-10), Controlled Development Areas (W-2-5), Light Agriculture (A-1-10), and Heavy Agriculture (A-2-10).

City of Blythe General Plan and Zoning Ordinance

The City of Blythe General Plan 2025 (General Plan) was adopted in March 2007 and includes the seven elements required by State law (Land Use, Housing, Circulation, Open Space, Conservation, Noise, and Safety) and other elements that address local concerns and regional requirements. The General Plan includes guiding policies and implementing policies. Together, the guiding and implementing policies articulate a vision for Blythe that the General Plan seeks to achieve.

The General Plan land use designations/zones within the solar facility include Agriculture (A) and Service Industrial (I-S). The Agriculture land use designation/zone allows for the continued cultivation of land and for associated uses commonly tied to agriculture including the grazing of animals. Residential units are allowed at a density of one per 20 acres. Agriculture associated commercial uses, feed lots (more than forty head), labor camps, and recreational activities are allowed with a conditional use permit.

For the Agriculture zone, the City of Blythe Zoning Code lists utility operations facilities among the uses permitted through obtaining a conditional use permit.

The I-S land use designation/zone is intended to provide areas appropriate for moderate- to low-intensity industrial uses capable of being located next to commercial and residential areas with minimum buffering. Allowable uses include light manufacturing, wholesaling, distribution, storage, retailing as an accessory use only, and offices in a landscaped setting. Small restaurants and convenience stores will be permitted as ancillary uses, subject to appropriate standards. No raw materials processing would be allowed. The maximum Floor Area Ratio is 0.4, but increases may be permitted, up to 0.8, for uses such as wholesale, distribution, and storage with low employment intensity.

[5] Refinements to the County Riverside's zoning is ongoing. The zoning in the Project area was recently updated in 2012; therefore, the zoning classifications listed in Ordinance No. 348.4596 do not match. However, the categories, such as Controlled Development, Light Agriculture, and Heavy Agriculture have not changed.

The City of Blythe Zoning Code lists utility operations facilities among the permitted uses in the I-S zone. Utility operations facilities are defined as facilities involved in the operation of the various public and quasi-public utilities, such as telephone switchboard centers, electrical generating plants and terminals, sewage treatment plants, and water pumping stations or reservoirs.

City of Blythe General Plan policies most relevant to land use for the proposed Project are provided below.

Land Use Element

Policy 23. *As required by Public Utilities Section 21676(b), prior to City approval, appropriate pre-zoning, specific plan, planned unit development, individual development projects, or other actions involving land within the City Sphere of Influence and AIA designated "planned development" will be submitted to the ALUC for review.*

Open Space and Conservation Element

Refer to Sections 3.2.1, *Aesthetics, Visual Resources, and Reflection;* 3.2.2, *Agriculture*; and 3.2.6, *Geology and Soils*.

3.2.11 Noise

This section describes the environmental setting and regulatory framework in regards to noise for the proposed Project and Alternatives. Noise can be defined as unwanted sound. Human response to noise is most commonly expressed as an annoyance, and the level of annoyance may be affected by the amplitude (intensity or energy content) of the noise, its frequency (pitch), its duration of exposure, and/or its recurrence. Environmental noise is measured in decibels (dB). The A-weighted decibel scale (dBA) is used to approximate the range of sensitivity of the human ear to sounds of different frequencies. A noise level is a measure of noise at a given instance in time. A change in level of at least 5 dBA is noticeable to most people, and a 10-dBA increase is judged by most people as a doubling of the sound level. Typical noise sources and noise environments for common indoor and outdoor activities are listed in Table 3.2.11-1.

TABLE 3.2.11-1 TYPICAL NOISE SOURCES AND NOISE ENVIRONMENTS

COMMON OUTDOOR ACTIVITIES	NOISE LEVELS (DBA)	COMMON INDOOR ACTIVITIES
Jet Fly-over at 1,000 feet	110-120	Rock Band
Gas Lawn Mower at 3 feet	90-100	n/a
Diesel Truck at 50 feet, at 50 mph	80-90	Food Blender at 3 feet
Commercial Area, Gas Lawn Mover at 100 feet	70	Vacuum Cleaner at 10 feet
Heavy Traffic at 300 feet	60	Normal Speech at 3 feet
Quiet Urban Area (daytime)	40-50	Large Business Office
Quiet Urban Area/Suburban Nighttime	30-50	Theater, large Conference Room (background)
Quiet Rural Nighttime	20-30	Library, Bedroom at Night, Concert Hall (background)
NA	20-10	Broadcast/Recording Studio

Source: Caltrans 2009.
mph = miles per hour
NA = not available

The decibel scale is based on logarithms, and two noise sources do not combine in a simple additive fashion; rather, they combine logarithmically. For example, if two identical noise sources produced noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Exposure and Community Noise

Community noise is primarily the product of many distant noise sources, which change gradually throughout a typical day. During the nighttime, exterior background noises are generally lower than the daytime levels. Most household noise also decreases at night and exterior noise becomes more noticeable. Further, most people sleep at night and are more sensitive to noise intrusion during evening and nighttime hours. To account for human sensitivity to noise levels at differing times of day, the Community Noise Equivalent Level (CNEL) was developed. CNEL is a noise index that accounts for the greater annoyance of noise during the evening and nighttime hours. CNEL values are calculated by averaging hourly L_{eq} (equivalent continuous noise level) sound levels for a 24-hour period, and apply a weighting factor to evening and nighttime L_{eq} values. To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. The weighting factor, which reflects increased sensitivity to noise during evening and nighttime hours, is added to each hourly L_{eq} sound level before the 24-hour CNEL is calculated. For the purposes of assessing noise, the 24-hour day is divided into three time periods with the following weighting:

- Daytime: 7 a.m. to 7 p.m., weighting factor of 0 dB
- Evening: 7 p.m. to 10 p.m., weighting factor of 5 dB
- Nighttime: 10 p.m. to 7 a.m., weighting factor of 10 dB

Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Rural and suburban areas generally have lower noise levels (approximately 20 to 50 dBA) than commercial or industrial zones (approximately 70 dBA). Levels around 75 dBA are more common around busy urban areas, and levels up to 85 dBA occur near major freeways and airports. In areas with human occupants, noise levels above 45 dBA during nighttime hours may disrupt sleep and therefore may be considered adverse. At 70 dBA, sleep interference effects become considerable (EPA 1974).

Noise Attenuation

Sound level naturally decreases as one moves farther away from the source. The ground surface (reflective or absorptive) is also a factor in the sound levels. Point sources of noise, such as stationary mobile equipment or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source when in an area with a reflective ground surface (e.g., parking lots). In areas where the ground is absorptive (e.g., soft dirt, grass, or scattered bushes and trees), noise attenuation from a point source is 7.5 dBA for each doubling of distance due to ground absorption (Caltrans 1998). Noise from large construction sites would have characteristics of both “point” and “line” sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance.

Widely distributed noises, such as a street with moving vehicles (a “line” source), typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive, the excess ground attenuation rate would be 4.5 dBA for each doubling of distance (Caltrans 1998).

Noise attenuation rates for both line and point sources of noise may also be influenced by atmospheric effects, such as wind and temperature gradients. Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as a maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The room mean square (RMS) amplitude is the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.

Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

Environmental Setting

The primary noise sources in the proposed Project and Alternatives area are traffic from I-10 and nearby roadways; airplane noise from the Blythe Airport; steam blowing from the Blythe Energy Center, sounds from the agricultural operations; sounds emanating from neighborhoods (e.g., voices, radio and television broadcasts); and naturally occurring sounds (e.g., winds, wind-generated noises). Generally, intermittent, short-term noises do not significantly contribute to longer-term noise averages.

I-10 is a major transportation artery and the primary noise source in the area. Noise measurements within 300 feet of I-10 range from 65 dBA to levels exceeding 82 dBA caused by the passage of heavy trucks (Blythe 2007). During peak use periods, traffic noise levels can range from 80 to 90 dBA at 50 feet from the shoulder of the interstate. State Route 78 experiences lower traffic volumes and vehicle speeds and therefore likely have somewhat lower associated noise levels (BLM 2005). Agricultural activities are conducted on land within the proposed Project boundary. Noise associated with farming activities includes that generated by heavy equipment used for cultivation and harvesting. Maximum noise levels associated with farm equipment typically range from 75 to 85 dBA at a distance of 50 feet. Noise impact contours for the Blythe Airport range from 65 CNEL, 60 CNEL, to 55 CNEL. The most stringent noise contour boundary (55 CNEL) is approximately 1,000 feet from the runways (RCALUCP 2004).

Ambient noise measurements were not conducted for the proposed Project because information could be extrapolated from noise measurements that were taken for the Blythe Energy Center Project. With the Blythe Energy Center in operation, the lowest average background noise level measured at 16531 West Hobson Way (APN 824-090-025) over any four-hour period was 47 dBA (L_{90}) (CEC 2005). L_{90} is generally taken as the background noise level. The noise level is primarily influenced by highway traffic. Other background noise contributions were attributed to airplane overflights associated with the Blythe Airport. The average ambient noise level on the northern boundary of the Blythe Energy Center was 44 dBA L_{eq} (CEC 1999). The lower noise level is a result of the property being farther away from I-10.

Noise-Sensitive Receptors

In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

There are 369 residences within one mile of the solar facility and illustrated in Figure 3.2.1-1. Table 3.3.11-2 lists the parcel numbers of residences within a 0.25-mile (1,320 feet) of the proposed solar facility site; no residences are within 0.25-mile of the portion of the gen-tie line that extends outside the solar facility site. Within the solar facility site, three existing residences (two residences on APN 863-100-016 and one residence on APN 863-060-015) would be removed as part of the Project and therefore would not be considered sensitive receptors of the Project. The closest residence (APN 824-110-020) is approximately 260 feet away from the property boundary and adjacent to an area of the Project that is proposed to contain solar arrays. In addition, the Project is approximately 0.4 mile (2,200 feet) from the Mesa Verde Park and approximately 0.8 mile (4,400 feet) from the Roy Wilson Community and Child Center. The closest occupied residence to the Project's proposed 230 kV gen-tie line is approximately 0.7 mile (3,670 feet); the closest unoccupied mobile home (APN 863-020-002) is approximately 0.4 mile (1,960 feet). No schools, hospitals, libraries, or convalescent homes are located within one mile of the proposed Project.

TABLE 3.3.11-2 RESIDENCES WITHIN 0.25-MILE OF THE PROPOSED PROJECT

PARCEL NUMBER	DISTANCE FROM PROPOSED PROJECT (FEET)
863-060-015	within solar facility site
863-100-016	within solar facility site(two residences)
824-110-020	260 feet
824-090-025	576 feet
863-020-002	615 feet and 1,250 feet (two residences)
824-110-028	700 feet and 1,085 feet (two residences)
824-110-016	795 feet
824-110-004	855 feet
824-110-022	1,025 feet

Source: Riverside County 2011a.

Regulatory Framework

Federal

Occupational Safety and Health Act

The Occupational Safety and Health Act of 1970 (OSHA) set on-site occupational noise exposure levels, which are regulated in California via the Cal/OSHA. The maximum time-weighted average noise exposure level of workers is 90 dBA over an eight-hour work shift (29 CFR ~~Part~~ 1910.95).

State

California Occupational Safety and Health Administration

The California Department of Industrial Relations, Division of Occupational Safety and Health, enforces Cal/OSHA regulations, which are the same as the federal OSHA regulations described above. The regulations are contained in Title 8 of the CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095.

California Vehicle Code

The California Vehicle Code, Sections 23130 and 23130.5, limits highway vehicle noise and is enforced by the California Highway Patrol and the County Sheriff's Office.

California State Planning Law

The State of California requires local jurisdictions (via California Government Code Section 65302(f)) to develop general plans that include "Noise Elements." A key component of determining land use compatibility is defining appropriate noise thresholds and where such standards apply. "Noise-sensitive" land use classifications in the state of California include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. For exterior living areas, such as yards and patios, the noise threshold guideline for new residential land uses is 55 dBA CNEL and must not exceed 65 dBA CNEL.

Local

Riverside County General Plan

The Riverside County General Plan's Noise Element includes noise compatibility guidance. The Land Use Compatibility for Community Noise Exposure, included in the noise element, indicates that residential low density, single family, duplex, and mobile homes are normally acceptable up to 60 dBA day-night average sound level (L_{dn}) or CNEL.

Riverside County's Ordinance No. 847 addresses noise. Ordinance No. 847 states: "This ordinance is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are hereby established." Accordingly, noise in excess of the standards set in Ordinance 847 does not necessarily create a significant impact. Section 4 of ordinance 847, lists maximum nighttime and daytime sound levels for occupied property by General Plan land use designation (Riverside County 2011b). The most restrictive limit would apply to the nearest occupied receptors, which are classified as Rural Residential. The ordinance indicates the maximum decibel level allowed in Rural Residential is a daytime and nighttime limit of 45 dBA L_{max} (maximum sound level) when measured at the exterior of an occupied property:

- Private construction projects located one-quarter of a mile or more from an inhabited dwelling; or
- private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that: 1) Construction does not occur between the hours of 6 p.m. and 6 a.m. during the months of June through September; and 2) Construction does not occur between the hours of 6 p.m. and 7 a.m. during the months of October through May.

The Riverside County General Plan includes policies that address noise within the County boundaries. The policies that would be applicable to the proposed Project are included below.

Noise Element (N)

Policy N 1.4. *Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.*

Policy N 1.5. *Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.*

Policy N 3.3. *Ensure compatibility between industrial development and adjacent land uses. To achieve compatibility, industrial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.*

Policy N 7.1. *New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix L and summarized in the Policy Area section of the affected Area Plan.*

Policy N 7.4. *Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan's Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.*

Policy N 12.1. *Minimize the impacts of construction noise on adjacent uses within acceptable practices.*

Policy N 12.2. *Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.*

Land Use Element (LU)

Policy LU 6.2(a). *The facility is compatible in scale and design with surrounding land uses, and does not generate excessive noise, traffic, light, fumes, or odors that might have a negative impact on adjacent neighborhoods.*

Policy LU 6.4. *Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.*

Riverside County Airport Land Use Commission New Compatibility Plan

Noise policies related to the Riverside County Airport Land Use Commission's New Compatibility Plan are provided below.

Policy 3.1.4. *Nonresidential Development:* The compatibility of nonresidential development shall be assessed primarily with respect to its usage intensity (the number of people per acre) and the noise-sensitivity of the use. Additional criteria listed in Table 2A shall also apply.

- The total number of people permitted on a project site at any time, except for rare special events, must not exceed the indicated usage intensity times the gross acreage of the site.
- Usage intensity calculations shall include all people (e.g., employees, customers/ visitors, etc.) who may be on the property at any single point in time, whether indoors or outside.
- Rare special events are ones (such as an air show at an airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.
- No single acre of a project site shall exceed the number of people per acre indicated in Policy 4.2.5(b) and listed in Table 2A unless special risk reduction building design measures are taken as described in Policy 4.2.6.
- The noise exposure limitations cited in Policy 4.1.4 and listed in Table 2B shall be the basis for assessing the acceptability of proposed nonresidential land uses relative to noise impacts. The ability of buildings to satisfy the interior noise level criteria noted in Policy 4.1.6 shall also be considered.

Policy 3.1.6. *Other Development Conditions:* All types of proposed development shall be required to meet the additional conditions listed in Table 2A for the respective compatibility zone where the development is to be located. Among these conditions are the following:

- Avigation Easement Dedication: See Policy 4.3.5.
- Deed Notice: See Policy 4.4.3.
- Real Estate Disclosure: See Policy 4.4.2.
- Noise Level Reduction: See Policy 4.1.6.
- Airspace Review: See Policy 4.3.3.

Policy 4.1.1. *Policy Objective:* The purpose of noise compatibility policies is to avoid establishment of noise-sensitive land uses in the portions of airport environs that are exposed to significant levels of aircraft noise.

Policy 4.1.2. *Noise Contours:* The evaluation of airport/land use noise compatibility shall consider both the current and future CNEL contours of each airport as depicted in Chapter 3 of this *Plan*.

- At most airports in the county, anticipated growth in aircraft operations results in projected future noise contours being larger than current ones. However, in some instances, factors such as introduction of a quieter aircraft fleet mix, planned changes to the configuration of airport runways, or expected modifications to flight procedures can result in current contours being larger than the future contours in some or all of the airport environs. In these cases, a

composite of the contours for the two time frames shall be considered in compatibility analyses.

- For airport at which aircraft activity has substantial seasonal or weekly characteristics, noise contours associated with the peak operating season or days of the week shall be taken into account in assessing land use compatibility.
- Projected noise contours included in Chapter 3 are calculated based upon forecasted aircraft activity as indicated in an airport master plan or that is considered by the Riverside County Airport Land Use Commission to be plausible (refer to activity data in the Background Data volumes). The Airport Land Use Commission or the entities that operate airports in Riverside County should periodically review these projected noise level contours and update them if appropriate.

Policy 4.1.3. *Application of Noise Contours:* The locations of CNEL contours are among the factors used to define compatibility zone boundaries and criteria. Because of the inherent variability of flight paths and other factors that influence noise emissions, the depicted contour boundaries are not absolute determinants of the compatibility or incompatibility of a given land use on a specific site or a portion thereof. Noise contours can only quantify noise impacts in a general manner. Except on large parcels or blocks of land (sites large enough to have 3 dB or more of variation in CNELs), they should *not* be used as site design criteria. (Note, though, that the airport noise contours set forth in this *Plan* are to be used as the basis for determining compliance with interior noise level criteria as listed in Policy 4.1.6.)

Policy 4.1.4. *Noise Exposure in Residential Areas:* Unless otherwise indicated in the airport-specific policies listed in Chapter 3, the maximum CNEL considered normally acceptable for new residential land uses in the vicinity of the airports covered by this *Plan* is 60 dB for all airports except low-activity outlying airports (Chiriaco Summit and Desert Center) for which the criterion is 55 dB. These standards shall be based upon noise contours calculated as described above.

Policy 4.1.5. *Noise Exposure for Other Land Uses:* Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. The extent of outdoor activity associated with a particular land use is an important factor to be considered in evaluating its compatibility with airport noise. Examples of acceptable noise levels for other land uses in an airport's vicinity are presented in Table 2B.

Policy 4.1.6. *Interior Noise Levels:* Land uses for which interior activities may be easily disrupted by noise shall be required to comply with the following interior noise level criteria.

- The maximum, aircraft-related, interior noise level that shall be considered acceptable for land uses near airports is 45 dB CNEL in:

    - Any habitable room of single- or multi-family residences;
    - Hotels and motels;
    - Hospitals and nursing homes;
    - Churches, meeting halls, theaters, and mortuaries;
    - Office buildings; and
    - Schools, libraries, and museums.

- The noise contours depicted in Chapter 3 of this Plan shall be used in calculating compliance with these criteria. The calculations should assume that windows are closed.
- When reviewed as part of a general plan or zoning ordinance amendment or as a major land use action, evidence that proposed structures will be designed to comply with the above criteria shall be submitted to the ALUC under the following circumstances:

    - Any mobile home situated within an airport's 55-dB CNEL contour. [A typical mobile home has an average exterior-to-interior noise level reduction (NLR) of approximately 15 dB with windows closed.]

City of Blythe General Plan

City policies in the City of Blythe General Plan 2025 (2007) related to noise are located in the Noise Element Guiding Policies of the City General Plan, and include:

Noise Element

Policy 1 (Noise): Protect the citizens of the City of Blythe from the harmful effects of exposure to excessive noise.

Policy S-1: *Areas shall be recognized as noise impacted if exposed to existing or projected future noise levels at the property line which exceed 65 L_{dn} (or CNEL).*

Policy S-2: *Noise sensitive land uses should be discouraged in noise impacted areas unless effective mitigation measures are incorporated into the specific design of such projects to reduce exterior noise levels to 65 dB L_{dn} (or CNEL) or less and 45 dB L_{dn} (or CNEL) or less within interior living spaces. Areas shall be designated as noise-impacted if exposed to existing or projected future noise levels at the exterior of buildings which exceed 60 dB L_{dn} (or CNEL).*

Policy S-3: *New industrial, commercial or other noise generating land uses (including roadways, railroads, and airports) should be discouraged if resulting noise levels will exceed 65 dB L_{dn} (or CNEL) at the boundary areas of planned or zoned noise sensitive land uses.*

Policy S-7: *The City shall review all relevant development plans, programs and proposals to ensure their conformance with the policy framework outlined in this Noise Element.*

Policy S-9: *Development on the Blythe Municipal Airport shall conform with the Blythe Airport Master Plan to minimize the impact of airport operation on noise sensitive land uses.*

Policy S-10: *Proposed land uses within the Airport Influence Area shall be reviewed for consistency with the Noise Compatibility Criteria set forth in Table 8.2-2, with Figure 8-5 Ultimate Noise Impacts used as a review guide.*

Policy 1 (Land Use Compatibility): *Areas within the City of Blythe shall be designated as noise impacted if exposed to existing or projected future noise levels at the exterior of buildings which exceed 60 dB L_{dn} (or CNEL).*

3.2.12 Paleontological Resources

A paleontological resource is any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that provide the only direct evidence of ancient life. They are considered to be non-renewable resources because they cannot be replaced once they are destroyed. For the purpose of this analysis, and accordance with the BLM Potential Fossil Yield Classification System (PFYC), scientifically significant paleontological resources are defined as vertebrate fossils that are identifiable to taxon and/or element, noteworthy occurrences of invertebrate and plant fossils, and vertebrate trackways.

Paleontological resources were inventoried and are described for the proposed Project and Alternatives. This section summarizes the results of a literature review and records searches regarding paleontological resources that could potentially be impacted by the Project and Alternatives. The information in this section is based on the *Blythe Mesa Solar Project Paleontological Resources Survey Report*, prepared by John Minch and Associates, Inc. 2012 (Appendix I of this Final EIR/EA). This section also describes the affected environment and regulatory setting for paleontological resources.

Environmental Setting

Geologic Units within the Project Area

According to geologic mapping, Figure 3.2.6-1, the majority of the solar facility is underlain by alluvial deposits of the Palo Verde Mesa of Pleistocene age (Qpv); the gen-tie line corridor is underlain by Quaternary Alluvium of Holocene age (Qa_6) and Aeolian Sand (Qs) Holocene. The alluvial deposits of the Palo Verde Mesa are composed of unconsolidated sand and pebbly sand containing a mixture of local and river pebbles and are moderately to poorly exposed on the Palo Verde Mesa. These unconsolidated to weakly consolidated sediments are locally well-exposed along the scarp of Palo Verde Mesa, which bounds the flood plain of the Colorado River. Scarp exposures typically consist of an upper, slope-forming unit of tan to light-gray, sandy and pebbly alluvium and a lower, cliff-forming unit of light-reddish-brown, interbedded fine-grained sand, silt, and clay. Exposures of Palo Verde Mesa alluvial deposits to the northeast are overlain by, and may interfinger with, alluvial fan deposits. These deposits are interpreted to be fluvial river deposits of probable middle- to late-Pleistocene age.

Paleontological Resource Classifications

Society of Vertebrate Paleontology

The County of Riverside uses the Society of Vertebrate Paleontology (SVP) definitions for four categories of paleontological resource potential (potential for rock units: high, low, undetermined, and no potential) (SVP 1995):

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations, volcanic formations, and sedimentary rock units. Sensitivity comprises both (a) the potential for yielding significant vertebrate, invertebrate, or botanical fossils, and (b) the importance of recovery evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than Recent are also classified as significant.
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potential for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units do not yield fossils and therefore have no potential to yield significant nonrenewable fossiliferous resources.

Fossil Yield Classification System

The BLM adopted a different paleontological resource assessment system known as the PFYC System. The PFYC system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential. This classification is applied to the geologic formation, member, or other distinguishable unit, preferably at the most detailed mappable level. The BLM uses the PFYC system to assess the potential for discovery of significant paleontological resources or the impact of surface disturbing activities to such resources by using a five class ranking system.

- **Class 1 – Very Low**. Geologic units that are not likely to contain recognizable fossil remains. This class usually includes units that are igneous or metamorphic, excluding reworked volcanic ash units; or units that are Precambrian in age or older. Management concern for paleontological resources in Class 1 units is usually negligible or not applicable. Assessment or mitigation is usually unnecessary except in very rare or isolated circumstances. The

probability for impacting any fossils is negligible. Assessment or mitigation of paleontological resources is usually unnecessary. The occurrence of significant fossils is non-existent or extremely rare.

- **Class 2 – Low**. Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant nonvertebrate fossils. This class typically includes vertebrate or significant invertebrate or plant fossils not present or very rare; units that are generally younger than 10,000 years before present; recent aeolian deposits; and sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration). Management concern for paleontological resources is generally low. Assessment or mitigation is usually unnecessary except in rare or isolated circumstances. The probability for impacting vertebrate fossils or scientifically significant invertebrate or plant fossils is low. Assessment or mitigation of paleontological resources is not likely to be necessary. Localities containing important resources may exist, but would be rare and would not influence the classification. These important localities would be managed on a case-by-case basis.
- **Class 3 – Moderate or Unknown**. Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential. This class is often marine in origin with sporadic known occurrences of vertebrate fossils, as well as vertebrate fossils and scientifically significant invertebrate or plant fossils known to occur intermittently. The predictability of the fossils within these units is known to be low or poorly studied and/or poorly documented. Potential yield cannot be assigned without ground reconnaissance. Class 3 is subdivided into two groups:

    - Class 3a – Moderate Potential. Units are known to contain vertebrate fossils or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered. Common invertebrate or plant fossils may be found in the area, and opportunities may exist for hobby collecting. The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.
    - Class 3b – Unknown Potential. Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known. This may indicate the unit or area is poorly studied, and field surveys may uncover significant finds. The units in this Class may eventually be placed in another Class when sufficient survey and research is performed. The unknown potential of the units in this Class should be carefully considered when developing any mitigation or management actions.

For Class 3, the management concern for paleontological resources is moderate; or cannot be determined from existing data. Surface-disturbing activities may require field assessment to determine appropriate course of action. This classification includes a broad range of paleontological potential. It includes geologic units of unknown potential, as well as units of moderate or infrequent occurrence of significant fossils. Management considerations cover a broad range of options as well, and could include pre-disturbance surveys, monitoring, or avoidance. Surface-disturbing activities will require sufficient assessment to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources. These units may contain areas that would be appropriate to designate as hobby collection areas due to the higher occurrence of common fossils and a lower concern about affecting significant paleontological resources.

- **Class 4 – High**. Geologic units containing a high occurrence of significant fossils. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. Surface disturbing activities may adversely affect paleontological resources in many cases. This class is subdivided into two groups, based primarily on the degree of soil cover.

    - Class 4a – Unit is exposed with little or no soil or vegetative cover. Outcrop areas are extensive with exposed bedrock areas often larger than two acres. Paleontological

resources may be susceptible to adverse impacts from surface disturbing actions. Illegal collecting activities may impact some areas.

- Class 4b – These are areas underlain by geologic units with high potential but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances. The bedrock unit has high potential, but a protective layer of soil, thin alluvial material, or other conditions may lessen or prevent potential impacts to the bedrock resulting from the activity.

The management concern for paleontological resources in Class 4 is moderate to high, depending on the proposed action. A field survey by a qualified paleontologist is often needed to assess local conditions. Management prescriptions for resource preservation and conservation through controlled access or special management designation should be considered. Class 4 and Class 5 units may be combined as Class 5 for broad applications, such as planning efforts or preliminary assessments, when geologic mapping at an appropriate scale is not available. Resource assessment, mitigation, and other management considerations are similar at this level of analysis, and impacts and alternatives can be addressed at a level appropriate to the application.

Mitigation considerations must include assessment of the disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access resulting in greater looting potential. If impacts to significant fossils can be anticipated, on-the-ground surveys prior to authorizing the surface disturbing action will usually be necessary. On-site monitoring or spot-checking may be necessary during construction activities.

- **Class 5 – Very High**. Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils, and that are at risk of human-caused adverse impacts or natural degradation.

  - Class 5a – Unit is exposed with little or no soil or vegetative cover. Outcrop areas are extensive with exposed bedrock areas often larger than two contiguous acres. Paleontological resources are highly susceptible to adverse impacts from surface disturbing actions. Unit is frequently the focus of illegal collecting activities.
  - Class 5b – These are areas underlain by geologic units with very high potential but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances. The bedrock unit has very high potential, but a protective layer of soil, thin alluvial material, or other conditions may lessen or prevent potential impacts to the bedrock resulting from the activity.

Management concern for paleontological resources in Class 5 areas is high to very high. A field survey by a qualified paleontologist is usually necessary prior to surface disturbing activities or land tenure adjustments. Mitigation will often be necessary before and/or during these actions. Official designation of areas of avoidance, special interest, and concern may be appropriate. The probability for impacting significant fossils is high. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. On-the-ground surveys prior to authorizing any surface disturbing activities will usually be necessary. On-site monitoring may be necessary during construction activities.

Combining Paleontological Resource Classifications

The two resource classification systems have distinctly different categories to evaluate paleontological resources. Generally, these two classification systems are compatible (see Table 3.2.12-1). However, PFYC classification 3 can potentially be rated three different SVP ratings (high, low, and undetermined).

TABLE 3.2.12-1 COMBINED PFYC AND SVP RATINGS

PFYC RATING	SVP RATING
1 Very Low	Low or No Potential
2 Low	Low Potential
3a Moderate	High or Low Potential
3b Unknown	Undetermined
4 High	High potential
5 Very High	High potential

Regional Paleontological Resources

Literature And Records Search

John Minch and Associates, Inc. prepared a paleontological resources assessment for the proposed Project. Part of the assessment include a literature search, including previously recorded lists of fossils and paleontological fossil localities recorded for the general site vicinity, was reviewed. The purpose of the literature search was to determine: (1) pertinent geologic and paleontologic site information, and (2) the paleontologic sensitivity of identified and/or anticipated geologic units underlying the Project area. The literature search included a review of all available data pertinent to the site, including environmental reports, professional geological publications, paleontological consultant reports, and other unpublished documents related to regional and/or detailed geologic studies. The review also included the location of geologic maps delineating the geology of the rock formations underlying the Project area.

Records searches at the San Bernardino County Museum (SBCM) and review of databases from the University of California Berkeley Museum of Paleontology (UCBMP) provided additional data. Based on review of the SBCM and UCBMP records, fossil lists, and published and unpublished literature, no known paleontological resource localities are recorded in the Project area. Sedimentary geologic units within the Mojave Desert region are generally isolated and specific to local areas. Without datable ash beds or volcanic flows the age of the various units are generally determined by: 1) relationships to other units; 2) their general appearance; and 3) by their relative degree of dissection. Due to active faulting and differential rates of erosion, units of differing ages often exhibit similar characteristics in different basins. This makes the correlation of units from area to area difficult and speculative. Thus, any fossil localities in Pleistocene sediments are indicative of the high paleontological sensitivity of any Pleistocene sedimentary unit. ~~However, t~~The Pleistocene Colorado River alluvium in the Needles area has yielded the remains of an extinct mammoth. In addition, the Colorado River delta deposits in the northwestern Sonoran Desert have yielded many vertebrate fossils.

Paleontological Resources within the Project Area

Known sedimentary units of late Pleistocene to Recent age are exposed at the ground surface of the solar generation site. Older alluvium underlies the majority of the Project area. Thus, it would not be apparent from surface survey whether paleontological resources exist. The older alluvial sediments of the area are considered to be of high paleontological sensitivity and are known to contain significant fossils in other parts of Southern California. There is a high potential for significant paleontological resources on the portion of the site underlain by Quaternary Alluvium. The fossils recovered from the alluvial deposits of the Palo Verde Mesa are considered to be significant and of high scientific value. The sediments of the Older Alluvium are assigned a high paleontological sensitivity.

Recent alluvium, less than 11,000 years old, is not considered to contain paleontological resources. However, it is often difficult to distinguish recent alluvium from older alluvium because deposition has been continuous. This alluvium has low potential to contain significant, non-renewable paleontological resources subject to adverse impact by development-related excavation, and so is assigned low

paleontological sensitivity. However, this unit is typically thin and can overlie units of moderate or high paleontological sensitivity.

Alluvial Deposits of Palo Verde Mesa (Qpv) Pleistocene

The Alluvial Deposits of the Palo Verde Mesa have been mapped as Qpv and dated as Pleistocene in age (1.2 Ma - 10,000 years B.P., Stone 2006). No fossil resources have been recorded from this geologic unit within the Project area. Numerous vertebrate localities have been reported from Older Pleistocene alluvial sediments elsewhere in southern California, Arizona, and Sonora, Mexico. These Older Pleistocene alluvial sediments have been reported to yield significant fossils of extinct animals from the Ice Age (Jefferson 1991; Reynolds and Reynolds 1991; Woodburne 1991; Springer and Scott 1994; Scott 1997; Springer et al. 1999, 2007), as well as fossil plants (Reynolds and Reynolds 1991; Anderson et al. 2002). Fossils vertebrates recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, large and small horses, large and small camels, and bison (Jefferson 1991; Reynolds and Reynolds 1991; Woodburne 1991; Springer and Scott 1994; Scott 1997; Springer et al. 1998, 2007). This geologic unit is a PFYC Classification 3a (BLM 2012). Based on the PFYC Classification of 3A, the Qpv formation could have a low or high rating under the SVP rating system. Due to the numerous vertebrate fossils found in similar formations this geologic unit is considered to have a high paleontological sensitivity under SVP (1995) criteria.

Alluvial Fan and Alluvial Valley Deposits (Qa_6) late Pleistocene? to Holocene

Holocene-age Unit 6, is mapped by Stone (2006) as Qa_6. Stone (2006) assigns this unit an age of 100 to 2,000 years B.P. No fossil resources are known to exist within this geologic unit within the Project area. Fossil vertebrate localities have been recorded from similar deposits north of the Project area (McLeod 2011). Whereas Qa6 is considered too young to contain fossilized material and is considered to have a low paleontological sensitivity at least at the surface, it overlies and is poorly distinguished from older units that are considered as having high potential for containing significant fossil resources; therefore, the paleontological sensitivity increases to high paleontological sensitivity with depth. This geologic unit is a PFYC Classification 2 (BLM 2012). Due to the lack of substantial fossil localities the Qa_6 geologic unit is considered to have a low paleontological sensitivity under SVP (1995) criteria.

Eolian Sand (Qs) Holocene

The active sand dune deposits are too young to contain fossilized remains. However, older sand dune deposits, frequently stabilized with vegetation, may contain scientifically vertebrate specimens (McLeod 2011). Therefore, sand dune deposits within the Project area are assigned a low to high paleontological sensitivity, increasing with depth. The McCoy Solar Energy Project EIS determined this geologic unit as a PFYC Classification 2. Due to the lack of substantial fossil localities the Qs geologic unit is considered to have a low paleontological sensitivity under SVP (1995) criteria.

Regulatory Framework

Federal

Antiquities Act of 1906

The Antiquities Act of 1906 (34 Stat. 226, 16 U.S.C. 431-433 Harmon et.al 2006) is used as the basis for federal protection of paleontological resources on federal lands, and on other lands controlled by the United States. The act authorizes the government to regulate the disturbance of objects of antiquity on federal lands, where disturbance means “appropriate, excavate, injure or destroy” (16 U.S.C. 433). ~~unauthorized damage or removal of such objects through the responsible managing agency and to prosecute individuals responsible for the~~ The term *objects of antiquity* has been taken to mean fossils and paleontological resources by most federal agencies that regulate fossil collecting. Certain federal agencies, such as the Interior Department, the Department of Agriculture and the various department of

armed forces require permits to collect most fossils (16 U.S.C. 432), but this regulatory authority does not extend onto non-federal lands.

~~Federal Land Management and Policy Act~~

~~The FLMPA defines significant fossils as: unique, rare or particularly well-preserved; an unusual assemblage of common fossils; being of high scientific interest; or providing important new data concerning (1) evolutionary trends, (2) development of biological communities, (3) interaction between or among organisms, (4) unusual or spectacular circumstances in the history of life, (5) or anatomical structure.~~

Paleontological Resources Preservation Act of 2009

The Paleontological Resources Preservation Act, which was made part of Title VI, Subtitle D of the Omnibus Public Lands Act (P.L. 111-011) directs the Secretaries of the Interior and Agriculture to manage and protect paleontological resources located on federal land. ~~using "scientific principles and expertise."~~ The Paleontological Resources Preservation Act incorporates most of the recommendations of the report of the Secretary of the Interior entitled *Assessment of Fossil Management on Federal and Indian Lands* (BLM 2000) in order to formulate a consistent paleontological resources management framework. In passing the Paleontological Resources Preservation Act, Congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. T~~he Paleontological Resources Preservation Act codifies existing policies of the BLM, NPS, United States Forest Service (USFS), Bureau of Reclamation, and USFWS, and provides the following:~~ Criminal penalties can be applied to certain prohibited acts, including:

~~1) criminal and civil penalties for illegal sale and transport, and theft and vandalism of fossils from federal lands;~~
~~2) minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of Applicant);~~
~~3) definitions for "paleontological resources" and "casual collecting"; and~~
~~4) requirements for curation of federal fossils in approved repositories.~~

1) unpermitted excavation, removal, damage or otherwise remove or deface any paleontological resources on federal land;
2) unpermitted exchange, transport, export, receive or offer to exchange if the offender knew or should have known the paleontological resource had been illegally removed from federal land;
3) sell or purchase or offer to sell or purchase any paleontologisal resource the person knew or should have known had been illegally removed from federal land.

Federal legislative protections for scientifically significant fossils apply to projects that take place on federal lands (with certain exceptions such as Department of Defense), involve federal funding, require a federal permit, or involve crossing state lines. Because a portion of gen-tie line for the proposed Project and Alternatives occurs on BLM-managed lands, federal protections for paleontological resources apply under ~~NEPA and~~ FLPMA.

Paleontological resources are also afforded federal protection under 40 CFR ~~Part~~ 1508.27 as a subset of scientific resources. The most explicit federal protection for paleontological resources, enacted in 2009, is the Paleontological Resources Preservation Act. This act regulates who may collect fossils on public lands and where such fossils must be curated. It also provides for prosecution of violators.

~~Potential Fossil Yield Classification System~~

~~Occurrences of paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them. The probability for finding paleontological resources can be broadly predicted~~

~~from the geologic units present at or near the surface. Therefore, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources.~~

~~The BLM uses the PFYC system, which classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential. This classification is applied to the geologic formation, member, or other distinguishable unit, preferably at the most detailed mappable level. It is not intended to be applied to specific paleontological localities or small areas within units. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher class; instead, the relative abundance of significant localities is intended to be the major determinant for the class assignment.~~

State

Public Resources Code §5097.5

Public Resources Code §5097.5 includes additional state-level requirements for the assessment and management of vertebrate paleontological sites ~~resources~~, including the reasonable mitigation of adverse impacts to vertebrate paleontological resources resulting from development on public lands (lands under state, county, city, or public district or agency ownership or jurisdiction). This regulation defines the removal of vertebrate paleontological "sites" or "features" from public lands as a misdemeanor, and prohibits the removal of any vertebrate paleontological "site" or "feature" from public land without permission of the applicable jurisdictional agency. These protections apply only to non-federal public lands within California, and thus apply only to the small portion of the gen-tie line that would be located on County-owned land.

Public Resources Code §30244

If development adversely impacts paleontological resources ~~would be adversely impacted~~ as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Local

Riverside County General Plan

The Multipurpose Open Space Element of the Riverside County General Plan identifies a number of policies intended to minimize impacts to paleontological resources. It also includes a Paleontological Sensitivity Resources map indicating lands with low, undetermined, or high potential for finding paleontological resources. The following policies apply to the portions of the Project site within County- and privately owned lands (Riverside County 2008):

***OS 19.6*:** Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-7, a paleontological resource impact mitigation program shall be filed with the County Geologist. The paleontological resource impact mitigation program shall specify the steps to be taken to mitigate impacts to paleontological resources.

***OS 19.7*:** Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-7, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified and a paleontologist retained by the Applicant. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.

***OS 19.8*:** Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-7, a report shall be filed with the County Geologist

documenting the extent and potential significance of the paleontological resources on-site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources.

***OS 19.9*:** This policy requires that when existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor grading activities with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department documenting any paleontological resources that are found during the course of site grading.

3.2.13 Population, Housing, Public Services, Utilities, and Socioeconomics

This section describes the population and housing, public services and utilities, and social and demographic background and existing conditions in the area surrounding the Project area and Alternatives, including the City of Blythe and the Broader Eastern Riverside County and neighboring Imperial County California and La Paz County, Arizona. This section also addresses the provision of public services and utilities to the Project and presents the regulatory framework in regards to population, housing, public services, utilities, and socioeconomics and environmental justice; and presents information on population and housing, public services and utilities, and socioeconomic conditions in the Project area

Information in this section is based on data obtained from national and regional sources, including the United States Census Bureau, California Department of Finance (DOF), and the California Employment Development Department (EDD).

Environmental Setting

Project Area and Vicinity

The Project's solar facility site is located on approximately 3,587 acres of privately owned, undeveloped, and agricultural lands in eastern Riverside County; the gen-tie line corridor would occupy 73 acres of private and public lands. The Imperial County line is approximately 14 miles south of the Project area, and the Colorado River and the Arizona border are approximately nine miles to the east of the Project area. As illustrated in Figure 3.2.1-1, there are three residences within the solar facility site (one on APN 863-060-015 and two residences on APN 863-100-016).

The expected source for the Project's construction workforce is the primary determinant of the affected social economic environment associated with the Project. The origin of Project workers likely would be a central factor determining the magnitude and extent of the Project's potential socioeconomic impacts to the local and regional economy and communities. Given the location of the Project area in eastern Riverside County, it is likely that most of the construction workforce would be derived from communities located in Riverside County, which has the largest concentration of construction workers in proximity to the Project area. A smaller percentage of the workforce would be derived from Imperial County, California and La Paz County, Arizona.

For the purposes of this population and housing analysis, the "study area" is considered to be the counties within a hour commute from the Project area on mapped roads (federal, State, and local). There are four counties within an hour commute from the Project Area. Since the closest populated community in Yuma County is over an hour away, the study area only includes Riverside and Imperial Counties in California and La Paz County in Arizona (Figure 3.2.13-1). Local communities within an approximate one-hour commute from the proposed Project area are listed below; however, other communities within Riverside County were specifically evaluated as well, regardless of population, due to the County of Riverside's jurisdiction.

- Blythe, California - 5 miles east
- Palo Verde, California - 10 miles south

- Ripley , California - 10 miles south
- Cibola, California - 10 miles south
- Ehrenburg, Arizona -10.5 miles east
- Quartzite, Arizona - 27.5 miles east

For the purposes of this environmental justice screening, race, ethnic origin, and poverty status were obtained for the Project area and surrounding area, including the City of Blythe and the County of Riverside. The CEQ has oversight responsibility for the federal government's compliance. The CEQ, in consultation with the EPA and other agencies, has developed environmental justice guidance to assist federal agencies with NEPA administration. The guidelines suggest a demographic screening process analyze the census block group demographics within a six-mile radius around a proposed site, then determine if the population within this radius can be considered an "environmental justice population," i.e., if within that radius the population is greater than fifty percent minority or low income (CEQ 1997). The environmental justice study area is illustrates in Figure 3.2.13-2.

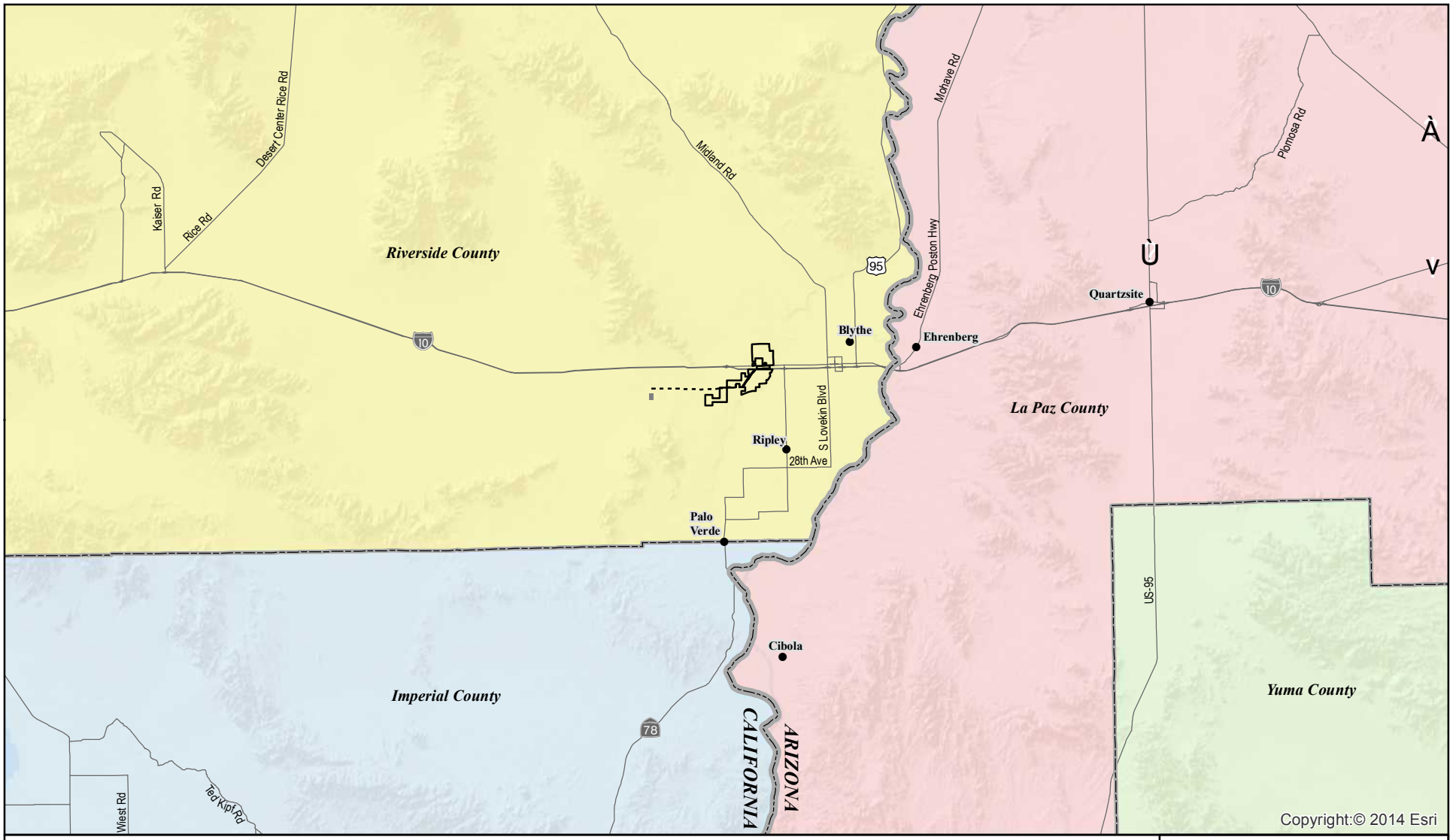
Population Characteristics

The Project is located in Riverside County, which is the fourth most populous county in California. According to the California DOF, the population in Riverside County grew from 1,545,387 in 2000 to 2,189,641 in 2010, which represents an annual growth rate of 4.17 percent. Riverside County grew at much faster rate than California as a whole. Between 2000 and 2010, Imperial, grew 2.3 percent.

Population growth in Riverside County is expected to slow during the next four decades. The growth rate is projected to be 3.3 percent annually from 2010 to 2020 and to fall to 2.1 percent from 2020 to 2030. The growth rate between 2030 and 2050 is projected to climb back up to 3.5 percent per year (California DOF 2010a, 2010b). The California DOF projections developed from 2010 to 2020 show that Riverside County will grow at a higher annual rate (3.3 percent) than the rate of California (1.3 percent), and at a rate second only to Imperial County (3.7 percent).

The cities in Riverside County that experienced the largest annual growth between 2000 and 2010 are Coachella, La Quinta, Indio, and Rancho Mirage, at 7.9, 5.8, 5.5, and 3.0 percent, respectively. The communities closest to the Project area grew at a much slower rate, such as the City of Blythe (0.17 percent growth) and Palo Verde (growth loss of 3.8 percent).

Population estimates, future projections, and average annual growth rates by county are summarized in Table 3.2.13-1. Table 3.2.13-2 illustrates the populations of the cities within the study area. Populations from 2000 and 2010 are listed with an average annual growth number and rate for the communities within the study area.



Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230 Kv Transmission Line
- City
- State Line
- County Boundary
- Major Roads

N

0 5 10
Miles
1:633,600

FIGURE 3.2.13-1
POPULATION & HOUSING STUDY AREA

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLE RESOURCES GROUP

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TABLE 3.2.13-1 POPULATION ESTIMATES, PROJECTIONS, AND AVERAGE ANNUAL GROWTH RATES

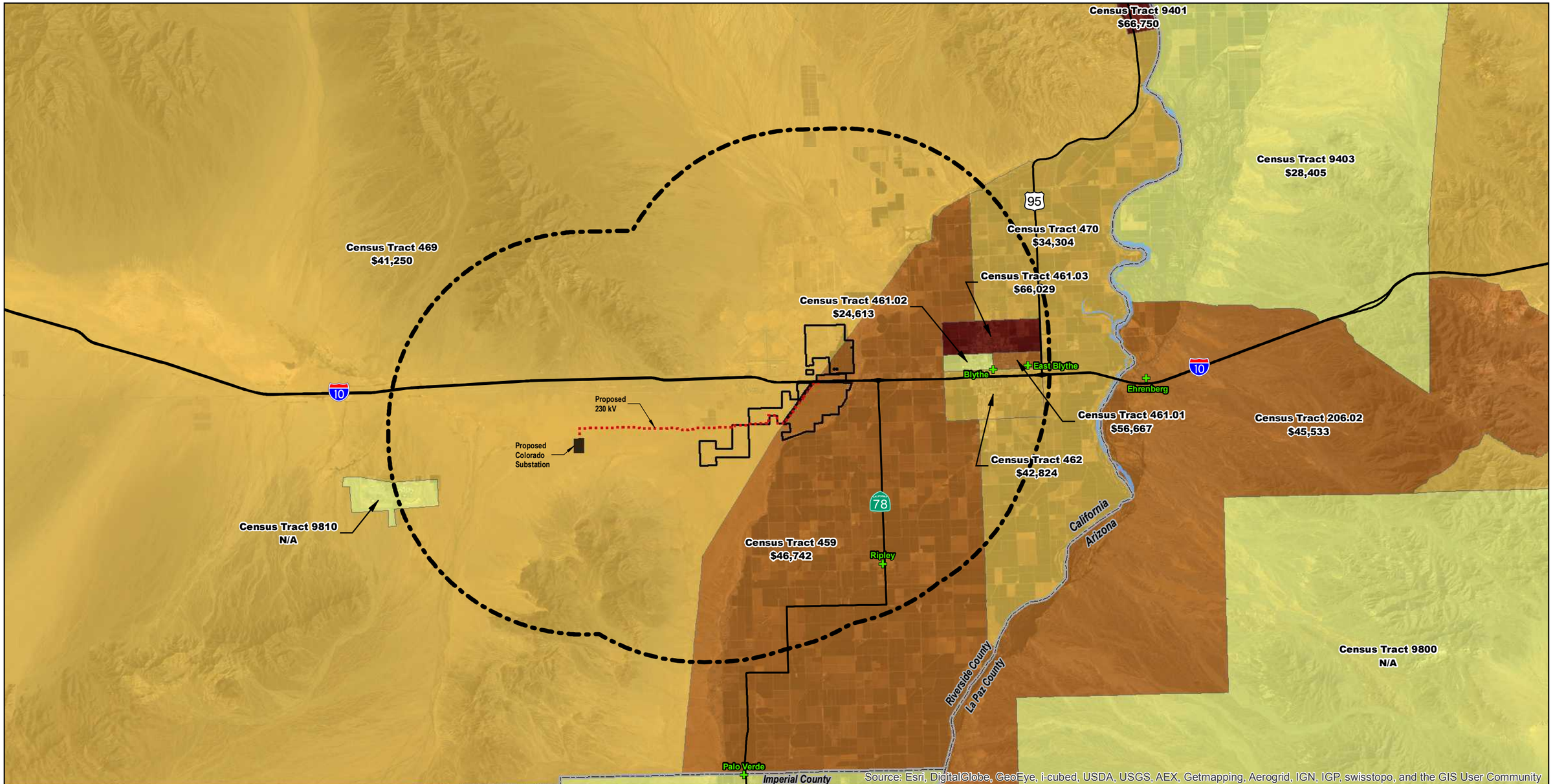
JURISDICTION	2000	2010	AVERAGE ANNUAL GROWTH RATE 2000-2010	2020 PROJECTION	AVERAGE ANNUAL GROWTH RATE 2010-2020	2030 PROJECTION	AVERAGE ANNUAL GROWTH RATE 2020-2030	TOTAL 2050 PROJECTION	AVERAGE ANNUAL GROWTH RATE 2030-2050
California									
Riverside County	1,545,387	2,189,641	4.17%	2,904,848	3.3%	3,507,498	2.1%	4,730,922	3.5%
Imperial County	142,361	174,528	2.26%	239,149	3.7%	283,693	1.9%	387,763	3.7%
California	33,871,648	37,253,956	1.0%	42,206,743	1.3%	46,444,861	1.0%	59,507,876	2.8%
Arizona									
La Paz County	19,579	19,770	0.1%	25,487	2.9%	28,074	1.1%	30,909	1.0%
Arizona	5,130,632	6,999,810	3.6%	8,779,567	2.5%	10,347,543	1.8%	12,830,829	2.4%

Source: California DOF 2010a; Arizona Department of Economic Security 2011.

TABLE 3.2.13-2 STUDY AREA COMMUNITIES POPULATION GROWTH

JURISDICTION	2000	2010	ANNUAL GROWTH RATE 2000-2010
Riverside County, California			
Riverside County	1,545,387	2,189,641	4.17%
Ripley(1),(2)	N/A	692	---
Blythe(2)	20,463	20,817	0.17%
Coachella	22,724	40,704	7.91%
Indio	49,116	76,036	5.48%
Indian Wells	3,816	4,958	2.99%
La Quinta	23,694	37,467	5.81%
Palm Desert	41,155	48,445	1.77%
Rancho Mirage	13,249	17,218	3.0%
Cathedral City	42,647	51,200	2.01%
Palm Springs	42,807	44,512	0.41%
Imperial County, California			
Imperial County	142,361	174,528	2.26%
Palo Verde(2)	236	171	-3.8%
El Centro	37,835	42,598	1.26%
Calexico(3)	27,109	38,572	4.23%
La Paz County, Arizona			
La Paz County	19,715	20,489	0.39%
Cibola(2)	163	250	5.3%
Ehrenberg(2)	1,357	1,470	0.01%
Quartzite(2)	3,354	3,677	0.96%

Sources: California DOF 2010b; Arizona DES 2011; U.S. Census 2000a; U.S. Census 2010a (Census 2000 counts include changes from the Count Question Resolution program. Data may not match data published in Census 2000 reports.); U.S. Census 2010b.
Notes: Cities are shown (Riverside County and La Paz County) in order of their relative distance from the solar facility.
Census 2000 counts include changes from the Count Question Resolution program. Data may not match data published in Census 2000 reports.
(1) Data for 2000 not available.
(2) These are the communities nearest the solar facility that represent the local level of the study area.
(3) This community was incorporated as part of the study area because the population as of 2010 was approximately 40,000.



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Blythe Mesa Solar Project Boundary
- Proposed 230 kV Transmission Line
- City/Town
- County Boundary
- 6-Mile Project Buffer

Median Income

- 0 - $30,000
- $30,001 - $45,000
- $45,001 - $60,000
- Greater than $60,000

N

0 3 6
Miles
1:190,080

FIGURE 3.2.13-2
MEDIAN INCOME
BY CENSUS TRACT

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLERESOURCESGROUP

Source: Census Median Income, 2010. ArcGIS Online Imagery.

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Housing Characteristics

Permanent Housing

The current occupied and vacant housing estimates and vacancy rates are presented for communities and counties within the study area in Table 3.2.13-3. Vacancy rates are high for the three counties, with a total of 128,339 vacant units. In 2010, Riverside County had 114,447 vacant units (14.3 percent), of which 63,909 (eight percent) are vacant and available and 50, 538 (six percent) are for seasonal, recreational, or occasional use. La Paz County in Arizona had ~~6. 951~~ 6,951 vacant units (43 percent); however, 5,318 units (33 percent) are for seasonal, recreational, or occasional use. Due to the current economic downturn, the communities closest to the Project area (Blythe, Ripley, Cibola, Ehrenberg, and Quartzite) had very high vacancy rates in 2010, ranging from 17 to 56 percent, with a combined total of 3,835 vacant units.

Due to the current economic downturn, the communities closest to the Project area (Ripley, Blythe, Cibola, Ehrenberg, and Quartzite) had very high vacancy rates in 2010, ranging from 17.5 to 52.8.~~2~~ percent, with a combined total of 2,809 vacant units. The communities throughout the entire study area had vacancy rates ranging from 9.1 to 52.8 percent, with a total of 55,533 vacant units (see Table 3.2.13-3).

TABLE 3.2.13-3 2010 STUDY AREA HOUSING CHARACTERISTICS

TOTAL HOUSING UNITS		OCCUPIED HOUSING UNITS			VACANT HOUSING UNITS	
		Total	Owner Occupied		Total	For seasonal, recreational, or occasional use
			Number	Renter occupied		
Riverside County, CA	800,707	686,260 (86%)	462,212	224,048	114,447 (14%)	50,538 (6%)
Blythe CCD	6,140	5,123 (83%)	2,665	2,458	1,017 (17%)	342 (6%)
Blythe city (part)	5,100	4,348 (85%)	2,250	2,098	752 (15%)	263 (5%)
Ripley CDP	295	218 (74%)	78	140	77 (26%)	4 (1%)
Blythe city (part of Chuckwalla Valley CCD)	373	165 (44%)	108	57	208 (56%)	185 (50%)
Imperial County, CA	56,067	49,126 (88%)	27,456	21,661	6,941 (12%)	2,060 (4%)
Palo Verde CDP	211	84 (40%)	35	49	127 (60%)	91 (43%)
La Paz County, AZ	16,049	9,198 (57%)	7,072	2,126	6,951 (43%)	5,318 (33%)
Ehrenberg CDP	948	645 (68%)	405	240	303 (32%)	215 (23%)
Quartzsite town	3,378	2,027 (60%)	1,711	316	1,351 (40%)	1,097 (32%)

Sources: U.S. Census 2012
Notes: CCD is census county division.
CDP is census designated place.

In 2011, the City of Blythe had an estimated median household income of $41,892 and the State of California had median household income of $57,287 (City Data 2013). In 2011, the estimated median house or condo value for the City of Blythe was $130,281 and $355,600 for California (City Data 2013). For 2011, the median-gross rent in the City of Blythe was $696 (City Data 2013). For 2009, the median contract rent for the County of Riverside was $986 and $1058 for California (City Data 2013).

Temporary Housing Resources

Temporary housing in the Project area includes rental homes hotel and motel rooms, which are present throughout the study area and are typically concentrated in urban areas or near major transportation facilities. Other types of temporary housing units within the study area that may be used include campgrounds and recreational vehicle parks.

As shown in Table 3.2.13-3, the vacancy rates for seasonal, recreational, or occasional use rates for Riverside County and La Paz County are high, 50,338 vacant units (six percent) and 5,318 units (33 percent) respectively. With the additional of Imperial County's vacant seasonal, recreational, or occasional use units (2,060 units or 12 percent), there are a total of 57,916 vacant units. Within the local communities closes to the Project area, there are a total of 2,197 vacant seasonal, recreational, or occasional use units.

In the study area, 14 hotels and motels were identified with a total of 789 rooms. Twelve hotels and motels were identified in the Blythe, California with a total of at least 655 rooms (HotelGuides 2013); there are no other hotels or motels with 15 or more rooms within an hour drive from the Project area. One hotel was identified in Ehrenberg (approximately nine miles away) and one hotel in Parker, Arizona (approximately 42 miles away); they have 84 and 50 rooms respectively (HotelGuides 2013).

The BLM manages two long term visitor areas (LTVAs) that are located in the vicinity of the Project area: Midland LTVA and Mule Mountains LTVA. Both provide long-term camping opportunities. Two campgrounds are located within the boundaries of the Mule Mountains LTVA: Wiley's Well and Coon Hollow Campgrounds. Both are year-round facilities with campsites, picnic tables, grills, shade armadas, and handicapped-accessible vault toilets (BLM 2011b). For information regarding BLM managed recreational facilities, please refer to Section 3.2.14, *Recreation.*

Economy and Employment Characteristics

The 2010 employment statistics for Riverside and Imperial Counties and the State of California are listed in Table 3.2.13-4. The government is the largest employment sector for the State of California and Riverside and Imperial Counties, 17.0, 20.1, and 29 percent respectively. The construction sector contributed 36,000 employees (6.7 percent) for Riverside County and 1,300 employees (2.1 percent) for Imperial County, and 586,600 employees (4.1 percent) for California. Transportation, warehousing, and utilities sector contributed 19,500 employees (3.6 percent) in Riverside County and 10,300 employees (16.27 percent) in Imperial County, and 464,900 employees (3.3 percent) in California.

TABLE 3.2.13-4 2010 EMPLOYMENT BY INDUSTRY SECTOR FOR RIVERSIDE AND IMPERIAL COUNTY AND STATE OF CALIFORNIA

INDUSTRY GROUP	RIVERSIDE COUNTY EMPLOYMENT		IMPERIAL COUNTY EMPLOYMENT		CALIFORNIA EMPLOYMENT	
	Total	Percentage	Total	Percentage	Total	Percentage
Agriculture	12,800	2.38%	10,500	16.58%	381, 600	2.67%
Natural Resources, Mining, and Construction	36,000	6.7%	1,300	2.05%	586,600	4.1%
Manufacturing	38,000	7.08%	2,600	4.1%	1,242,400	8.7%
Transportation, Warehousing, and Utilities	19,500	3.63%	10,300	16.27%	464,900	3.25%
Wholesale Trade	19,100	3.55%	1,600	2.52%	643,200	4.5%
Retail Trade	78, 200	14.57%	6,800	10.74%	1,508,800	10.56%
Information	10,200	1.9%	400	0.63%	429,000	3%

INDUSTRY GROUP	RIVERSIDE COUNTY EMPLOYMENT		IMPERIAL COUNTY EMPLOYMENT		CALIFORNIA EMPLOYMENT	
	Total	Percentage	Total	Percentage	Total	Percentage
Financial Activities	19,300	3.59%	1,300	2.05%	759,800	5.32%
Professional and Business Services	50,600	9.42%	2,400	3.79%	2,069,400	14.49
Educational and Health Services	58,600	10.91%	3,700	5.84%	1,786,900	12.51%
Leisure and Hospitality	68,500	12.76%	3,300	5.21%	1,493,700	10.46%
All Other Services	18,100	3.37%	70	1.1%	484,700	10.46%
Government	107,800	20.08	18,400	29.06%	2,427,100	16.99%
Total*	536,700	100% (1)	63,300	100% (1)	14,278,100	100% (1)

Source: EDD 2011a.
Notes: Data presented in this table is reflective of the total of this table.

(1) There is a slight margin of error due to rounding.

For Arizona, Table 3.2.13-5 lists the 2010 employment by industry sectors for La Paz, Yuma, and Maricopa Counties. The largest employment sector was the government at 44.8, 30.2, and 17.0 percent respectively. The construction sector contributed 242 employees (4.4 percent) of the employment. Transportation, warehousing, and utilities contributed 2.4 percent of the employment.

TABLE 3.2.13-5 2010 EMPLOYMENT BY INDUSTRY SECTORS FOR LA PAZ COUNTY, ARIZONA

INDUSTRY GROUP	LA PAZ COUNTY EMPLOYMENT	
	Total	Percent of Total
Agriculture	309	5.65%
Natural Resources, Mining, and Construction	242 (1)	4.42%
Manufacturing	155	2.83%
Transportation, Warehousing, and Utilities	131 (2)	2.39%
Wholesale Trade	97	1.77%
Retail Trade	1,314	24.04%
Information	N/A (3)	N/A
Financial Activities	84	1.53%
Professional and Business Services	126	2.3%
Educational and Health Services	330	6.03%
Leisure and Hospitality	N/A (3)	N/A
All Other Services	340	6.22%
Government	2,337	42.76%
Total	5,465	100% (1)

Source: U.S. BEA 2009.
Notes: All numbers are current as of 2009.
(1) There is a very slight margin of error with percentages due to rounding.
(2) This number reflects construction only. Natural resources and mining numbers are not shown on the Bureau of Economic Analysis (BEA) table to avoid disclosure of confidential information; however, estimates for these items are included in the BEA totals (not included in this table).
(3) Utilities are not included in this number. This category of employment is estimated at less than 10 jobs, and therefore is not included. This category is included in totals on the BEA table, but not included on this table.

Tables 3.2.13-6, 3.2.13-7, 3.2.13-8 present a 10-year employment projection of new jobs by industry for the Riverside and Imperial Counties and State of California from 2008 to 2018. For the purposes of employment projections, the California EDD groups Riverside and San Bernardino Counties as one statistical area; therefore, they are presented in Table 3.2.13-6 together. Employment by industry projections for California are included in Table 3.2.13-7, as well. Data for projected employment was not available for Arizona state or counties.

The highest number of new jobs projected for Riverside and San Bernardino Counties is in educational and health services, at a 22.8 percent increase. Construction and transportation, warehousing, and utilities sectors are projected to grow at 5 and 6.1 percent, respectively. The largest growth in California over this time period is anticipated to be in the educational and health services industry, at 24.5 percent, while transportation, warehousing, and utilities and construction are projected to grow by 8.1 and 9 percent, respectively.

TABLE 3.2.13-6 RIVERSIDE AND SAN BERNARDINO COUNTY INDUSTRY EMPLOYMENT PROJECTIONS

INDUSTRY	AVERAGE EMPLOYMENT		EMPLOYMENT CHANGE	
	2008	2018	Numerical	Percent
Agriculture	15,900	15,200	-700	-4.4
Natural Resources and Mining	1,200	1,100	-100	-8.3
Construction	90,700	95,200	4,500	5.0
Manufacturing	106,900	97,300	-9,600	-9.0
Transportation and Warehousing, and Utilities (1)	70,200	74,500	4,300	6.1
Wholesale Trade	54,100	59,900	5,800	10.7
Retail Trade	168,600	182,600	14,000	8.3
Information	14,900	15,000	100	0.7
Financial Activities	46,700	45,400	-1,300	-2.8
Professional and Business Services	137,400	152,500	15,100	11.0
Educational and Health Services	131,500	161,500	30,000	22.8
Leisure and Hospitality	131,000	144,200	13,200	10.1
All Other Services	40,800	44,400	3,600	8.8
Government	229,900	247,300	17,400	7.6

Sources: California EDD 2011b.
Notes: (1) Industry sectors are grouped together in California EDD data sets.

TABLE 3.2.13-7 IMPERIAL COUNTY (EL CENTRO MSA) INDUSTRY EMPLOYMENT PROJECTIONS

INDUSTRY	AVERAGE EMPLOYMENT		EMPLOYMENT CHANGE	
	2008	2018	Numerical	Percent
Agriculture	11,400	11,700	300	2.6
Natural Resources, Mining, and Construction (1)	1,700	2,100	400	23.5
Manufacturing	2,500	2,900	400	16.0
Transportation and Warehousing, and Utilities (1)	1,800	2,000	200	11.1
Wholesale Trade	1,800	2,000	200	11.1
Retail Trade	7,600	8,400	800	10.5
Information	400	400	0	0.0
Financial Activities	1,300	1,400	100	7.7
Professional and Business Services	3,000	3,200	200	6.7
Educational and Health Services	3,400	4,200	800	23.5
Leisure and Hospitality	3,600	3,700	100	2.8
All Other Services	1,000	1,100	100	10.0
Government	18,500	19,700	1,200	6.5

Source: California EDD 2011b.
Notes: (1) Industry sectors are grouped together in California EDD data sets.

TABLE 3.2.13-8 CALIFORNIA INDUSTRY EMPLOYMENT PROJECTIONS

INDUSTRY	AVERAGE EMPLOYMENT		EMPLOYMENT CHANGE	
	2008	2018	Numerical	Percent
Agriculture	389,300	386,500	-2,800	-0.7
Natural Resources and Mining	28,700	28,300	-400	-1.4
Construction	787,700	858,600	70,900	9.0
Manufacturing	1,425,300	1,292,400	-132,900	-9.3
Transportation and Warehousing, and Utilities (1)	504,600	545,600	41,000	8.1
Wholesale Trade	703,500	801,600	98,100	13.9
Retail Trade	1,640,900	1,798,800	157,900	9.6
Information	475,500	492,400	16,900	3.6
Financial Activities	850,300	847,900	-2,400	-0.3
Professional and Business Services	2,237,200	2,619,100	381,900	17.1
Educational and Health Services	1,724,700	2,146,400	421,700	24.5
Leisure and Hospitality	1,572,600	1,775,800	203,200	12.9
All Other Services	511,300	560,000	48,700	9.5
Government	2,518,900	2,725,600	206,700	8.2

Source: California EDD 2011b.
Notes: (1) Industry sectors are grouped together in California EDD data sets.

Public Services and Facilities

This subsection describes public services and facilities in the Project area, which includes education; law enforcement; fire protection; hazardous materials emergency response; parks and recreation; hospital facilities and emergency response; utilities; natural gas and electricity; water and wastewater; and solid waste.

Education

The solar array field is located within the Palo Verde Unified School District. Palo Verde Unified serves Blythe and other remote areas of Riverside County and consists of three elementary schools, two middle schools, one high school, and a continuation high school. Palo Verde Unified is the district with authority to assess school impact fees from the Project. Table 3.2.13-8 includes the schools and enrollment in Palo Verde Unified.

TABLE 3.2.13-8 SUMMARY OF SCHOOLS AND ENROLLMENT IN PALO VERDE UNIFIED SCHOOL DISTRICT, 2009 TO 2010

SCHOOL NAME	COMMUNITY	GRADES	LOCATION	STUDENTS
Felix J. Appleby Elementary School	Blythe	K – 6	401 S. Third Street	571
Margaret White Elementary School	Blythe	K – 6	610 N. Broadway	712
Ruth Brown Elementary School	Blythe	K – 6	241 N. Seventh Street	715
Blythe Middle School	Blythe	7 – 8	825 N. Lovekin Blvd.	562
Palo Verde Valley Community Day	Blythe	6 - 10	190 North Fifth Street	34
Palo Verde High School	Blythe	9 - 12	667 N. Lovekin Blvd.	927
Twin Palms Continuation	Blythe	9 - 12	811 West Chanslor Way	74

Source: National Center for Education Statistics 2011.

Law Enforcement

The City of Blythe and the Riverside County Sheriff's Department provide law enforcement and public safety to the solar facility. The City of Blythe Police Department (BPD) is located at 240 North Spring Street in Blythe and its service area covers all land in the City limits, which is approximately 27 square miles. The BPD service area is divided into a total of four beats. The Sheriff's Department services include traffic control and neighborhood policing, emergency calls, and crime prevention. The Riverside County Sherriff's Department's Colorado River Station at 260 North Spring Street in Blythe provides service from the community of Red Cloud to the west to the Arizona state line in the east, Imperial County line to the south, and San Bernardino County line to the north. Communities included in this service are Desert Center, Eagle Mountain, Blythe, Hayfield, Midland, Nicholls Warm Springs, Ripley, and the Colorado River area.

The BPD does not maintain a standard for emergency response times. However, BPD officers respond immediately to all emergency calls. Depending on the location of the officer at the time of the call, response times can range from one to ten minutes (City of Blythe 2007). According to the Riverside County Sheriff's Department, the average response time depends on the location of the deputies on call and the severity of the situation (Brightsource 2011).

The California Highway Patrol (CHP) is the primary law enforcement agency for state highways and roads. The nearest CHP station to the Project area (Blythe Station 660) is located at 430 S. Broadway in the City of Blythe. Services include law enforcement, traffic control, accident investigation, and the management of hazardous materials spill incidents.

Fire Protection

To the extent that off-site assistance is required, the City of Blythe Volunteer Fire Department and the Riverside County Fire Department (RCFD)/California Department of Forestry would provide fire protection to the solar array field. The Blythe Volunteer Fire Department station is located at 201 North Commercial Street and is staffed with a full-time fire marshal employed by the City Building Department and 35 trained, paid volunteers including a chief, assistant chief, and deputy chief. Equipment consists of one 50-foot telesquirt, four pumpers, one quick attack truck, one squad truck, and one command vehicle.

The Project area is located within the RCFD's East Desert Division, which encompasses the lower Coachella Valley, east to the Arizona state line. RCFD services include municipal and wildland fire protection and prevention services, pre-hospital emergency medical services including paramedics, hazardous materials response, and technical rescue services. There are two battalions, nine permanently staffed fire stations, and two all-volunteer fire stations. The nearest fire stations are within the jurisdiction of RCFD Battalion 8. These include the Blythe, Ripley, Blythe Air Base, River Bend, and Lake Tamarisk fire stations. The closest station to the proposed Project is Ripley Fire Station 44, on 13987 Main Street, approximately five miles away. This station has two firefighters and one certified paramedic. Ripley Fire Station 44 has one Type 1 fire engine and operates 24 hours per day, seven days a week.

The Project area falls within acceptable Total Response Time policy standards for an 'outlying' land use area based on its proximity to the nearest station (Station 45, Blythe Air Base, 17280 W. Hobson Way, Blythe, CA 92225) and that station's ability to meet the seventeen minute and 30 second response time standard. Additionally, the solar facility site is in close proximity to the City of Blythe Volunteer Fire Department.

Other nearby fire stations are Blythe Air Base Fire Station 45, Blythe Fire Station 43, River Bend Fire Station 46 (volunteer only), and Lake Tamarisk Fire Station 49 in Desert Center. Each of these fire stations has one Type 1 fire engine and provides paramedic services. Each of these fire stations has three personnel (two firefighters and one certified paramedic), with the exception of Lake Tamarisk, which has four personnel (two firefighters and two certified paramedics). The River Bend volunteer station is a reserve volunteer station and does not operate 24 hours per day, seven days a week. This station provides reserve personnel in case of an emergency but does not respond directly to an emergency. All stations are dispatched by California Department of Forestry and Fire Protection (CAL FIRE) Riverside Unit/RCFD Emergency Command Center under the integrated Fire Protection System (Brightsource 2011).

Hazardous Materials Emergency Response

The Riverside County Hazardous Materials Management Division under the Department of Environmental Health is the CUPA, with three participating agencies: Banning Fire Department, Corona Fire Department, and the RCFD. The CUPA Program conducts inspections of businesses that handle hazardous materials, generate hazardous waste, treat hazardous waste, and/or maintain underground storage tanks. RCFD would handle the response to emergency releases of hazardous material or waste for the Project. The closest RCFD Hazardous Materials Response Team (Station 81) is located at 37995 Washington Street in Palm Desert, California. Station 81 will respond with one Hazardous Materials Response Unit staffed with three personnel and one Hazardous Materials Support Unit staffed with two personnel. One member of the five-person team is a certified paramedic.

Parks and Recreation

As discussed in greater detail in Section 3.2.14, *Recreation*, the BLM CDCA Plan allows recreational use of BLM public lands in the vicinity of the Project area, which includes seven wilderness areas, seven LTVAs, and the Bradshaw Trail. Wilderness areas are popular for vehicle camping along roads that are adjacent to the wilderness areas. RV camping near wilderness areas, with associated hiking, OHV use, photography, sightseeing, etc. accounts for up to 2,000 visitors per year (BLM 2011). The LTVAs accommodate visitors who wish to camp for as long as seven consecutive months.

Most of the Project area is in agricultural uses and none of it is designated for active recreational use. The Mesa Verde Park, just south of the Nicholls Warm Springs/Mesa Verde residential area, is approximately 0.4 mile (2,200 feet) from the proposed solar array field. Other nearby park facilities to the proposed solar array field are located within the major developed portion of the City of Blythe, located approximately five miles east of the solar array field. The City of Blythe Parks Department is responsible for the maintenance and upkeep of the area's seven parks and one pocket park (City of Blythe 2011). Please refer to Section 3.2.13 for a detailed discussion on recreation.

Hospital Facilities and Emergency Response

There are several hospitals / medical facilities that provide medical services to the vicinity of the Project area. Table 3.2.13-12 below provides a summary of the following hospitals that provide medical services in eastern Riverside County, including the Project area. Desert Regional Medical Center is the closest trauma care center to the Project area and the only trauma center in the Coachella Valley. It is a Level II trauma center and provides a full range of specialists and services available 24 hours a day. Palo Verde Hospital provides intensive care services.

The CHP's Border Division Air Operations Unit, located at the Thermal California Station, may respond to a traumatic injury occurring in the Project area that requires medical evacuation via helicopter. However, the CHP usually covers Medevac situations in the area surrounding Palm Springs and rarely in the Blythe area. There are a number of additional Medevac companies that service the Project area. If a serious emergency medical incident were to occur at the solar array field, the paramedic or first responder would call in the emergency. Based on rotation and proximity, a Medevac service would be dispatched to the solar array field for evacuation to Desert Regional Medical Center in Palm Springs. The companies that provide Medevac services to the Project area are Merci Air Service, Reach Helicopter, Care Flight, and the CHP.

Blythe Ambulance, located at 129 South 1st Street in Blythe, also provides emergency medical response services in the Project area. This facility is located approximately seven miles east of the Project area.

TABLE 3.2.13-12 HOSPITALS AND CLINICS SERVING THE PROJECT AREA

FACILITY	APPROXIMATE DISTANCE FROM PROJECT AREA	SERVICES
Palo Verde Hospital 250 North First Street Blythe, California 92225	7 miles northeast	Hospital, blood bank, computerized tomography scan, intensive care unit, labor/delivery/recovery rooms, magnetic resonance imaging, nuclear medicine, outpatient services, ultrasound.
La Paz Medical Services 150 East Tyson Road Quartzsite, AZ 85359	30 miles east	General medical services and treatments.
John F. Kennedy Memorial Hospital 47111 Monroe Street Indio, CA 92201	85 miles west	Hospital, cardiac and vascular, orthopedics and JFK Bone and Joint Institute, obstetrics, outpatient rehabilitation, women and children, emergency department, emergency and express care.
Desert Regional Medical Center 1150 N. Indian Canyon Drive Palm Springs, CA 92262	105 miles west	Hospital, comprehensive cancer center, inpatient rehabilitation, institute of orthopedics and neurosciences, women and infants center, wound center, hospice, surgery, emergency/trauma services, cardiac/heart care, anesthesiologists, and physical therapists.

Utilities

A variety of purveyors in Riverside County and the City of Blythe provide and maintain utility and service system facilities associated with electricity, water, solid waste, and natural gas. Underground Service Alert (also known as USA or "Dig Alert"), a non-profit organization supported by utility firms, provides specific information on the location of underground utilities to contractors upon request, prior to ground-disturbing construction activities.

Natural Gas and Electricity

Southern California Gas Company (SCGC) provides gas service to the City of Blythe and surrounding Riverside County. SCGC's service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border (SCGC 2012).

Southern California Edison (SCE) provides electric service to residences and businesses in the City of Blythe and surrounding area. Currently, SCE has transmission lines ranging from 500 kV to local distribution service lines of 12 kV. A major 500 kV transmission corridor passes through Palo Verde Valley and connects the Southern California market with generating plants located in Blythe and in the state of Arizona.

Water and Wastewater

The water supplies used for the Project area's agricultural irrigation and the water supplies underlying the Project area (Palo Verde Mesa Groundwater Basin), are under the jurisdiction of the PVID. Colorado River water, supplied through PVID canals, is lifted onto the mesa by private pumps to irrigate a portion of the acreage in the PVID. The remaining mesa irrigated acreage is irrigated from deep wells developed by the landowners. However, there are no wells supporting agricultural operations on the Project area.

A portion of the Project is within the City of Blythe. The City currently provides nearly 3,300 water service connections to customers, which are located within the City's municipal boundaries. The City ~~consists of~~ has four individual water systems: City of Blythe proper water system, Mesa Bluffs water system, Hidden Beaches water system, and East Blythe County water district. Some rural residences with the City's corporate boundary obtain their water from private wells, as could be the case for rural residences in the Project area (Blythe General Plan 2007). The City's water supply is dependent upon a part of the Colorado River entitlement of the PVID. The City of Blythe lies entirely within the PVID, and the City's water use is almost entirely accounted for as a part of PVID's water use. PVID's water supply is unique in California. The District holds the Priority 1 rights to California's share of Colorado River water, and a shared portion of the Priority 3 rights, and their rights are not quantified by volume. ~~Rather, their water rights are for irrigation and potable water needed to serve a total of 131,298 acres in the Palo Verde Valley, 26,798 of which are on the Palo Verde Mesa~~ Rather, their water rights are for irrigation water needed to serve a gross area of 104,500 acres in the Palo Verde Valley with a first priority, and 16,000 acres on the Lower Palo Verde Mesa with a shared third priority (PVID 2012). The great majority of water for the proposed Project (i.e., all of the non-potable water) would not be delivered by a public water system or using public water system connections. The proposed Project would use existing water infrastructure that currently delivers irrigation water from the PVID. The Project would use less than one ac-ft/yr of groundwater for potable use in the two O&M buildings. Riverside County Community Service Area #122 (CSA #122) has substantiated its intention to provide this potable supply by issuing a will-serve letter (October 26, 2012 c/o Steve H. Jones – Manager) for the Project's limited potable water needs. CSA #122 has provided a will-serve letter for the small amount (up to 150 gallons per day) of potable water for the two O&M buildings.

The City of Blythe owns and operates the Regional Wastewater Reclamation Facility, a Class III Facility, located at 15901 South Broadway in the City of Blythe. The City also owns a sewage collection, treatment, and disposal system that provide sewage services to the City. The facility treats approximately 1.3 million gallons per day of Dry Weather Flow. The facility is permitted to discharge up to 2.4 million gallons per day of treated wastewater to percolation / evaporation ponds (City of Blythe 2012a).

On-site Wastewater Treatment Systems or Advanced Treatment Units would be installed to treat domestic sewage (non-hazardous liquid waste) from the operation and maintenance buildings on-site. Prior to the issuance of a building permit, the Project shall be required to obtain permit approval from Department of Environmental Health to install an On-site Wastewater Treatment System or Advanced Treatment Unit. Additional soils percolation testing shall be required at time of building plan check submittal.

Solid Waste

The Riverside County Waste Management Department operates seven landfills, seven transfer stations, and a grinding facility within the County. The nearest landfills that serve the Project area include the Blythe Landfill at 1000 Midland Road, which is approximately 10 miles away, and Desert Center Landfill at 17-991 Kaiser Road in Desert Center, which is approximately 60 miles away (Riverside County Waste Management Department 2012). The City of Blythe contracts with Palo Verde Valley Disposal for waste and recycling needs (City of Blythe 2012b).

Environmental Justice

The environmental justice analysis discusses the populations residing in census tracts 459, 461.01, 461.02, 461.03, 462, 469, 470, and 9810 (see Figure 3.2.13-2). The City of Blythe is located on the eastern portion of the study area. The Census tracts are small, relatively permanent statistical subdivisions of a county.

Table 3.2.13-13 presents the minority population composition of the study area, the City of Blythe, and Riverside County as a whole[6]. Riverside County as a whole exhibits a proportion of minority residents of 49 percent, which is higher than the City of Blythe and tracts 461.02 and 462, ~~but~~ and higher than tracts 459, 461.01, 461.03, 469, 470, and 9810. Block Group 470, which is located to the northeast of the proposed Project, has a very low population and a small percentage of minority residents.

TABLE 3.2.13-13 ENVIRONMENTAL JUSTICE CHARACTERISTICS

GEOGRAPHIC AREA (CENSUS TRACTS)	TOTAL POPULATION	TOTAL MINORITY (PERCENTAGE MINORITY)	MEDIAN HOUSEHOLD INCOME (2010)	PROPORTION OF THE POPULATION LIVING BELOW THE POVERTY LEVEL (PERCENTAGE LOW INCOME)
459	1,838	683 (37%)	$46,742	23%
461.01	3,060	1,334 (44%)	$56,667	8%
461.02	2,027	1,169 (58%)	$24,613	26%
461.03	3,030	1,175 (39%)	$66,029	10%
462	3,341	1,845 (55%)	$42,824	16%
469	2,043	743 (36%)	$41,250	21%
470	1,749	562 (32%)	$34,304	6%
9810(1)	7,634	2,303 (30%)	NA	NA
City of Blythe	20,817	8,421 (41%)	$41,856	16.8%
Riverside County	2,189,641	854,494 (49%)	$57,768	13.4%

Source: U.S. Census Bureau 2000.
(1) Ironwood State Prison.

As indicated in Table 3.2.13-13, the total population of the eight tracts within a six-mile radius of the Project is 17,088 (excluding tract 9810, which encompasses Ironwood State Prison and has a total population of 7,634), of which 7,511 are classified as Black or African-American, Native American (or Alaskan Native), Asian, Native Hawaiian (or other Pacific Islander), some other race (including two or more races), and/or Hispanic or Latino.

[6] According to the U.S. Census Bureau, "minority" is defined as all persons except non-Hispanic whites. In other words, *minority* is defined as all racial groups other than white, and all persons of Hispanic origin, regardless of race.

The 2010 census data reported that the median household income for Riverside County was $57,768. The median household income for Riverside County is higher than all of the eight census tracts within the six-mile radius of the solar facility and the City of Blythe; except tract 461.03 that has the highest median household income ($66,029) which is located southeast of the solar facility on the northern side of Blythe. Census tract 461.02 has the lowest median household income (at $24,613) and Census tract 461.02 has the highest proportion of residents below the poverty level (26 percent).

Regulatory Framework

Federal

National Environmental Policy Act of 1969

NEPA establishes a public, interdisciplinary framework for federal agencies reviewing projects under their jurisdiction to consider environmental impacts. NEPA's basic policy is to ensure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

The BLM is responsible for preparation of an EA in compliance with NEPA to evaluate the environmental impacts of the portions of the Project on federal lands. The Project gen-tie line is located on lands administered and managed by the BLM. NEPA compliance is required for this portion of the Project through preparation of a Draft and Final EA. BLM is also responsible for Native American consultation, including government-to-government consultation.

The President's CEQ developed guidelines and procedures to assist federal agencies with NEPA procedures so that environmental justice concerns are effectively identified and addressed. This includes guidelines for public participation, alternatives, and mitigation.

Executive Order 12898

Executive Order 12898 and the President's February 11, 1994 Memorandum on Environmental Justice (sent to the heads of all departments and agencies) are intended to ensure that federal departments and agencies identify and address disproportionately high and adverse human health or environmental effects of their policies, programs, and activities on minority populations and low-income populations. This consideration extends to permits issued by federal agencies. Because the Project would require federal agency approval (ROW grant from the BLM), the Executive Order applies to the Project.

~~Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241~~

~~Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin by all federal agencies or activities receiving federal financial assistance. The Project would require federal agency approval (i.e., a ROW grant from the BLM) and, therefore, would require compliance with the Civil Rights Act.~~

State

California Revenue and Taxation Code § 73

California Revenue and Taxation Code § 73 allows property tax exclusion for certain types of solar energy systems installed before December 31, 2016. This section was amended in 2008 to include exemptions for active solar energy systems incorporated by an owner-builder in the initial construction of a new building that the owner-builder does not intend to occupy or use. Qualifying active solar energy systems are defined as those that are thermally isolated from living space or any other area where the energy is used, to provide for the collection, storage, or distribution of solar energy. These include solar space conditioning systems, solar water heating systems, active solar energy systems, solar process heating systems, photovoltaic systems, solar thermal electric systems, and solar mechanical energy.

Components included under the exclusion include storage devices, power conditioning equipment, transfer equipment, and parts. Pipes and ducts that are used to carry both solar energy and energy derived from other sources qualify for the exemption only to the extent of 75 percent of their full cash value. Likewise, dual-use equipment for solar-electric systems qualifies for the exclusion only to the extent of 75 percent of its value.

Assembly Bill X1 15, signed by the California governor in June 2011, modified and extended existing state law excluding an "active solar energy system" from calculation of cash value subject to property taxation. An active solar energy system includes PV panels, inverters, and other improvements necessary to deliver electric power for transmission or final use. The exclusion applies to new systems constructed prior to January 1, 2017, and remains in effect until a change in ownership occurs (California State Board of Equalization 2012).

Education Code §17620

Education Code § 17620 allows a school district to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding construction or reconstruction of school facilities, provided the district can show justification for the fees. California Government Code (GC) §65995 limits the fee to a statutory fee unless a school district conducts a Facility Needs Assessment (GC §65995.6) and meets certain conditions. The administering agent implementing school impact fees for the Project is the Palo Verde Unified School District.

California Government Code §§ 65995-65998 (amended by State Bill 50)

California GC §§ 65995-65998 limits fees, charges, dedications, or other requirements for the construction or reconstruction of school facilities. State Bill 50, adopted in 1998, imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. In the case of industrial construction, the amount of fees and/or charges levied under Education Code § 17620 with support of a Facilities Needs Assessment may not exceed $0.31 per square foot of covered, enclosed space. Development of the Project may require school impact fees.

Title 14 California Code of Regulations § 15131

The regulations implementing CEQA state that economic or social factors of a project may be included in a CEQA document but shall not be treated as significant effects on the environment. However, economic or social effects of a project may be used to determine the significance of physical changes caused by the Project. Additionally, economic, social, and housing factors should be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment.

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles.

Regional Transportation Plan/Sustainable Communities Strategy

On April 4, 2012, SCAG adopted the 2012–2035 RTP/SCS. SCAG has placed a greater emphasis than ever on sustainability and integrated planning, and the RTP/SCS vision encompasses three principles that collectively work as the key to the region's future: mobility, economy, and sustainability. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with

Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards. It provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play, and how they will move around (SCAG 2012).

SCAG's regional growth forecast is used as a key guide for future transportation investments in the SCAG region. The 2012–2035 RTP/SCS growth forecast was developed reflecting both the short term and long term perspectives. The latest 2010 Census data and 2011 EDD data indicate lower population, households and employment for year 2010 than forecasted in the 2008 RTP. While the region is still expected to grow over the RTP planning period (2008–2035), the slower population growth experienced in the last decade is expected to continue with an approximate 0.9 percent growth rate between 2010 and 2035.

Local

Riverside County General Plan

The Riverside County General Plan does not have an element that specifically addresses public services and utilities. However, the Plan addresses safety issues through the Safety Element. Issues addressing open space and land use are discussed in the Plan's Multipurpose Open Space Element and the Land Use Element (LU) and include:

Land Use Element

Policy LU 5.1. *Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services, such as libraries, recreational facilities, transportation systems, and fire/police/medical services.*

Riverside County Ordinance No. 659

This ordinance creates development impact fees "in order to effectively implement the Riverside County Comprehensive General Plan, manage new residential, commercial, and industrial development, and address impacts caused by such development" by providing funds for the construction of new or expanded public service facilities and open space.

City of Blythe General Plan

The General Plan addresses citywide concerns about growth and conservation, as well as safety. As the principal urban center in Palo Verde Valley, the plan emphasizes retaining the scale and character of existing neighborhoods. The City of Blythe Housing Element describes the housing needs and sets forth goals and implementation measures to address the identified housing needs; however, it does not contain any goals, policies or objectives related to population and housing that are relevant to the Project. Topics such as resource management, economic development, community design, affordable housing, safety, noise, and community services are included because they all have physical and environmental implications that are critical to the creation of a sustainable community.

Safety Element

Policy 8. *Cooperate with the City of Blythe Fire Department, Riverside County Department and the California Department of Forestry in periodically evaluating services and service criteria to ensure that the City continues to receive adequate fire protection and prevention services.*

Policy 9. *Coordinate with the City's Traffic Safety Committee in assessing the impact of incremental increase in development and traffic congestion on fire hazards and emergency response time.*

Policy 10. *Require new developments to install fire protection equipment/system.*

Policy 11. *Require new developments to pay for increased fire protection as necessitated by a particular development.*

Policy 12. *Continue to support the Fire Department's coordination with surrounding departments to provide fire protection services.*

Policy 13. *Enforce policies to protect the public-s safety from urban and wild-land fires.*

3.2.14 Recreation

This section describes the environmental setting and regulatory framework in regards to recreational resources for the proposed Project and Alternatives.

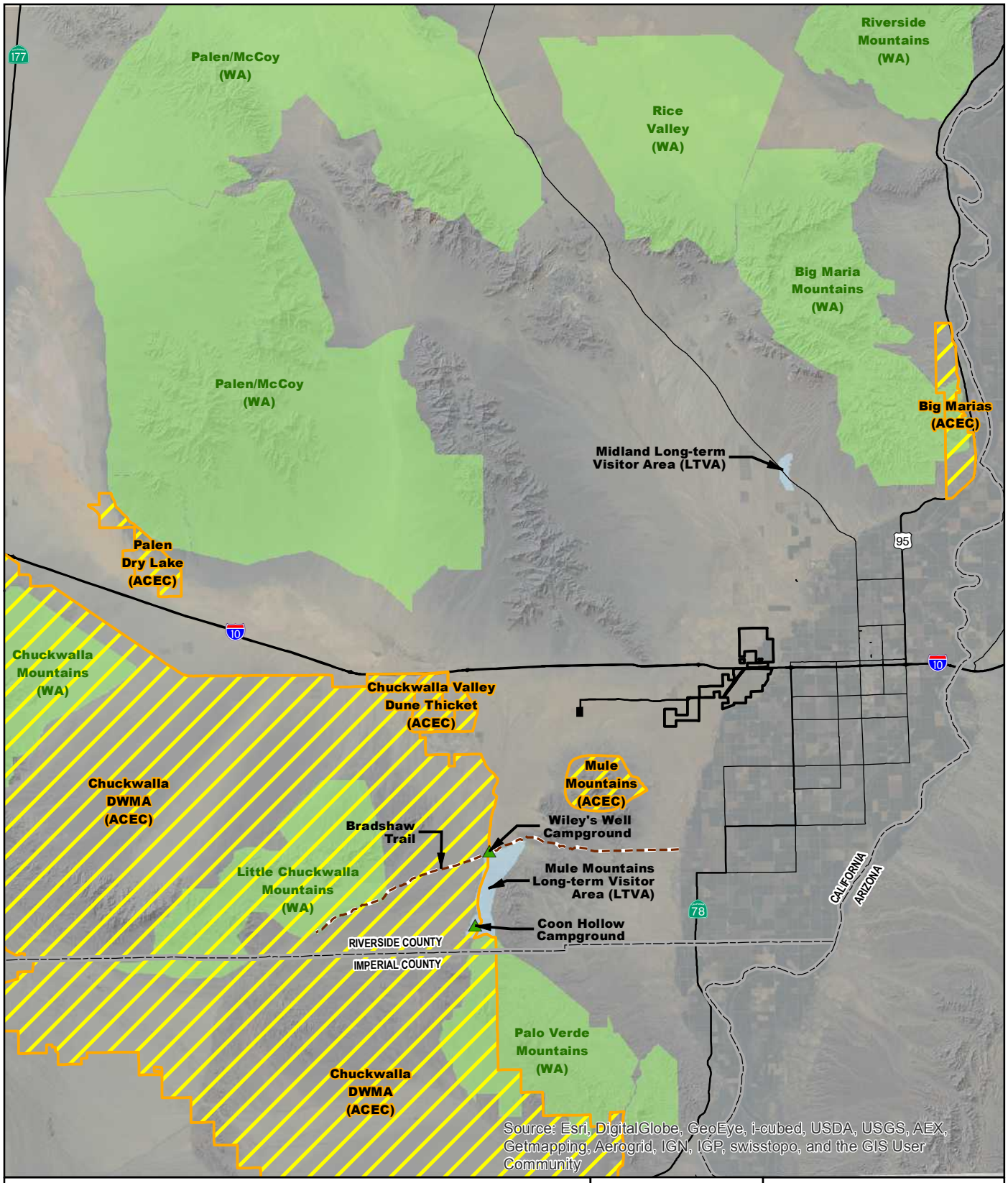
Environmental Setting

Regional Setting

BLM-Administered Recreation Resources

For BLM-managed lands, the CDCA Plan and the NECO Plan Amendment govern the types of recreational uses. The portion of the Project area that lies within BLM-managed lands is designated in the CDCA Plan as Multiple-Use Class M (Moderate Use), which provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Given the desert's vast expanse and great distances to recreation sites, it is difficult, if not impossible, in many circumstances, to engage in recreational activities in this region without employing a motorized vehicle in some fashion. In accordance with the CDCA Plan, motorized-vehicle access would be managed with Multiple-Use Class guidelines. Vehicle access in Multiple-Use Class M areas would be allowed on existing routes unless it is determined that use must be further limited. Designated Class L lands are located approximately 1.5 miles from the Project area. These lands are suitable for recreation activities that generally involve low to moderate user densities, including backpacking, primitive unimproved site camping, hiking, horseback riding, rockhounding, nature study and observation, photography and painting, rock climbing, spelunking, hunting, landsailing on dry lakes, noncompetitive vehicle touring, mountain and trail biking, and events only on "approved" routes of travel (BLM 1980 and 2002). Stopping, parking, and vehicle camping are allowed to occur within 300 feet of a route, except within sensitive areas such as ACECs, where the limit is 100 feet (BLM 2002). Trails are open for non-vehicular use and new trails for non-motorized access may be allowed (BLM 1980).

The BLM administers wilderness areas, LTVAs, ACECs, and other recreational opportunities in the vicinity of the Project, which are listed in Table 3.2.14-1 and illustrated in Figure 3.2.14-1. ACECs and wilderness also provide dispersed recreation opportunities in the region. Overall, recreation use on BLM lands in the vicinity of the Project is limited to the cooler months of September through May, with little or no use in the summer. Popular recreation activities include car and recreational vehicle (RV) camping, OHV riding and touring, hiking, photography, hunting (dove, quail, deer), sightseeing, and visiting cultural sites. Outside of fee collection sites, the BLM has no accurate estimates of visitor use, but staff observations and ranger patrols indicate the area described in this section receives 2,000 to 3,000 visitors per year (BLM 2011a). Local residents and long-term winter visitors make up the majority of the use.



Legend

- Blythe Mesa Solar Project Boundary
- Campground
- Bradshaw Trail
- Area of Critical Environmental Concern (ACEC)
- Long-term Visitor Areas
- Wilderness Area (WA)

N

0 6
Miles
1 in=6 miles

FIGURE 3.2.14-1
BLM-ADMINISTERED RECREATIONAL AREAS

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLERESOURCESGROUP

Source: Bureau of Land Management, Area of Critical Environmental Concern, 2012. ArcGIS Online Imagery.

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TABLE 3.2.14-1 BLM-ADMINISTERED RECREATIONAL AREAS AND OPPORTUNITIES IN THE PROJECT VICINITY

RECREATIONAL AREAS	DISTANCE FROM PROJECT (MILES)
ACEC	
Mule Mountains	1.7
Chuckwalla Desert Wildlife Management Area	4.3
Chuckwalla Valley Dune Thicket	4.5
Big Marias	9.7
Palen Dry Lake	17.9
Wilderness Areas	
Palen/McCoy	7.1
Big Maria Mountains	7.8
Little Chuckwalla Mountains	9.6
Palo Verde Mountains	10.2
Rice Valley	15.9
Chuckwalla Mountains	19.2
Riverside Mountains	23.0
Long-Term Visitor Area (LTVA)	
Midland LTVA	6.8
Mule Mountains LTVA	8.7
Campground	
Wiley's Well Campground	7.0
Coon Hollow Campground	10.1
Trail	
Bradshaw Trail	5.8

Source: POWER 2012.

Wilderness Areas

Seven wilderness areas are located in the vicinity of the Project: the Palen-McCoy Wilderness, Big Maria Mountains Wilderness, Little Chuckwalla Mountains Wilderness, Palo Verde Mountains Wilderness, Rice Valley Wilderness, Chuckwalla Mountains Wilderness, and Riverside Mountains Wilderness. The Wilderness Act limits allowable types of recreation on wilderness lands to those that are primitive and unconfined, depend on a wilderness setting, and do not degrade the wilderness character of the area. Motorized or mechanized vehicles or equipment are not permitted in wilderness. The BLM regulates such recreation on such lands within its jurisdiction in accordance with the policies, procedures and technologies set forth in 43 CFR ~~Part~~ 6300), BLM Manual 8560 (Management of Designated Wilderness Areas) (BLM 1983), BLM Handbook H-8560-1 (Management of Designated Wilderness Areas) (BLM 1988), and BLM's Principles for Wilderness Management in the California Desert (BLM 1995). More specifically, camping, hiking, rockhounding, hunting, fishing, non-commercial trapping, backpacking, climbing, and horseback riding are permissible (BLM 1988, 1983).

The seven wilderness areas in the vicinity of the Project have no developed trails, parking/trailheads, or other visitor use facilities. These areas are generally steep, rugged mountains, with no permanent natural water sources, thus limiting extensive hiking or backpacking opportunities. Visitor use within the wilderness areas is very light, though BLM has no visitor use counts. Observations by staff and Law Enforcement Rangers indicate only 100 to 200 hikers per year within each of the wilderness areas (BLM 2011a). More popular is vehicle camping along roads that are adjacent to the wilderness areas. RV

camping near wilderness areas, with associated hiking, OHV use, photography, sightseeing, etc. accounts for up to 2,000 visitors per year (BLM 2011a).

Long Term Visitor Areas

The BLM manages LTVAs, which accommodate visitors who wish to camp for as long as seven consecutive months. Winter visitors who wish to stay in an LTVA must purchase either a long-term permit for $180 that is valid for the entire season or any part of the season (which runs from September 15 through April 15), or a short visit permit for $40 that is valid for 14 consecutive days. Permit holders may move from one LTVA to another within the permitted timeframe without incurring additional fees. Activities in and use of LTVAs are regulated by the rules of conduct set forth in 43 CFR subpart 8365 and the more than 30 supplemental rules that the BLM has determined are necessary to provide for public safety and health and to reduce the potential damage to natural and cultural resources of the public lands.

Two LTVAs are located in the vicinity of the Project area: Midland LTVA and Mule Mountains LTVA. Both provide long-term camping opportunities. In addition to long-term camping, recreational opportunities at LTVAs include hiking; OHV use; rockhounding; viewing cultural sites, wildlife, and unique desert scenery; and solitude (BLM 2011b and 2012; Wildernet 2011). By contrast, the landing or take-off of aircraft, including ultra-lights and hot air balloons, is prohibited in LTVAs (BLM 2012).

Two campgrounds are located within the boundaries of the Mule Mountains LTVA: Wiley's Well and Coon Hollow Campgrounds. Both are year-round facilities with campsites, picnic tables, grills, shade armadas, and handicapped-accessible vault toilets (BLM 2011b).

Areas of Critical Environmental Concern

Five ACECs are within 20 miles of the Project area: Mule Mountains, Chuckwalla Valley Dune Thicket, Chuckwalla Desert Wildlife Management Area, Big Marias, and Palen Dry Lake. Recreation activities allowed in ACECs are determined by the resources and values for which the ACECs were established, and by the associated ACEC Management Plan. Most ACECs allow low-intensity recreation use that is compatible with protection of the relevant values.

Mule Mountains ACEC primarily protects cultural resources. The Chuckwalla Desert Wildlife Management Area was designated to protect desert tortoise and significant natural resources. Chuckwalla Valley Dune Thicket and Palen Dry Lake ACECs protect both natural and cultural resources. These ACECs do not have recreation use facilities, but have signage to inform visitors of the special values of the areas and associated protection measures. BLM has no visitor counts for these sites, but observations and patrols indicate very low use, in the hundreds per year (BLM 2011a).

The Bradshaw Trail

The BLM-administered portion of the Bradshaw Trail is a 65-mile Back Country Byway that begins about 35 miles southeast of Indio, California and ends about 15 miles southwest of Blythe (BLM 2011c). The Riverside County PVVAP Trails and Bikeway map shows a route for the Bradshaw Trail that continues east of this location through Blythe to the Colorado River (Riverside County 2010). The trail was the first road through Riverside County, created by William Bradshaw in 1862 as an overland stage route beginning in San Bernardino, California, and ending at Ehrenberg, Arizona. The trail was used extensively between 1862 and 1877 to transport miners and passengers. The trail is a graded dirt road that traverses mostly public land between the Chuckwalla Mountains and the Chocolate Mountain Aerial Gunnery Range. Recreational opportunities include four-wheel driving, wildlife viewing, plant viewing, birdwatching, scenic drives, rockhounding, and hiking (BLM 2011c).

Public Access

The CDCA Plan and the NECO Plan state that vehicle access is among the most important recreation issues in the desert. A primary consideration of the recreation program is to ensure that access routes necessary for recreation enjoyment are provided (BLM 2002).

Recreation and motorized travel opportunities are determined, in part, by the CDCA Plan multiple-use class and by OHV area designations. The multiple-use class is based on the sensitivity of resources and kinds of uses for each geographic area. Each of the four multiple-use classes describes a different type and level or degree of use that is permitted within that particular geographic area (refer to Section 3.2.10, *Land Use and Planning*, for a detailed discussion regarding CDCA Plan multiple-use classes). The proposed Project and Alternatives would be located in BLM Designated Multiple-Use Class M, in which vehicle access in areas would be allowed on existing routes unless it is determined that use must be further limited.

During the CDCA and NECO planning process, a detailed inventory and designation of routes was developed. This route designation system, along with other land management actions such as setting aside ACECs and the congressional designation of wilderness areas, has resulted in a significant loss of OHV recreation opportunities in eastern Riverside County. Currently, there are no BLM-designated "open" OHV areas in Riverside County.

Under the CDCA Plan, travel routes are classified as Open, Limited, or Closed, with the following definitions:

1) Open Route: Access by motorized vehicles is allowed.
2) Limited Route: Access by motorized vehicles is limited to use by number of vehicles, type of vehicle, time or season, permitted or licensed, or speed limits.
3) Closed Route: Access by motorized vehicles is prohibited except for authorized use.

As required by the CDCA Plan, the NECO Plan Amendment created a detailed inventory of existing routes within the NECO planning area (see Figure 3.2.14-2). A route has high significance if it provides access to other routes, historical sites, or recreational areas.

Regional Recreation Resources

The Riverside County Regional Park and Open-Space District also provides several recreational facilities in the Project vicinity. A regional trail is proposed by the County along an existing railroad line (Riverside County 2010). The Regional Park and Open-Space District also owns and operates Mayflower Park, the Blythe Marina, and McIntyre Park, each of which provides long- and short-stay RV and tent camping, showers, picnicking, fishing, and boat launching; and Miller Park and Goose Flats Wildlife Area, which provide boating and fishing opportunities (County of Riverside 2003; DesertUSA 2012). The aforementioned facilities are illustrated in Figure 3.2.14-3.

Other Recreational Areas and Opportunities

The City of Blythe provides year-round sporting activities. The Blythe Parks Department oversees eight parks (approximately 74 acres total), including five neighborhood parks, two community parks, and one regional park. The "Big Foot Skate-board Park" is located at Todd Park. The Blythe Municipal Golf Course is approximately three miles from the Project area. The Mesa Verde Park, located just south of the Nicholls Warm Springs/Mesa Verde residential area, is approximately 0.4 mile (2,200 feet) from the proposed solar facility. Other recreational opportunities in Blythe include soccer, football, track and volleyball leagues; indoor racquetball; basketball; aerobic activities; weight room; and summer swimming. Various nearby privately owned RV parks and campgrounds also provide recreational facilities, including a boat dock, launch ramp, fishing, swimming, horseshoe pits, wildlife observation, and other active and passive recreation opportunities (City of Blythe 2007). The aforementioned facilities are illustrated in Figure 3.2.14-3.

The Cibola National Wildlife Refuge, administered by the USFWS, can be reached from the California side of the Colorado River, just south of Blythe, or, from the Arizona side, south of Quartzsite. This refuge was established in 1964 as mitigation for dam construction on the Colorado River, and provides important habitat for migratory birds, wintering waterfowl, and resident species. Recreational opportunities include hunting, fishing, wildlife viewing, and a nature trail (USFWS 2012). The refuge is approximately 14 miles from the Project area.

Agricultural areas, including those on the Project area, may be used for recreational activities; however, these activities are not assumed to occur with high frequency.

Regulatory Framework

Federal

California Desert Conservation Area Plan

The CDCA Plan (BLM 1980) includes a Recreation Element to address use of, and access to, recreational destinations within the California Desert. The management goals of the CDCA Plan Recreation Element are as follows:

1) Provide for a wide range of quality recreation opportunities and experiences emphasizing dispersed undeveloped use.
2) Provide a minimum of recreation facilities. Those facilities should emphasize resource protection and visitor safety.
3) Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources.
4) Emphasize the use of public information and educational techniques to increase public awareness, enjoyment, and sensitivity to desert resources.
5) Adjust management approach to accommodate changing visitor use patterns and preferences.
6) Encourage the use and enjoyment of desert recreation opportunities by special populations, and provide facilities to meet the needs of those groups.

In order to accommodate the goals, access to the desert must be provided while protecting sensitive resources. The Recreation Element states the following with regard to access:

> "To engage in most desert recreational activities outside of open areas, visitors must use motorized vehicles and usually travel on some previously used or marked motorized-vehicle route. Understandably, vehicle access is among the most important recreation issues in the Desert. A primary consideration of the recreation program, therefore, is to ensure that access routes necessary for recreation enjoyment are provided" (BLM 1980, p. 71 ~~84~~).

Northern and Eastern Colorado Desert Coordinated Management Plan

The NECO Plan (BLM and CDFG 2002), as amended to the CDCA Plan, provides for management of recreation within the California Desert area of El Centro, Blythe, Needles, and cities in the Coachella Valley, including the Project study area (BLM 2011). The NECO Plan specifies the type of recreational activities allowed in Multiple-Use Classes on BLM-administered land. Under this plan, new routes may be allowed if approved by the authorized officer.

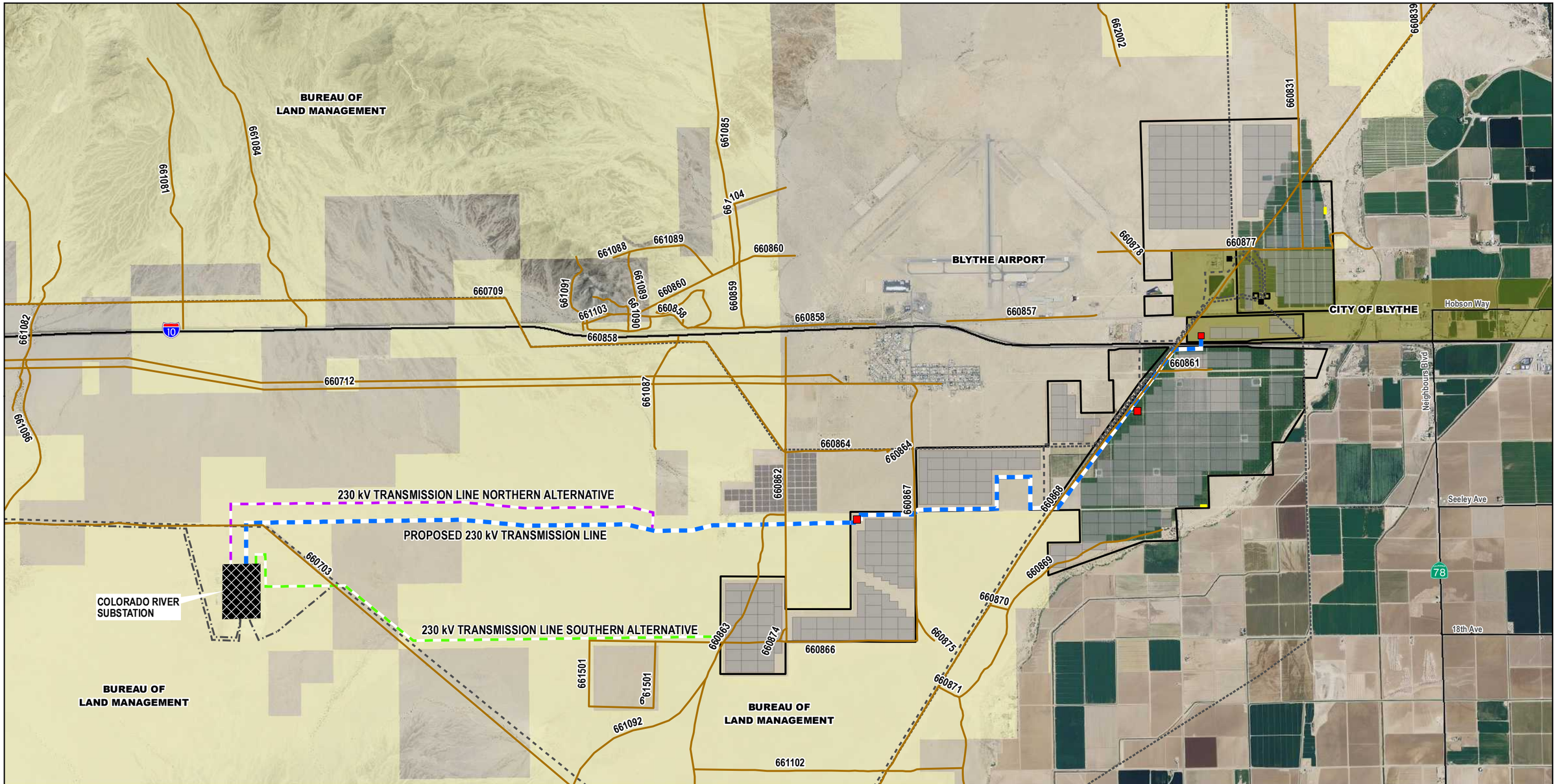
Local

Riverside County General Plan

The solar facility is designated as Agriculture (AG) and Rural Community-Estate Density Residential (EDR-RC) according to the Riverside County General Plan Land Use Map. Both designations allow agriculture or limited agriculture. Agricultural areas may be used for recreational activities, such as hunting or walking. No specific policies relating to recreation apply to the proposed Project.

Palo Verde Valley Area Plan

Palo Verde Valley Area Plan (2008) policies that address recreational vehicle development include:



Legend

Proposed Project

- Blythe Mesa Solar Project Boundary
- Solar Array Location
- Proposed 230 kV Transmission Line
- 230 kV Line Northern Alternative
- 230 kV Line Southern Alternative
- Project Substation
- Operations and Maintenance Building

Existing Transmission Lines

- Existing 138-161 kV Line
- Existing 230 kV Line
- Existing 500 kV Line

Electrical Facilities

- Colorado River Substation

NECO Plan Route Designation

- Open Route

Jurisdiction

- Bureau of Land Management
- City of Blythe

N

0 4,000 8,000

Feet

1:48,000

FIGURE 3.2.14-2
NECO PLAN
ROUTE DESIGNATIONS

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLE RESOURCES GROUP

Source: U.S. Bureau of Land Management, California Desert District, Routes of Travel, NECO Plan Area, 2000.

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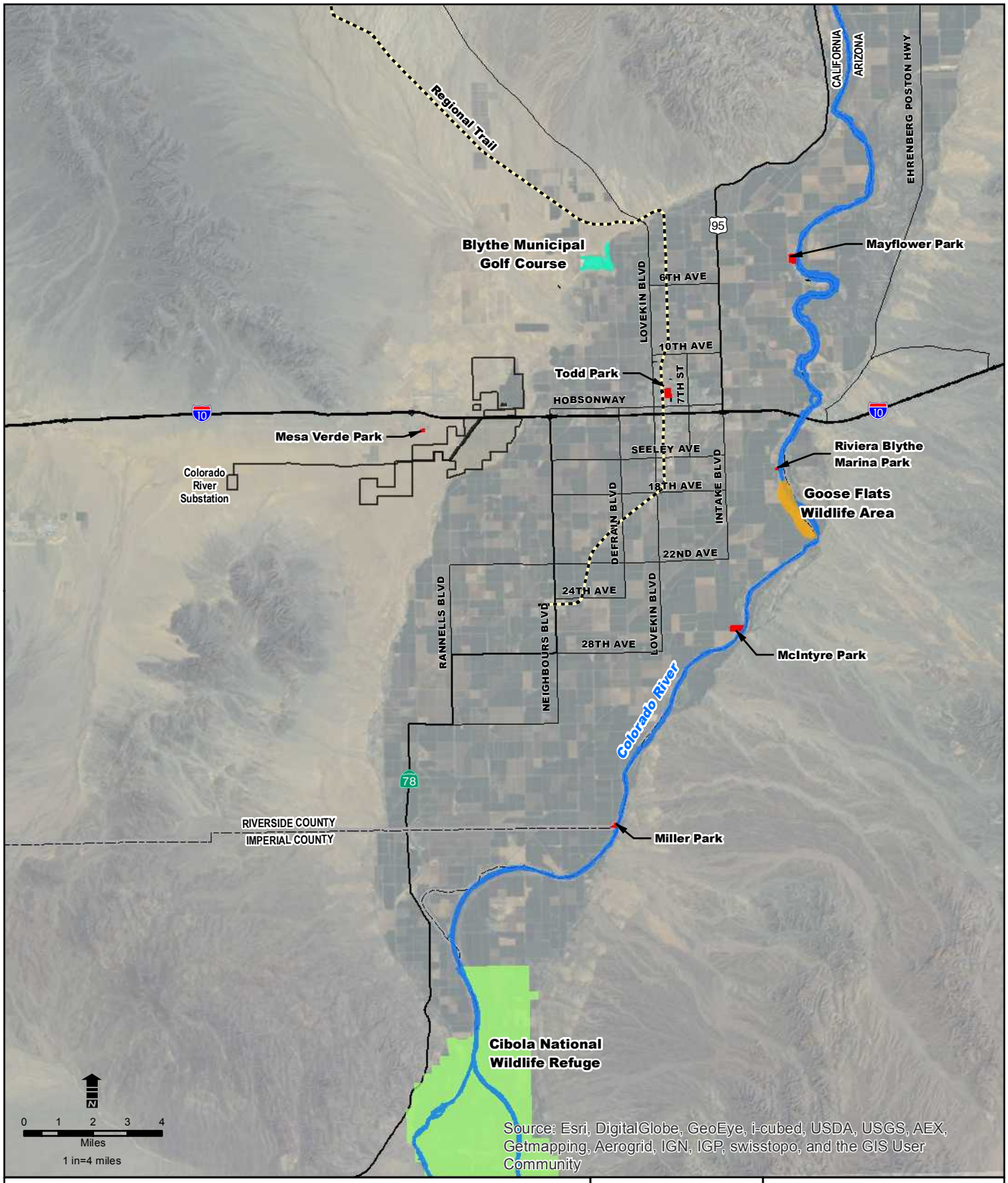

Legend

- Blythe Mesa Solar Project Boundary
- Regional Trail
- Golf Course
- Park
- Wildlife Area
- National Wildlife Refuge
- Colorado River

FIGURE 3.2.14-3
REGIONAL RECREATION AREAS

BLYTHE MESA SOLAR PROJECT

POWER ENGINEERS
RENEWABLERESOURCESGROUP

Source: ArcGIS Online Imagery.

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Policy PVVAP 5.4. *Allow remote recreational vehicle developments within the following land use designations: Very Low Density Residential, Estate Density Residential, Rural Residential, Rural Mountainous, Rural Desert, Open Space-Recreation, and Open Space-Rural*.

Trails and Bikeway System

Policy PVVAP 9.1. *Develop a system of multi-purpose trails that enhances the Colorado River's recreational values and connects with the adopted trails system of Riverside County.*

3.2.15 Traffic and Transportation

This section describes the environmental setting and regulatory framework in regards to traffic and transportation for the proposed Project and Alternatives. The information in this section is based on the *Traffic Impact Study Report*, prepared by KOA Corporation 2013 (Appendix J of this Final EIR/EA).

Environmental Setting

The Project area would be located in Riverside County approximately five miles west of the center of the City of Blythe and 40 miles east of Desert Center (refer to Figure 1-2 in Chapter 1). The Project would be located north and south of I-10, and west of State Route 89 and Highway 95. It is anticipated that most workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Workers and delivery trucks would access the site using the Neighbors Boulevard off-ramp from I-10; therefore, it is anticipated that the following four intersections within the traffic study area are likely to experience a substantial increase in traffic volume during construction and were selected for capacity evaluation:

- Intersection 1 - Neighbours Boulevard and Riverside Drive
- Intersection 2 - Neighbours Boulevard and I-10 Westbound Ramps
- Intersection 3 - Neighbours Boulevard and I-10 Eastbound Ramps
- Intersection 4 - Neighbours Boulevard and Seeley Avenue

Regional Roadway Facilities

***Interstate 10* (I-10)** is the nearest freeway to the solar facility site and gen-tie lines. It provides regional east/west travel throughout the state, beginning in Los Angeles and continuing ~~west~~ east past the California state border to Arizona and beyond. In the vicinity of the Project area, it has two lanes per direction. Neighbours Boulevard provides a full interchange with this freeway.

Existing Circulation Network

The local roadway facilities in the vicinity of the Project area include Neighbours Boulevard, Riverside Drive, and Seeley Avenue.

Neighbours Boulevard (State Route 78) is a two-lane roadway running on a north/south alignment connecting to I-10 via an existing interchange. It provides one travel lane per direction and is divided by a double-yellow center line. Land uses along this roadway in the Project vicinity include rural residential, with vacant lots and some commercial, farming land, and industrial land uses. Neighbours Boulevard (State Route 78) has been identified as a key critical segment by the Riverside County's Congestion Management Program.

Riverside Drive is a two-lane roadway running on an east/west alignment connecting to Neighbours Boulevard. It provides one travel lane per direction, with no centerline delineation. Land uses along this roadway in the Project vicinity include rural residential, with vacant lots and some farming land and industrial land uses.

Seeley Avenue is a two-lane roadway running on an east/west alignment connecting to Neighbours Boulevard. It provides one travel lane per direction, with no centerline delineation. Land uses along this roadway in the Project vicinity include rural residential, with vacant lots and some farming land and industrial land uses.

Existing Traffic Conditions

Existing Roadway Levels of Service

The *Highway Capacity Manual* (National Research Council 2000) provides methodologies utilized by the Project to assess potential impacts to traffic flow. A Level of Service (LOS) scale is used to indicate the quality of traffic flow on roadway segments and at intersections. LOS is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. LOS A represents the best traffic flow conditions with very low delay, and LOS F represents poor conditions. LOS A indicates free-flowing traffic, and LOS F indicates substantial congestion with long delays at intersections.

LOS for signalized intersections is based upon the average time (seconds) that vehicles approaching an intersection are delayed. There is a specific delay and level of service associated with each approach and an overall average delay for all movements. The overall LOS for the intersection is based upon the overall average delay.

Unsignalized intersection LOS is also based upon the control delay, but delay is only assessed for those traffic movements that are stopped or must yield to through traffic. Some movements, including cross traffic on the minor street or left turns onto the major street, can be subject to long delays; however, through traffic and right turns from the major street would not experience any delays at stopped intersections. When delay for cross traffic is severe (LOS F), the intersection should be evaluated further for possible improvement with traffic signals. In some cases, this analysis determines that the delay is being experienced by a very low number of vehicles, and traffic signals are not warranted. In other cases, when the number of stopped vehicles is substantial, and the delay is caused or substantially exacerbated by the Project, traffic signals may be justified as a mitigation measure, additional analysis is required to determine the need and justification for the installation of a traffic signal.

Table 3.2.14-1 shows the relationship between LOS and the performance measures for signalized and unsignalized intersections and lists the *Highway Capacity Manual* delay criteria for signalized intersections.

TABLE 3.2.14-1 INTERSECTION LEVELS OF SERVICE DEFINITIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTION CONTROL DELAY (IN SEC/VEH)	UNSIGNALIZED INTERSECTION CONTROL DELAY (IN SEC/VEH)
A	0 – 10	0 – 10
B	10.1 – 20	10.1 – 15
C	20.1 – 35	15.1 – 25
D	35.1 – 55	25.1 – 35
E	55.1 – 80	35.1 – 50
F	80.1 or more	50.1 or more

Source: National Research Council 2000, Exhibits 16.2 and 17-2.

Intersection turning movement classification counts were performed during the weekday morning peak period from 7:00 a.m. to 9:00 a.m. and during the weekday evening peak period from 4:00 p.m. to 6:00 p.m. in September 2011. Intersection classification counts provide vehicle classification (cars, pickups, buses, trucks, etc.) data in addition to the individual vehicle movements. Due to the nature of this Project, passenger car equivalent (PCE) factors were used in order to accurately evaluate the impact that a mode

of transport has on traffic variables (such as headway, speed, density) compared to a single car. The traffic impacts of heavy trucks at intersections are normally addressed by converting heavy vehicles into PCEs. Studies have indicated that each truck has a similar traffic impact that ranges between 1.5 and 3.0 passenger vehicles at intersections. A PCE factor of 3.0 for 4-axle trucks, 2.0 for 3-axle trucks, and 1.5 for 2-axle trucks was applied to classification counts.

Traffic volumes may fluctuate from minute to minute within the peak periods, so a peak hour factor was added to the hourly volume, which would simulate a higher 15-minute peak period for the entire peak period. The existing peak hour factor (ranging from 0.0 to 1.0) was obtained from existing traffic count information and applied to all intersections for the existing and year 2015 conditions.

Freeway

I-10 currently operates at an LOS C east and west of Neighbours Blvd, also referred to as State Route 78 (BrightSource 2011).

Intersections

As illustrated in Table 3.2.14-2, all intersections within the study area of the proposed Project are operating at an acceptable level of service (LOS A). For both a.m. and p.m. peak hours, most of the traffic originates from the south towards the ramps and Hobson Way, with a very limited amount of traffic heading towards Riverside Avenue. Most of this traffic can be attributed to the heavy agriculture activities located south of I-10 heading to and from the City of Blythe. The higher volumes heading northbound and southbound from Seeley Avenue cause a higher delay at the intersection; however, all of the intersections operate at LOS A, which represents a free-flow operation, and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.

TABLE 3.2.14-2 EXISTING INTERSECTION CONDITIONS

INTERSECTION	WITHOUT PROJECT	
	Delay (sec/veh)	LOS
AM Peak Hour		
1. Riverside Dr & Neighbours Blvd*	9.0	A
2. I-10 WB Ramp & Neighbours Blvd*	9.0	A
3. I-10 EB Ramp & Neighbours Blvd*	9.2	A
4. Seeley Ave & Neighbours Blvd*	9.4	A
PM Peak Hour		
1. Riverside Dr & Neighbours Blvd*	8.6	A
2. I-10 WB Ramp & Neighbours Blvd*	9.5	A
3. I-10 EB Ramp & Neighbours Blvd*	9.5	A
4. Seeley Ave & Neighbours Blvd*	9.8	A

Note: *Unsignalized Intersection

Pedestrian

Pedestrian facilities currently do not exist in the proposed Project study area. There are no sidewalks, crosswalks, or related pedestrian facilities along Neighbours Boulevard, Riverside Drive, and Seeley Avenue.

Bus Service

Bus service is offered by the Palo Verde Valley Transit Agency along Neighbours Boulevard north and south of I-10. Bus routes 3, 4, and 5 travel along Hobson Way, which passes through the Project location and heads west towards Mesa Verde. There is a stop located adjacent to the Project at the intersection of Hobson Way and Buck Boulevard. Bus routes 3 and 5 run along Neighbours Boulevard towards Ripley, with stops on the corner of Hobson Way and 14th Avenue along Neighbours Boulevard.

Rail Service

Blythe is served by the Arizona and California Railroads, but there is no service directly to and from Blythe via rail.

Airport Service

Blythe Airport is a public airport located six miles west of Blythe and adjacent to the Project, serving Riverside County. The airport has two runways and is mostly used for general aviation. WR Byron Airport is a private airport located within city limits, approximately four miles northwest of central Blythe and 4.5 miles northeast of the Project. Cyr Airport is a private airport with two runways that is located two miles south from the center of Blythe and five miles east of the solar facility.

Bicycle

No bicycle facilities (e.g., bicycle paths, lanes, or routes) currently exist in the proposed Project study area.

School

The Palo Verde Unified School District comprises the Blythe area public elementary and secondary schools, including three elementary schools, one middle school, one high school, and one continuation/adult education school. Palo Verde Community College District is part of the California Community College system and includes Palo Verde Community College, a campus in Blythe, a center in Needles, and an extension for Adult Basic education and non-credit classes located on Spring Street in downtown Blythe. Table 3.2.14-3 indicates the schools and distance from the solar facility.

TABLE 3.2.14-3 SCHOOL BUS CHARACTERISTICS IN THE PROJECT VICINITY

SCHOOL NAME	DISTANCE FROM SOLAR FACILITY
Palo Verde College	2.50 miles north
Palo Verde Unified School District	
Palo Verde High School	3.75 miles east
Blythe Middle School	3.75 miles east
Twin Palms Continuation School	3.75 miles east
Margaret White Elementary School	4.25 miles east
Felix J. Appleby Elementary School	4.50 miles east
Ruth Brown Elementary School	4.75 miles east

Regulatory Framework

Federal

The CFR provides ~~guidelines for~~ regulations as they relate to the movement of hazardous materials via the Federal Motor Carrier Safety Administration. FAA ~~guidelines,~~ regulations are provided for aviation

activities during the construction and post-construction periods. The following federal laws and regulations would be applicable to the proposed Project.

Title 14 CFR 77 Objects Affecting the Navigable Air Space~~: Title 14 CFR Part 77~~

This regulation describes the criteria used to determine the need for an FAA "Notice of Proposed Construction or Alteration" in cases of potential obstruction hazards and requires applicants to submit the form for construction near an airport.

Title 14 CFR 77, ~~Title 14 Aeronautics and Space, Part 77~~ Objects Affecting Navigable Airspace

~~This~~ These regulations establish~~es~~ standards for determining physical obstructions to navigable airspace; set~~s~~ noticing and hearing requirements; and provide~~s~~ for aeronautical studies to determine the effect of physical obstructions to the safe and efficient use of airspace.

Proposed Construction and/or Alteration of Objects that May Affect the Navigable Air Space: FAA Advisory Circular No. ~~70/7460-2K~~ 70/7460-1K

~~This regulation describes FAA Standards for marking and lighting of obstructions identified by Title 14 CFR Part 77.~~ This circular describes FAA standards for marking or lighting structures to promote aviation safety.~~This regulation describes FAA standards for construction or alteration of a structure that may affect the National Airspace System (NAS) in cases of the potential for an obstruction hazard.~~

~~CFR~~ Title 47 CFR 15 ~~Section 15.2524~~

This regulation prohibits operation of devices that can interfere with radio-frequency communication.

~~CFR,~~ Title 49 CFR, Subtitle B

~~This~~ These regulations include~~s~~ procedures and regulations pertaining to interstate and intrastate transport (including hazardous materials program procedures) and provide~~s~~ safety measures for motor carriers and motor vehicles that operate on public highways.

State

The California Vehicle Code (CVC) and the California Streets and Highway Code outline regulations as pertains to the transportation of hazardous waste within the state; the following laws and regulations would be potentially applicable to the proposed Project.

CVC Section 353

This regulation defines hazardous materials.

CVC Sections 2500-2505

This regulation authorizes the issuance of licenses for the transport of hazardous materials.

CVC, Div 2, Chapter 2.5; Div 6; Chap. 7; Div 13; Chap. 5; Div. 14.1; Chap 1 & 2; Div. 14.8; Div. 15

These regulations pertain to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials.

California Streets and Highway Code, Div 1, Chap 3; Div 2 Chap 5.5

These regulations cover the care and protection of state and county highways and provisions for the issuance of written permits.

CVC Sections 13369, 15275 and 15278

These regulations address the licensing of drivers and the classification of licenses required for the operation of particular types of vehicles; they also require certificates permitting operation of vehicles transporting hazardous materials.

CVC Sections 31303-31309

These regulations regulate the highway transport of hazardous materials, the routes used, and restrictions on those facilities.

CVC Sections 35780

These regulations require permits for any load exceeding California Department of Transportation weight, length, or width standards for public roadways.

CVC Sections 31600-31620

These regulations regulate the transportation of explosive materials.

CVC Section 32100-32109

These regulations establish special requirements for the transportation of inhalation hazards and poisonous gases.

CVC Sections 32000-32053

These regulations regulate the licensing of carriers of hazardous materials, including noticing requirements.

CVC Sections 34000-34121

These regulations establish special requirements for the transportation of flammable and combustible liquids over public roads and highways.

CVC Section 34500 et seq.

These regulations regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.

California Health and Safety Code Section 25160 et seq.

These regulations require that an authorized representative of the generator or facility operator that is responsible for loading hazardous waste into a transport vehicle shall, prior to loading, ensure that the driver of the transport vehicle is in possession of the appropriate class of driver's license and any endorsements required to operate the transport vehicle with the intended load.

California Streets and Highways Code Sections 117, 660-695, and 700-711

These regulations govern ROW encroachment and the granting of permits for encroachments on State Highways and freeways.

California Streets and Highways Code Sections 1450, 1460 et seq., and 1480 et seq.

These regulations govern ROW encroachment and the granting of permits for encroachments on county roads.

California Government Code Sections 65352, 65940, and 65944

These regulations require evaluation of compatibility with military activities for any land use proposal located near a military installation or airspace.

Regional

Regional Comprehensive Plan and Regional Transportation Plan and Sustainable Communities Strategy

On April 4, 2012, SCAG adopted the 2012–2035 RTP/SCS: Towards a Sustainable Future, which places a greater emphasis than ever on sustainability and integrated planning. The 2012–2035 RTP/SCS vision encompasses three principles that collectively work as the key to the region's future: mobility, economy, and sustainability. It includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375 (SB 375), improve public health, and meet the National Ambient Air Quality Standards set by the federal Clean Air Act. The 2012–2035 RTP/SCS provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play and how they will move around (SCAG 2012).

~~**Regional Comprehensive Plan and Regional Transportation Plan**~~

~~The Southern California Association of Government's (~~SCAG's~~)~~ Intergovernmental Review section, part of the Environmental Planning Division of Planning and Policy, is responsible for performing consistency review of regionally significant local plans, projects, and programs. Regionally significant projects are required to be consistent with SCAG's adopted regional plans and policies, such as the Regional Comprehensive Plan and the Regional Transportation Plan and Sustainable Communities Strategy. The criteria for projects of regional significance are outlined in CEQA Guidelines Sections 15125 and 15206. According to the SCAG Intergovernmental Review Procedures Handbook, "new or expanded electrical generating facilities and transmission lines" qualify as regionally significant projects.

Policy 3.05: *Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.*

Policy 3.14: *Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.*

Policy 3.16: *Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.*

Policy 3.17: *Support and encourage settlement patterns which contain a range of urban densities.*

Policy 3.18: *Encourage planned development in locations least likely to cause adverse environmental impact.*

Policy RTP G5: *Protect the environment, improve air quality and promote energy efficiency.*

Policy RTP G6: *Encourage land use and growth patterns that complement our transportation investments and improve the cost-effectiveness of expenditures.*

Policy GV P1.1: *Encourage transportation investments and land use decisions that are mutually supportive.*

Policy GV P4.2: *Focus development in urban centers and existing cities.*

Policy GV P4.3: *Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.*

Policy GV P4.4: *Utilize "green" development techniques.*

Local

2011 Riverside County Congestion Management Program

County of Riverside Congestion Management Plan

Riverside County's Congestion Management Plan specifies that all Congestion Management Plan roadways operate at a Level of Service (LOS) of "E" or better. All state highways and principal arterials are Congestion Management Plan roadways. I-10 and SR-177 are the only Congestion Management Plan roadways in the Project study area. The Congestion Management Plan was first established in 1990 under Proposition 111.

Proposition 111 established a process for each metropolitan county in California to designate a Congestion Management Agency that would be responsible for development and implementation of the Congestion Management Plan within county boundaries. The Riverside County Transportation Commission was designated as the Congestion Management Agency in 1990 and, therefore, prepares the Congestion Management Plan updates in consultation with the Technical Advisory Committee, which consists of local agencies, the County of Riverside, transit agencies, and subregional agencies.

The Riverside County Transportation Commission's adopted minimum LOS threshold is LOS "E." Therefore, when a Congestion Management Plan street or highway segment falls to "F," a deficiency plan must be required. Preparation of a deficiency plan will be the responsibility of the local agency where the deficiency is located. Other agencies identified as contributors to the deficiency will also be required to coordinate with the development of the plan. The plan must contain mitigation measures, including consideration of Transportation Demand Management strategies and transit alternatives, and a schedule for mitigating the deficiency.

Riverside County General Plan

The Riverside County General Plan (adopted October 2003) is applicable to all unincorporated lands within Riverside County. Countywide policies that address traffic and transportation within the County boundaries are located in the Circulation Element and Land Use Element of the County General Plan, and include:

Circulation Element (C)

Policy C 2.1. *Maintain the following countywide target Levels of Service: LOS "C" along all County maintained roads and conventional state highways. As an exception, LOS "D" may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterials, Urban Arterials, Expressways, conventional state highways or freeway ramp intersections.*

LOS "E" may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

Policy C2.2. *Apply level of service standards to new development via a program establishing traffic study guidelines to evaluate traffic impacts and identify appropriate mitigation measures for new development.*

Policy C 2.3. *Traffic studies prepared for development entitlements (tracts, plot plans, public use permits, conditional use permits, etc.). Shall identify project related traffic impacts and determine the "significance" of such impacts in compliance with CEQA.*

Policy C 2.4. *The direct project related traffic impacts of new development proposals shall be mitigated via conditions of approval requiring the construction of any improvements identified as necessary to meet level of service standards.*

Policy C 3.10. *Require private and public land developments to provide all on-site auxiliary facility improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development project shall be undertaken to identify project impacts to the circulation system and its auxiliary facilities. The Transportation Department may require developers and/or subdividers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.*

Policy C 6.2. *Require all-weather access to all new development.*

Policy C 7.1. *Work with incorporated cities to mitigate the cumulative impacts of incorporated and unincorporated development on the countywide transportation system.*

Policy C7.9. *Review development applications in cooperation with RCTC and as appropriate, to identify the precise location of CETAP corridors and act to preserve such areas from any permanent encroachments, pending dedication or acquisition.*

Policy C 20.4. *Control dust and mitigate other environmental impacts during all stages of roadway construction.*

Policy C 20.13. *Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting the groundwater supply.*

Land Use Element (LU)

Policy LU 6.2(a). *The facility is compatible in scale and design with surrounding land uses, and does not generate excessive noise, traffic, light, fumes, or odors that might have a negative impact on adjacent neighborhoods.*

Policy LU 6.4. *Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.*

Riverside County General Plan- Palo Verde Valley Area Plan

The applicable policy related to traffic and transportation included with the PVVAP is provided below.

Policy PVVAP 7.2. *Maintain the County's roadway Level of Service standards as described in the Level of Service section of the General Plan Circulation Element.*

Riverside County Municipal Code Title 10, Chapter 10.08, Sections 10.08.010 – 10.08.180

These regulations establish requirements and permits for oversize and overweight vehicles.

Riverside County Ordinance No. 460

This ordinance specifies that all work shall conform to the requirements of the Riverside County Transportation Department Subdivision Regulations.

Riverside County Ordinance No. 461

This ordinance specifies that all work shall conform to the requirements of the Riverside County Transportation Department Road Improvement Standards and Specifications.

City of Blythe General Plan

City policies in the City of Blythe General Plan 2025 (2007) related to traffic and transportation are located in the Circulation Element Guiding Policies of the City General Plan, and include:

Circulation Element

Policy 11*: Strive to maintain traffic LOS B on residential streets and LOS C or better on arterial and collector streets, at all intersections, and on principal arterials in the Congestion Management Plan during peak hours.*

Policy 12: *Accept LOS D for built-out areas served by transit after finding that:*

- There is no practical and feasible way to mitigate the lower level of service; and
- The uses resulting in the lower level of service are of clear, overall public benefit.

City of Blythe Municipal Code, Title 10, Article 19, Section 19.1

This code establishes permit requirements for moving heavy loads or equipment on city streets.