Draft
Environmental Impact Report

SCH# 2022060193

Volume 1

Chapters 1 through 11

JASMINE SOLAR PROJECT

by SF JASMINE, LLC *(PP22401)*

Conditional Use Permit No. 30, Map No. 160
Williamson Act Land Use Contract Cancellation 23-04

Kern County
Planning and Natural Resources Department
Bakersfield, California

October 2023

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2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
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Web Address: http://kernplanning.com/

PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

DATE: October 18, 2023

TO: See Attached Mailing List

FROM: Kern County Planning and Natural Resources Department
Attn: Terrance Smalls
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661)862-8607;
SmallsT@kerncounty.com

SUBJECT: DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE JASMINE SOLAR FACILITY PROJECT BY SF JASMINE, LLC (PP22401)

Dear Interested Party:

The Kern County Planning and Natural Resources Department, as Lead Agency, has prepared a Draft Environmental Impact Report (DEIR) for the construction and operation of a photovoltaic solar facility and associated infrastructure necessary to generate up to 70 megawatts-alternating current (MW-AC) of renewable energy and store up to 68MWh or 17 MW of battery energy storage, on approximately 493 acres of privately-owned land. The project would be supported by a 70-kilovolt (kV) gen-tie overhead electrical transmission line(s) originating from an on-site substation and terminating at the PG&E Lakeview Substation. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

The project site is located in an unincorporated area of western Kern County, California, on the northwest corner of the intersection of Old River Road and Copus Road. The project site is located approximately four (4) miles west of Interstate 5 and 2.5 miles north of State Route 166. The project site is located in Section 31 of Township 32 South, Range 27 East in the Mount Diablo Base and Meridian (MDB&M).

The Kern County Planning and Community Development Department, as Lead Agency, has determined that preparation of an Environmental Impact Report would be appropriate for the referenced project. Enclosed is a copy of the Draft EIR. Documents can also be viewed online at: https://kernplanning.com/planning/environmental-documents/

If we have not received a reply from you by **December 4, 2023 at 5:00pm**, we will assume that you have no comments regarding this Draft EIR.

Should you have any questions regarding this project, please do not hesitate to contact me at smallst@kerncounty.com or (661) 862-8607.

Sincerely,

Terrance Smalls, Supervising Planner
Advanced Planning Division

CUP # 30, MAP # 160
WALUC 22-01
JASMINE SOLAR PROJECT

Tejon Indian Tribe
Kathy Morgan, Chairperson
1731 Hasti-acres Drive, Suite 108
Bakersfield, CA 93309

City of Arvin
P.O. Box 548
Arvin, CA 93203

Bakersfield City Planning Dept
1715 Chester Avenue
Bakersfield, CA 93301

Bakersfield City Public Works Dept
1501 Truxtun Avenue
Bakersfield, CA 93301

California City Planning Dept
21000 Hacienda Blvd.
California City, CA 93515

Delano City Planning Dept
P.O. Box 3010
Delano, CA 93216

City of Maricopa
P.O. Box 548
Maricopa, CA 93252

City of McFarland
401 West Kern Avenue
McFarland, CA 93250

City of Ridgecrest
100 West California Avenue
Ridgecrest, CA 93555

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

City of Taft
Planning & Building
209 East Kern Street
Taft, CA 93268

City of Tehachapi
Attn: John Schlosser
115 South Robinson Street
Tehachapi, CA 93561-1722

City of Wasco
764 E Street
Wasco, CA 93280

Inyo County Planning Dept
P.O. Drawer "L"
Independence, CA 93526

Kings County Planning Agency
1400 West Lacey Blvd, Bldg 6
Hanford, CA 93230

Los Angeles Co Reg Planning Dept
320 West Temple Street
Los Angeles, CA 90012

San Bernardino Co Planning Dept
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

San Luis Obispo Co Planning Dept
Planning and Building
976 Osos Street
San Luis Obispo, CA 93408

Santa Barbara Co Resource Mgt Dept
123 East Anapamu Street
Santa Barbara, CA 93101

Tulare County Planning & Dev Dept
5961 South Mooney Boulevard
Visalia, CA 93291

Ventura County RMA Planning Div
800 South Victoria Avenue, L1740
Ventura, CA 93009-1740

U.S. Bureau of Land Management
Caliente/Bakersfield
3801 Pegasus Drive
Bakersfield, CA 93308-6837

Environmental Protection Agency
Region IX Office
75 Hawthorn Street
San Francisco, CA 94105

U.S. Dept of Agriculture/NRCS
5080 California Avenue, Ste 150
Bakersfield, CA 93309-0711

State Air Resources Board
Stationary Resource Division
P.O. Box 2815
Sacramento, CA 95812

So. San Joaquin Valley Arch Info Ctr
California State University of Bkfd
9001 Stockdale Highway
Bakersfield, CA 93311

Caltrans/Dist 6
Planning/Land Bank Bldg.
P.O. Box 12616
Fresno, CA 93778

State Dept of Conservation
Geologic Energy Management Division
4800 Stockdale Highway, Ste 108
Bakersfield, CA 93309

California State University
Bakersfield - Library
9001 Stockdale Highway
Bakersfield, CA 93309

California Energy Commission
James W. Reed, Jr.
1516 Ninth Street
Mail Stop 17
Sacramento, CA 95814

California Fish & Wildlife
1234 East Shaw Avenue
Fresno, CA 93710

California Highway Patrol
Planning & Analysis Division
P.O. Box 942898
Sacramento, CA 94298-0001

Public Utilities Comm Energy Div
505 Van Ness Avenue
San Francisco, CA 94102

California Regional Water Quality
Control Board/Central Valley Region
1685 E Street
Fresno, CA 93706-2020

State Dept of Water Resources
San Joaquin Dist.
3374 East Shields Avenue, Room A-7
Fresno, CA 93726

Kern County
Agriculture Department

County Clerk

Kern County Administrative Officer

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept
Aaron Duncan, Fire Chief

Kern County Fire Dept
Mike Nicholas, Fire Marshall

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Parks & Recreation

Kern County Sheriff's Dept
Administration

Kern County Public Works Department/
Building & Development/Development
Review

Kern County Public Works Department/Operations &
Maintenance/Regulatory Monitoring &
Reporting

Kern County Public Works Department/
Building & Development/Code
Compliance

Maricopa Unified School Dist
955 Stanislaus Street
Maricopa, CA 93252

Kern High School Dist
5801 Sundale Avenue
Bakersfield, CA 93309

Kern County Superintendent of Schools
Attention School District Facility Services
1300 - 17th Street
Bakersfield, CA 93301

KernCOG
1401 19th Street - Suite 300
Bakersfield, CA 93301

Wheeler Ridge-Maricopa Water Dist
12109 Highway 166
Bakersfield, CA 93313-9630

Kern County Water Agency
P.O. Box 58
Bakersfield, CA 93302-0058

San Joaquin Valley
Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

Adams, Broadwell, Joseph & Cardozo
Attention: Janet M. Laurain
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

AT&T California
OSP Engineering/Right-of-Way
4901 Ashe Road
Bakersfield, CA 93313

Kern Audubon Society
Attn: Frank Bedard, Chairman
4124 Chardonnay Drive
Bakersfield, CA 93306

Los Angeles Audubon
926 Citrus Avenue
Los Angeles, CA 90036-4929

Center on Race, Poverty
& the Environment
Attn: Marissa Alexander
1999 Harrison Street – Suite 650
San Francisco, CA 94612

Center on Race, Poverty
& the Environmental/
CA Rural Legal Assistance Foundation
1012 Jefferson Street
Delano, CA 93215

Defenders of Wildlife/
Kim Delfino, California Dir
980 - 9th Street, Suite 1730
Sacramento, CA 95814

Native American Heritage Council
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Attn: Gene Albitre
3401 Aslin Street
Bakersfield, CA 93312

Pacific Gas & Electric Co
Land Projects
650 "O" Street, First Floor
Fresno, CA 93760-0001

Sierra Club/Kern Kaweah Chapter
P.O. Box 3357
Bakersfield, CA 93385

Southern California Gas Co
35118 McMurtrey Avenue
Bakersfield, CA 93308-9477

Southern California Gas Co
Transportation Dept
9400 Oakdale Avenue
Chatsworth, CA 91313-6511

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Kern Valley Indian Council
Attn: Robert Robinson, Chairperson
P.O. Box 401
Weldon, CA 93283

Kern Valley Indian Council
Historic Preservation Office
P.O. Box 401
Weldon, CA 93283

Kern County Public Works Department/
Building & Development/Development
Review

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EDP Renewables Company
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Portland, OR 97204

Wind Stream, LLC
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NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED JASMINE SOLAR PROJECT

This is to advise that the Kern County Planning and Natural Resources Department has prepared an Environmental Impact Report (EIR) for the project identified below. As mandated by State law, the minimum public review period for this document is 45 days.

PROJECT TITLE: Jasmine Solar Project by SF Jasmine, LLC (PP22401); CUP No. 30, Map No. 160 (SCH #2022060193).

PROJECT LOCATION: The project site is located in an unincorporated area of western Kern County, California, on the northwest corner of the intersection of Old River Road and Copus Road. The project site is located approximately four (4) miles west of Interstate 5 and 2.5 miles north of State Route 166. The project site is located in Section 31 of Township 32 South, Range 27 East in the Mount Diablo Base and Meridian (MDB&M).

DOCUMENT AVAILABILITY: The document and documents referenced in the Draft EIR are available for review at the Planning and Natural Resources Department, 2700 "M" Street, Suite 100, Bakersfield, CA 93301 or on the Departmental website **(https://kernplanning.com/planning/environmental-documents/).**

PUBLIC HEARING AND COMMENT: A public hearing has been scheduled with the Kern County Planning Commission to solicit comments on the adequacy and completeness of the analysis and proposed mitigation measures described in the Draft EIR. You may comment by providing testimony at the public hearing on:

DATE: **January 25, 2024**
TIME: **7:00 P.M. or soon thereafter**
LOCATION: **Chambers of the Board of Supervisors**
Kern County Administrative Center, First Floor
1115 Truxtun Avenue, Bakersfield, CA 93301

And/or submitting written comments to the project planner identified below prior to the close of the public comment period on December 4, 2023 at 5:00 p.m. to:

Kern County Planning and Natural Resources Department
ATTN: Terrance Smalls
2700 "M" Street, Suite 100, Bakersfield, CA 93301
Phone: (661) 862-8607
E-mail: smallst@kerncounty.com

If you challenge the action taken on this request in court, you may be limited to raising only those issues you or someone else raised at this public hearing, or in written correspondence delivered to the Planning and Natural Resources Department at, or prior to, the public hearing.

PROJECT DESCRIPTION: The Jasmine Solar Project (proposed project) would develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate up to 70 megawatts-alternating current (MW-AC) of renewable energy, including 68 MWh or 17 MW of energy battery storage, on approximately 493 acres of privately-owned land. The project would be supported by a 70-kilovolt (kV) gen-tie overhead electrical transmission line(s) originating from an on-site substations and terminating at the PG&E Lakeview Substation. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

Implementation of the project as proposed includes the following requests:

a) Conditional Use Permit (CUP No. 30, Map No. 160) to allow for the construction and operation of an approximate 70 MW solar facility, as well as ancillary structures include a 68 MWh or 17 MW, battery energy storage system, on a 493-acre site within an A (Exclusive Agriculture) Zone District pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.

b) Williamson Act Land Use Contract Cancellation #23-04 of approximately 528 acres.

ENVIRONMENTAL REVIEW FINDINGS: Anticipated significant and unavoidable impacts on Aesthetics (Cumulative); Agriculture and Forest Resources (Project and Cumulative); Air Quality (Cumulative); Biological Resources (Cumulative); Wildfire (Cumulative)

LORELEI H. OVIATT, AICP, Director
Planning and Natural Resources Department

To be published once only on next available date and as soon as possible

THE BAKERSFIELD CALIFORNIAN

TJS (10/18/22)

cc: County Clerk (2) (with fee)
Environmental Status Board
LiUNA
Supervisorial District No. 4

295 270 17 00 9
ALMOND BLOSSOM RANCH LLC
6219 DE LA GUERRA TR
BAKERSFIELD CA 93306-9759

295 132 14 00 3
WILLOW AVE INVS LLC
1306 W HERNDON AV # 101
FRESNO CA 93711-7183

295 131 14 00 6
VELASCO JOSE G & MARTHA
301 E 19TH ST
CRANE TX 79731-4403

295 200 44 00 6
CENTRAL ALMONDS LLC
2055 WOODSIDE RD # 195
REDWOOD CITY CA 94061

295 050 17 00 5
C & A FARMS LLC
1306 W HERNDON AV STE 106
FRESNO CA 93711-7183

295 200 21 00 9
CALIFORNIA RESOURCES PETROLEUM CORPORATION
27200 TOURNEY RD STE 200
SANTA CLARITA CA 91355-4910

295 131 09 00 2
JOO FAMILY TRUST
1134 PASADERO DR
ESCONDIDO CA 92029-3011

295 131 12 00 0
ECHEVERRIA F & I FAMILY TRUST
13441 EBERLE RD
BAKERSFIELD CA 93313-9797

295 131 15 00 9
GRAPEVINE ENERGY LLC
5330 OFFICE CENTER CT STE 75
BAKERSFIELD CA 93309

295 050 59 00 7
P&N L P
31956 PETERSON RD
MC FARLAND CA 93250

295 270 04 00 1
OLD RIVER FARM INC
209 WEEDPATCH HW
BAKERSFIELD CA 93307

295 050 58 00 4
P & N L P
31956 PETERSON RD
MCFARLAND CA 93250-9606

295 131 05 00 0
TBS PROP LLC
10457 VAN HORN RD
BAKERSFIELD CA 93313

295 132 10 00 1
US HORTICULTURE FARMLAND LLC
2004 FOX DR STE L
CHAMPAIGN IL 61820

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Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2022060193

Project Title: Jasmine Solar Project by SF Jasmine, LLC

Lead Agency: Kern County Planning and Natural Resources Department | Contact Person: Terrance Smalls

Mailing Address: 2700 "M" Street Suite 100 | Phone: (661) 862-8607

City: Bakersfield | Zip: 93301 | County: Kern

Project Location: County: Kern | City/Nearest Community: Maricopa

Cross Streets: Old River Rd and Copus Road. | Zip Code: 93501

Lat. / Long.: 35° 6' 13.068"N, 119° 7' 24.564"W | Total Acres: 493

Assessor's Parcel No.: 295-131-12 | Section: 31 | Twp.: 32S | Range: 27E | Base: MDB&M

Within 2 Miles: State Hwy #: SR-166 | Waterways: N/A

Airports: N/A | Railways: N/A | Schools: N/A

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☒ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other Land Contract Cancellation

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational
☐ Recreational

☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type
☐ Mining: Mineral
☒ Power: Type Solar PV MW 70
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type
☒ Other: Battery Energy Storage System (17 MW or 68 MWh)

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☒ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☒ Growth Inducing
☒ Land Use
☒ Cumulative Effects
☒ Other GHG, Wildfire, Tribal Cultural Resources, Energy

Present Land Use/Zoning/General Plan Designation:

Undeveloped Land/ A (Exclusive Agriculture)/8.1 = Intensive Agriculture (Min. 20 Acre Parcel Size)

Project Description:

The Jasmine Solar Project, as proposed by SF Jasmine, LLC would develop a photovoltaic solar facility and associated infrastructure necessary to generate up to 70 megawatts (MW) of renewable energy and a Battery Energy Storage System (BESS) capable of providing approximately 17 MW of power for 4 hours totaling 68 megawatt hours (MWh) of energy storage, on approximately 493 acres of privately-owned land. The project study area consists of an approximate total of 527 acres and includes the project solar facility and transmission line areas. The project would be supported by a 70-kilovolt (kV) gen-tie overhead electrical transmission line(s) originating from an on-site substation and terminating at the nearby PG&E Substation. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

S	Air Resources Board		Office of Emergency Services
	Boating & Waterways, Department of		Office of Historic Preservation
S	California Highway Patrol		Office of Public School Construction
	CalFire	X	Parks & Recreation
S	Caltrans District # 6		Pesticide Regulation, Department of
	Caltrans Division of Aeronautics	S	Public Utilities Commission
	Caltrans Planning (Headquarters)	S	Regional WQCB # Central Valley
	Central Valley Flood Protection Board		Resources Agency
	Coachella Valley Mountains Conservancy		S.F. Bay Conservation & Development Commission
	Coastal Commission		San Gabriel & Lower L.A. Rivers and Mtns Conservancy
	Colorado River Board		San Joaquin River Conservancy
S	Conservation, Department of		Santa Monica Mountains Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of		SWRCB: Water Quality
S	Energy Commission		SWRCB: Water Rights
S	Fish & Game Region # Fresno		Tahoe Regional Planning Agency
S	Food & Agriculture, Department of		Toxic Substances Control, Department of
	General Services, Department of	S	Water Resources, Department of
	Health Services, Department of		
	Housing & Community Development		Other _____
	Integrated Waste Management Board		Other _____
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date October 18, 2023 Ending Date December 4, 2023

Lead Agency (Complete if applicable):

Consulting Firm: _____ Applicant: _____
Address: _____ Address: _____
City/State/Zip: _____ City/State/Zip: _____
Contact: _____ Phone _____
Phone: _____

Signature of Lead Agency Representative: **/s/** **Date:** 10/18/2023

Terrance Smalls, Supervising Planner

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Draft
Environmental Impact Report

SCH# 2022060193

Volume 1

Chapters 1 through 11

JASMINE SOLAR PROJECT

by SF JASMINE, LLC *(PP22401)*

Conditional Use Permit No. 30, Map No. 160
Williamson Act Land Use Contract Cancellation 23-04

Kern County
Planning and Natural Resources Department
Bakersfield, California

Technical Assistance by:
Kimley-Horn

October 2023

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Chapter 1
Executive Summary

1.1 Introduction

This Environmental Impact Report (EIR) has been prepared by Kern County (County), which is the CEQA Lead Agency, to identify and evaluate potential environmental impacts associated with implementation of the Jasmine Solar Project (project) proposed by SF Jasmine LLC (project proponent). The photovoltaic (PV) solar facility and associated infrastructure would enable the generation of up to 70 megawatts (MW) of renewable electrical energy supported by a Battery Energy Storage System (BESS) capable of storing approximately 68 MWh of energy on approximately 527 acres of privately owned land. The BESS would be located on approximately 1 acre of the project. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

Implementation of the project as proposed includes the following requests:

- Conditional Use Permit (CUP 30, Map No. 160) to allow for the construction and operation of a 70 MW utility-scale solar facility pursuant to Chapter 19.12.030.G of Kern County Zoning Ordinance.
- Cancellation of approximately 528 acres of Williamson Act Contract, Book 4373, page 24 to be processed for Assessor's Parcel Number (APN) 295-131-12 and approximately 14.5 acres of Williamson Act Contract, Book 4272, page 933 to be processed for APN 295-132-15.

The project proponent/operator is also requesting California Environmental Quality Act (CEQA) review for the project.

Table 1-1, *Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Jasmine Solar Project*, identifies the Assessor Parcel Numbers (APN) for the project site.

TABLE 1-1: PROJECT ASSESSOR PARCEL NUMBERS (APNS) – GENERAL PLAN MAP CODE DESIGNATIONS AND ZONE DISTRICTS – JASMINE SOLAR PROJECT

APN	Existing Map Code Designation	Existing Zoning	Acreage
295-131-12	8.1, 8.1/2.3, 8.1/2.5, 8.4/2.3	A, A-1, C-2 PD	513.61
295-132-15	8.1/2.3	A, A-1	13.76
		Project Site Total	**527.37**
Existing PG&E Lakeview Substation			
295-132-16*	8.1/2.3	A	1.12
		Study Area Total	**528.49**

General Plan Map Code:
8.1 = Intensive Agriculture (Min. 20 Acre Parcel Size)
8.4 = Mineral and Petroleum (Min. 5 Acre Parcel Size)
2.3 = Shallow Ground Water Overlay
2.5 = Flood Hazard Overlay
Zone Designation:
A = Exclusive Agriculture
A-1 = Limited Agriculture
C-2 = General Commercial
PD = Precise Development Combining
*Parcel is included in study, but not part of the Conditional Use Permit

This Draft Environmental Impact Report (EIR) has been prepared by Kern County as the Lead Agency under CEQA. The Draft EIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, State, and federal permitting agencies that are required to consider the project. The EIR will be used by Kern County to determine whether to approve the requested CUP (CUP 30) and Williamson Act Contract Cancellation.

This Executive Summary summarizes the requirements of the *CEQA Guidelines*; provides an overview of the project and alternatives; identifies the purpose of this EIR; outlines the potential impacts of the project and the recommended mitigation measures; and discloses areas of controversy and issues to be resolved.

To connect the Jasmine Solar Project to California's electrical grid, PG&E will construct a new segment of 70 kV power line, approximately 150 feet long, from the customer-owned gen-tie line to the existing PG&E Lakeview Substation, which will be expanded by approximately 0.9 acres to accommodate the solar project. Because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design and construction of PG&E's interconnection facilities, these interconnection facilities are not part of this application proceeding and will not be authorized by the County's decision. However, PG&E's facilities are analyzed in this CEQA document because CEQA requires that an EIR describe the impacts of the "whole of the action," including direct and indirect physical changes resulting from the project being approved. (CEQA Guidelines, §15378.) Thus, PG&E's interconnections facilities, combined with the Jasmine Solar Project and related facilities, constitute the project being evaluated under CEQA. Although the mitigation measures identified in this EIR are not applicable to PG&E's scope of work, PG&E's best management practices will be identified and analyzed in the County's assessment of the impacts of PG&E's interconnection facilities.

1.2 Project Summary

The project would develop a solar PV generating facility on a 527.37 acre site. As shown in Chapter 3, *Project Description,* **Figure 3-1:** *Regional Vicinity Map,* and **Figure 3-2:** *Local Vicinity Map,* of this EIR, the project is located in an unincorporated portion of southwestern Kern County. The proposed project would include the development of a solar facility and associated infrastructure with the capacity to generate up to 70 MW of electricity through solar power derived from ither fixed-tilt or tracker technology and up to 17 MW, or 68 MWh, of BESS on privately-owned land. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, a BESS, and operations and maintenance facilities.as shown on **Figure 3-11:** *Proposed Site Plan.*

1.2.1 Discretionary Entitlements Required

To implement this project, depending upon site surveys and jurisdictional determinations, the following discretionary and ministerial permits/approvals may be required if applicable to the project, including but not limited to the following:

County of Kern

- Certification of Final Environmental Impact Report
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Adoption of Mitigation Monitoring and Reporting Program
- Approval of Conditional Use Permit
- Approval of Williamson Act Land Use Contract Cancellation
- Approval of Kern County Grading and Building Permits
- Approval of Kern County Access Road Design and Encroachment Permits
- Approval of Fire Safety Plan
- San Joaquin Valley Air Pollution Control District
  - Approval of Fugitive Dust Control Plan
  - Authority to Construct (ATC)
  - Permit to Operate (PTO)

Other Responsible Agency Entitlements

Federal

- U.S. Fish and Wildlife Service (USFWS) Section 10 Incidental Take Permit and Habitat Conservation Plan (if required)
- United States Army Corps of Engineers Section 404 Permit (if required)

State

- California Public Utilities Commission
  - Notice of Construction for PG&E's interconnection facilities
- California Department of Fish and Wildlife (CDFW)
  - Section 1600 et seq. (Lake and Streambed Alteration Agreement), if required
  - Section 2081 Permit (Incidental Take Permit), if required
- Central Valley Water Quality Control Board (RWQCB)
  - Waste Discharge Requirements
  - Regional Water Quality Certification (401 Permit) (if required)
  - National Pollution Discharge Elimination System (NPDES) Construction General Permit

  - General Construction Stormwater Permit (Preparation of a SWPPP)
- California Department of Transportation (Caltrans)
  - Right-of-Way Encroachment Permit (if required)
  - Permit for Transport of Oversized Loads

Local

- San Joaquin Valley Air Basin (SJVAB)
  - Authority to Construct
  - Fugitive Dust Control Plan
  - Permit to Operate
  - Any other permits as required

Other applicable permits or approvals from responsible agencies may be required for the project.

1.3 Relationship of the Project to Other Solar Projects

The proposed project is being developed independently of other approved or proposed solar projects in the County. If approved, the project facilities would be subject to their own use permits, conditions of approval, interconnection agreements, and power purchase agreements. Kern County understands that the project facilities would be built and operated independently of any other solar project and, if approved, would not depend on any other solar project for economic viability.

1.4 Purpose and Use of the EIR

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the project. The Kern County Planning Commission and Board of Supervisors will consider the information in this EIR, including the public comments and staff response to those comments, during the public hearing process. The final decision is made by the Kern County Board of Supervisors, who may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify:

- The significant potential impacts on the environment and indicate the manner in which those significant impacts can be avoided or mitigated;
- Any unavoidable adverse impacts that cannot be mitigated; and
- Reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

An EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of past, present, and reasonably anticipated future projects. CEQA requires preparation of an EIR that reflects the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A draft EIR is circulated to responsible agencies, trustee agencies with resources affected by

the project, and interested agencies and individuals. The purposes of public and agency review of a draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counterproposals. Reviewers of a draft EIR are requested to focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment, and ways in which the significant impacts of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental effects.

This EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with *CEQA Guidelines* Section 15087. The EIR process, including means by which members of the public can comment on the EIR, is discussed further in Chapter 2, *Introduction.*

1.5 Project Overview

1.5.1 Regional Setting

The project site is located in unincorporated southwestern Kern County, in central California as shown in Chapter 3, *Project Description,* **Figure 3-1** and **Figure 3-2**, of this EIR. The project site is located in Section 31 of Township 32 South, Range 27 East in the Mount Diablo Base and Meridian. The project site is located in the Valley Region of Kern County. The site is approximately four (4) miles west of Interstate 5, 2.5 miles north of State Route 166, approximately 17 miles east of Taft, and approximately 20 miles southwest of downtown Bakersfield. The topography of the project consists of two vacant and undeveloped parcels of land covered with sparse non-native vegetation currently used for grazing. Elevations across the project site range from roughly approximately 346 feet above mean sea level (amsl) at the northeastern portion of the site to approximately 393 feet above msl in the southwest portion.

1.5.2 Surrounding Land Uses and Project Site Conditions

Existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, access roadways, oil and gas wells and leases, and a series of canals, ponds, and aqueducts. Rural residential uses are located to the south of the project site. There is no planned, solar energy and transmission projects in the immediate vicinity of the project site.

The project site consists of two vacant and undeveloped parcels of land covered with sparse non-native vegetation currently used for grazing. Habitats within the project site include agricultural field, developed areas, and patches of ruderal habitat along the fenced boundaries of the project site. The project site and surrounding lands are mostly flat and exhibit little topographic variation.

Table 1-2: *Project Site and Surrounding Land Uses*, presents the existing land uses, designations, and zoning classification for the project site and surrounding area.

TABLE 1-2: PROJECT SITES AND SURROUNDING LAND USES

Location	Existing Land Use	Existing General Plan Map Code Designations	Existing Zoning
Project Site	**Agricultural**	**8.1 (Intensive Agriculture); 8.1/ 2.3 (Intensive Agriculture / Shallow Ground Water) 8.1/ 2.5 (Intensive Agriculture / Flood Hazard)**	**A (Exclusive Agriculture) A-1 (Limited Agriculture)**
North	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/2.5 (Intensive Agriculture/Flood Hazard) 8.3 (Extensive Agriculture) 8.5/2.5 (Resource Management/Flood Hazard)	A (Exclusive Agriculture)
South	Agricultural, Vacant Land	8.4/2.3 (Mineral and Petroleum/Shallow Ground Water) 8.1 (Intensive Agriculture) 8.1/2.3 (Intensive Agriculture/Shallow Ground Water)	A (Exclusive Agriculture)
East	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/2.3 (Intensive Agriculture / Shallow Ground Water) 8.1/2.5 (Intensive Agriculture/Flood Hazard)	A (Exclusive Agriculture) A-1 (Limited Agriculture) C-2 PD (General Commercial, Precise Development Combining) A FPS (Exclusive Agriculture, Floodplain Secondary Combining)
West	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/ 2.3 (Intensive Agriculture / Shallow Ground Water)	A (Exclusive Agriculture)

1.5.3 Applicant Submitted Project Objectives

State CEQA Guidelines Section 15124(b) requires that a project description include a clearly written statement of objectives. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits. The following are the applicant submitted project objectives for the proposed project.

- Support the generation of renewable energy in the State of California per the recent objectives outlined in Senate Bill 100 to implement carbon neutral and eligible renewable energy resources to supply 100% of the state's retail electricity sales by the year 2045.
- Establish a large-scale solar PV and battery energy storage facility in a manner that maximizes the production of reliable electricity in an economically feasible manner.
- Use a proven and established solar and energy storage technology to optimize efficiency and minimize operational risks and maintenance requirements.
- Develop a solar generation project of a sufficient size and configuration to maximize energy production respective of project constraints.
- Develop a solar generation project that helps to meet the increasing demand of the State of California for clean, renewable electrical power at a competitive cost.
- Develop a project that would result in green job creation.

- Support the local community and provide increased business for local contractors and vendors.
- Provide revenues that help support public services within Kern County.
- Develop a project sensitive to environmental effects by using existing disturbed areas, maximizing use of existing infrastructure, and minimizing water use.
- Assist the state in achieving the Renewable Portfolio Standard (RPS) for 2030 consistent with Assembly Bill [AB] 32, Senate Bill [SB] 1078, SB 107, SB 350, and SB 2).
- Assist Kern County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County.
- Help Southern California Community Choice Aggregators in fulfilling their local renewable energy procurement goals.

1.5.4 Project Characteristics

As described in Section 1.1, *Introduction,* the project would install a 70 MW solar photovoltaic solar facility and associated infrastructure including up to 68 MWh of energy storage. Project facilities are further outlined below:

Photovoltaic (PV) modules and trackers

The proposed facility would utilize PV modules and trackers. Trackers use small motors to adjust the PV modules panel orientation to optimize power production by angling the panels toward the sun throughout the day as well as adjusting for seasonal variations. The tracking systems and PV modules are supported by metal posts (piles) that are driven into the ground with a pile driving machine. The location of the piles is determined using a precise survey and then laid out to ensuring proper positioning of the tracker assembly parts. A pile cap is affixed to the top of each pile is and the bearing assembly that supports and allows proper movement/orientation of the torque tube assembly. The balance of the assembly consists of a single-axis tracking systems driven by a mechanical drive arm and tube assembly that adjusts the orientation of the attached PV panel. The pile support will be adequate to support the weight of the assembly and strong enough to manage the system through its daily range of motions.

The panels are typically constructed of blue or black glass covering the internal PV components. A plastic binding material and frame provides structural rigidity and give support to the panels. The PV panels would be self-contained, durably constructed units designed to withstand exposure to the elements for a period of 35 years or longer. The solar modules deployed for this proposed facility would be certified to comply with industry standard quality testing and would be electrically connected to the grid through the on-site substation, gen-tie line, to the PG&E Lakeview substation. All improvement would be made in accordance with local and state codes and regulations. The final panel selection would be determined at the detailed project-engineering phase and per market availability.

Multiple trackers would be deployed in proximity to the on-site power conditioning stations (PCS) where the direct current (DC) produced by the panels is converted to alternating current (AC) and transferred to the on-site substation and eventual delivery to the electrical grid via the PG&E Lakeview substation. The number of trackers connected to each of the PCS would vary with panel output relative to inverter size and desired output from the PCS.

The proposed facility's panels would be organized in rows in a uniform grid pattern, with each row separated by between 10 to 20 feet (from post to post). Another mechanical feature of the proposed project's tracker system includes a wire management system that would provide support and containment of the DC wires used to collect the output of the panels and move output to the PCS. The panel and tracker features allow for a natural light regime between and under the panels, supporting the co-management of solar energy generation, agriculture, and wildlife.

Inverter and Medium Voltage Transformers

The proposed facility inverters, transformers, and other electrical equipment comprise each PCS. The footprint of each PCS, which is generally mounted on a concrete pad or piles, would be approximately 12 feet by 30 feet. The proposed project would require approximately 40 PCS, depending on final design details. The inverter converts the DC electricity to AC electricity, which then flows to a transformer where it is stepped up to the appropriate collection level voltage (34.5-kV). The project would use Power Electronic HEM Central inverters or equivalent and one medium voltage transformers per inverter. Each inverter and transformer would be installed as per manufacturer's requirements.

Electrical Collection and Distribution System

The DC output of multiple rows of PV modules connected in series would be collected through one or more combiner boxes and associated electrical wiring located throughout the project site. The power would be delivered via an underground cable network to the inverters in the electrical equipment enclosures at the PCS, described above. Multiple transformers electrically connected in series would deliver AC power to the Project Substation located on-site.

Project Substation

The project substation is proposed to be in the southeast corner of APN 295-131-12. The project Substation would include transformers, breakers, switches, meters, and related equipment. Interconnection equipment, including the control house, would be installed aboveground and underground within the footprint of the substation. The overall footprint of the project Substation is anticipated to be approximately 200 by 200 feet and approximately 100 feet in height at its apex. The project Substation would include an emergency generator for use in the event that the regional transmission system fails; this emergency generator would provide emergency power until the regional transmission system restores operations. The project Substation would also contain a control house building approximately 15 by 40 feet with an overall height of less than 20 feet. The project substation would be surrounded by a seven-foot barbed wire chain-link fence and would comply with electrical codes.

The project Substation must have access to communication systems in the area to comply with Federal Energy Regulatory Commission/California Independent System Operator/Utility monitoring and control requirements. Compliance may be accomplished by underground lines, aboveground lines, or wireless communication.

Battery Energy Storage System

The project would include a Battery Energy Storage System (BESS), which would be located immediately adjacent to the proposed substation. The BESS would provide approximately 17 MW of energy storage, or 68 MWh of energy storage capacity, to complement the 70 MW of energy generation from the PV solar

array. The BESS system would consist of commercially available lithium-ion batteries housed in enclosures. The enclosures would be approximately 8 feet wide by 40 feet long by 9.5 feet high (2.4 meters wide by 12 meters long by 2.9 meters high). The battery storage component would have a footprint of approximately 1 acre and would be immediately adjacent to the project's Substation. Site preparation required for the battery storage enclosures requires leveling the area for a flat concrete foundation.

The Generation-Tie Line

The 70 kV gen-tie line would connect from the on-site project Substation near the BESS in the southwesterly portion of the solar facility to the existing PG&E Lakeview Substation. The gen-tie is proposed to extend approximately 0.50 miles along the southerly alignment of Copus Road east to connect to the PG&E Lakeview Substation. The gen-tie right-of way would be from 25- to 75-feet-wide and approximately 25 new poles would be installed to string the gen-tie line. The new poles would be constructed of either steel or wood at a maximum of 125 feet tall.

Operations and Maintenance Facility

The proposed project would include an operations and maintenance (O&M) building, which is assumed to include an office space, repair and storage area, control room, and restroom facilities. O&M building would have associated on-site parking (unpaved) and may be co-located with the substation. Roads, driveways, and parking lot entrances would be constructed in accordance with County standards and California Accessibility Regulations. Based on the size of similar buildings at other utility-scale solar installations, the O&M building is estimated to cover approximately 2,000 square feet.

Lakeview Substation

The existing Lakeview Substation, operated by PG&E, would require modifications that would occupy approximately 0.9 acres adjacent to the eastern side of its existing footprint. The modifications are needed to accommodate improvements for the gen-tie line connection to the existing electrical equipment. Additional electrical equipment, including Direct Transfer Trip (DTT) equipment, Supervisory Control Data Acquisition and telemetry equipment, and breaker and control switching equipment, would be placed within the existing fenced area at the Lakeview Substation. Further discussion of the Lakeview Substation connections and modifications are included below in Section 4.7.5.

Access

The proposed facility would be primarily accessed off Copus Road and Old River Road and would include minor improvements to the existing paved roads that would connect to paved driveways and then to the interior gravel lines access roads. The access driveway from both Copus Road or Old River Road would include construction of turn pockets for exit and entry to facilitate the delivery of equipment and personnel to the proposed project during construction and operations. The turn pockets would be constructed with 6 to 8 inches of aggregate base course to be designed according to California Department of Transportation (Caltrans) specifications, as needed.

The Lakeview Substation is accessed via Copus Road, which also would be used to adjacent to accessed the area needed to install the gen-tie corridor and modifications to the substation. Interior access within the solar array area would use approximately 20-foot-wide interior and perimeter gravel roads that would be

used for maintenance and security. It should be noted that the access points and interior driveways would be constructed in accordance with Kern County and California Department of Forestry and Fire Protection (CalFire) requirements and maintained to facilitate on-site circulation for emergency vehicles during all weather conditions.

1.6 Environmental Impacts

CEQA Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons why any new and possibly significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. The County has engaged the public to participate in the scoping of the environmental document. The contents of this EIR were established based on a notice of preparation/initial study (NOP/IS) prepared in accordance with the *CEQA Guidelines*, as well as public and agency input that was received during the scoping process. Comments received on the NOP/IS are located in Appendix A of this EIR. Specific issues found to have no impact or less-than-significant impacts during preparation of the NOP/IS do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, a determination was made that this EIR must contain a comprehensive analysis of all environmental issues identified in *CEQA Guidelines* Appendix G except population and housing and recreation.

1.6.1 Impacts Not Further Considered in this EIR

As discussed in the NOP/IS (located in Appendix A of this EIR), the project was determined to have no impact with regard to the following resource areas, which are therefore not analyzed in this EIR.

- Population and Housing
- Recreation

1.6.2 Impacts of the Project

Sections 4.1 through 4.18 in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, provide a detailed discussion of the environmental setting, impacts associated with the project, and mitigation measures designed to reduce significant impacts to less-than-significant levels, when feasible. The impacts, mitigation measures, and residual impacts for the project are summarized in **Table 1-7:** *Summary of Impacts, Mitigation Measures, and Levels of Significance*, located at the end of this chapter, and are discussed further below.

Impacts related to the following resource areas are evaluated in this EIR for their potential significance:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfires

1.6.3 Less-than-Significant Impacts

Table 1-3: *Summary of Project Impacts that are Less than Significant or Less than Significant with Mitigation*, presents those impacts of the project that were determined to be less than significant by themselves, or less than significant with implementation of mitigation measures. Less-than-significant cumulative impacts are also included in this table. Sections 4.1 through 4.18 of this EIR present detailed analysis of these impacts and describe the means by which the mitigation measures listed in **Table 1-3:** *Summary of Project Impacts That Are Less than Significant or Less than Significant with Mitigation,* would reduce impacts to a less-than-significant level.

TABLE 1 3: SUMMARY OF PROJECT IMPACTS THAT ARE LESS THAN SIGNIFICANT OR LESS THAN SIGNIFICANT WITH MITIGATION

Impact	Mitigation Measures
Aesthetics (Project)	MM 4.1-1 through MM 4.1-6
Agriculture and Forestry Resources (Project)	MM 4.2-1
Air Quality (Project)	MM 4.3-1 through MM 4.3-10
Biological Resources (Project)	MM 4.4-1 through MM 4.4-14, MM 4.1-4 through MM 4.1-6
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Energy (Project and Cumulative)	MM 4.3-1
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-4 and MM 4.10-2
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1 and MM 4.9-2, MM 4.14-1
Hydrology and Water Quality (Project and Cumulative)	MM 4.9-1, MM 4.10-1 and MM 4.10-2
Land Use and Planning (Project and Cumulative)	MM 4.11-1
Mineral Resources (Project and Cumulative)	MM 4.12-1
Noise (Project and Cumulative)	MM 4.13-1 through MM 4.13-4

Impact	Mitigation Measures
Aesthetics (Project)	MM 4.1-1 through MM 4.1-6
Public Services (Project and Cumulative)	MM 4.14-1 through MM 4.14-5
Transportation and Traffic (Project and Cumulative)	MM 4.15-1 and MM 4.15-2
Tribal Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Utilities and Service Systems (Project and Cumulative)	MM 4.10-1 and MM 4.10-2 and MM 4.17-1
Wildfire (Project)	MM 4.10-1 and MM 4.14-1

1.6.4 Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(b) requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. Potential environmental effects of the project and proposed mitigation measures are discussed in detail in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR.

According to *CEQA Guidelines* Section 15355, the term cumulative impacts "… refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Individual effects that may contribute to a cumulative impact may be from a single project or a number of separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively considerable. This EIR has considered the potential cumulative effects of the project along with other current and reasonably foreseeable projects. Impacts for the following have been found to be cumulatively considerable:

- Aesthetics (Cumulative)
- Agriculture (Project and Cumulative)
- Air Quality (Cumulative)
- Biological Resources (Cumulative)
- Wildfire (Cumulative)

Table 1-4: *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts*, presents those impacts at the project level and cumulatively. Sections 4.1 through 4.18 of this EIR present detailed analyses of these impacts and describe the means by which the mitigation measures listed in **Table 1-4**, would reduce the severity of impacts to the extent feasible.

TABLE 1-4: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS

Resources	Project Impacts	Cumulative Impacts
Aesthetics	There would be less than significant project impacts.	The project would have cumulatively significant and unavoidable aesthetic impacts related to visual character after implementation of mitigation. While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the cumulative conversion of thousands of acres of largely undeveloped land in the valley region in a predominantly rural area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the San Joaquin Valley would be cumulatively **significant and unavoidable**.
Agriculture Resources	Kern County has adopted a threshold of significance regarding cancellation of an open space contract specifically for property within County managed land. The project would result in the loss of approximately 528 acres of Williamson Act Land which would exceed the 100 acre County criteria. These impacts would be **significant and unavoidable** as it relates to loss of agricultural land within the County.	Notwithstanding the beneficial factors of the proposed project, and Mitigation Measure MM 4.2-1, the cancellation of approximately 528 acres of Williamson Act contracted lands, combined with other projects projected in the Kern County General Plan over the 35-year life of the project, would result in a cumulatively **significant and unavoidable** impact.
Air Quality	There would be less than significant project impacts.	Despite implementation of Mitigation Measures MM 4.3-1 through MM 4.3-10, construction emissions generated by the project and related projects could cumulatively combine and result in a temporary significant and unavoidable cumulative impact. Cumulative operational impacts would be less than significant. Cumulative temporary construction impacts are considered **significant and unavoidable**.
Biological Resources	There would be less than significant project impacts.	As development increases within the undeveloped areas of Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered in combination with other existing and reasonably foreseeable projects in the surrounding flat, open portions of Valley Region, the proposed project has the potential to further reduce local wildlife movement. Even with the implementation of project-specific Mitigation Measures MM 4.4-1 through MM 4.4-12 and MM 4.1-4 through 4.1-6 the cumulative impacts to transient wildlife species would be **significant and unavoidable**.

Resources	Project Impacts	Cumulative Impacts
Wildfire	There would be less than significant project impacts.	Despite Mitigation Measure MM 4.10-1 and MM 4.14-1, given the location is subject to high wind speeds, and is a rural area with limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a cumulative **significant and unavoidable** impact.

1.6.5 Growth Inducement

The Kern County General Plan recognizes that certain forms of growth are beneficial, both economically and socially. *CEQA Guidelines* Section 15126.2(d) provides the following guidance on growth-inducing impacts:

> *A project is identified as growth-inducing if it "would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.*

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. During project operation, one to two employees would be onsite intermittently every month (less than four trips a week) to perform maintenance duties. It is anticipated that the construction workforce would commute to the site each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in local communities.

Although the project would contribute to the energy supply, which supports growth, the development of power infrastructure is a response to increased market demand. It does not induce new growth. Kern County planning documents already permit and anticipate a certain level of growth in the area of the project and in the State as a whole, along with attendant growth in energy demand. It is this anticipated growth that drives energy-production projects, not vice versa. The project would supply energy to accommodate and support existing demand and projected growth, but it would not foster any new growth. Therefore, any link between the project and growth in Kern County would be speculative.

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the project would produce was intended to meet the current forecast of growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth has been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth

would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis provided in this EIR is adequate to inform the public and decision makers of the growth-inducing impacts of the project.

1.6.6 Irreversible Impacts

CEQA Guidelines Section 15126.2(c) defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the project. Irreversible impacts can also result from damage caused by environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that such consumption is justified.

Build-out of the project would commit nonrenewable resources during project construction. During project operations, oil, gas, and other fossil fuels and nonrenewable resources would be consumed, primarily in the form of transportation fuel for project employees. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of long-term project operations. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan and Willow Springs Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized.

1.7 Alternatives to the Project

CEQA Guidelines Section 15126.6 states that an EIR must address "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." Based on the significant environmental impacts of the project, the aforementioned objectives established for the project and the feasibility of the alternatives considered, a range of alternatives is analyzed below and discussed in detail in Chapter 6, *Alternatives*, of this EIR.

1.7.1 Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (*CEQA Guidelines* Section 15126.6(c)). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (*CEQA Guidelines* Section 15126(f)(2)). Kern County considered several alternatives to reduce impacts to aesthetics (cumulative), agriculture (project and cumulative), air quality (cumulative), biological resources (cumulative), and wildfire (cumulative). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of solar site. Similar solar power, energy production from the wind is an alternative to energy production from coal, oil, or nuclear sources. Wind energy provides the following benefits:

- It is a renewable and infinite resource.
- It is free of any emissions, after installation, including carbon dioxide (GHG).
- It is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources. Turbines used in wind farms for commercial production of electric power are usually three-bladed units that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where electrical power is produced. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area. In addition, in order for wind turbines to produce an equivalent 250 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates. Consequently, the project site would need to be expanded.

As noted above, some of the project's objectives are to assist California in meeting its GHG emission reduction goals through establishing solar PV power-generating facilities to produce reliable electricity in an economically feasible and commercially financeable while minimizing environmental impacts and using proven and established PV technology that is efficient, requires low maintenance and is recyclable. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels and are more visible from many viewpoints.
- It may result in additional/greater biological resources impacts to avian species than the project.
- It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades.
- It may result in increased land use and planning impacts associated with the project due to the need for an increased project site.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 250 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a

cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (3) land use and planning conflicts with the rural development of the surrounding area; (4) noise from the plant operations; (5) traffic from increased employment at the facility; and (6) demand on public utilities, including water and waste disposal.

As noted above, some of the objectives for the proposed project are to develop a solar project that would help meet the increasing demand for clean, renewable electrical power as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would result in additional/greater impacts than the proposed project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation, and public utilities, including water use and disposal.
- Depending on siting, it may also result in greater biological resources impacts than the project.
- It would not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Central California Valley Ecoregion desert region of the County. This alternative is assumed to involve construction of a 70 MW PV solar facility and 68 MWh BESS on a site totaling 527 acres. *CEQA Guidelines* Section 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the proposed project.

The Central California Valley Ecoregion within Kern County has attracted renewable energy development applications that are being proposed for vacant land or land with a history of agricultural uses. The availability of alternative sites is constrained by the renewable energy market itself. While other sites with similar size, configuration, and use history may exist in the Central California Valley Ecoregion within Kern County, alternative project sites in the area are likely to have similar project and cumulatively significant impacts after mitigation, including cumulatively significant impacts to aesthetics, air quality, wildfire, and biological resources. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the project are not considered to be "potentially feasible," as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites

may not include sites with close proximity to transmission infrastructure. As noted above, alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

1.7.2 Alternatives Selected for Analysis

The following alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the project, but which may avoid or substantially lessen any of the significant impacts of the project. The following alternatives are analyzed in detail in this chapter of the EIR:

- Alternative 1: No Project Alternative
- Alternative 2: Zoning Build-Out Alternative
- Alternative 3: Reduced Acreage Alternative
- Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Table 1-5: *Summary of Development Alternatives*, on the following page provides a summary of the relative impacts and feasibility of each alternative and **Table 1-6**: *Comparison of Alternatives*, provides a summary side-by-side comparison of the potential impacts of the alternatives and the project. A complete discussion of each alternative is provided below.

TABLE 1-5: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 527 acres would generate up to 70 MW of electricity with the capacity to store up to 68 MWh or energy. Approval of a Conditional Use Permits (CUPs) (for construction and operation of a commercial solar electrical generating facilities) and a Williamson Act Contract Cancellation.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	• Required by CEQA • Avoids need for CUPs and Williamson Act Contract Cancellation • Avoids all significant and unavoidable impacts • Greater impacts to GHGs • Less impact in all remaining environmental issue areas • Does not meet any of the project objectives

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 2: Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions. The project site would be developed with agricultural uses (approximately 527 acres) and commercial uses (approximately 0.20 acre).	• Avoids need for CUP and Williamson Act Contract Cancellation • Less impact to aesthetics, agricultural and forestry resources, air quality, and land use and planning • Greater overall impacts to Greenhouse Gas Emissions and Energy • Does not meet any of the project objectives
Alternative 3: Reduced Acreage Alternative	Construction and operation of a solar facility on approximately 280 acres. This alternative would construct a solar array field capable of generating approximately 35 MW of electricity and storing 34 MWh of electricity, thereby reducing the project's renewable energy output by 50 percent. The project site would require approval of a CUP and a Williamson Act Contract Cancellation.	• Similar impacts to greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, transportation and traffic, and utilities and service systems • Decreased GHG offset benefits to meet project objectives • Less impact in all remaining environmental issue areas • Does not meet all the project objectives
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 70 MW of PV solar distributed on rooftops throughout the Central California Valley Ecoregion. Electricity generated would be for onsite use only.	• Avoids need for solar facility CUP and Williamson Act Contract Cancellation, but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, agriculture and forestry resources, air quality, and biological resources • Greater impacts to GHG emissions land use and planning, and noise • Similar impacts energy • Less impact in all remaining issue areas • Does not meet all the project objectives

TABLE 1-6: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Zoning Build-Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Aesthetics	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Less (LTS)	Less (SU)	Less (LTS)
Agricultural and Forestry Resources	Significant and Unavoidable (project and cumulative)	Less (NI)	Less (NI)	Less (LTS)	Less (NI)
Air Quality	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative construction)	Less (NI)	Greater (SU)	Less (SU)	Less (LTS)
Biological Resources	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Similar (SU)	Less (SU)	Less (LTS)
Cultural Resources	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Energy	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Geology and Soils	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than Significant	Greater (LTS)	Greater (LTS)	Greater (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Hydrology and Water Quality	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Land Use and Planning	Less than Significant with Mitigation	Less (NI)	Less (NI)	Similar (LTS)	Greater (LTS)
Mineral Resources	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (NI)
Noise	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Similar (LTS)
Public Services	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Transportation and Traffic	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Tribal Cultural Resources	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Less (LTS)	Less (NI)

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Zoning Build-Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Utilities and Service Systems	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Wildfires	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (SU)	Similar (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	None	All

NI = No Impact
LTS = Less than Significant
SU = Significant and Unavoidable

Alternative 1: No Project Alternative

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the 70 MW PV solar facility and associated facilities on the 527-acre site would not occur. No collection lines would be constructed. The No Project Alternative would not require a Conditional Use Permit (CUP) for construction and operation of a 70 MW solar project and associated facilities. Cancellation of existing Williamson Act Contract for APN 295-131-12 and APN 295-131-15 would not be required. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped agricultural fields and patches of ruderal vegetation. No physical changes would be made to the project site.

Alternative 2: Specific Plan and Zoning Build-Out Alternative

Alternative 2, the Specific Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing land use and zoning classifications, with the proposed project not permitted or constructed. The project site is currently designated as Map Code(s) 8.1 (Intensive Agriculture), 8.1/ 2.3 (Intensive Agriculture / Shallow Ground Water), and 8.1/ 2.5 (Intensive Agriculture / Flood Hazard). The project site has various zone classifications which consist of: A (Exclusive Agriculture), A-1 (Limited Agriculture), and C-2 PD (General Commercial, Precise Development Combining).

Implementation of Alternative 2 would consist of developing the project site under the current land use and zoning classifications. The portions of the project site zoned as A encompass approximately 527 acres and the portions of the project site zoned as C-2 PD encompass approximately 0.20-acre. No solar facilities would be developed under this alternative.

Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the photovoltaic component would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The balance of the site would still be developed with roads and ancillary equipment/buildings. This alternative would reduce the project's footprint from 527 acres to 280 acres. Solar panels and associated infrastructure would be located in the reduced project site. The reduced project acreage under this alternative is expected to contain enough land to construct a solar array field and related infrastructure capable of generating approximately 35 MW of renewable energy and storing 34 MWh of energy due to the proportional reduction in project size. This would result in the corresponding reduction in renewable energy output and storage capacity from the project by 50 percent. Similar to the proposed project, this alternative would still require the approval of a CUP applications(to allow for the construction and operation of 35 MW photovoltaic electrical generating facility (Section 19.12.030.G) with associated facilities (substation, O&M facility) in an A district and approval of a Williamson Act Contract Cancellation.

Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 527 acres of total rooftop area) may be required to attain project's capacity of 70 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. Alternative 4 would generate 70 MW of electricity, but it would be for onsite use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities.

1.7.3 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 1-6**: *Comparison of Alternatives*, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, CEQA Guidelines Section 15126.6(e)(2) states:

> *The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.*

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality, biological resources and wildfire. Impacts related to GHG emissions would be greater under this alternative due to the assumed lower efficiency of the distributed systems, which would not include solar tracking technology and it would not include ESS. This alternative could potentially result in greater impacts to land use and wildfire risks due to the numerous power lines that would be required to harness the distributed solar panel energy. However, the No Ground-Mounted Utility-Solar Development Alternative would result in less impact to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and

water quality, public services, transportation, and utilities and service systems. Thus, for most environmental issue areas, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 70 MW of distributed solar generated electricity; additionally, doing so would be economically infeasible. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

1.8 Areas of Controversy

Areas of controversy were identified through written agency and public comments received during the scoping period. Public comments received during the scoping period are provided in Appendix A. In summary, the following issues were identified during scoping and are addressed in the appropriate sections of Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*:

- Impacts related to agriculture
- Impacts related to air quality
- Impacts to cultural resources (archaeological resources)
- Impacts related to mineral resources
- Impacts related to biological resources

1.9 Issues to Be Resolved

CEQA Guidelines Section 15123(b)(3) requires that an EIR contain issues to be resolved, which includes the choices among alternatives and whether or how to mitigate significant impacts. The following major issues are to be resolved:

- Determine whether the EIR adequately describes the environmental impacts of the project;
- Choose among alternatives;
- Determine whether the recommended mitigation measures should be adopted or modified; and
- Determine whether additional mitigation measures need to be applied to the project.

1.10 Summary of Environmental Impacts and Mitigation Measures

Table 1-7: *Summary of Impacts, Mitigation Measures, and Level of Significance*, summarizes the environmental impacts of the project, mitigation measures, and unavoidable significant impacts identified and analyzed in Sections 4.1 through 4.18 of this EIR. Refer to the appropriate EIR section for additional information.

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.1 Aesthetics			
Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Potentially Significant	**MM 4.1-1:** Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted for review and approval to the Kern County Planning and Natural Resources Department. The program shall include, but not be limited to the following: a. The project proponent/operator shall clear debris from the project area at least four times per year; this can be done in conjunction with regular panel washing and site maintenance activities. b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department. c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans. d. Trash and food items shall be contained in closed secured containers at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. **MM 4.1-2:** Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall submit a proposed color scheme and treatment plan, for review and approval by the Kern County Panning and Natural Resources Department, that will ensure all project facilities including operations and maintenance buildings, collection line poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy finishes. **MM 4.1-3:** Wherever possible, within the proposed project boundary the existing vegetation shall remain undisturbed unless mowing is necessary for placement of the project components. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below. a. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		balls resulting in loose soil), the ground surface shall be revegetated with a site-specific native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation. b. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and (4) a clear prohibition of the use of toxic rodenticides. c. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time). d. Vegetation/ground cover shall be continuously maintained on the site by the project operator. e. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during the three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for each of the three	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		years. Should efforts to revegetate with the existing native seed bank in the top soil prove in the second year to not be successful by 75 percent cover rate, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. Should, through consultation with a qualified botanist, a 75% rate be determined not to be feasible, evidence of such shall be submitted to Kern County Planning and Natural Resources Department. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.	
Impact 4.1-4: The project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.	Potentially significant	**MM 4.1-4:** Prior to commencement of project operations of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the Dark Skies Ordinance (Chapter 19.81 of the Kern County Zoning Ordinance) and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields. **MM 4.1-5:** Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		protective glass. These technological advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department. **MM 4.1-6:** Prior to commencement of project operations of the solar facility, the project operator shall demonstrate that all onsite buildings utilized non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.	
Impact 4.1: Cumulative Impacts	Potentially Significant	Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6 is required.	Significant and unavoidable
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	Less than significant	No feasible mitigation measures have been identified.	Impacts would be significant and unavoidable.
Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.	Potentially significant	No feasible mitigation measures have been identified.	Impacts would be significant and unavoidable.
Impact 4.2-3: The project would involve other changes in the existing environment which, due to their location or nature, could	Less than significant	No mitigation would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.			
Impact 4.2-4: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 acres or more (Public Resources Code Section 15206(b)(3)).	Potentially significant	**MM 4.2-1:** Prior to issuance of any grading or building permit or any use of the property for storage of materials or panels, cancellation of all Williamson Act contracts shall be completed for the project development area or the period for nonrenewal shall have been completed and the identified parcels determined to no longer be under contract.	Impacts would be significant and unavoidable.
Impact 4.2: Cumulative Impacts	Potentially significant	Implement Mitigation Measure MM 4.2-1.	Impacts would be significant and unavoidable.
4.3 Air Quality			
Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.	Potentially significant	**MM 4.3-1:** The project shall continuously comply with the following: Construction and operations of the project shall be conducted in compliance with applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive, and any other measures to reduce fugitive dust emissions not listed shall be encouraged. a. **Land Preparation, Excavation and/or Demolition.** The following dust control measures shall be implemented: 1. All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Watering shall take place a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations. 2. All disturbed areas shall be sufficiently watered or stabilized by SJVAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible. 3. All fine material transported off site shall be either sufficiently watered or securely covered to prevent excessive dust. 4. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times. 5. Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust. 6. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering. b. **Site Construction.** After clearing, grading, earth moving and/or excavating is completed within any portion of the project sites, the following dust control practices shall be implemented: 1. Once initial leveling has ceased, all temporarily open and inactive soil areas within the construction site shall be (1) seeded and watered until plant growth is evident, (2) treated with a dust palliative, or (3) watered twice	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		daily until soil has sufficiently crusted to prevent fugitive dust emissions. 2. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas so planned as soon as practical after installation of the solar panels. A native seed mix of grass and flowers shall also be added to the spread topsoil to enhance regrowth. 3. All active disturbed soil areas shall be sufficiently watered at least twice daily or have dust palliatives applied to prevent excessive dust. c. **Vehicular Activities.** During all phases of construction, the following vehicular control measures shall be implemented: 1. Onsite vehicle speed shall be limited to 15 miles per hour. 2. All areas with vehicle traffic shall be paved, treated with dust palliatives or watered a minimum of twice daily. 3. Streets adjacent to the project sites shall be kept clean, and project-related accumulated silt shall be removed. 4. Access to the project sites shall be by means of an apron into the project sites from adjoining surfaced roadways. The aprons shall be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of vehicles, a grizzly, wheel washer, or other such device shall be used on the road exiting the project sites, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires. **MM 4.3-2:** Prior to issuance of any grading permit, the project proponent shall submit a Site-Specific Dust Control Plan for review and approval by the Kern County Planning	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		and Natural Resources Department. The Site-Specific Dust Control Plan shall serve to minimize fugitive dust emissions during project construction. The Site-Specific Dust Control Plan shall take into consideration grading and construction schedule, seasonal winds, site-specific wind patterns and soil conditions to ensure adequate measures are implemented to manage fugitive dust. The Site-Specific Dust Control Plan shall: a. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of solar panels and other areas of infrastructure associated with the solar facility. b. The Site-Specific Dust Control Plan shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized. Measures may include, but are not limited to: 1. Use of water trucks as required for the expected level of winds in the area. 2. Use of dust suppressant (i.e., soil binders or mulch). 3. Pre-seeding and irrigating prior to construction to create vegetation with useful root structures. 4. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening). 5. A copy of the approved Site-Specific Dust Control Plan shall be kept at the on-site construction office and all measures included in the Site-Specific Dust Control Plan shall be included on all Grading Plans issued for the project by the Kern County Public Works Department.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.3-3: Prior to issuance of any building and grading permits, the project proponent shall provide the Kern County Planning and Natural Resources Department with proof that an Indirect Source Review application has been approved by the San Joaquin Valley Air Pollution Control District. **MM 4.3-4:** Valley Fever. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever Provisions: a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 5 days of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The training may be administered using video or other electronic media. The evidence submitted to the Kern County Planning and Natural Resources Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following: 1. A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session. 2. Distribution of a written flier or brochure that includes educational information regarding the health effects of	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		exposure to criteria pollutant emissions and Valley Fever. 3. Training on methods that may help prevent Valley Fever infection. 4. A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs. b. The project proponent also shall consult with the Kern County Health Services Department to develop a Valley Fever Dust Management Plan that addresses the potential presence of the Coccidioides spore and mitigates for the potential for Coccidioidomycosis (Valley Fever). Prior to issuance of permits, the project operator shall submit the Plan to the Kern County Public Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential Coccidioides spores. Measures in the Plan shall include the following: 1. Provide High-Efficiency Particulate Air filters for heavy equipment equipped with factory enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment. 2. Provide communication methods, such as two-way radios, for use in enclosed cabs. 3. Require National Institute for Occupational Safety and Health- approved half-face respirators equipped with minimum N-95 protection factor for use during worker collocation with surface disturbance activities, as required per the hazard assessment process. 4. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Occupational Safety and Health Administration Respiratory Protection Standard (8 California Code of Regulations Section 5144). 5. Provide separate, clean eating areas; hand washing facilities will be provided with portable restrooms. 6. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off site. Hand washing stations will be provided with portable restroom facilities. 7. Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor. 8. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever. 9. Work with a medical professional, in consultation with the County Health Services Department, to	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 3 miles of the project boundaries. 10. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks. 11. Prohibit smoking at the worksite outside of designated smoking areas. Handwashing facilities will be provided with portable restrooms facilities. 12. Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection. **MM 4.3-5:** The project proponent and/or its contractors shall continuously implement the following measures during construction and operation of the project to control emissions from the on-site equipment: a. All equipment shall be maintained in accordance with the manufacture's specifications. b. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		when not in use for extended periods of time. Engine idling of all equipment shall be minimized. c. Construction equipment shall not operate longer than eight cumulative hours per day. d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOX emissions. e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. f. All on-site off-road equipment and on-road vehicles shall be new equipment that meets the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate. **MM 4.3-6:** Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), including decommissioning, the project proponent shall provide written notice to the public through mailing a notice to all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. Documentation that the public notice has been sent and the	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		sign has been posted shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.3-7:** Prior to the issuance of any grading or building permit, the project proponent shall establish a "construction coordinator" and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following: a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved. b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed. c. Maintaining an ongoing up-to-date log of all construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from request.	
Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	Implementation of Mitigation Measures MM 4.3-2 and MM 4.3-4 would be required. M**M 4.3-8:** To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations. b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground. c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying. e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system. f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne Coccidioides immitis (CI) spores, to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department within 5 days of the training session. g. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		h. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personal, upon request. When exposure to dust is unavoidable, provide appropriate NIOSH-approved respiratory protection to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144). **MM 4.3-9:** Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of $3,200 for Valley Fever public awareness programs. **MM 4.3-10:** At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval.	
Impact 4.3-3: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.3-4: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the	Less than significant	No mitigation would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
projects' region is nonattainment under applicable federal or State ambient air quality standards.			
Cumulative	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-10 would be required.	Significant and unavoidable (Construction) Less than significant (Operation)
4.4 Biological Resources			
Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially significant	Implementation Mitigation Measures MM 4.1 4 through MM 4.1 6, see Chapter 4.1, Aesthetics, would be required. **MM 4.4-1:** Prior to the issuance of grading or building permits from the County, the project proponent/operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by California Department of Fish and Wildlife (CDFW) to oversee compliance with protection measures for all listed and other special-status wildlife species that may be affected by the construction operation, and decommissioning of the project. A Lead Biologist possess the appropriate credentials and experience to handle all aspects of the construction, operations and maintenance, or decommissioning of the project as it may affect special-status species. The Lead Biologist is responsible for being aware of the latest United States Fish and Wildlife Service (USFWS) and CDFW protocols and guidelines for special-status species. The following measures pertain to qualified biologists (i.e., biologists with the appropriate training approved by the Lead Biologist) on site: a. The qualified biologist(s) shall be on the project site during construction of perimeter fencing, clearing of	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		vegetation, grading activities, and similar ground-disturbance activities that will be associated with the construction and decommissioning phases. b. The qualified biologist(s) shall have the right to halt activities that are in violation of the special-status species mitigation measures, as well as any regulatory permits from the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk, or at the qualified biologist's discretion. c. The qualified biologist(s) shall maintain a copy of applicable permits and biology-related plans on the project site. d. The qualified biologist(s) shall have in her/his possession a copy of all the mitigation measures while work is being conducted on the project site. e. Prior to issuance of grading or building permits, contact information for the Lead Biologist(s) shall be submitted to the Kern County Planning and Natural Resources Department. f. Individuals involved in biological monitoring shall be supervised by the Lead Biologist and shall have the appropriate experience to accomplish biological monitoring. Biological monitors shall comply with the above measures. **MM 4.4-2:** Prior to the issuance of grading or building permits and for the duration of construction activities, and within a minimum of one week of initial ground disturbance at the project site, staging areas and/or transmission corridors, all construction personnel shall attend a Worker Environmental Awareness Training and Education Program	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		developed and presented by a qualified biologist(s) or e, or designee approved by the qualified biologist(s) and may be conducted in person or via videotape or other electronically recorded media. Any personnel associated with construction that did not attend the initial Worker Environmental Awareness Training shall have Worker Environmental Awareness Training prior to working on the project site. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training prior to starting work on the project and on an annual basis. The Worker Environmental Awareness Training and Education Program shall include the components described below. a. Information on the life history and identification of the California glossy snake, San Joaquin coachwhip, tricolored blackbird, Swainson's hawk, burrowing owl, Ferruginous hawk, loggerhead shrike, and San Joaquin kit fox; as well as other wildlife, special-status plant species, and the CDFW regulated drainages, as well as other wildlife and plant species that may be affected during project activities. The Worker Environmental Awareness Training and Education Program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the California	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Environmental Quality Act mitigation measures and agency permit requirements. b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education Program has been completed shall be kept on file at the site. c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education Program and signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department. d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary. e. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker. **MM 4.4-3:** As applicable during construction, operations and maintenance, and decommissioning, the project	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures described below. a. Prior to conducting vegetation clearing or grading activities associated with construction or decommissioning, a qualified biologist or biological monitor that has been approved by the qualified biologist shall perform pre-construction visual surveys of the area immediately prior to conducting these activities to ensure that no special-status animals are present. The qualified biologist or biological monitor shall monitor all initial construction and decommissioning ground disturbance activities. A report of those activities shall be submitted to the Kern County Planning and Natural Resources Department within 30 days of completion of activities. b. Sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) within proposed impact areas, including solar fields, generator-tie lines, staging areas, access routes, and areas of disposal or temporary placement of spoils shall be delineated with stakes and/or flagging prior to construction to avoid sensitive biological resources where possible. Construction-related activities outside of the planned impact areas shall be avoided. c. Access roads that are planned for use during construction shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact areas or in previously disturbed areas. Where new access routes are required, the route will be clearly marked (i.e., flagged and/or staked) prior to construction. d. The project proponent/operator shall minimize the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		be demarcated and disturbance activities, vehicles, and equipment shall be confined to these areas. e. Spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (see Section 4.7, Geology and Soils, for more details on Stormwater Pollution Prevention Plan requirements). All detected erosion shall be remedied as described in the Erosion Control Plan of the Stormwater Pollution Prevention Plan. Spoils that have been stockpiled and inactive for greater than 10 days shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing the spoils. f. To prevent inadvertent entrapment of San Joaquin kit foxes, American badgers, or other animals, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist or their biological monitor at the beginning and end of each day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained staff approved by the retained qualified biologist for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, the USFWS	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		and/or CDFW, as appropriate for the species, and Kern County Planning and Natural Resources Department shall be contacted immediately. g. San Joaquin kit fox, burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the site for one or more overnight periods, and without endcaps, shall be thoroughly inspected by a qualified biologist or the designated biological monitor for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist holding the appropriate handling permits from the Resource Agencies. h. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own. i. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated impact areas shall be prohibited. j. A speed limit of 15 miles per hour shall be enforced within the limits of the project. If night work occurs on the project, the speed limit will be 10 miles per hour. k. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		(within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. l. Trash and food items shall be contained in closed containers to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. m. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. n. Intentional killing or collection of any plant or wildlife species shall be prohibited. o. No rodenticides shall be used on the project site. p. To enable San Joaquin kit fox and other wildlife (e.g. American badger) to pass through the project site after construction, the security fence and any permanent interior fencing shall be made a wildlife friendly design that meets the goal of allowing wildlife to move freely through the project site during operation by leaving 4- to 7-inch openings or portals in the fence or raising the bottom of the fence up 5 to 7 inches from the ground leaving a gap between the fence mesh and the ground. In the latter case, the bottom of the fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence. **MM 4.4-4:** During clearing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Natural Resources Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports. **MM 4.4-5:** As applicable during construction, operations and maintenance, and decommissioning, the Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction/decommissioning in the event a special-status species wanders into the project site. Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow USFWS and/or CDFW preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		qualified biologist that results in sufficient avoidance, per the associated resource-specific mitigation measures. **MM 4.4 6:** Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days prior to commencement of construction activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. a. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities: San Joaquin kit fox potential den: 50 feet. San Joaquin fox active den: 100 feet. San Joaquin fox natal den: 500 feet. b. If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the San Joaquin kit fox: 1. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent San Joaquin kit foxes from re-using them during construction. 2. If the qualified biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for 7 days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		determines that San Joaquin kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction. **MM 4.4-7:** Preconstruction surveys shall be conducted by a qualified biologist for the presence of special-status and protected plant species within the project area for the Hispid Salty Bird's Beak within 14 days prior to commencement of ground-disturbing activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If preconstruction surveys document the absence of this species, no further action is warranted for special-status plants. If preconstruction surveys determine presence of this species, additional surveys shall be conducted to determine the exact location on the project site and the number of individuals or populations present. The project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below. a. Protocol-level Special-Status Plan Survey(s). 1. Summer/ fall surveys shall be conducted prior to construction. Surveys shall focus on the Hispid Salty Bird's Beak, but should be floristic in nature (all species identified). Summer/ fall surveys should focus on the entire access road area, especially disturbed areas and roadside drainages. b. The number of specimens affected by the proposed project should be assessed to determine if potential	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		impacts exceed the thresholds of significance under CEQA. c. If any plants listed as CRPR special-status species are found at the project site, the plants will be flagged, mapped and a setback of a minimum of 50 feet from Project Footprint will be implemented where feasible. If setbacks are not feasible, a monitor shall be present to ensure populations are avoided. To compensate for significant impacts on plants with a CRPR ranking of 1A, 1B, 2, 3, or 4 that cannot be avoided, offsite habitat occupied by the affected species shall be preserved and managed in perpetuity at a minimum 1:1 mitigation ratio (at least one plant preserved for each plant affected, and also at least one occupied acre preserved for each occupied acre affected), up to the significance threshold as follows: 1. for CRPR-ranked 1A species, mitigation must be provided at 1:1 equivalent. 2. for a CRPR -ranked 1B and 2 species where 10% or more of the known population within 5 miles of the work area is impacted, mitigation must be provided at 1:1 equivalent. 3. for a CRPR -ranked CRPR of 3 or 4 species where 30% or more of the known population within 5 miles of the work area is impacted, mitigation must be provided at 1:1 equivalent. 4. Areas proposed for preservation and serving as compensatory mitigation for special-status plant impacts must contain verified extant populations of the CRP-ranked plants that would be impacted by the work areas. Mitigation areas shall be managed in perpetuity to encourage persistence and even expansion of the preserved target species	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.4-8: Preconstruction surveys shall be conducted by a qualified biologist within suitable habitat to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to commencement of ground-disturbing activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. The survey methodology shall be consistent with the methods outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart within suitable habitat, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, surveying biologists shall also look for signs of American badger and San Joaquin kit fox. Copies of the survey results shall be submitted to the Kern County Planning and Natural Resources Department. If burrowing owls are detected onsite, the avoidance buffers outlined below should be established. These buffers be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist, verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Visible markers shall be placed near the identified burrow(s) to ensure that machinery does not collapse the burrow(s).	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1 – Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16 – Oct 15	200 m*	200 m	500 m
Nesting sites	Oct 16 – Mar 31	50 m	100 m	500 m
*meters (m)				

If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation.

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:

a. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.
b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. c. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species. **MM 4.4-9:** Preconstruction surveys shall be conducted by a qualified biologist of all potential nesting habitat within the project site no more than 14 days prior to commencement of construction activities within the project site during the breeding season (i.e., February 1 to August 31). Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 10 days prior to that portion of the project site disturbed. If construction is scheduled to commence during the non-nesting season for any nesting birds (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. The raptor survey shall focus on potential nest sites (e.g., large trees, windrows) within a 0.5-mile buffer around the project site. A tricolored blackbird nest colony survey shall occur within suitable habitat. Tricolored blackbird nesting season in the San Joaquin Valley is March to mid-June, though most colonies begin nesting in late March. Suitable habitat shall be assessed in March with three follow-up surveys occurring April through June, comprising a total of four surveys of each location. The Swainson's hawk nest survey shall focus on potential nest sites within a 5-mile buffer around the project site and follow the 2010 Swainson's hawk protocol surveys (SWHA Survey Protocols, Impact Avoidance, and Minimization Measures, 2010). Surveys shall encompass the project site plus the potential nest buffers as listed above, where access has been granted. If active nests are found, a suitable no-disturbance buffer (e.g., 500 feet for common raptors; 0.5 miles for Swainson's hawk; 250 feet for non-raptor species shall be established around active nests until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist provided the biologists has monitored the nest prior to construction to establish a behavioral baseline and continues to monitor the nest during construction to ensure the nest is not negatively affected. Buffer distances can also be adjusted if there is a compelling biological reason such as when a construction area would be concealed from a nest site by topography of vegetation as	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		determined by a qualified biologist. For State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers. Compensation for loss of Swainson's hawk foraging habitat will be based on the results of the protocol SWHA survey (SWHA TAC 2000) as described in CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG 1994). If an active Swainson's hawk nest is detected and a ½-mile no disturbance buffer is not feasible, CDFW will be consulted to discuss how to implement the project and avoid take **MM 4.4-10:** The project proponent/operator shall install power lines in conformance with Avian Power Line Interaction Committee (APLIC) standards for electrocution-reducing techniques as outlined in suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006), and for collision-reducing techniques as outlined in Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012), or any superseding document issued by APLIC. **MM 4.4-11:** To minimize impacts to Crotch's Bumble Bees (CBB), areas within the project site containing one or more of the following habitat requisites shall be surveyed by a qualified biologist between March 1 and June 30: flowering vegetation, potential preferred nectar plants, small mammal burrows, bunch grasses, thatch, brush piles, old bird nests, or dead trees. A minimum of two surveys shall be completed between the hours of 0800 and 1600 when temperatures are between 65°F and 90°F, and will not be conducted during inclement weather conditions (e.g., foggy, raining, drizzling, or sustained winds greater than 8 mph). Surveyors will	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		photograph potential CBB from various angles to ensure recordation of key identifying characteristics.	
Impact 4.4-2: The project could have a substantial adverse effect on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS.	Potentially significant	**MM 4.4-12:** Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Central Valley Regional Water Quality Control Board, CDFW, and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following: a. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project related activities shall be avoided. This may be shown in plan form. b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. c. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the delineated boundary of jurisdictional water features. d. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.4-13: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below: a. The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with CDFW on the need for a streambed alteration agreement. Copies of reports shall be submitted to the County. b. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources. c. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank. d. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County. e. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW. 1. If onsite mitigation is proposed, the HMMP shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		habitat in the site vicinity (such as upstream or downstream of the site). 2. The HMMP shall include remedial measures in the event that performance criteria are not met. 3. If mitigation is implemented offsite, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Offsite land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank. 4. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.	
Impact 4.4-3: The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Less Than Significant	No mitigation would be required.	Less than significant
Impact 4.4-4: The project would interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially significant	Implement Mitigation Measures MM 4.1-4 through MM 4.1-6 from Chapter 4.1, *Aesthetics* **MM 4.4-14:** Movement Corridors shall be established and managed for the benefit of sensitive species movement in compliance with agency recommendations. A qualified biologist shall be involved with the design or provide approval of the plan to ensure areas to ensure wildlife movement exist within and around the project site. The use of	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		movement corridors shall be a part of the operations plan and be ensured for the duration and perpetuity of the project.	
Impact 4.4-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.4: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 and MM 4.1-4 through MM 4.1-6 (see Chapter 4.1, *Aesthetics*) would be required.	Significant and unavoidable
4.5 Cultural Resources			
Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5.	Potentially significant	**MM 4.5-1:** The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology, to carry out all mitigation measures related to archaeological and historical resources during ground-disturbing activities. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist, in consultation with the Native American Monitor(s), shall prepare Cultural Resources Sensitivity Training materials to be used in orientation program given to all personnel working on the project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit. b. The project proponent/operator shall ensure all new employees or onsite workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet provisions specified above. c. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. d. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before commencing work on-site.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		e. The services of Native American Monitors, as identified through consultation with appropriate Native American tribes, working under the supervision of the Lead Archaeologist, shall be retained by the project to Monitor project-related ground-disturbing activities as identified in Mitigation Measures MM 4.5-2. **MM 4.5-2:** Prior to the issuance of any grading or building permit, the project proponent shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall: a. Require that prior to conducting initial ground disturbance in the vicinity of prehistoric archaeological sites, and in coordination with the Lead Archaeologist and Native American Monitor(s), exclusion areas (i.e., the recorded boundaries of the archaeological sites and all areas within 50 feet thereof) shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American MMonitor. b. Require that the construction zone shall be narrowed or otherwise altered to avoid any exclusion areas. c. Provide an overview of best management practices to be utilized during ground-disturbing activities to ensure protection of cultural resources. d. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities. e. Provide a Data Recovery Plan, if required, prepared by the Lead Archeologist in consultation with the Native American Monitor(s), for the recovery of known and unanticipated cultural discoveries that cannot be avoided or preserved in place.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.5-3: During implementation of the project, in the event that archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground-disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of the discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area, and all entrance into the area shall be avoided until the discovery is assessed by the Lead Archaeologist and Native American Monitor. The Lead Archaeologist, in consultation with any Native American representatives, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act (CEQA) Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the lead archaeologist, in consultation with any Native American representatives, shall develop additional treatment measures in consultation with the County of Kern (County), which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		designated Native American Monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource.. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3 would be required. **MM 4.5.4:** During implementation of the project, the services of both Archaeological and Native American Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to Monitor, on a full-time basis, during ground-disturbing activities associated with project-related construction activities, as follows: a. All ground-disturbing activities within 50 feet of prehistoric archaeological sites within the Jasmine Solar Site, shall be Monitored by Native American Monitor(s) and Archaeological Monitor(s). b. During implementation of the project, Archaeological and Native American Monitoring shall be conducted for all initial excavation or ground-disturbing activities. If no archaeological discoveries are made during the course of this Monitoring, no additional Monitoring will be required. If the Lead Archaeologist can demonstrate that the level of Monitoring should be reduced or discontinued, or a need for continuing Monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department,	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		may adjust the level of Monitoring to circumstances as warranted. c. All ground-disturbing activities within 100 feet of a grave site, shall be Monitored by Native American Tribal Monitors and Archaeological Monitors. d. For all other ground-disturbing activities within the project area, initial excavation or ground-disturbing activities shall be Monitored by Archaeological and Native American Monitors. During the course of this initial Monitoring, if the Lead Archaeologist can demonstrate that the level of Monitoring should be reduced or discontinued, or if the Lead Archaeologist can demonstrate a need for continuing Monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of Monitoring to circumstances as warranted. e. The Archaeological Monitors and Native American Monitors shall work under the supervision of the Lead Archaeologist. The Lead Archaeologist, Archaeological Monitors, and Native American Monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Should the services of any additional individuals be retained (as the Lead Archaeologist, Archaeological Monitor, or Native American Monitor) subsequent to commencement of ground disturbing activities, such individuals shall be provided all proposed project documentation related to cultural resources within the project area, prior to beginning work. Documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		schedules, shall immediately be provided to the Lead Archaeologist, Archaeological Monitor, and Native American Monitor. f. The Archaeological Monitor shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department and to the Native American Monitor. After Monitoring has been completed, the Lead Archaeologist shall prepare a Monitoring report detailing the results of Monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department, the Native American Monitor, and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-3: The project would disturb human remains, including those interred outside of formal cemeteries.	Potentially significant	Implementation of Mitigation Measure MM 4.5-3 would be required. **MM 4.5-5:** If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in of the California Environmental Quality Act Guidelines Section 15064.4(e)(1). If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code (PRC) Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per PRC Section 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et. seq.) directing identification of the next-of-kin will apply.	
Impact 4.5: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 would be required.	Less than significant
4.6 Energy			
Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant	No mitigation would be required.).	Less than significant
Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.6: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure MM 4.3-1 would be required (see Section 4.3, *Air Quality*, of this EIR, for full mitigation measure text).	Less than significant
4.7 Geology and Soils			
Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Less than significant	No mitigation would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map issued by the state geologist for the area or based on other substantial evidence of a known fault.			
Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: strong seismic ground shaking.	Potentially significant	**MM 4.7-1:** Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a final engineering design specific geotechnical study prepared by a qualified geotechnical engineer to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.	Less than significant
Impact 4.7-3: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: seismic-related ground failure including liquefaction.	Potentially significant	Implementation of Mitigation Measure MM 4.7-1 would be required.	Less than significant
Impact 4.7-4: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: landslides.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.7-5: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Potentially significant	Implement Mitigation Measures MM 4.7-1 and MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*, of this EIR, for full mitigation measure text).	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
substantial soil erosion or the loss of topsoil.			
Impact 4.7-6: The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Potentially significant	Implementation of Mitigation Measure MM 4.7-1 would be required.	Less than significant
Impact 4.7-7: The project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Potentially significant	Implementation of Mitigation Measure MM 4.7-1 would be required.	Less than significant
Impact 4.7-8: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.7-9: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially significant	**MM 4.7-2:** The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources. The qualified paleontologist and lead archeologist may be the same individual. a. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements. c. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources. d. The project operator shall ensure all new employees who have not participated in earlier Paleontological Resources Sensitivity Trainings shall meet the provisions specified above. e. The Paleontological Resources Awareness Training Guides shall be kept available for all personnel to review and be familiar with as necessary. **MM 4.7-3:** During construction, the qualified paleontologist or designated monitor shall monitor all ground-disturbing activities (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 15 feet or deeper below ground surface.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		The qualified paleontologist shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary. Following completion of monitoring, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, discuss recovery and curation efforts, and provide the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to an appropriate repository, such as the Natural History Museum of Los Angeles County. **MM 4.7-4:** If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.	
Impact 4.7: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.7-1 through MM 4.7-4 and MM 4.10-2 would be required (see	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Section 4.10, *Hydrology and Water Quality*, of this EIR, for full mitigation measure text).	
4.8 Greenhouse Gas Emissions			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.8: Cumulative Impacts	Less than significant	No mitigation would be required.	Less than significant
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	**MM 4.9-1:** During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan (HMBP), as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System (CERS) at http://cers.calepa.ca.gov/ for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The HMBP shall: a. Delineate hazardous material and hazardous waste storage areas. b. Describe proper handling, storage, transport, and disposal techniques. c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation. e. Establish public and agency notification procedures for spills and other emergencies including fires. f. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release. g. Include procedures to avoid or minimize dust from existing residual pesticides and herbicides that may be present on the site.	
Impact 4.9-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Potentially significant	Implementation of Mitigation Measure MM 4.9-1 would be required. **MM 4.9-2:** The project proponent/operator shall continuously comply with the following: a. The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use. b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated. f. A written record of all herbicide applications on the site, including dates and amounts, shall be furnished annually to the Kern County Planning and Natural Resources Department.	
Impact 4.9-3: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.9-4: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.9-5: The project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or	Potentially significant	Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14-1, *Public Services*, for full text).	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
where residences are intermixed with wildlands.			
Impact 4.9-6: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the proposed project exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed project is significant when the applicable enforcement agency determines that any of the vectors: i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; or ii. Are associated with design, layout, and management of proposed project operations; or iii. Disseminate widely from the property; or iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population. .	Less than significant	No mitigation would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.9: Cumulative Impacts	Potentially significant	Implement of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, (see Sections 4.14-1, Public Services for full text).	Less than significant
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise degrade surface or groundwater water quality.	Potentially significant	Implementation of Mitigation Measure MM 4.9-1 would be required (see Section 4.9, *Hazards and Hazardous Materials*, for full mitigation measure text). **MM 4.10-1:** Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. **MM 4.10-2:** Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include, but is not limited to the following: a. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event. b. The study shall also consider potential for erosion and sedimentation in light of modeled changes in stormwater	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		flow across the project area that would result from project implementation. c. Engineering recommendations to be incorporated into the project design and applied within the site boundary. Engineering recommendations will include measures to offset increases in stormwater runoff that would result from the project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding onsite or offsite. d. A specification that the final design of the solar arrays shall include one foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Management Ordinance. e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department prior to the issuance of grading permits.	
Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner than would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.	Less than significant
Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite.	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.	Less than significant
Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.	Less than significant
Impact 4.10-6: The project would place within a 100-year flood hazard area structures that	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
would impede or redirect flood flows.			
Impact 4.10-7: The project would result in a flood hazard, tsunami, or seiche zone, that would risk release of pollutants due to project inundation.	Potentially significant	Implementation of Mitigation Measure MM 4.10-2 would be required.	Less than significant
Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.10: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.9-1, MM 4.10-1 and MM 4.10-2 would be required (see 4.9, *Hazards and Hazardous Materials*, for full mitigation measure text).	Less than significant
4.11 Land Use			
Impact 4.11-1: The project would cause a significant environmental impact due to physically dividing an established community.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.11: Cumulative Impacts	Potentially significant	**MM 4.11-1:** Prior to issuance of any building permit, the project operator shall provide a Decommission Plan for review and approval by the Kern County Public Works	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the decommissioning of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility. The financial assurance required prior to issuance of any building permit shall be established using one of the following: a. An irrevocable letter of credit; b. A surety bond; c. A trust fund in accordance with the approved financial assurances to guarantee the decommissioning work will be completed in accordance with the approved decommission plan; or d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department. The financial institution or Surety Company shall give the County at least 120 days' notice of intent to terminate the	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Public Works Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure decommissioning of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator decommission the site on their own, the County will not pursue forfeiture of the financial assurance. Once decommissioning has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommissioning of the site by the County shall be returned to the project operator. Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.	
4.12 Mineral Resources			
Impact 4.12-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.	Potentially significant	**MM 4.12-1:** Prior to issuance of any grading or building permit, excluding the generation tie line in, the project proponent shall provide the following documentation regarding the mineral rights holders who also have right of surface access and drilling areas: a. A site plan showing the unbuildable drilling areas provided for the mineral holders with clear notation that no use of the area can be made for the life of the project except for exploration and extraction of oil and gas with permits without purchase and ownership of full mineral rights. No construction storage or laydown area may be established at any time in the drilling areas unless permitted through an individual agreement. All drilling areas shall be fenced and provided legal access across the site, and a 40-foot-long gate provided or as detailed by the individual agreement including a provision to not fence the drill island; or b. For all mineral rights holders that do not have an individual agreement and have right of surface access, a drilling area sufficient to provide access to their minerals shall be shown on the final site plan and acknowledged in all grading plans.	Less than significant
Impact 4.12-2: The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	Less than significant	Implementation of MM 4.12-1 would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.12: Cumulative Impacts	Less than significant	Implementation of MM 4.12-1 would be required.	Less than significant
4.13 Noise			
Impact 4.13-1: The project would result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.	Potentially significant	**MM 4.13-1:** The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning: a. Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols. b. Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings. c. Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer. d. Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing). e. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		f. Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed. **MM 4.13-2:** The construction contractor shall establish a Noise Disturbance Coordinator for the project during construction. The Noise Disturbance Coordinator shall be responsible for responding to any complaints about construction noise. The Noise Disturbance Coordinator shall determine the cause of the complaint and shall be required to implement reasonable measures to resolve the complaint. Contact information for the Noise Disturbance Coordinator shall be submitted to the Kern County Planning and Natural Resources Department prior to commencement of any ground disturbing activities. **MM 4.13-3:** Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), including decommissioning, the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include: a. The mailing notice shall be to all residences within 1,000 feet of the project site, 15 days or less prior to construction activities. The notices shall include the construction schedule and a telephone number and email address where complaints and questions can be registered with the noise disturbance coordinator.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		b. A minimum of one sign, legible at a distance of 50 feet, shall be posted at the construction site, or adjacent to the nearest public access to the main construction entrance, throughout construction activities that shall provide the construction schedule (updated as needed) and a telephone number where noise complaints can be registered with the noise disturbance coordinator. c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.13-4:** Adequate noise shielding shall be provided to the project's onsite transformers and inverters such that the existing ambient noise level at the nearest off-site residential structure would not be exceeded by more than 5 dBA. The project proponent/operator shall submit photographic evidence of this technology and clearly demonstrate on a site plan where adequate noise shielding will be located, if necessary. No shielding shall be required if the increase in ambient noise level is 5 dBA or less.	
Impact 4.13-2: The project would generate excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.13-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant	No mitigation would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.13: Cumulative Impacts	Potentially significant	Implement Mitigation Measures MM 4.13 1 through MM 4.13.4 to reduce and minimize cumulative construction noise and vibration levels.	Less than significant
4.14 Public Services			
Impact 4.14-1: The project would result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services or police protection services.	Potentially significant	**MM 4.14-1:** Prior to the issuance of grading or building permits the project proponent/operator shall develop and implement a fire safety plan for use during construction, operation and decommissioning. The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following: a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition. c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials. e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. **MM 4.14-2:** The following Cumulative Impact Charge (CIC) shall be implemented as payment on approved Conditional Use Permit acreage. a. Submittal of Building Permit and Phasing 1. Any building permit submitted shall be accompanied by a map and legal description showing a defined phase for which permits are being requested. All phases shall be numbered sequentially for identification. 2. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows: A. Total gross acreage (Phase) B. Total acres for Operations and Maintenance building permanent accessory improvements C. Total acres for Energy Storage structure and permanent accessory improvements D. Total acres of recorded easements 3. Formula: Net Acreage = (ii)a minus the sum of [(ii)b + (ii)c + (ii)d]. 4. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under (ii)b or (ii)c, above. 5. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		b. Calculation and Payment of Cumulative Impact Charge (CIC) 1. A payment of $550 per net acre shall be paid annually for all acres in the approved Conditional Use Permit regardless of phased implementation of building permits, the total number of building permits, or type of building permit issued. 2. The first payment is due upon issuance of the first building permit. If it is not paid within 30 days after issuance of the first building permit, all such permits shall be suspended until the fee is paid in full 3. Annual payments are due every year on the date of the first building permit issuance. 4. Payments shall be made to the Planning and Natural Resources Department for transfer directly to the County Administrative Office Fiscal Division (CAO) and labeled Cumulative Impact Charge (CIC) with the project name, location and APNs. 5. Any acres denoted for an operation and maintenance building or energy storage that are not built, cannot be used for solar panels unless payment is provided for the Cumulative Impact Charge (CIC). 6. An advance payment option for a lump sum of all payment years, or a reduction in each year's payment for 5 or more years, may be requested by submittal of a written request to the Planning and Natural Resources Department with details of the offer no later than 60 days before the yearly payment is due. A 10% discount in the lump sum amount will be applied if the advance payment option is accepted by the County Administrative Office Fiscal Division (CAO) by written response.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.14-3: Written verification of ownership of the project shall be submitted to the Kern County Planning and Natural Resources Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company with assessed taxes that total less than $3,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year. **MM 4.14-4:** The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. This process shall include, but is not necessarily limited to, the project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. As an alternative to the aforementioned process, the project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes. **MM 4.14-5:** Prior to the issuance of any building permits on the property, the project operator shall submit a letter detailing the hiring efforts prior to commencement of	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		construction, which encourages all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. The project operator shall provide the contractors a list of training programs that provide skilled workers and shall require the contractor to advertise locally for available jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.	
Impact 4.14: Cumulative Impacts	Potentially significant	Implement Mitigation Measures MM 4.14-1 through MM 4.14-5.	Less than significant
4.15 Transportation and Traffic			
Impact 4.15-1: The project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Kern County General Plan LOS "D."	Less than significant	**MM 4.15-1:** Prior to the issuance of construction or building permits for each Facility, the project proponent/operator shall implement measures to ensure peak hour construction worker vehicle limits are maintained during the AM and PM peak hours in order to maintain LOS D or better at the study intersections. These measures may include, but are not limited to the following: a. The Construction Traffic Control Plan (see MM 4.15-2, below) shall outline the methods used to count worker vehicle traffic arriving and departing from the project site during peak AM and PM hours, methods used to control the number of trips during these hours, and documentation of reasonable coordination efforts with other projects in the area to avoid impacts to study intersections. b. The project proponent/operator shall limit construction worker vehicle trips to and from the site to the extent possible during the AM and PM peak periods (i.e., 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.). c. If monitoring indicates that either AM or PM peak hour construction trips may exceed the peak hour construction worker vehicle limits, the project proponent/operator shall	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		implement measures to reduce peak hour passenger vehicle trips. These measures could include: 1. Scheduling construction worker shifts so that a majority of the workers arrive and depart the project site outside the AM and PM peak periods. 2. Staggering construction worker shifts so that construction worker vehicle trips are distributed over a broader period (i.e., construction workers arrive in staggered shifts starting from 6:00 a.m. and depart in staggered shifts starting from 2:00 p.m.). 3. Instituting incentives and providing options for construction workers to carpool and/or vanpool to and from the project site. 4. Should applicant be able to demonstrate LOS will not fall below LOS C, then the Traffic Control Plan will not be necessary. **MM 4.15-2:** Prior to the issuance of construction or building permits, the project proponent/operator shall: a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department-Development Review and the California Department of Transportation offices for District 6, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues: 1. Timing of deliveries of heavy equipment and building materials. To the extent feasible, restrict deliveries and vendor vehicle arrivals and departures during either the AM and PM peak periods; 2. Directing construction traffic with a flag person;	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; 4. Ensuring access for emergency vehicles to the project sites; 5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; 6. Maintaining access to adjacent property; 7. Specifying both construction-related vehicle travel and oversize load haul routes and avoiding residential neighborhoods to the maximum extent feasible; and 8. Consult with the County to develop coordinated plans that would address construction-related vehicle routing and detours adjacent to the construction area for the duration of construction overlap with neighboring projects. Key coordination meetings would be held jointly between applicants and contractors of other projects for which the County determines impacts could overlap. b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and Caltrans. c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County. d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county-maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department. e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.	
Impact 4.15-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).	Less than significant	No mitigation would be required.	Less than significant
Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially significant	Implementation of Mitigation Measure MM 4.15-2 would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.15-4: The project would result in inadequate emergency access.	Potentially significant	Implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2 would be required.	Less than significant
Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure MM 4.15-1 and MM 4.15-2 would be required.	Less than significant
4.16 Tribal Cultural Resources			
Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).	Potentially significant	Implementation Mitigation Measures MM 4.5-1 through 4.5-5, (see Section 4.5, *Cultural Resources* for full mitigation measure text).	Less than significant
Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Section 21074 as either a site, feature, place,	Potentially significant	Implementation Mitigation Measures MM 4.5-1 through 4.5-5, (see Section 4.5, *Cultural Resources* for full mitigation measure text).	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
Impact 4.16: Cumulative Impacts	Potentially significant	Implementation Mitigation Measures MM 4.5-1 through 4.5-5, (see Section 4.5, *Cultural Resources* for full mitigation measure text).	Less than significant
4.17 Utilities and Service Systems			
Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities,	Potentially significant	Implementation of Mitigation Measures MM 4.10-1 through 4.10-2 would be required (see Section 4.10, *Hydrology and Water Quality,* for full mitigation measure text).	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
the construction or relocation of which could cause significant environmental effects.			
Impact 4.17-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.17-3: The project would result in a determination by the waste water treatment provider which may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.17-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Potentially significant	**MM 4.17-1:** During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. The provisions listed below shall apply to the project. a. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance and Decommissioning, Trash Abatement and Pest Management Program. b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. c. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		according to State and County regulations that are in effect at the time of disposal. d. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. e. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.	
Impact 4.17-5: The project would comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	Implementation of Mitigation Measure MM 4.17-1	Less than significant
Impact 4.17: Cumulative Impacts	Potentially significant	Implementation Mitigation Measures MM 4.10 1 through 4.10-2 and MM 4.17 1 would be required (see Section 4.10, *Hydrology and Water Quality*, for full mitigation measure text).	Less than significant
4.18 Wildfire			
Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project	Less than significant	No mitigation would be required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.			
Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Potentially significant	Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Public Services*, for full mitigation measure text).	Less than significant
Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Potentially significant	Implementation of Mitigation Measure MM 4.10 1 would be required (see Section 4.10, *Hydrology and Water Quality*, for full mitigation measure text).	Less than significant
Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.10 1 and MM 4.14 1 would be required (see Sections 4.10, *Hydrology and Water Quality*, and 4.14, *Public Services*, for full mitigation measure text).	Significant and unavoidable

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Chapter 2
Introduction

2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department, as lead agency, has determined that an Environmental Impact Report (EIR) must be prepared for the proposed Jasmine Solar Project (proposed project). The project proposes to develop a photovoltaic (PV) solar facility (Jasmine Solar Facility) and associated infrastructure on 527.37-acre project site. The project site consists of two assessor parcels (APN# 295-131-12 which is 513.61 acres and APN# 295-131-15 which is 13.76 acres). The photovoltaic component would occupy approximately 493 acres of APN 295-131-12, with the balance of this area being used for roads and other ancillary equipment/buildings. APN 295-132-15 is a linear parcel that extends easterly along Copus Road, this parcel would be used to install a generation tie line (gen-tie line) to connect to the existing PG&E Lakeview substation (APN 295-132-16) approximately 0.5-miles east. The project would generate a combined total of 70 megawatts (MW) of renewable electrical energy and a Battery Energy Storage System (BESS) capable of storing approximately 68 megawatt hours (MWh) of energy. The energy storage system could be charged by energy generated by the solar panels, and/or it could be charged by energy from the electrical grid. Power generated by the proposed project would typically be transferred via proposed collection lines to the Lakeview Substation.

This EIR has been prepared pursuant to the following:

- The California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.)
- *CEQA Guidelines* (California Code of Regulations, Title 14, Chapter 3, Section 15000 et seq.)
- The Kern County CEQA Implementation Document

The overall purposes of the CEQA process are to:

- Ensure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns.
- Provide for full disclosure of the project's environmental effects to the public, the agency decision-makers who will approve or deny the project, and responsible and trustee agencies charged with managing resources (e.g., wildlife, air quality) that may be affected by the project.
- Provide a forum for public participation in the decision-making process with respect to environmental effects.

2.2 Purpose of this Environmental Impact Report

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the project. The Kern County Planning Commission and Board of Supervisors will consider the information in the EIR, including the public comments and staff response to those comments, during the public hearing process. The final decision is made by the Board of

Supervisors, who may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify:

- The significant potential impacts of the project on the environment and indicate the manner in which those significant impacts can be avoided or mitigated;
- Any unavoidable adverse impacts that cannot be mitigated; and
- Reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

An EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of the project when taken into consideration with past, present, and reasonably anticipated future projects.

CEQA requires that an EIR reflect the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting mitigation measures and alternatives capable of avoiding or reducing the significant effects of the project, while still attaining most of the basic objectives of the project.

As the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design and construction of PG&E's interconnection facilities, these interconnection facilities are not part of this application proceeding and will not be authorized by the County's decision. However, PG&E's facilities are analyzed in this CEQA document because CEQA requires that an EIR describe the impacts of the "whole of the action," including direct and indirect physical changes resulting from the project being approved. (CEQA Guidelines, §15378.) Although the mitigation measures identified in this EIR are not applicable to PG&E's scope of work, PG&E's best management practices will be identified and analyzed in this EIR's assessment of the impacts of PG&E's interconnection facilities.

2.2.1 Issues to Be Resolved

CEQA Guidelines Section 15123(b)(3) requires that an EIR contain issues to be resolved, which includes the choices among alternatives and whether or how to mitigate significant impacts. The following major issues are to be resolved regarding the project:

- Determine whether the Draft EIR adequately describes the environmental impacts of the project;
- Preferred choice among alternatives;
- Determine whether the recommended mitigation measures should be adopted or modified, and
- Determine whether additional mitigation measures need to be applied to the project.

2.3 Terminology

To assist reviewers in understanding this EIR, the following terms are defined:

- *Project* means the whole of an action that has the potential for resulting in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.
- *Environment* refers to the physical conditions that exist in the area and that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is where significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and man-made (artificial) conditions.
- *Impacts* analyzed under CEQA must be related to a physical change. Impacts are:
  - Direct or primary impacts that would be caused by the project and would occur at the same time and place; or
  - Indirect or secondary impacts that would be caused by the project and would be later in time or farther removed in distance, but would still be reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other effects related to induced changes in the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems.
- *Significant impact on the environment* means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change by itself is not considered a significant impact on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.
- *Mitigation* consists of measures that avoid or substantially reduce the project's significant environmental impacts by:
  - 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 environment;
  - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
  - Compensating for the impact by replacing or providing substitute resources or environments.
- *Cumulative impacts* are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following statements also apply when considering cumulative impacts:
  - The individual impacts may be changes resulting from a single project or separate projects.
  - The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related

past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant projects taking place over time.

This EIR uses a variety of terms to describe the level of significance of adverse impacts. These terms are defined as follows:

- *Less than significant.* An impact that is adverse but that does not exceed the defined thresholds of significance. Less than significant impacts do not require mitigation.
- *Significant.* An impact that exceeds the defined thresholds of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less than significant level.
- *Significant and unavoidable.* An impact that exceeds the defined thresholds of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

2.4 Decision-Making Process

CEQA requires lead agencies, in this case the Kern County Planning and Natural Resources Department, to solicit and consider input from other interested agencies, citizen groups, and individual members of the public. CEQA also requires the project to be monitored after it has been permitted to ensure that mitigation measures are carried out.

CEQA requires the lead agency to provide the public with a full disclosure of the expected environmental consequences of the project and with an opportunity to provide comments. In accordance with CEQA, the following steps constitute the process for public participation in the decision-making process:

- **Notice of Preparation/Initial Study (NOP/IS).** Kern County prepared and circulated a NOP/IS for 30 days to responsible, trustee, and local agencies for review and comment beginning on June 9, 2022, to July 11, 2022.
- **Draft EIR Preparation/Notice of Completion (NOC).** A Draft EIR is prepared, incorporating public and agency responses to the NOP/IS and the scoping process. The Draft EIR is circulated for review and comment to appropriate agencies and additional individuals and interest groups who have requested to be notified of EIR projects. Per Section 15105 of the *CEQA Guidelines*, Kern County will provide for a 45-day public review period on the Draft EIR. Kern County will subsequently respond to each comment on the Draft EIR received in writing through a Response to Comments chapter in the Final EIR. The Response to Comments will be provided to each agency or person who provided written comments on the EIR a minimum of 10 business days before the scheduled Planning Commission hearing on the Final EIR and project.
- **Preparation and Certification of Final EIR.** The Kern County Planning Commission will consider the Final EIR and the project, acting in an advisory capacity to the Kern County Board of Supervisors. Upon receipt of the Planning Commission's recommendation, the Board of Supervisors will also consider the Final EIR, all public comments, and the project, and take final action on the project. At least one public hearing will be held by both the Planning Commission and Board of Supervisors to consider the Final EIR, take public testimony, and then approve, conditionally approve, or deny the project.

2.4.1 Notice of Preparation/Initial Study

Pursuant to Section 15082 of the *CEQA Guidelines*, as amended, the Kern County Planning and Natural Resources Department circulated an NOP/IS to the State Clearinghouse, public agencies, special districts, and members of the public for a public review period June 9, 2022, to July 11, 2022. The NOP/IS was also posted in the Kern County Clerk's office for 30 days and sent to the State Clearinghouse at the Governor's Office of Planning and Research to solicit Statewide agency participation in determining the scope of the EIR.

The purpose of the NOP/IS is to formally convey that the Kern County Planning and Natural Resources Department, as the lead agency, solicited input regarding the scope and proposed content of the EIR. The NOP/IS and all comment letters are provided in Appendix A of this EIR.

2.4.2 Scoping Meeting

Pursuant to Section 15082 (c)(1) of the *CEQA Guidelines*, for projects of statewide, regional, or area-wide significance, the lead agency is required to conduct at least one scoping meeting. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. Kern County hosted a scoping meeting on July 6, 2022, at the Kern County Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, California.

Notice of Preparation/Initial Study and Scoping Meeting Results

During the July 6, 2022 scoping meeting, no members of the public were present and no testimony was given. Furthermore, specific environmental concerns raised in written comments received during the NOP/IS public review period are discussed below. The NOP/IS and all comments received are included in Appendix A.

IS/NOP Written Comments

The following specific environmental concerns listed in **Table 2-1**, *Summary of NOP/IS Comments,* were received in writing by the County in response to the IS/NOP.

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
State Agencies	
California Department of Conservation – Division of Land Resource Protection June 28, 2022	The commentor states that the project will result in a permanent reduction and significant impact to California's agricultural land resources, therefore, recommending the following mitigation measures pursuant to Cal. Code Regs., tit. 14, § 15370 and discussion in the EIR: • Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project. • Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.

Commenter/Date	Summary of Comment
	• Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects. • Proposed mitigation measures for all impacted agricultural lands within the proposed project area. • Projects compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract. • If applicable, notification of Williamson Act contract non-renewal and/or cancellation.
California Department of Fish and Wildlife July 11, 2022	The commenter makes the following statements and comments regarding the NOP and contents of the EIR • CDFW is a Trustee Agency for fish and wildlife resources pursuant to Fish & Game Code § 711.7, subdivision (a) & 1802, Public Resources Code (PRC) § 21070, and CEQA Guidelines § 15386. • CDFW also is a Responsible Agency under PRC § 21069 and CEQA Guidelines § 15381. • CDFW notes that other rare species, nesting birds, should be considered and it has jurisdiction over such species and their protection. • CDFW notes the project is in the geographic range of the blunt-nosed leopard lizard (Gambelia sila), State threatened Swainson's hawk (Buteo swainsoni) and San Joaquin Antelope Squirrel (Ammospermophilus nelsoni), the State threatened and federally endangered San Joaquin kit fox (Vulpes macrotis mutica), the State and federally endangered Tipton kangaroo rat (Dipodomys nitratoides nitratoides), the federally endangered Buena Vista Lake ornate shrew (Sorex ornatus relictus), and the State species of special concern California glossy snake (Arizona elegans occidentalis), burrowing owl (Athene cunicularia), and American badger (Taxidea taxus), California jewelflower (*Caulanthus californicus*), San Joaquin woolythreads (*Monolopia* congdonii), Comanche Point layia (Layia leucopappa), heartscale (Atriplex cordulata var. cordulata), Kern mallow (Eremalche parryi ssp. kernensis), and Coulter's goldfields (Lasthenia glabrata ssp. coulteri). o Regarding the listed species, CDFW provides additional details regarding specific issues involving the species, specific impacts, evidence of significance, and recommended mitigation measures. • CDFW comments regarding the potential for consultation with USFWS regarding the listed species, nesting birds, and baseline and preconstruction surveys. Lastly, CDFW discusses CEQA requirements and the CNDDB and payment of filing fees.
Native American Heritage Commission (NAHC) June 13, 2022	The commenter states that the proposed project should comply with Senate Bill (SB) 18 and Assembly Bill (AB) 52, contact CA Native American Tribes and their representatives that are within the geographic area of the project and conduct consultations in accordance with SB 18 and AB 52, evaluate if the project will have an adverse impact on historical resources within the project area, contact appropriate regional archaeological information center for a record search, prepare an archaeological inventory survey (if required), contact the Native American Heritage Commission, and include mitigation measures for inadvertent discoveries of archaeological resources.
Local	
Kern County Fire Department June 22, 2022	The commentor states that all ground mounted solar array projects over 1MW will require Fire Department plan review prior to construction and meet requirements set forth in KCFD Solar Panel Standard, solar array projects over 20MW will require special fee calculation from KCFD prior to permit issuance, All Battery Energy Storage Systems

Commenter/Date	Summary of Comment
	must be applied for directly with KCFD for separate permitting and pre-construction approval, and all proposed batteries must be UL9540A 2019 4th Edition tested for large scale burns to determine adequate design and mitigation measures. KCFD will conduct a more detailed review and provide comments when the building permit and plans are submitted to the Department.
Kern County Public Health Services Department June 28, 2022	The commentor requests the following: • The applicant creates an account with the California Environmental Reporting System (CERS). • Approval of the method of water supply and sewage disposal by Kern County Environmental Health Division • If any abandoned wells are found during the grading and construction process, the applicant shall contact the Land and Water Division for permitting and destruction procedures.
Kern County Public Works Department – Floodplain Management Section June 29, 2022	The commentor provides general comments that the project site would be subject to flooding and increased stormwater runoff due to the increase in impervious surfaces. As such, the commenter recommends Conditions of Approval (COAs) be included for the project (e.g., a drainage plan and associated flood hazard requirements be incorporated into the project's design per Kern County Floodplain Management Ordinance).
Kern County Superintendent of Schools May 6, 2022	The commentor states that the proposed project would not result in a significant impact to schools or district facilities as long as statutory school fees, if any are collected, and no further mitigation measures regarding school facilities are necessary.
San Joaquin Valley Air Pollution Control District (APCD) June 24, 2022	The commentor recommends a more detailed preliminary analysis of the following be conducted in regard to the project's construction and operational emissions: • Construction and Operational emissions o Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment. o Operational (ongoing) emissions from mobile sources and statutory sources should be analyzed separately. o Identify project-related criteria pollutant emissions from construction and operational sources. • Prioritization and/or Health Risk Screening/Assessment (HRA) o A HRA should be performed for the project to determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) • Ambient Air Quality Analysis (AAQA) o The APCD recommends an AAQA be performed for the project if emissions exceed 100 pounds per day of any pollutant • Voluntary Emission Reduction Agreement (VERA) o Project should include discussion on the feasibility of implementing a VERA for this project • District Rules and Regulations o The APCD recommends including a discussion on the project's compliance with the APCD's rules: District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources, District Rule 9510 – Indirect Source Review, District Rule 4601 (Architectural Coatings), District Regulation VIII (Fugitive PM10 Prohibitions), and District Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow

Commenter/Date	Summary of Comment
	Cure, and Emulsified Asphalt, Paving and Maintenance Operations)
Interested Parties	
No comments were received	

Availability of the Draft EIR

This Draft EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with Section 15087 of the *CEQA Guidelines*. This Draft EIR and the full administrative record for the project, including all studies, is available for review during normal business hours Monday through Friday at the Kern County Planning Department, located at:

Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2370
Phone: (661) 862-8600, Fax: (661) 862-8601

This EIR is also available on the Kern County Planning and Natural Resources Department website:https://kernplanning.com/planning/environmental-documents/.

Additionally, this EIR is available at the following libraries:

Kern County Library/Beale
Local History Room
701 Truxtun Avenue
Bakersfield, CA 93301

Kern County Library
Wasco Branch Library
1102 7th Street,
Wasco, CA 93560

2.5 Format and Content

This EIR addresses the potential environmental effects of the project and was prepared following input from the public and responsible and affected agencies, and through the EIR scoping process, as discussed previously. The contents of this EIR were based on the findings in the IS/NOP, and public and agency input. Based on the findings of the IS/NOP, a determination was made that an EIR was required to evaluate potentially significant environmental effects on the following resources:

- Aesthetics;
- Agriculture and Forestry Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Noise;
- Public Services;
- Transportation and Traffic;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfires.

With respect to the following resource areas, which were discussed in the NOP/IS, it was determined that no impacts would occur that would require analysis in the EIR:

- Population and Housing
- Recreation

The proposed project includes an operations and maintenance (O&M) building within the project site. The on-site construction workforce for the project is estimated to be up to 550 individuals per day (during peak construction periods), however, the average daily workforce is expected to be 2 full time equivalent employees during operations. Maintenance personnel would be expected to visit the project site several times per year for routine maintenance, but they would likely be drawn from the local labor force and would commute from their permanent residences to the project site during those times. However, even if the employees were hired from out of the area and had to relocate to southwestern Kern County, it is expected that housing would be available in the nearby communities of Maricopa approximately 17 miles to the west and Bakersfield approximately 19 miles to the north. Consequently, this would represent a minor increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly induce the development of any new housing or businesses, and there would not be a substantial increase in the use of parks or other recreational facilities such that replace facilities would be needed or deterioration of existing facilities would occur. No impacts to population and housing, or recreation, would occur and no further analysis is warranted.

Additionally, no comments were received during circulation of the IS/NOP indicating that impacts to Population and Housing or Recreation would need to be addressed. No further discussion of these topic is warranted. For a complete analysis of these impacts, please refer to Appendix A of this EIR.

2.5.1 Required EIR Content and Organization

This EIR includes all of the sections required by CEQA. **Table 2-2:** *Required EIR Contents*, contains a list of sections required under CEQA, along with a reference to the chapter in which they can be found in this EIR document.

TABLE 2-2: REQUIRED EIR CONTENTS

Requirement (*CEQA Guidelines* Section)	**Location in EIR**
Table of contents (Section 15122)	Table of Contents
Summary (Section 15123)	Chapter 1
Project description (Section 15124)	Chapter 3
Significant environmental impacts (Section 15126.2)	Sections 4.1–4.18
Environmental setting (Section 15125)	Sections 4.1–4.18
Mitigation measures (Section 15126.4)	Sections 4.1–4.18
Cumulative impacts (Section 15130)	Sections 4.1–4.18
Growth-inducing impacts (Section 15126.2)	Chapter 5
Effects found not to be significant (Section 15128)	Chapters 1, 5; Sections 4.1–4.18
Significant irreversible changes	Chapter 5
Unavoidable significant environmental impacts (Section 15126.2)	Chapter 5

Requirement (*CEQA Guidelines* Section)	Location in EIR
Alternatives to the project (Section 15126.6)	Chapter 6
Organizations and persons consulted	Chapter 8
List of preparers (Section 15129)	Chapter 9
References (Section 15129)	Chapter 10
Acronyms	Chapter 11

The content and organization of this EIR are designed to meet the requirements of CEQA and the *CEQA Guidelines*, as well as to present issues, analysis, mitigation, and other information in a logical and understandable way. This EIR is organized into the following sections:

- Chapter 1, *Executive Summary*, provides a summary of the project description and a summary of the environmental impacts and mitigation measures.
- Chapter 2, *Introduction*, provides CEQA compliance information, an overview of the decision-making process, organization of the EIR, and a responsible and trustee agency list.
- Chapter 3, *Project Description*, provides a description of the location, characteristics, and objectives of the projects, and the relationship of the projects to other plans and policies associated with the project.
- Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a detailed environmental analysis of the existing conditions, projects impacts, mitigation measures, and cumulative impacts.
- Chapter 5, *Consequences of Project Implementation*, presents an analysis of the project's cumulative and growth-inducing impacts and other CEQA requirements, including significant and unavoidable impacts and irreversible commitment of resources.
- Chapter 6, *Alternatives*, describes a reasonable range of alternatives to the projects that could reduce the significant environmental effects that cannot be avoided.
- Chapter 7, *Responses to Comments*, is reserved for responses to comments on the EIR.
- Chapter 8, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this EIR.
- Chapter 9, *Preparers*, identifies persons involved in the preparation of the EIR.
- Chapter 10, *Bibliography*, identifies reference sources for the EIR.
- Chapter 11, Acronyms, identifies commonly used terms in the EIR.
- *Appendices* provide information and technical studies that support the environmental analysis contained within the EIR.

The analysis of each environmental category in Chapter 4 is organized as follows:

- "Introduction" provides a brief overview on the purpose of the section being analyzed with regards to the project.
- "Environmental Setting" describes the physical conditions that exist at this time and that may influence or affect the topic being analyzed.
- "Regulatory Setting" provides State and federal laws and the Kern County General Plan goals, policies, and implementation measures that apply to the topic being analyzed.

- "Impacts and Mitigation Measures" discusses the impacts of the projects in each category, presents the determination of the level of significance, and provides a discussion of feasible mitigation measures to reduce any impacts.
- "Cumulative Setting, Impacts, and Mitigation Measures" provides a discussion of the cumulative geographic area for each resource area, and analysis of whether the project would contribute to a significant cumulative impact, and if so, identifies cumulative mitigation measures.

2.6 Responsible and Trustee Agencies

Projects or actions undertaken by the lead agency, in this case the Kern County Planning and Natural Resources Department and the California State Lands Commission, may require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Other such agencies are referred to as "responsible agencies" and "trustee agencies." Pursuant to Sections 15381 and 15386 of the *CEQA Guidelines*, as amended, responsible agencies and trustee agencies are defined as follows:

- A "responsible agency" is a public agency that proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the lead agency that have discretionary approval power over the project (Section 15381).
- A "trustee agency" is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California (Section 15386).

The various public, private, and political agencies and jurisdictions with a particular interest in the project may include, but are not limited to, the following:

2.6.1 Federal Agencies

- United States Fish and Wildlife Service (USFWS)
- United States Environmental Protection Agency (EPA)
- Federal Aviation Administration (FAA)
- United States Army Corps of Engineers (USACOE)

2.6.2 State Agencies

- Governor's Office of Planning and Research (OPR)
- California Air Resources Board (CARB)
- California Energy Commission (CEC)
- California Public Utilities Commission (CPUC)
- California Department of Fish and Wildlife (CDFW)
- Central Valley Water Quality Control Board (RWQCB)
- California Department of Transportation (Caltrans), District 9

- California Native American Heritage Commission (NAHC)

2.6.3 Regional Local Agencies

- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- Kern Council of Governments (KCOG)

2.6.4 Kern County

- Planning and Natural Resources Department
- Public Works Department
- Public Health Services Department, Environmental Health Services Division
- Fire Department (KCFD)
- Sheriff's Department (KCSO)

Other additional permits or approvals may be required for the project.

2.7 Incorporation by Reference

In accordance with Section 15150 of the *CEQA Guidelines* to reduce the size of the report, the following documents are hereby incorporated by reference into this EIR and are available for public review at the Kern County Planning and Natural Resources Department. A brief synopsis of the scope and content of these documents is provided below.

2.7.1 Kern County General Plan

The Kern County General Plan is a policy document with land use maps and related information that are designed to give long-range guidance to those County officials making decisions affecting the growth and resources of the unincorporated Kern County jurisdiction, excluding the metropolitan Bakersfield planning area. This document, adopted on June 14, 2004, and last amended on September 22, 2009, helps ensure that day-to-day decisions conform to the long-range program designed to protect and further the public interest as related to Kern County's growth and development and mitigate environmental impacts. The Kern County General Plan also serves as a guide to the private sector of the economy in relating its development initiatives to the public plans, objectives, and policies of the County.

2.7.2 Kern County Zoning Ordinance

According to the Kern County Zoning Ordinance Chapter 19.02.020, Purposes, Title 19 was adopted to promote and protect the public health, safety, and welfare through the orderly regulation of land uses throughout the unincorporated area of Kern County. Further, the purposes of this title are to:

- Provide the economic and social advantages resulting from an orderly planned use of land resources;
- Encourage and guide development consistent with the Kern County General Plan;

- Divide Kern County into zoning districts of a number, size, and location deemed necessary to carry out the purposes of the Kern County General Plan and this title;
- Regulate the size and use of lots, yards, and other open spaces;
- Regulate the use, location, height, bulk, and size of buildings and structures;
- Regulate the intensity of land use;
- Regulate the density of population in residential areas;
- Establish requirements for off-street parking;
- Regulate signs and billboards; and
- Provide for the enforcement of the regulations of Chapter 19.02.

2.7.3 Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG), and was adopted on August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, state, and federal agencies. California's Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, calls for the Kern RTP to include a Sustainable Communities Strategy (SCS) that reduces greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low-income housing need and transportation planning.

2.7.4 Kern County Airport Land Use Compatibility Plan

The Kern County Airport Land Use Compatibility Plan (ALUCP) was originally adopted in 1996 and has since been amended to comply with Aeronautics Law, Public Utilities Code (Chapter 4, Article 3.5) regarding public airports and surrounding land use planning. As required by that law, proposals for public or private land use developments that occur within defined airport influence areas are subject to compatibility review. The principal airport land use compatibility concerns addressed by the plan are: (1) exposure to aircraft noise, (2) land use safety with respect to both people and property on the ground and the occupants of aircraft, (3) protection of airport air space, and (4) general concerns related to aircraft overflights.

The ALUCP identifies policies and compatibility criteria for influence zones or planning area boundaries. The ALUCP maps and labels these zones as A, B1, B2, C, D and E, ranging from the most restrictive (A – airport property-runway protection zone) to the least restrictive (D – disclosure to property owners only) while the E zone is intended to address special land use development. As required by law, the following affected cities have adopted the ALUCP for their respective airports: Bakersfield, California City, Delano, Shafter, Taft, Tehachapi, and Wasco.

2.8 Sources

This EIR is dependent upon information from many sources. Some sources are studies or reports that have been prepared specifically for the project. Other sources provide background information related to one or more issue areas that are discussed in this document. The sources and references used in the preparation of this EIR are listed in Chapter 10, *Bibliography*, and are available for review during normal business hours at the Kern County Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, CA 93301-2370. This EIR is also available on the Kern County Planning and Natural Resources Department website: https://kernplanning.com/planning/environmental-documents/.

Chapter 3
Project Description

3.1 Introduction

This Environmental Impact Report (EIR) has been prepared by Kern County (County), which is the CEQA Lead Agency, to identify and evaluate potential environmental impacts associated with implementation of the Jasmine Solar Project (project) proposed by SF Jasmine LLC (project proponent). The photovoltaic (PV) solar facility and associated infrastructure would enable the generation of up to 70 megawatts (MW) of renewable electrical energy supported by a Battery Energy Storage System (BESS) capable of storing approximately 68 MWh of energy on approximately 527 acres of privately owned land. The BESS would be located on approximately 1 acre of the project.

The project would be supported by a 70-kilovolt (kV) overhead electrical transmission line originating from an on-site collector substation and terminating at its interconnection point with Pacific Gas & Electric's (PG&E) existing Lakeview Substation. The Lakeview Substation is located approximately 0.5 mile east of the project site. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substation, energy storage system, an O&M building, and generation tie line.

3.2 Project Location

The project is in the southern portion of the Central California Valley Ecoregion within Kern County. The Central California Valley extends south to north approximately 450 miles from the Tehachapi Mountains on the south to the Cascade Mountains on the north and is bound by the Coast Range on the west and Sierra Nevada on the east. The Central Valley occupies approximately 18,000 square miles.

Within the larger area of the Central California Valley, the project site is located in an unincorporated area of south-western Kern County, CA in what the County refers to as the Valley Region. The project site is within the United States Geological Survey (USGS) Conner SW and Coal Oil Canyon 7.5-minute topographical quadrangle and mapped in Section 31 of Township 32 South, Range 27 East in the Mount Diablo Base and Meridian. Please see **Figure 3-1:** *Regional Vicinity Map* and **Figure 3-2:** *Local Vicinity Map.*

More specifically, the project site is located at the northwest corner of Copus Road and Old River Road, approximately four (4) miles west of Interstate 5, 2.5 miles north of State Route 166, approximately 17 miles east of Taft, and approximately 20 miles southwest of downtown Bakersfield. Primary access to the project site is proposed off of Copus Road and Old River Road. The project site occupies two privately owned parcels: APN 295-131-12 (513.61 acres), APN 295-132-15 (13.76 acres) for a total project area of approximately 527.37-acres. Please see **Figure 3-3:** *Existing Parcel Map.*

The total study area for this project is slightly larger than the area that will be subjected to entitlements, as it includes access road(s) and the existing Lakeview Substation (APN 295-132-16).

Jasmine Solar Project

CUP No. 30, Map No. 160
WALUC 22-01

Figure 3-1: Regional Vicinity Map

Jasmine Solar Facility by SF Jasmine, LLC

Project Site

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

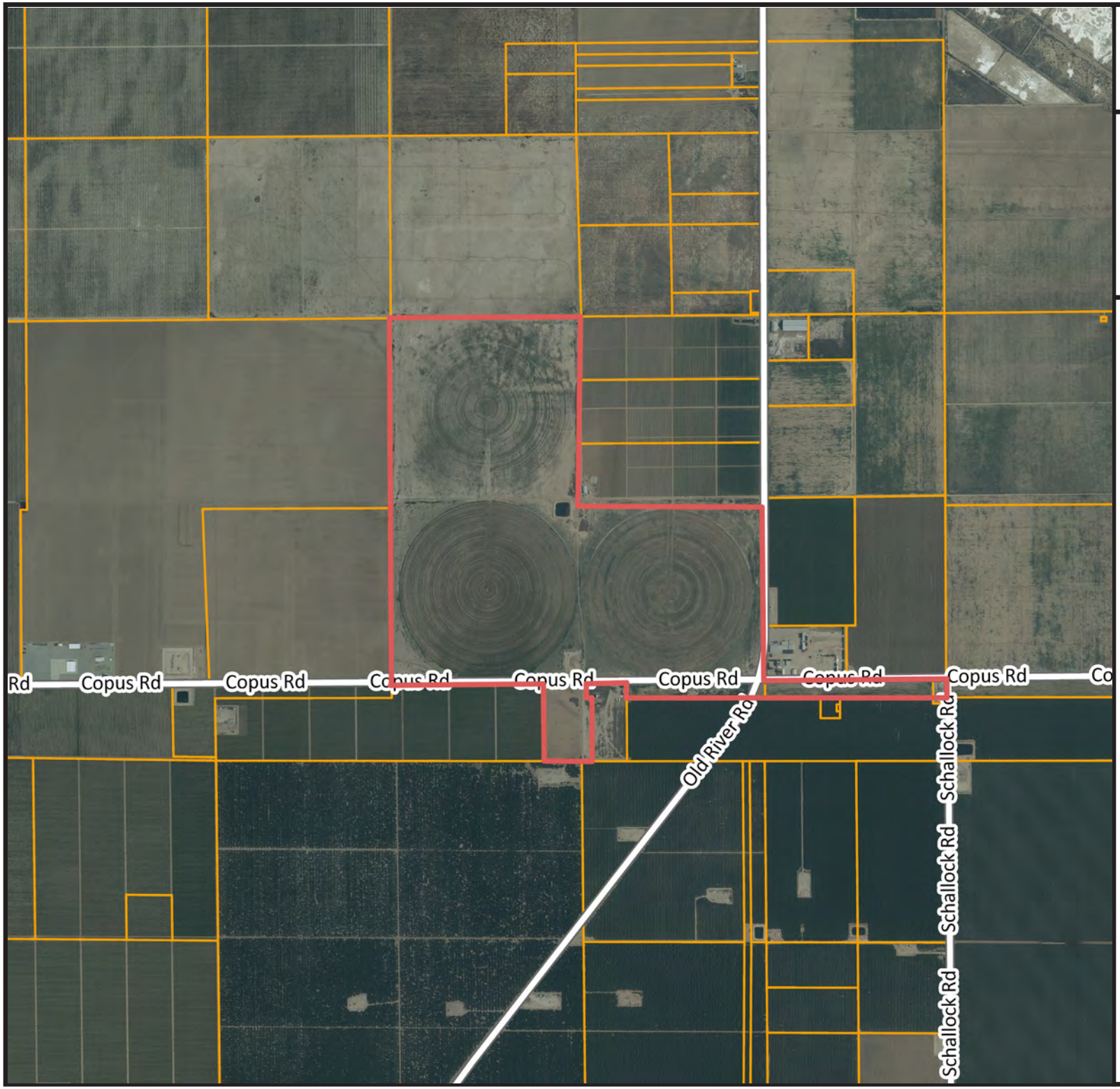
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Figure 3-2: Local Vicinity Map

Jasmine Solar Project by SF Jasmine, LLC



Project Study Area

Parcels Land

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

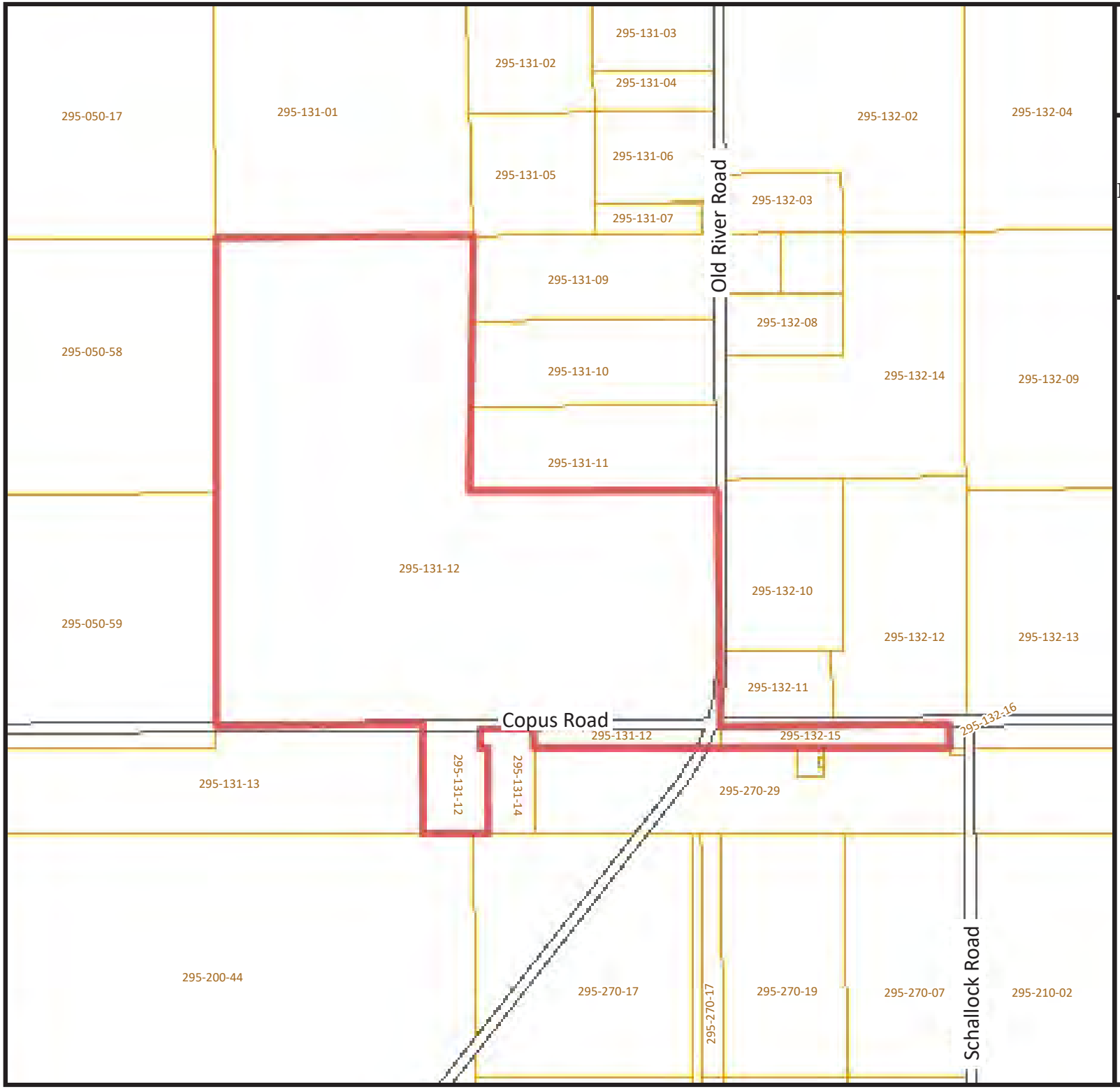
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CUP No. 30, Map No. 160
WALUC 22-01

Figure 3-3: Existing Parcel Map

Jasmine Solar Project by SF Jasmine, LLC



Project Site

Parcels Land

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

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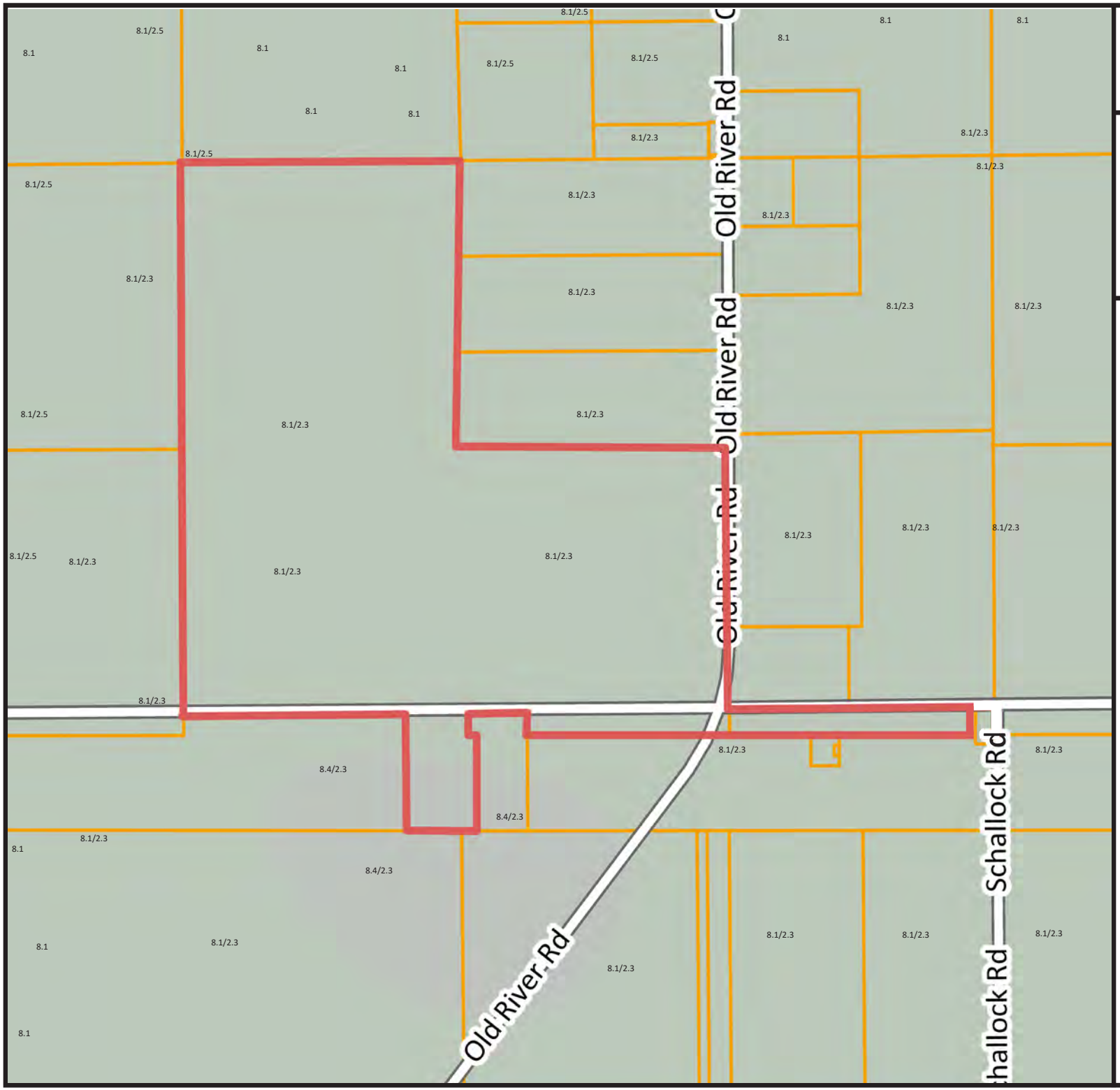
The photovoltaic component would occupy approximately 493 acres of APN 295-131-12, with the balance of this area being used for roads and other ancillary equipment/buildings describe above. APN 295-132-15 is a linear parcel that extends easterly along Copus Road, this parcel would be used to install a generation tie line (gen-tie line) to connect to the existing PG&E Lakeview substation (APN 295-132-16) approximately 0.5-mile east.

The project site is subject to the provisions of the adopted Kern County General Plan and the Kern County Zoning Ordinance. The site is primarily designated for resource use by the Kern County General Plan and is zoned primarily agricultural or commercial. **Table 3-1:** *Project Assessor Parcel Numbers, Existing Map Codes, Existing Zoning, and Acreage* below identifies the individual assessor parcel numbers (APN), acreage, and existing zoning designation. Additionally, please see **Figure 3-4:** *Existing General Plan Designations,* and **Figure 3-5:** *Existing Zoning Classifications*.

TABLE 3-1: PROJECT ASSESSOR PARCEL NUMBERS, EXISTING MAP CODES, EXISTING ZONING, AND ACREAGE

APN	Existing Map Code Designation	Existing Zoning	Acreage
295-131-12	8.1, 8.1/2.3, 8.1/2.5, 8.4/2.3	A, A-1, C-2 PD	513.61
295-132-15	8.1/2.3	A, A-1	13.76
		Project Site Total	**527.37**
Existing PG&E Lakeview Substation			
295-132-16*	8.1/2.3	A	1.12
		Study Area Total	**528.49**

General Plan Map Code:
8.1 = Intensive Agriculture (Min. 20 Acre Parcel Size)
8.4 = Mineral and Petroleum (Min. 5 Acre Parcel Size)
2.3 = Shallow Ground Water Overlay
2.5 = Flood Hazard Overlay
Zone Designation:
A = Exclusive Agriculture
A-1 = Limited Agriculture
C-2 = General Commercial
PD = Precise Development Combining
*Parcel is included in study, but not part of the Conditional Use Permit



Jasmine Solar Project

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Figure 3-4: Existing General Plan Designations

Jasmine Solar Project by SF Jasmine, LLC

- Project Site
- Parcels Land

General Plan

- 8.1
- 8.1/2.3
- 8.1/2.5
- 8.4/2.3

APN: 295-131-12
APN: 295-132-15
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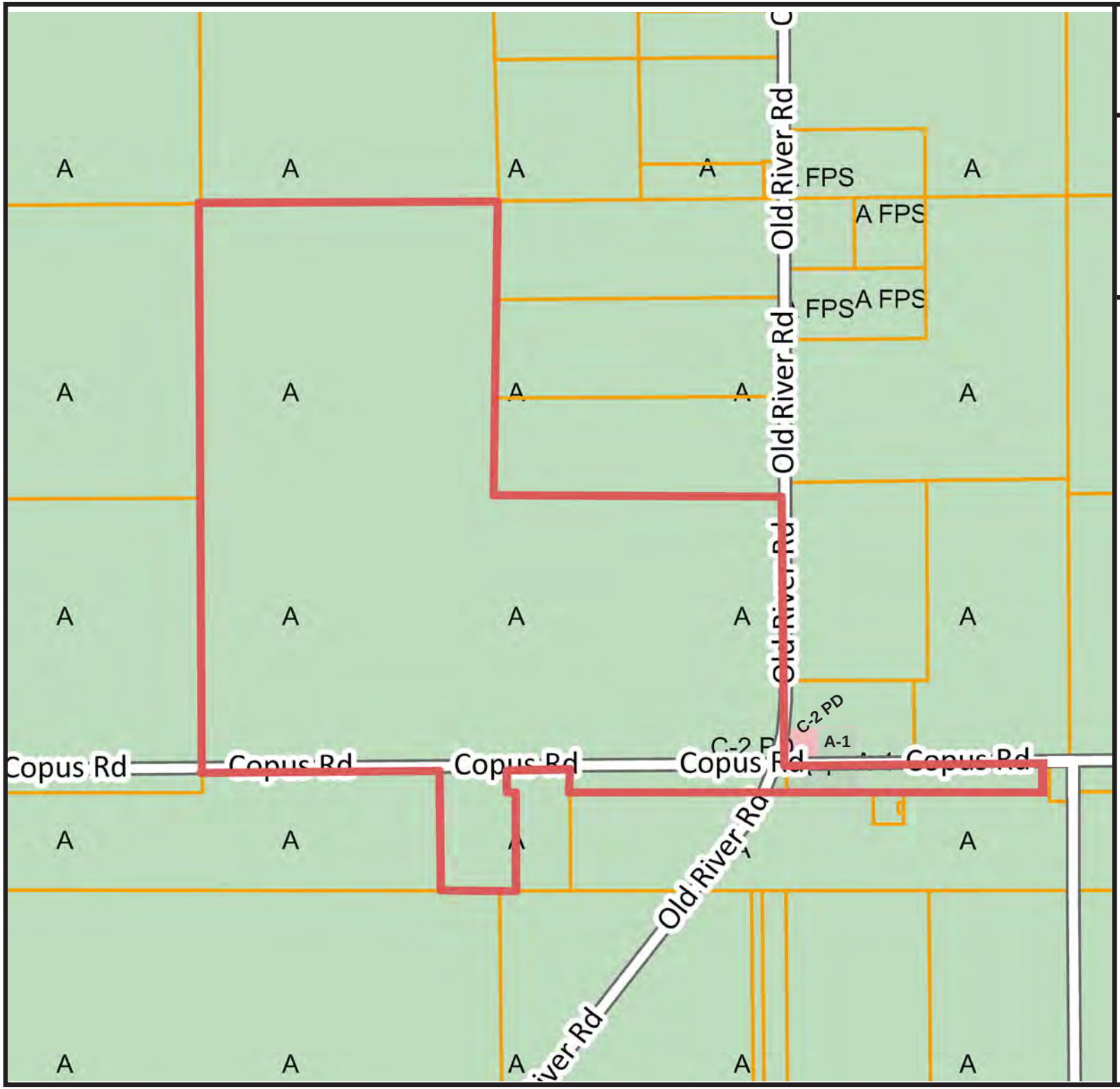
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Jasmine Solar Project

CUP No. 30, Map No. 160
WALUC 22-01

Figure 3-5: Existing Zoning Classifications

Jasmine Solar Project by SF Jasmine, LLC



- Project Site
- Parcels Land
- County Zoning
  - A
  - A-1
  - C-2 PD

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

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3.3 Applicant Submitted Project Objectives

State CEQA Guidelines Section 15124(b) requires that a project description include a clearly written statement of objectives. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits. The following are the applicant submitted project objectives for the proposed project. The project is intended to generate solar power to assist the State in complying with the Renewables Portfolio Standard (RPS) under Senate Bill 350, which requires that by December 31, 2030, 50 percent of all electricity sold in the state shall be generated from renewable energy sources. Senate Bill 100 was approved in September 2018 and would increase the RPS to a 100 percent goal by 2045. The power generated on the project site would be sold to California investor-owned utilities, municipalities, community choice aggregators, or other purchasers in furtherance of the goals of the California RPS.

The project proponent had defined the following objectives for the project:

- Support the generation of renewable energy in the State of California per the recent objectives outlined in Senate Bill 100 to implement carbon neutral and eligible renewable energy resources to supply 100% of the state's retail electricity sales by the year 2045.
- Establish a large-scale solar PV and battery energy storage facility in a manner that maximizes the production of reliable electricity in an economically feasible manner.
- Use a proven and established solar and energy storage technology to optimize efficiency and minimize operational risks and maintenance requirements.
- Develop a solar generation project of a sufficient size and configuration to maximize energy production respective of project constraints.
- Develop a solar generation project that helps to meet the increasing demand of the State of California for clean, renewable electrical power at a competitive cost.
- Develop a project that would result in green job creation.
- Support the local community and provide increased business for local contractors and vendors.
- Provide revenues that help support public services within Kern County.
- Develop a project sensitive to environmental effects by using existing disturbed areas, maximizing use of existing infrastructure, and minimizing water use.
- Assist the state in achieving the Renewable Portfolio Standard (RPS) for 2030 consistent with Assembly Bill [AB] 32, Senate Bill [SB] 1078, SB 107, SB 350, and SB 2).
- Assist Kern County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County.
- Help Southern California Community Choice Aggregators in fulfilling their local renewable energy procurement goals.

3.4 Environmental Setting

The project site is located in the southwestern unincorporated portion of Kern County, California, in the Valley Region of the Central Valley. The surrounding areas, as well as the project site, is dominated by agricultural uses and rural development, but also has a history of oil and gas development and extraction. Accordingly, the project site is privately-owned land that has historically been used for agricultural production. For the past 10 years, the project site has been periodically in low-yield agricultural production (tilled, seeded, and harvested for winter wheat); occasionally irrigated (drip or sprinkler) and harvested for alfalfa seed or other crops.

As discussed, the area surrounding the project site is predominantly used for agriculture. The proposed project is located within two parcels: APN 295-131-12 (513.61 acres) and (APN 295-132-15 - 13.76 acres) for a total project area of approximately of 527.37-acres. No changes to the zoning are proposed. The project includes a gen-tie line that would connect to the existing PG&E Lakeview substation on APN 295-132-16 (1.12 acres) at the intersection of Copus Road and Schallock Road. The connection would be made via an approximately 0.9-acre extension of the existing substation into the adjacent parcel APN 295-132-15. Minor improvements and connections would be made to facilitate the transfer of electricity from the solar field to the existing Lakeview Substation, located on APN 295-132-16.

According to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) the majority of the site is designated as Farmland of Statewide Importance and Grazing Land. This includes the area in which the solar field would be located, the proposed route of the gen-tie line, and area needed for the proposed modifications to the Lakeview Substation. See **Figure 3-6:** *California Important Farmland Map*. According to the California DOC, Farmland of Statewide Importance is defined as land other than Prime Farmland that has a good combination of physical and chemical characteristics for the production of crops (DOC 2020).

As noted above, the project site and surrounding areas are dominated by agricultural production and the surrounding area and project site are wholly located within the boundaries of Agricultural Preserve No. 12. Private land within locally designated agricultural preserve areas is eligible for enrollment under a Williamson Act contract. Participation in the Williamson Act program, which is voluntary for landowners, is dependent on a County's willingness to adopt and implement the program. The rules of each agricultural preserve specify the allowed uses. Local governments may identify compatible uses that can be permitted under a use permit (DOC, 2015); which the County does by way of its Exclusive Agriculture zone. Additionally, 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. Therefore, the proposed project would be compatible with the Kern County Agriculture Preserve Number 12.

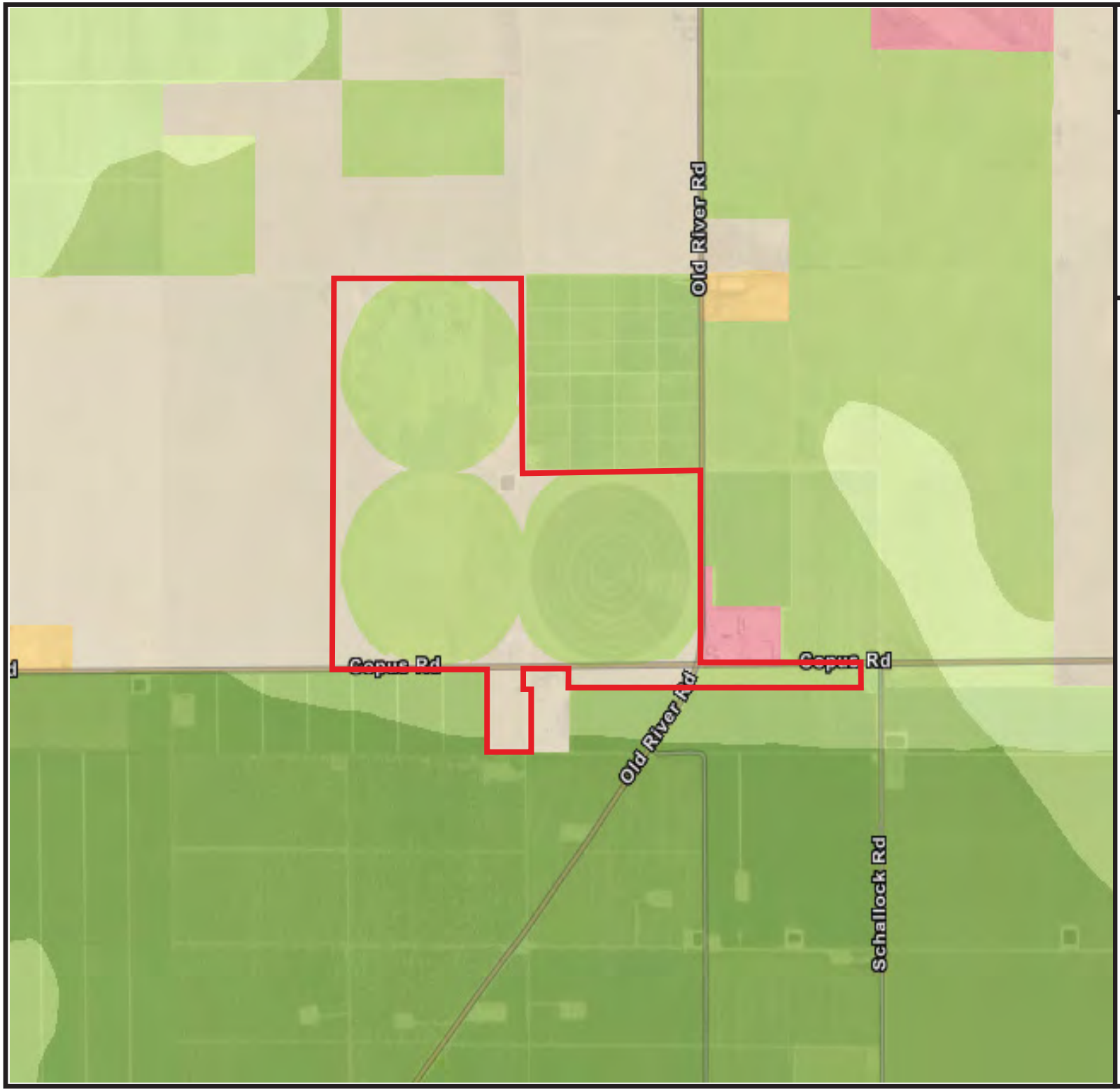
Most of the project site is currently subject to a Williamson Act Land Use Contract. All of APN 295-131-12, the area in which the solar field would be located, and the easterly half of APN 295-132-15, the area proposed for the gen-tie line, are under a Williamson Act Contract. Additionally, the existing PG&E substation located on parcel 295-132-16 is within land under a Williamson Act Contact. The Williamson Act Contracts would be cancelled on parcels 295-131-12 and 295-132-15, to enable development of the project, as outlined in **Table 3-2:** *Williamson Act Land Use Contract Cancellations*, and as shown in **Figure 3-7:** *Williamson Act Land Use Contracts.*

Jasmine Solar Project

CUP No. 30, Map No. 160
WALUC 22-01

Figure 3-6: California Important Farmland Map

Jasmine Solar Project by SF Jasmine, LLC



Project Site

California Important Farmland: Most Recent

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Farmland of Local Importance
- Farmland of Local Potential
- Other Land
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation
- Vacant or Disturbed Land
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land
- Water Area
- Irrigated Farmland
- Nonirrigated Farmland

APN: 295-131-12
APN: 295-132-15
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Kern County Planning & Natural Resources Department



Jasmine Solar Project

CUP No. 30, Map No. 160
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Figure 3-7: Williamson Act Land Use Contracts

Jasmine Solar Project by SF Jasmine, LLC

- Project Study Area
- Williamson Act- Active

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

Kern County
Planning & Natural
Resources Department

TABLE 3-2: WILLIAMSON ACT LAND USE CONTRACT CANCELLATIONS

WALUC Cancellation Number	Kern County Recorded Document Number	Original Contract Date	Status	APN(s)	Acreage to be Removed
23-04	Book 4373, Page 24	02/17/1970	Nonrenewal	295-131-12	513.61
23-04	Book 4272, Page 933	04/29/1969	Nonrenewal	295-132-15	14.5

NOTES: WALUC = Williamson Act Land Use Contract; APN = Assessor's Parcel Number.

The project site is located in an area delineated by the Federal Emergency Management Agency (FEMA) as a flood hazard area on its Flood Insurance Rate Maps (FIRMs). According to the FIRMs, portions of the project site are located within a 100-year flood area (Zone A, no base flood elevations determined). Other portions of the project site are not within a flood area (Zone X, area of minimal flood hazard) (FEMA, 2021). Please see **Figure 3-8:** *FEMA Floodplain Map*.

As discussed above, Kern County has a history of oil and natural gas production and within the project site there is one cancelled and one permitted Oil & Gas Well within the Grapevine Energy LLC Bordeaux Facility. These wells on site are shown in **Figure 3-9:** *Oil and Gas Well Locations.* The wells are in the southerly portion of the project site near Copus Road. Although the project site is not located within the County's NR (Natural Resources) or PE (Petroleum Extraction) Zone Districts, the project site is within a Mineral Resource Zone (MRZ) 1 for Portland Cement Concrete (PCC)-Grade Aggregate as designated by the DOC's State Mining and Geology Board. See **Figure 3-10:** *Mineral Resource Zones.* Although the DOC recognizes the potential use for PCC, the MRZ 1 identifies areas for which there is adequate information that indicates no significant mineral deposits are present (CGS, 2009). It should be noted that a small portion of APN 295-131-12 located on the southerly side of Copus Road is designated 8.4 Mineral and Petroleum by Kern County's General Plan. However, the project does not propose any construction or improvements on this portion of the parcel.

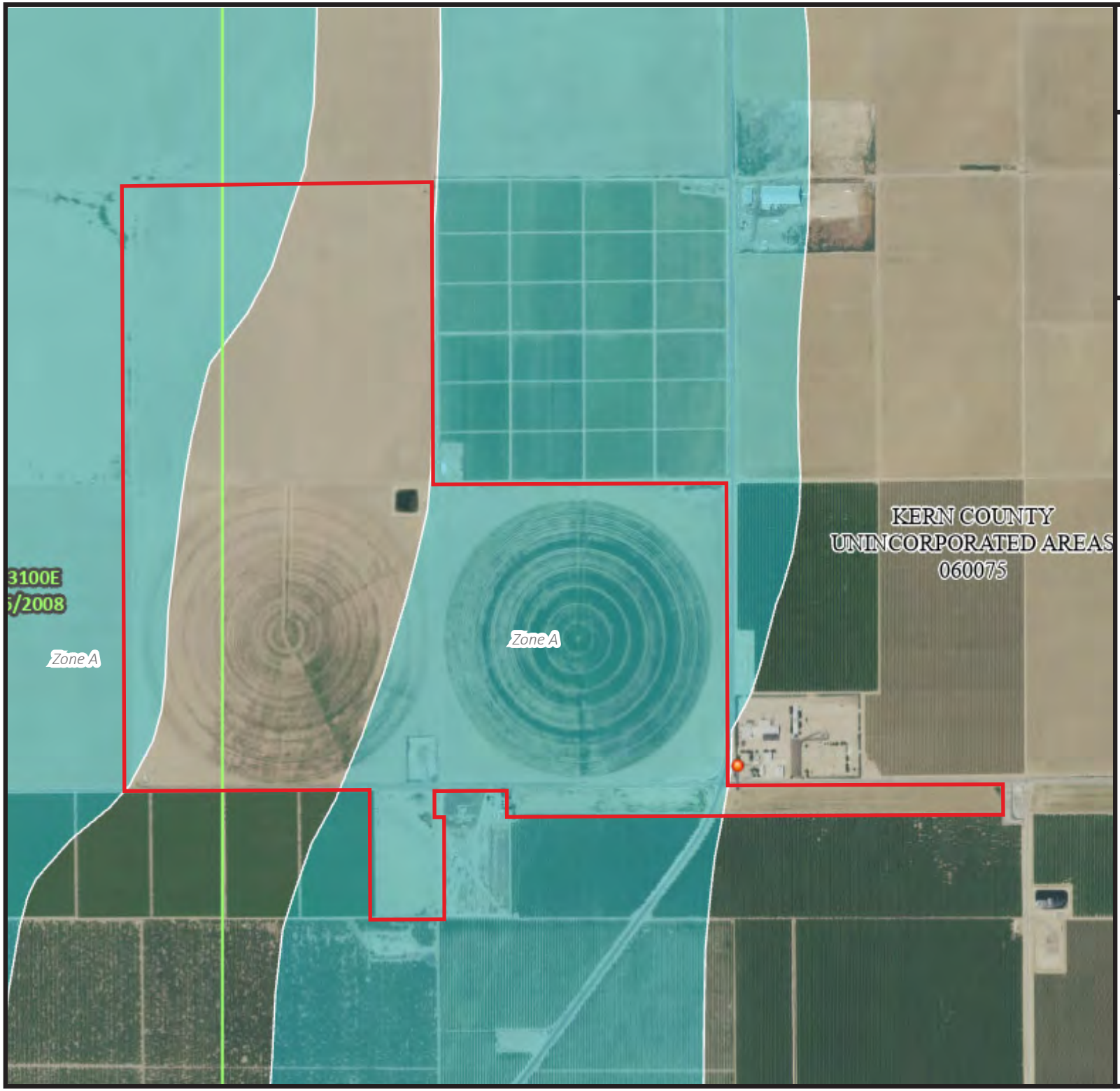
Jasmine Solar Project

CUP No. 30, Map No. 160

WALUC 22-01

Figure 3-8: FEMA Floodplain Map

Jasmine Solar Project by SF Jasmine, LLC



SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

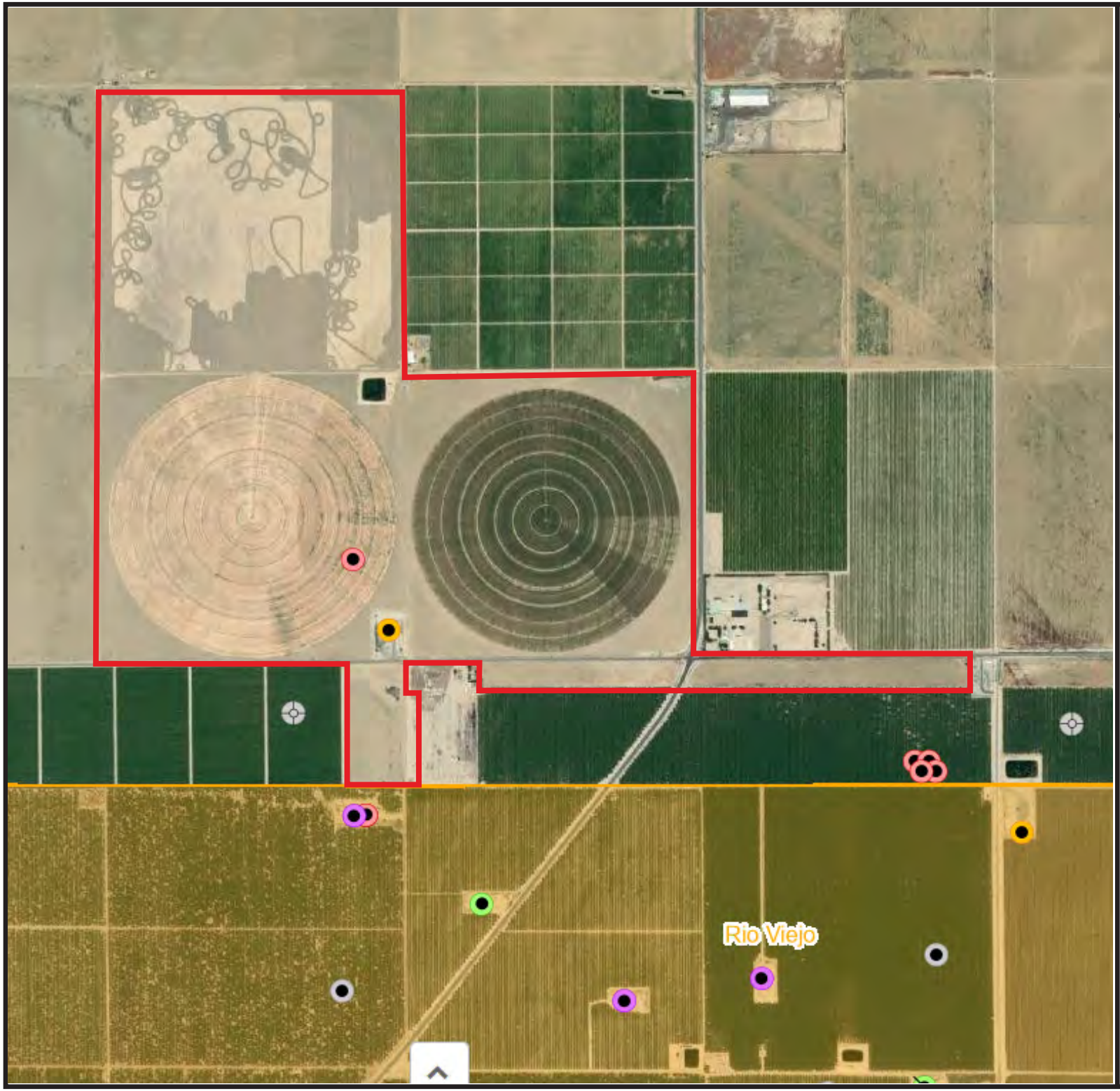
MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

Project Site

APN: 295-131-12
APN: 295-132-15
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Jasmine Solar Project
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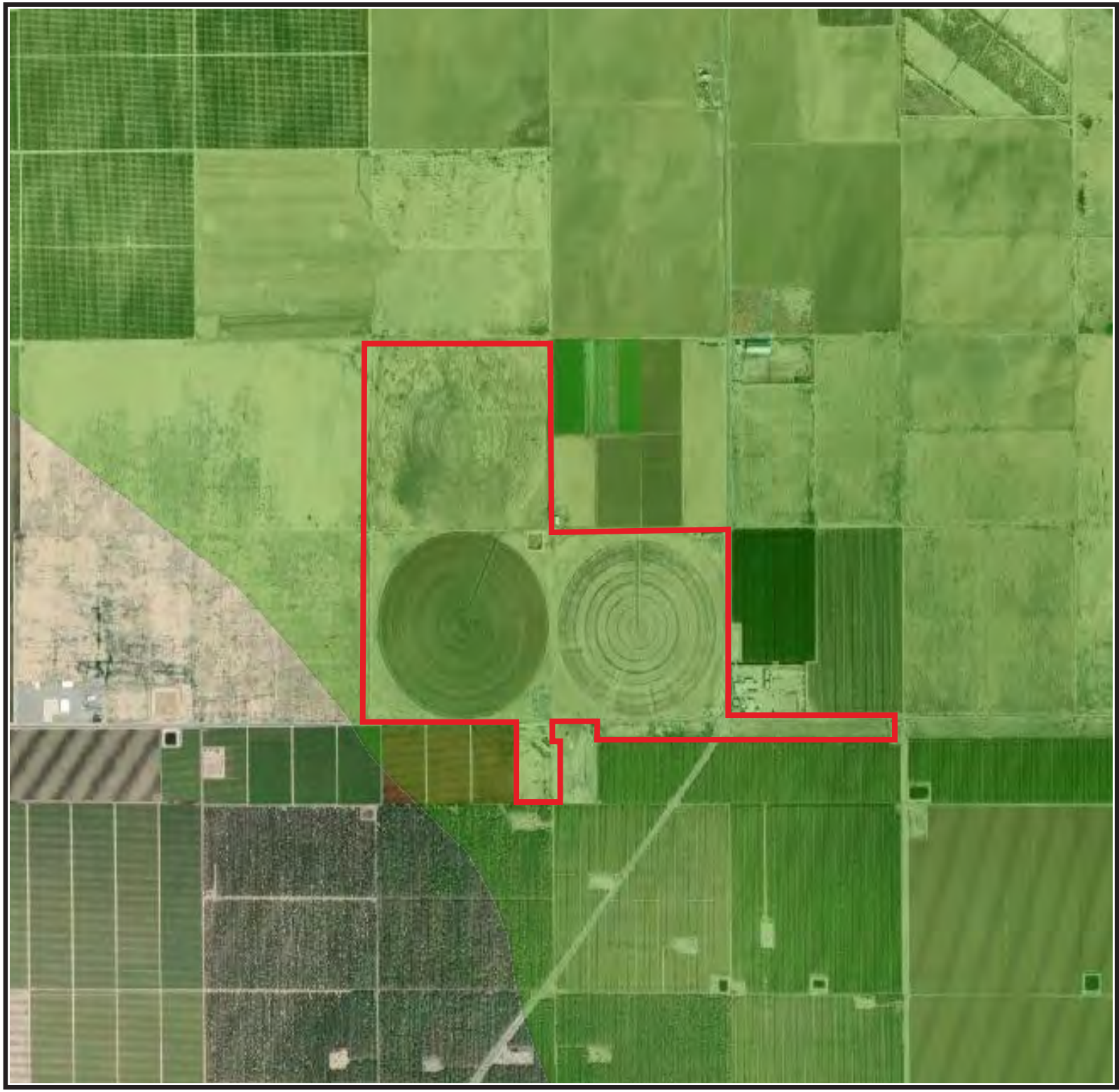
Figure 3-9: Oil and Gas Well Locations

Jasmine Solar Project by SF Jasmine, LLC

- Project Site
- Active Oil and Gas
- Permitted Oil and Gas
- Plugged Dry Hole
- Canceled Oil and Gas
- Plugged Oil and Gas
- Idle Oil and Gas
- Oil and Gas Field

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Figure 3-10: Mineral Resource Zone Map

Jasmine Solar Facility by SF Jasmine, LLC

Project Site

Mineral Resource Zones for Kern County
Displaying: **MRZ**

- MRZ-1 (Little Likelihood for the Presence of Significant Mineral Resources)
- MRZ-2 (Significant Mineral Deposits Present)

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

3.4.1 Surrounding Land Uses

Table 3-3: *Existing Project Site and Surrounding Properties, Existing Land Use, General Plan Map Code Designations, and Zoning*, identifies the existing land use, the existing general plan land use designation, and the existing zoning for the project site. Additionally, such conditions are described for adjacent lands to the north, east, south, and west of the project site.

TABLE 3-3: EXISTING PROJECT SITE AND SURROUNDING PROPERTIES, EXISTING LAND USE, GENERAL PLAN MAP CODE DESIGNATIONS, AND ZONING

Location	Existing Land Use	Existing General Plan Map Code Designations	Existing Zoning
Project Site	**Agricultural**	**8.1 (Intensive Agriculture); 8.1/ 2.3 (Intensive Agriculture / Shallow Ground Water) 8.1/ 2.5 (Intensive Agriculture / Flood Hazard)**	**A (Exclusive Agriculture) A-1 (Limited Agriculture)**
North	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/2.5 (Intensive Agriculture/Flood Hazard) 8.3 (Extensive Agriculture) 8.5/2.5 (Resource Management/Flood Hazard)	A (Exclusive Agriculture)
South	Agricultural, Vacant Land	8.4/2.3 (Mineral and Petroleum/Shallow Ground Water) 8.1 (Intensive Agriculture) 8.1/2.3 (Intensive Agriculture/Shallow Ground Water)	A (Exclusive Agriculture)
East	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/2.3 (Intensive Agriculture/Shallow Ground Water) 8.1/2.5 (Intensive Agriculture/Flood Hazard)	A (Exclusive Agriculture) A-1 (Limited Agriculture) C-2 PD (General Commercial, Precise Development Combining) A FPS (Exclusive Agriculture, Floodplain Secondary Combining)
West	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/ 2.3 (Intensive Agriculture/Shallow Ground Water)	A (Exclusive Agriculture)

As discussed above, the surrounding land uses are similar to those of the project site and generally includes undeveloped lands, scattered rural residential and commercial and industrial uses, agricultural lands, oil and gas wells and leases, access roadways, and a series of canals, ponds, and aqueducts used to conduct water to the agricultural fields. The PG&E Lakeview substation is approximately 0.5 miles east of the project site.

Regarding residential uses, the closest resident (closest sensitive receptors) to the project site is the residence approximately 175 feet south of the project site on the southerly side of Copus Road. Recreational resources in the project vicinity are sparse and the nearest park is Buena Vista Aquatic Recreation Area, approximately 10.5 miles northwest of the project site. The closest school to the site is Lakeside Elementary, located approximately 8 miles north of the project site.

Law enforcement and public safety services would be provided by the Kern County Sheriff's Department. The nearest substation is the Lamont Substation, located at 12022 Main Street (KCSO, 2022) located

approximately 12 miles to the northeast. Fire protection and emergency medical services would be provided by the Kern County Fire Department, with the closest station being Fire Station #53, located at 9443 Taft Hwy, also approximately 12 miles but to the north, and the nearest major medical facility is the Bakersfield and Mercy Hospital located at Truxtun Ave in Bakersfield for medical care and emergency services.

The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP) (County of Kern, 2012). The nearest public airport is the Bakersfield Municipal Airport, located approximately 17 miles to the northeast.

3.5 Land Use and Zoning

Kern County General Plan

The project site is located within unincorporated Kern County and within the administrative boundaries of the Kern County General Plan. Within the Kern County General Plan, the project site is designated Map Code(s) 8.1 (Intensive Ag – Minimum 20 Acre), 8.1/2.3 (Intensive Management - Minimum 20 Acre /Shallow Ground Water), and 8.1/2.5 (Intensive Ag – Minimum 20 Acre/Flood Hazard). The existing Kern County General Plan designations are shown in **Figure 3-4**. The existing land uses of the project and its surroundings are listed in **Table 3-3**, above. An amendment to the County's General Plan Land Use Element would not be required as part of project implementation because the 8.1 (Intensive Agriculture) base land use designation is compatible with the project site's A (Exclusive Agriculture) zone classification.

Kern County Zoning Ordinance

The project site has a zone classification of A (Exclusive Agriculture). The existing Zoning Classifications are shown in **Figure 3-5**. According to the Kern County Zoning Ordinance Sections 19.12.030 G and 19.14.030 G, solar energy electrical generators, when not accessory to a permitted or conditionally permitted use, are permitted within the A Zone District, respectively, subject to the approval of a Conditional Use Permit. The existing land uses of the project and its surroundings are listed above in **Table 3-3**, above.

Williamson Act Land Use Contract

The project site is located within the boundaries of Agricultural Preserve No. 12 and is currently subject to a Williamson Act Land Use Contract. A utility scale solar facility is not listed as a compatible use in the Williamson Act Standard Uniform Rules, as adopted by the Kern County Board of Supervisors; therefore, the project would not be consistent with the existing Williamson Act contracts, and the cancellation of applicable contracts is required. Petitions have been filed for the notice non-renewal and cancellation of each Williamson Act contract within the project boundaries. See **Table 3-2:** *Williamson Act Land Use Contracts* and **Figure 3-7**, for details.

3.6 Proposed Project

The proposed project would include the development of a solar facility and associated infrastructure with the capacity to generate up to 70 MW of electricity through solar power derived from ither fixed-tilt or

tracker technology and 17 MW or 68 MWh, of BESS on approximately 527 acres of privately-owned land in the southern portion of Kern County. The proposed project consists of the following requests:

- Conditional Use Permit (CUP 30, Map No. 160) to allow for the construction and operation of a 70 MW utility-scale solar facility pursuant to Chapter 19.12.030.G of Kern County Zoning Ordinance.
- Cancellation of approximately 528 acres of Williamson Act Contract to be processed for Assessor's Parcel Numbers (APNs) 295-131-12 and 295-132-15.

The project is intended to generate solar power to assist the State in complying with the Renewables Portfolio Standard under Senate Bill 350, which requires that by December 31, 2030, 50 percent of all electricity sold in the state shall be generated from renewable energy sources. The power generated on the project site would be sold to California investor-owned utilities, municipalities, community choice aggregators, or other purchasers in furtherance of the goals of the California Renewable Energy Portfolio Standard.

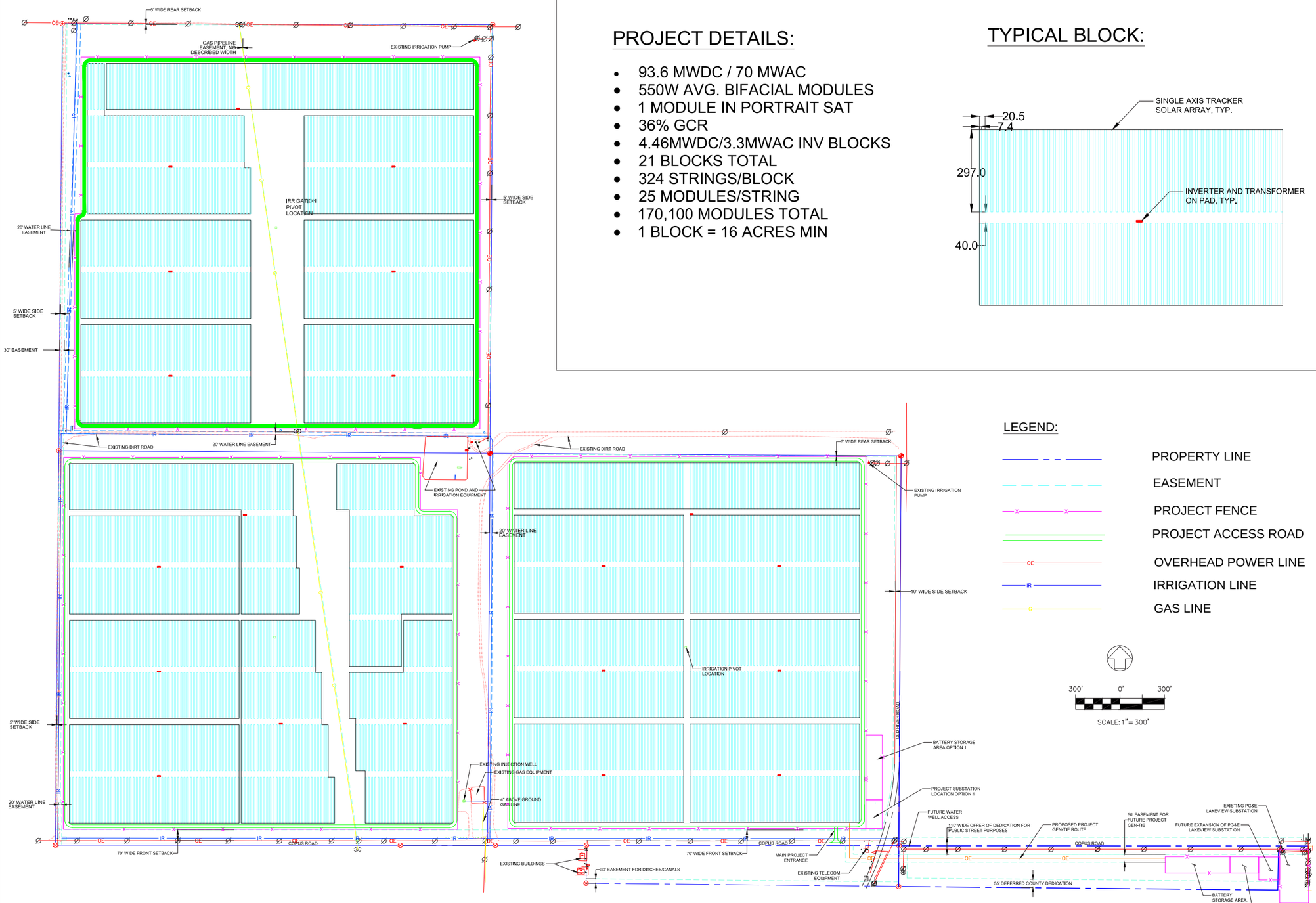
The project is expected to operate for approximately 35 years, although a longer project life expectancy could be realized by replacing and repowering certain project components. At the end of the project's operational term, the project proponent would determine whether the project site should be decommissioned and deconstructed or if it would seek an extension of its CUP. If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time.

3.7 Project Characteristics

3.7.1 Project Facilities

As discussed above, the project site consists of two parcels covering approximately 527 acres. The proposed layout is shown in **Figure 3-11:** *Proposed Site Plan*. The project facilities would include the following components, each of which are described in greater detail thereafter:

- Solar PV modules and trackers
- Inverter and medium voltage transformers
- Electrical Collection and Distribution System
- Project Substation
- Operations and Maintenance Facility
- Telecommunications
- Meteorological Data Collection System
- Battery Storage Component
- Lighting
- Security
- Signage
- The Generation-Tie
- Access Roads
- Lakeview Substation



PROJECT DETAILS:

- 93.6 MWDC / 70 MWAC
- 550W AVG. BIFACIAL MODULES
- 1 MODULE IN PORTRAIT SAT
- 36% GCR
- 4.46MWDC/3.3MWAC INV BLOCKS
- 21 BLOCKS TOTAL
- 324 STRINGS/BLOCK
- 25 MODULES/STRING
- 170,100 MODULES TOTAL
- 1 BLOCK = 16 ACRES MIN

TYPICAL BLOCK:

LEGEND:

- PROPERTY LINE
- EASEMENT
- PROJECT FENCE
- PROJECT ACCESS ROAD
- OVERHEAD POWER LINE
- IRRIGATION LINE
- GAS LINE

300' 0' 300'

SCALE: 1"= 300'

Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 3-11: Proposed Site Plan

Jasmine Solar Project by SF Jasmine, LLC

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

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Photovoltaic (PV) Modules and Trackers

The proposed facility would utilize PV modules and trackers. Trackers use small motors to adjust the PV modules panel orientation to optimize power production by angling the panels toward the sun throughout the day as well as adjusting for seasonal variations. The tracking systems and PV modules are supported by metal posts (piles) that are driven into the ground with a pile driving machine. The location of the piles is determined using a precise survey and then laid out to ensuring proper positioning of the tracker assembly parts. A pile cap is affixed to the top of each pile is and the bearing assembly that supports and allows proper movement/orientation of the torque tube assembly. The balance of the assembly consists of a single-axis tracking systems driven by a mechanical drive arm and tube assembly that adjusts the orientation of the attached PV panel. The pile support will be adequate to support the weight of the assembly and strong enough to manage the system through its daily range of motions.

The panels are typically constructed of blue or black glass covering the internal PV components. A plastic binding material and frame provides structural rigidity and give support to the panels. The PV panels would be self-contained, durably constructed units designed to withstand exposure to the elements for a period of 35 years or longer. The solar modules deployed for this proposed facility would be certified to comply with industry standard quality testing and would be electrically connected to the grid through the on-site substation, gen-tie line, to the PG&E Lakeview substation. All improvement would be made in accordance with local and state codes and regulations. The final panel selection would be determined at the detailed project-engineering phase and per market availability.

Multiple trackers would be deployed in proximity to the on-site power conditioning stations (PCS) where the direct current (DC) produced by the panels is converted to alternating current (AC) and transferred to the on-site substation and eventual delivery to the electrical grid via the PG&E Lakeview substation. The number of trackers connected to each of the PCS would vary with panel output relative to inverter size and desired output from the PCS.

The proposed facility's panels would be organized in rows in a uniform grid pattern, with each row separated by between 10 to 20 feet (from post to post). Another mechanical feature of the proposed project's tracker system includes a wire management system that would provide support and containment of the DC wires used to collect the output of the panels and move output to the PCS. The panel and tracker features allow for a natural light regime between and under the panels, supporting the co-management of solar energy generation, agriculture, and wildlife.

Inverter and Medium Voltage Transformers

The proposed facility inverters, transformers, and other electrical equipment comprise each PCS. The footprint of each PCS, which is generally mounted on a concrete pad or piles, would be approximately 12 feet by 30 feet. The proposed project would require approximately 40 PCS, depending on final design details. The inverter converts the DC electricity to AC electricity, which then flows to a transformer where it is stepped up to the appropriate collection level voltage (34.5-kV). The project would use Power Electronic HEM Central inverters or equivalent and one medium voltage transformers per inverter. Each inverter and transformer would be installed as per manufacturer's requirements.

Electrical Collection and Distribution System

The DC output of multiple rows of PV modules connected in series would be collected through one or more combiner boxes and associated electrical wiring located throughout the project site. The power would be delivered via an underground cable network to the inverters in the electrical equipment enclosures at the PCS, described above. Multiple transformers electrically connected in series would deliver AC power to the on-site project substation.

Project Substation

The project substation is proposed to be in the southeast corner of APN 295-131-12. The project Substation would include transformers, breakers, switches, meters, and related equipment. Interconnection equipment, including the control house, would be installed aboveground and underground within the footprint of the substation. The overall footprint of the project Substation is anticipated to be approximately 200 by 200 feet and approximately 100 feet in height at its apex. The project Substation would include an emergency generator for use in the event that the regional transmission system fails; this emergency generator would provide emergency power until the regional transmission system restores operations. The project Substation would also contain a control house building approximately 15 by 40 feet with an overall height of less than 20 feet. The project substation would be surrounded by a seven-foot barbed wire chain-link fence and would comply with electrical codes.

The project Substation must have access to communication systems in the area to comply with Federal Energy Regulatory Commission/California Independent System Operator/Utility monitoring and control requirements. Compliance may be accomplished by underground lines, aboveground lines, or wireless communication.

Operations and Maintenance Facility

The proposed project would include an operations and maintenance (O&M) building, which is assumed to include an office space, repair and storage area, control room, and restroom facilities. O&M building would have associated on-site parking (unpaved) and may be co-located with the substation. Roads, driveways, and parking lot entrances would be constructed in accordance with County standards and California Accessibility Regulations. Based on the size of similar buildings at other utility-scale solar installations, the O&M building is estimated to cover approximately 2,000 square feet.

Telecommunications

The project also include installation of redundant telecommunication connections. The primary telecommunication line would consist of fiber optic cable and/or copper telecommunication line, installed above and/or below ground, attached to either existing utility lines located outside of the project or within the new gen-tie. The proposed facility telecommunication route would use a combination of existing poles, new poles, and/or below ground installations between the point of connection to existing telecommunications infrastructure and the Lakeview Substation. Lines would be placed within utility franchise easements to the extent feasible. The point of interconnection to the existing telecommunication facilities would be within a small telecommunications shelter. The interconnection utility service would consist of fiber stranded cables (Dielectric Self Supporting and Optical Ground Wire) coming into the Substations as part of the standard substation design criteria. Below ground installations are usually installed 24 to 48 inches below grade. Above ground lines are typically placed below existing distribution

lines or on new, adjacent wooden poles. Telecommunication lines may also be attached to the new gen-tie line. A secondary (backup) internet connection would be provided using a similar method for redundant paths. The site will also have internal Facility telecommunications expected to be provided by the local provider in the area.

Meteorological Data Collection System

The project would include up to four new meteorological data collection systems. The systems, which would be mounted at various locations throughout the proposed facility, would include a variety of instruments to collect meteorological data. Meteorological data would be collected at the maximum height of the solar panels or approximately 15 feet above the ground.

Battery Energy Storage System

The project would include a Battery Energy Storage System (BESS), which would be located immediately adjacent to the proposed substation. The BESS would provide approximately 17 MW of energy storage, or 68 MWh of energy storage capacity, to complement the 70 MW of energy generation from the PV solar array. The BESS system would consist of commercially available lithium-ion batteries housed in enclosures. The enclosures would be approximately 8 feet wide by 40 feet long by 9.5 feet high (2.4 meters wide by 12 meters long by 2.9 meters high). The battery storage component would have a footprint of approximately 1 acre and would be immediately adjacent to the project's Substation. Site preparation required for the battery storage enclosures requires leveling the area for a flat concrete foundation.

The proposed lithium-ion batteries would principally comply with the UL 9450 standard for outdoor energy storage enclosures. The project will be subject to compliance with existing federal, state, and local regulations for health and safety, including the 2019 California Fire Code and the BESS would be designed and installed to comply with the applicable codes, standards, and regulations for the siting, construction, and operation of such system using stationary lithium-ion batteries.

Conformance the listed codes, standards, and regulation also would help meet and include current best practices for fire safety. The BESS would operate within the demands of a safety system as required by NFPA 855 and tested under the UL 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems. One such measure would be to house the BESS with an enclosure wall designed to contain the fire and prevent propagation.

Other measures to reduce risk of exposure to fire or other hazards associated with the BESS and project facility overall would be the implementation of an Emergency Response Plan (ERP). The ERP is used to train local emergency response personnel during development and operations of the proposed Facility. The plan will be completed in accordance with existing state regulations (HSC§ 25504(b); 19 CCR §2731; 22 CCR §66262.34(a)(4)). The contents of the ERP would comply with existing state regulations and include the following components and involve training for the local fire responders:

- Developed in consultation with Fire Dept. and BESS Supplier
- Defined roles and responsibilities
- Potential emergency scenarios including fire
- On-site training of fire personnel and on-site project staff
- Training for local first responders

Lighting

The facility lighting would enable ongoing maintenance and security. Lighting at the entry gates, project substation, inverter pads, and O&M Building would be low-level to enable adequate visibility while helping ensure security. All lighting, as appropriate, including the proposed lighting outside of the substation would be downward facing shielded or otherwise modified to minimize emission of light or glare beyond the property line, or upward into the sky.

Security

Security of the project site would be maintained through installation of a six-foot tall wire fence topped by one foot-tall three-strands of barbed wire. Fencing would be "wildlife friendly" with a five to seven-inch diagonal grid width at the lower portion to allow for the safe passage of small and medium sized mammals. The fence would include slats above the bottom diagonal grid pattern or similar visual screening materials along the southwestern segment. A security company would be used for security purposes during construction. Should the security system detect the presence of unauthorized personnel, the plant manager or surrogate would verify appropriate response and appropriate local authorities would be notified, if necessary. A Knox-Box containing keys for the proposed facility would be installed to permit emergency access to the site.

Signage

Proposed facility signage installed on the fence in the vicinity of the main entry gates would identify the project owner, operator, and emergency contacts and provide safety and security information. Small-scale signage would be posted at the main entry gates and intermittently along the perimeter fencing on exterior parcel boundaries, to indicate "No Trespassing" and "Private Property" for security and safety purposes. All signage would conform to Kern County signage requirements.

The Generation-Tie Line

The 70 kV gen-tie line would connect from the on-site project Substation near the BESS in the southwesterly portion of the solar facility to the existing PG&E Lakeview Substation. The gen-tie is proposed to extend approximately 0.50 miles along the southerly alignment of Copus Road east to connect to the PG&E Lakeview Substation. The gen-tie right-of way would be from 25- to 75-feet-wide and approximately 25 new poles would be installed to string the gen-tie line. The new poles would be constructed of either steel or wood at a maximum of 125 feet tall.

Access

The proposed facility would be primarily accessed off Copus Road and Old River Road and would include minor improvements to the existing paved roads that would connect to paved driveways and then to the interior gravel lines access roads. The access driveway from both Copus Road or Old River Road would include construction of turn pockets for exit and entry to facilitate the delivery of equipment and personnel to the proposed project during construction and operations. The turn pockets would be constructed with 6 to 8 inches of aggregate base course to be designed according to California Department of Transportation (Caltrans) specifications, as needed.

The Lakeview Substation is accessed via Copus Road, which also would be used to adjacent to accessed the area needed to install the gen-tie corridor and modifications to the substation. Interior access within the

solar array area would use approximately 20-foot-wide interior and perimeter gravel roads that would be used for maintenance and security. It should be noted that the access points and interior driveways would be constructed in accordance with Kern County and California Department of Forestry and Fire Protection (CalFire) requirements and maintained to facilitate on-site circulation for emergency vehicles during all weather conditions.

Lakeview Substation

The existing Lakeview Substation, operated by PG&E, would require modifications that would occupy approximately 0.9 acres adjacent to the eastern side of its existing footprint. The modifications are needed to accommodate improvements for the gen-tie line connection to the existing electrical equipment. Additional electrical equipment, including Direct Transfer Trip (DTT) equipment, Supervisory Control Data Acquisition and telemetry equipment, and breaker and control switching equipment, would be placed within the existing fenced area at the Lakeview Substation. Further discussion of the Lakeview Substation connections and modifications are included below in Section 4.7.5.

3.7.2 Construction Activities

The construction period for the proposed project from site preparation through construction and testing is expected to commence in 2024 and would extend for approximately 12 months.

Construction of the proposed project would include the following activities:

- Construction Schedule and Personnel Requirements
- Solar Facility Access
- Parking and Traffic
- Construction Safety
- Electricity
- Water
- Site Preparation and Grading Activities
- Dust Control
- Diesel Powered Equipment
- Storm Water Protection
- Solid Waste
- Commissioning and Energizing

Construction Schedule and Personnel Requirements

Construction and testing of the proposed project would take approximately 12 months to complete and is anticipated to begin in 2024. The project elements would be completed either in phases or concurrently over the construction period. Construction crews would typically work five 8-hour days per week. Saturday, Sunday, evening, and night work may also be required due to the scheduling of system outages and construction schedules. During non-peak construction, approximately 60 workers would be on-site daily. The peak construction workforce is anticipated to be 550 workers, depending on scheduling constraints.

Solar Facility Access

Access to the proposed Facility would be off of Copus Road and Old River Road adjacent to the project site. Installation of the Facility may include minor improvements to the existing paved roads and driveways.

Copus Road and Old River Road, are two-lane, fully surfaced regional transportation route. The access driveway from either Copus Road or Old River Road would include construction of turn pockets for exit and entry to facilitate the delivery of equipment and personnel to the proposed Facility during construction and operations. The turn pockets would be constructed with 6 to 8 inches of aggregate base course to be designed according to California Department of Transportation (Caltrans) specifications, as needed.

Interior construction access within the solar array area would be from approximately 20-foot-wide access and maintenance roads and perimeter roads. The access and interior driveways would be constructed in accordance with Kern County requirements and maintained to facilitate on-site circulation for emergency vehicles during all weather conditions.

Parking and Traffic

During construction, employees would be encouraged to carpool, and park within the project boundary. The project would require the temporary construction of an approximately 1.5 acre all weather parking lot, temporary office facilities, and equipment staging area. This area could be expanded, if needed, within the project footprint and areas already proposed for disturbance to accommodate increased worker needs.

During construction, the number of workers on the site would vary daily. During non-peak construction approximately 60 workers would be on-site daily, while at the peak of construction, up to 550 workers would be on-site on a given day. In addition, there would be an estimated eight round trips per day during non-peak construction required to deliver materials and equipment to the project site; up to 25 round trips per day would be required during peak construction. Water trucks would travel to and from the site up to six times a day during non-peak construction and up to 12 times a day during peak construction. Water trucks would be used for dust control and primarily during grading activities. Water truck use would continue intermittently during site operations for maintenance and panel washing.

Prior to initiation of construction activities that may affect area traffic (e.g., equipment and supply delivery necessitating lane closures and trenching), the project Applicant would consult Kern County and would implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements. The Applicant would implement the following standard traffic measures during construction of all projects:

- Construction traffic does not block emergency equipment routes.
- Construction activities are designed to minimize work on, and use of, local streets.
- Construction complies with San Joaquin Valley Air Pollution Control District standards for unpaved driveways, which include a requirement to keep vehicle speeds below 15 miles per hour and to have fewer than 150 trips per day per unpaved road.

Construction Safety

The project would implement measures for worker safety during construction in accordance with California Division of Occupational Safety and Health regulations and guidance and other best management practices.

For example, prior to initiation of construction activities, workers would be trained in emergency procedures, fire prevention, and location and proper use of emergency equipment. The training identifies:

- Contact numbers for various local emergency response agencies, including fire, police, and medical services.
- Communication procedures to report potential health hazards and concerns.
- Procedures to reduce the potential for igniting combustible materials by preventing electrical hazards, reducing the use of flammable materials, and reducing smoking on-site during construction and maintenance procedures.
- Project personnel would be directed to park away from dry vegetation; to equip vehicles with fire extinguishers; and to park heavy equipment over mineral soil, asphalt, or concrete at the end of each workday.
- Workers would also be directed not to smoke except in designated areas.
- How to use and maintain fire extinguishers, shovels, and water to extinguish small fires.

In addition, the project would adhere to any Kern County Improvement Standards to ensure accessibility and ground clearance of emergency vehicles (i.e., fire engines) and would make fire suppression equipment (i.e., fire extinguishers) available at all times. As a standard feature of all of the Applicant's projects, heavy equipment would also be required to include mechanisms for fire suppression, including spark arresters or turbocharging (which eliminates sparks in exhaust) and fire extinguishers.

Electricity

The temporary office and construction facilities would obtain construction electricity from a temporary drop offline from the local electrical distribution system. Up to ten portable electrical generators that meet local and state emission controls would be used throughout the proposed project during construction and operation for electrical needs away from the temporary construction facilities.

Water

The proposed project would obtain water for construction from either existing wells or purchase water from a local provider. The water would be trucked and stored on-site to be primarily used for dust suppression, soil compaction, concrete hydration and other miscellaneous activities requiring non-potable water during construction. The project proponent has identified the need for less than approximately 150 acre-feet of water during construction, primarily for dust-suppression, soil compaction, concrete hydration purposes, etc. Potable water for drinking and similar needs during construction would be trucked in from off-site (e.g., bottled water).

Site Preparation and Grading Activities

The proposed project site is flat and nearly level and would require only minimal grading to allow for installation of the PV panels. Minimal grading is expected for the combined area for the inverter pad, substation, driveways, tracker installation, and other improvements. The access driveways would be constructed by placing two to four inches of decomposed granite or comparable material directly on the existing soil. Soil compaction, soil strengthening agents, or geo fabric may also be used for access driveways to help present soil erosion and manage dust. Some of the area needed for inverter pads, substation, control rooms may be compacted to enable pouring of foundations or to create level areas capable of supporting the equipment.

Dust Control

The project would implement standard fugitive dust control measures and incorporate those measures into the construction contracts for all contractors and the parts of the project they are responsible for. The dust control measures would comply with the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts and include but not be limited to:

- Watering active construction sites with the frequency of watering based on the type of operation, soil, and wind exposure.
- Stabilizing dust emissions at disturbed areas, including storage piles that are not actively utilized for construction purposes, using water or other approved substances.
- Prohibiting grading activities during periods of high wind (over 20 miles per hour).
- Limiting vehicle speed on-site to minimizes dust emissions on unpaved driveways (15 miles per hour).
- Covering trucks hauling dirt, sand, or loose materials.
- Posting a publicly visible sign with the telephone number and person to contact regarding dust complaints. The contact would respond and take corrective actions within 48 hours. The phone number of the San Joaquin Valley Air Pollution Control District must also be visible to ensure compliance with rules regarding nuisance and fugitive dust emissions.

Diesel-Powered Equipment

In addition to standard dust control features, the project proponent would implement standard measures to reduce tailpipe emissions from diesel-powered construction equipment in accordance with SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts. This requirement would be incorporated into the construction contracts for all contractors and the portions of the project they are working on.

Storm Water Protection

Because construction of the project would disturb greater than one acre of surface area, the project would be required to obtain coverage under the State Water Resources Control Board (SWRCB) Construction General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (2012-0006-DWQ). As a standard requirement for enrolling under this permit, a Storm Water Pollution Prevention Plan (SWPPP) that details project information; monitoring and reporting procedures; and best management practices (BMPs), such as dewatering procedures, storm water runoff quality control measures, and concrete waste management, as necessary would be prepared for the project. The SWPPP has not yet been prepared but would be designed based on final engineering plans and require approval from the County prior to project approval and implementation. The proposed project would submit a Notice of Intent to the State Board to initiate coverage under the Construction General Permit.

Solid Waste

A contract would be executed with a local waste hauling company to ensure removal of landfill material from the site. the project would reduce landfill waste by developing a waste recycling program. Waste containers would be spread over work areas making it easy for workers to utilize and would include separate containers for trash and recyclable materials. Workers also would be trained to make regular sweeps to ensure the worksite is clean and safe.

Commissioning and Energizing

Before any solar field components can be commissioned and tested, they must have back-feed power from the high voltage system. Final construction phasing would be determined during project financing but, for the purposes of this CEQA analysis, it is assumed that all construction phases may occur simultaneously.

3.7.3 Operation and Maintenance Activities

Once the proposed project is constructed, maintenance would generally be limited to the following:

- Cleaning of PV panels
- Monitoring electricity generation
- Providing site security
- Facility maintenance – replacing or repairing inverters, wiring, and PV modules

The project is anticipated to be operational and productive over a period of 35 years. The project would operate seven days a week, with daily monitoring and maintenance activities, both planned and unplanned, taking place during daytime and nighttime hours. Personnel would largely work in the O&M building monitoring the system's performance and performing system production forecasting. Personnel would access equipment within the proposed project for operational adjustments or minor repairs. Regular access throughout the proposed project throughout the day and night is expected, as is foot traffic on and off of roads. Personnel would use light to medium duty trucks and all-terrain vehicles for traversing the site along fire access roads, including drainage crossings. Security monitoring would occur on-site 24 hours a day.

Planned and unplanned maintenance would occur daily and/or as needed during daytime and nighttime hours, throughout the lifetime of the project. Planned maintenance activities would include routine inspection, repair, restoration, replacement or repair, washing solar panels, security surveys and actions, and modification work on project equipment and facilities. Unplanned maintenance activities could also become necessary due to unexpected damage to or failure of equipment or facilities.

Forced outage situations, where the project has unexpectedly stopped normal operations, could occur during the O&M period requiring immediate action. Forced outages are characterized by an unexpected failure of project equipment or facilities, which requires immediate inspection, repair, restoration, replacement and/or modification. Forced outage conditions are characterized as more urgent or emergency-type work where potential for harm to persons, property or the environment exists and requires expedited action to remedy the situation to avoid such risks.

During operations of the project, inspections, testing, maintenance, and repairs would be performed on a continual basis, with most activities occurring once or twice per year for each tracker or major piece of equipment. Specific activities for inspection and preventive maintenance include the following:

- System testing to ensure peak performance.
- Inspecting array mechanical components, PV mounting systems, and PV modules.
- Inspecting AC and DC electrical components, including conductors, conduit, connectors, fused and unfused disconnects, and switchgear.
- Inspecting battery components.
- Inspecting tracker control enclosures and components.
- Inspecting inverters and cleaning of fans and enclosures.

- Lubrication of worm gear annually.
- Testing DC array circuits.
- Inspecting electrical terminations and mechanical connections for proper torque throughout system.
- Meter reading.

Routine system maintenance includes tightening of loose electrical connections and, tightening ground connections, replacement of defective modules found during testing, other minor maintenance and repair work.

- Corrective maintenance that would periodically occur during operation include:
- Replacement of broken or non-functioning PV panels.
- Tracker troubleshooting and repair.
- DC and AC circuit troubleshooting and repair, including fault situations.
- Monitoring equipment and sensor troubleshooting and repair.
- Major system repairs.
- System troubleshooting and repair in the field and in the O&M building.
- Warranty repairs, retrofits, or replacements.

Maintenance or repair of project panels, equipment, and facilities would occur on an as needed basis when deterioration of parts or damage occurs or retrofitting becomes necessary. Access and fire roads are anticipated to require minimal maintenance or repair due to limited travel and infrequent vehicle use. These roads, however, could require intermittent re-grading, leveling, filling, or culvert repair.

Supporting facilities and structures such as the O&M building, security system, fencing (around the array area and project Substation), and parking areas would likely require occasional corrective maintenance or repair. The electrical transmission facilities including the project Substation, medium voltage overhead lines, and gen-tie may also need corrective repair or corrective maintenance and would be monitored to ensure safe functionality. Other O&M activities include erosion control maintenance, restoration of vegetative cover, vegetation maintenance (e.g., mowing, grazing, and weed control such as herbicide spraying or mechanical removal).

Schedule and Workforce

During the operational phase, the project would employ up to two (2) full-time equivalent (FTE) personnel (or personnel hours totaling 2 FTE positions (i.e., an average of 200 personnel hours per week) who would commute to the site. Additional operational staff of up to two (2) full-time employees could be there at any time when urgent repairs or maintenance are required.

The facility would operate seven days a week, 24 hours a day, generating electricity during normal daylight hours when the solar energy is available. Maintenance activities may occur seven days a week, 24 hours a day to ensure PV panel output when solar energy is available.

Operational Water Usage

Water demand for panel washing, fire suppression and O&M domestic use (lavatories, landscape irrigation, drinking) is expected to be approximately 10.06 acre-feet per year (AFY). The project has annual water demand of approximately 17.58 AFY when amortized over a 32-year period (2 years of construction and 30 years of operations) to account for all water use for construction, operations, and decommissioning.

Water is anticipated to be obtained from on-site wells or delivered via truck from an off-site source(s) within the project vicinity. If water is trucked into the site, it is anticipated that an available local water source would be selected to minimize truck trips/lengths in transporting water to/from the site.

Electrical Supply

Power for plant auxiliaries would be provided by the project's electrical generation or supplied by the local power provider. The proposed project would require power for the O&M facilities, electrical enclosures, tracker motors, associated structures, and for lighting and security.

Fire Suppression and Safety

Combustible vegetation or agricultural products on and around the project site would be actively managed during both the construction and operational phases to minimize fire risk. Although the project site is heavily disturbed and contains little native and thick vegetated areas, combustible materials would be removed through a combination of dirt or gravel firebreaks, grazing, and mowing to further minimize fire risk. These measures would be included to a Vegetation Management Plan that would be implemented during operations and that would guide the use of tools such as grazing and mowing to help manage accumulation of potential fine fuels around project infrastructure. The proposed project would also include fire breaks around the site boundary in the form of compacted dirt or gravel breaks and access driveways subject to Kern County standards.

Agricultural Operations

Agricultural operations would continue within a portion of the property that is outside of the facility fence line. In recent years, the parcels have been used primarily for grazing and farming dry grain crops such as wheat or barley. These lands would continue to be actively farmed with cultivated crops that may include, but are not limited to, winter wheat, barley, cantaloupe, watermelon, beans, orchards, and other row crops. During active farming, weeds would be managed following established agricultural practices.

3.7.4 Project Features and Best Management Practices

The following describes standard project features and best management practices that would be applied during construction and long-term operation of the project to maintain safety and minimize or avoid environmental impacts.

Hazardous Waste and Hazardous Materials Management

The proposed project would have minimal levels of materials on-site that have been defined as hazardous under 40 CFR, Part 261. Materials such as the following would be used during the construction, operation, and long-term maintenance of the proposed project:

- Diesel fuel, gasoline and motor oil– used for electrical equipment
- Mineral oil - to be sealed within the transformers
- Various solvents/detergents – equipment cleaning
- Lead acid-based and/or lithium-ion batteries – used for emergency backup

Hazardous materials and wastes will be managed, used, handled, stored, and transported in accordance with applicable local and State regulations. All hazardous wastes will be maintained at quantities below the threshold requiring a Hazardous Material Management Program (HMMP) (one 55-gallon drum). Though not expected, should any on-site storage of hazardous materials exceed one 55-gallon drum, an HMMP would be prepared and implemented.

Chemical storage tanks (if any) would be designed and installed to meet applicable local and state regulations. Any wastes classified as hazardous such as solvents, degreasing agents, concrete curing compounds, paints, adhesives, chemicals, or chemical containers would be stored (in an approved storage facility/shed/structure) and disposed of as required by local and state regulations. Material quantities of hazardous wastes are not proposed or anticipated to be used.

Non-Hazardous Wastes/Inert Solids

Inert solid wastes resulting from construction activities may include recyclable items such as paper, cardboard, solid concrete and block, metals, wire, glass, type 1-4 plastics, drywall, wood, and lubricating oils. Non-recyclable items would include insulation, other plastics, food waste, vinyl flooring and base, carpeting, paint containers, packing materials, and other construction wastes. A Construction Waste Management Plan would be prepared for review by the County. Consistent with local regulations and the California Green Building Code, the Plan would provide for diversion of a minimum of 50 percent of construction waste from landfills.

Spill Prevention and Containment

Spill prevention and containment for construction and operation of the proposed project would adhere to the Environmental Protection Agency's (EPA) guidance on Spill Prevention Control and Countermeasures (SPCC).

Wastewater/Septic System

As designed the project would not require connection to any septic systems or sewer infrastructure. Instead temporary, portable restroom facilities will be provided during construction, decommissioning and operations. Such restroom facilities would be onsite during the construction phase, and would accommodate the limited number of employees with access to the facility. All employees would have access to the portable toilets and portable hand washing facilities, which would be serviced by truck rather than utilizing septic system(s).

Health and Safety

The project would adhere to all Kern County Improvement Standards to ensure accessibility for emergency vehicles and safe operation during construction on *project operation. The project* would implement measures for worker safety during construction in accordance with California Division of Occupational Safety and Health (CalOSHA) regulations and guidance and other BMPs. The proposed project would have an Emergency Response Plan (ERP), that would address potential emergencies including chemical releases, fires, and injuries. All employees would be provided with communication devices, cell phones, or walkie-talkies, to provide aid in the event of an emergency.

To help ensure safety procedures are following, the project would include safety training for construction workers and operational personnel. This would include both classroom and hands-on training in operating and maintenance procedures, general safety items, and the planned maintenance program. Training would include emergency procedures, fire prevention, and discussion of the location and proper use of emergency equipment. In addition, contact numbers for various local emergency response agencies, including fire, police, and medical services would be provided, and instruction for communication procedures to report potential health hazards and concerns would be a part of the training.

The project also would include training on procedures to preventing electrical hazards that would reduce the potential for igniting combustible materials. Areas where employees can smoke, and parking areas for both personal vehicles and heavy equipment, and for vehicles used for project operations would be on mineral soil, asphalt, or concrete and at a safe distance from dry vegetation. In addition, heavy equipment also would also be equipped with other mechanisms such spark arresters or turbocharging (which eliminates sparks in exhaust). Lastly, all project vehicles would be equipped with fire extinguishers, and training on their maintenance and how to extinguish small fires would be provided

As discussed above, these safety precautions and emergency systems would be implemented as part of, design, construction, operation, and maintenance of the proposed project to ensure safe and reliable operation.

3.7.5 The Lakeview Substation and PG&E Upgrades

Overview

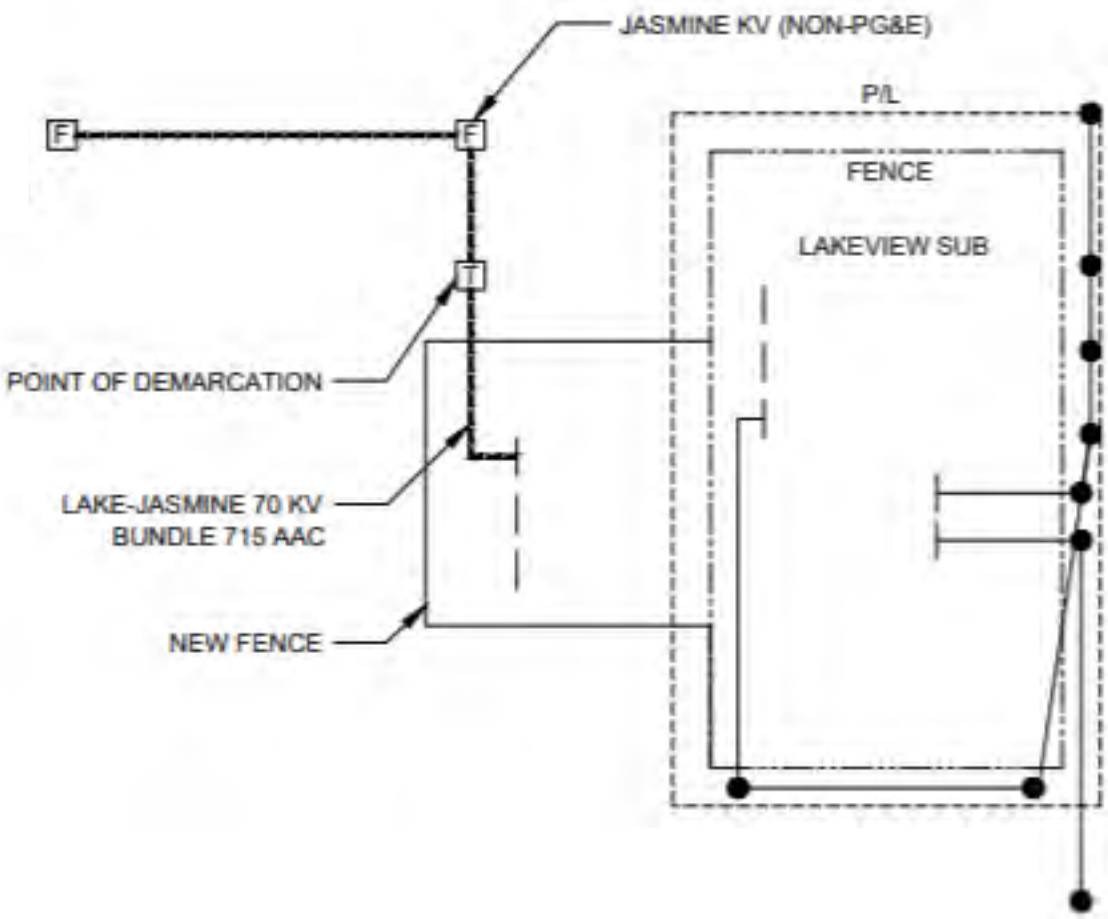
In order to accommodate interconnection of the proposed solar photovoltaic electrical generating project to the California electrical grid, the project includes modifications to the existing Lakeview Substation on approximately 0.9 acres to accommodate a new 70 kV bus terminal. The new bus terminal would connect the proposed customer-owned photovoltaic solar project to the existing transmission system via new generation tie-line. Further description of the network upgrades is provided in the sections below.

Lakeview Substation Project Facilities

PG&E proposes to modify the existing Lakeview Substation that is needed to enable the connection from the gen-tie line. New substation equipment would be constructed adjacent to the existing equipment by extending an existing 70 kV single breaker double bus configuration with three (3) new bay structures, including one for the customer-owned photovoltaic solar project gen tie-line. The additional bay structure would be used as a spare for future equipment. A general arrangement of the existing and future substation is show **Figure 3-12:** *Lakeview Substation General Arrangement*. A profile view of the modified substation area is show in **Figure 3-13:** *Lakeview Substation Profile View*. Limited construction of new power line structures and removal of existing structures will be necessary to optimize the power line routing into the modified substation area, taking into consideration land availability and site access to the pole locations.

Figure 3-12: Lakeview Substation General Arrangement

Jasmine Solar Project by SF Jasmine, LLC



EXISTING LINE
EXISTING LINE TO BE REMOVED
NEW LINE TO BE INSTALLED
EXISTING POLE
E EXISTING POLE TO BE REMOVED
T NEW POLE TO BE INSTALLED
F FUTURE STRUCTURE TO BE INSTALLED BY OWNER

APN: 295-132-15
APN: 295-132-16
Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

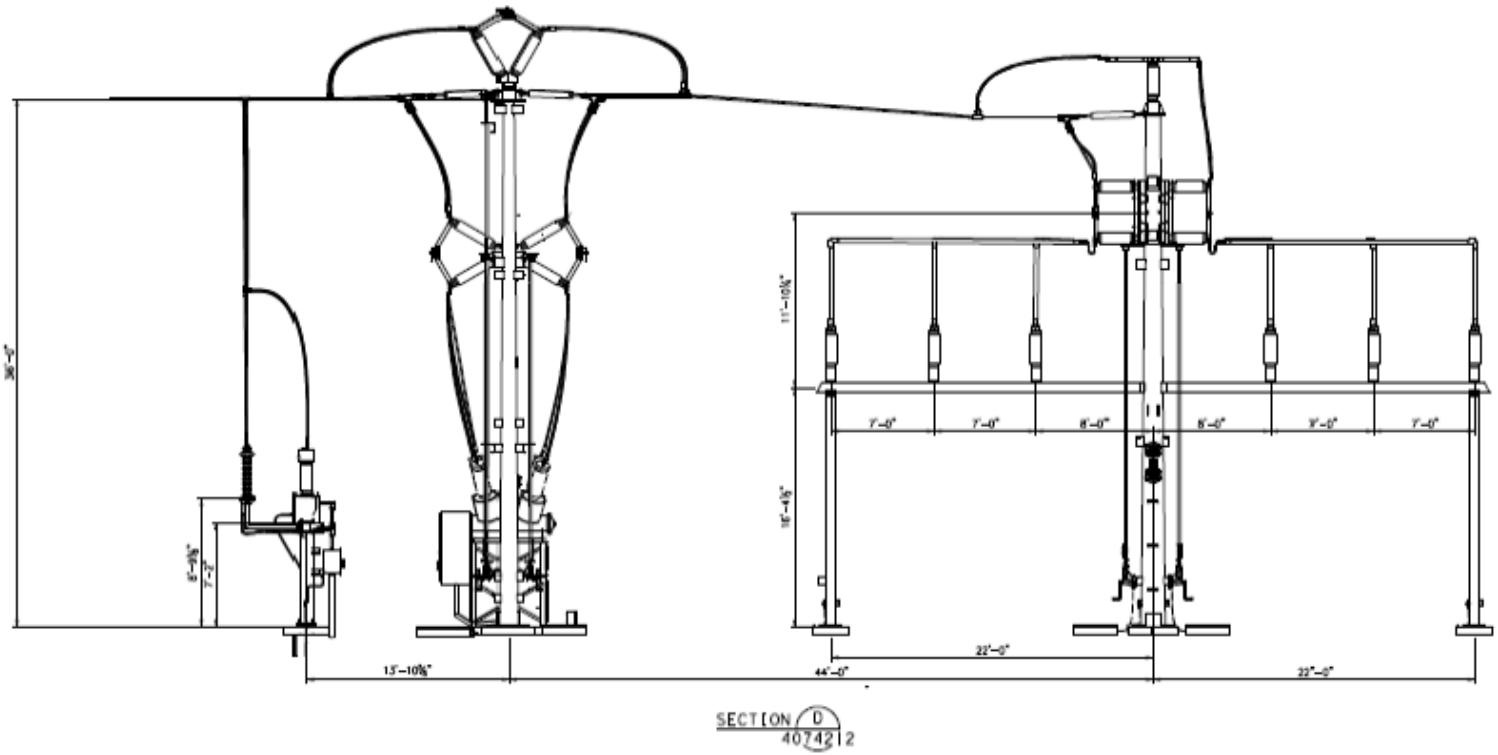


Figure 3-13: Lakeview Substation Profile View

Jasmine Solar Project by SF Jasmine, LLC

APN: 295-132-15
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Modified Lakeview Substation Facilities

Moderate site grading and fill would be required to accommodate the substation facilities and temporary construction work area. PG&E would install new electric equipment at the substation, including new circuit breakers, bus structures, 70 kV disconnect switches, transformers, protective relaying, metering and control equipment, telemetering equipment, an electric grounding system, and underground conduits or trench systems. The modified substation area would be unmanned but with automated features and remote-control capabilities. The general arrangement of the modified substation area is shown in **Figure 3-12**, and a corresponding substation profile view is provided in **Figure 3-13**. For security, PG&E would install an approximately 9.5-foot-tall fence consisting of an 8-foot-tall chain-link fence fabric, topped with 1-foot "V" shaped topper with 6 rows of bar-wire and 1.5-foot diameter razor wire that will enclose the modified portion of the substation area.

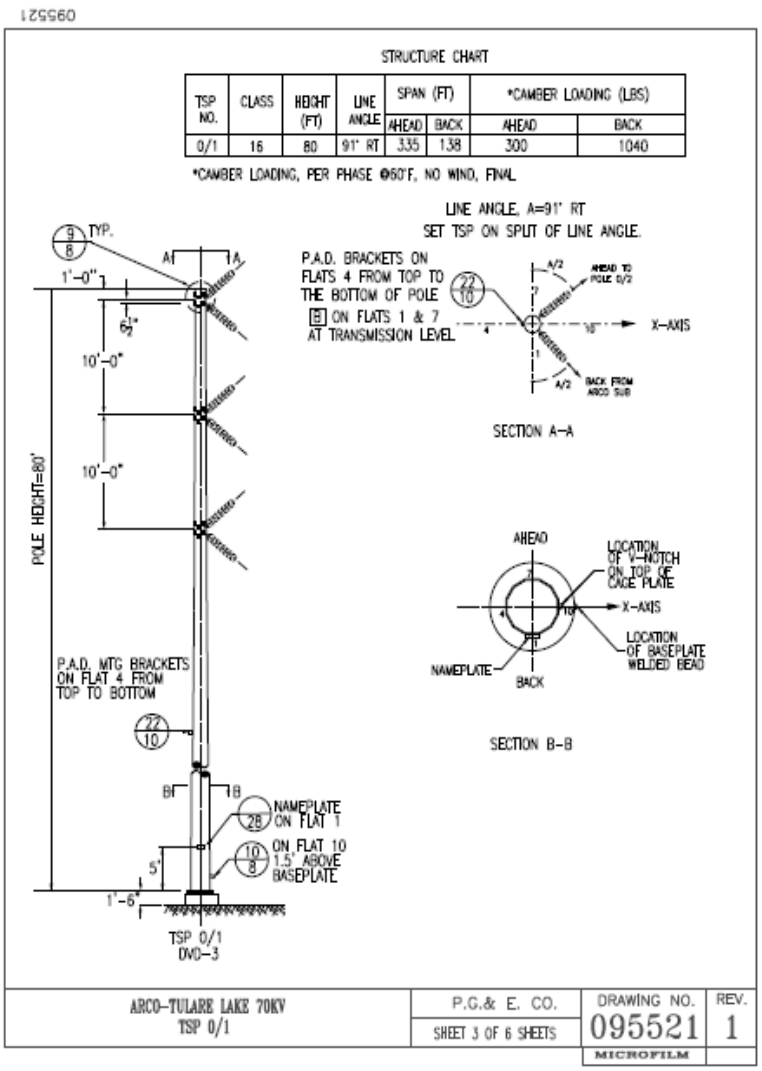
Power Line Reconfiguration

Existing power poles and conductors located outside the substation require reconfiguration in order for the proposed customer-owned photovoltaic solar project to connect to the new substation equipment. This would be achieved by installing new structures, or by replacing existing structures with new structures. Upgrades also will be made to accommodate the -gen tie-line and new line angles resulting from the new arrangements.

In order to accommodate the gen tie-line interconnection c PG&E would extend an approximately 150-feet 70 kV power line from the Lakeview Substation dead-end structure to a new customer-owned TSP located immediately north of the substation fence line. An additional pole approximately 80-95-foot-tall TSP will be added to support the line between the customer owned TSP and Lakeview Substation. The typical design of the structures is provided in **Figure 3-14:** *Typical Tubular Steel Design*.

Access and Construction Work Area

Parking, lay down, and staging for construction materials and equipment at the substation site would temporarily occupy the northern portion of the graded pad. Work areas around the poles would require an approximate 50-foot radius. The modified substation area would result in approximately 0.90-acre. Temporary work areas outside the modified substation would total approximately 2 acres of temporary disturbance. During construction, access to the modified substation area would be provided via Copus Road. Minor access road improvements would be required in order to transport heavy equipment.



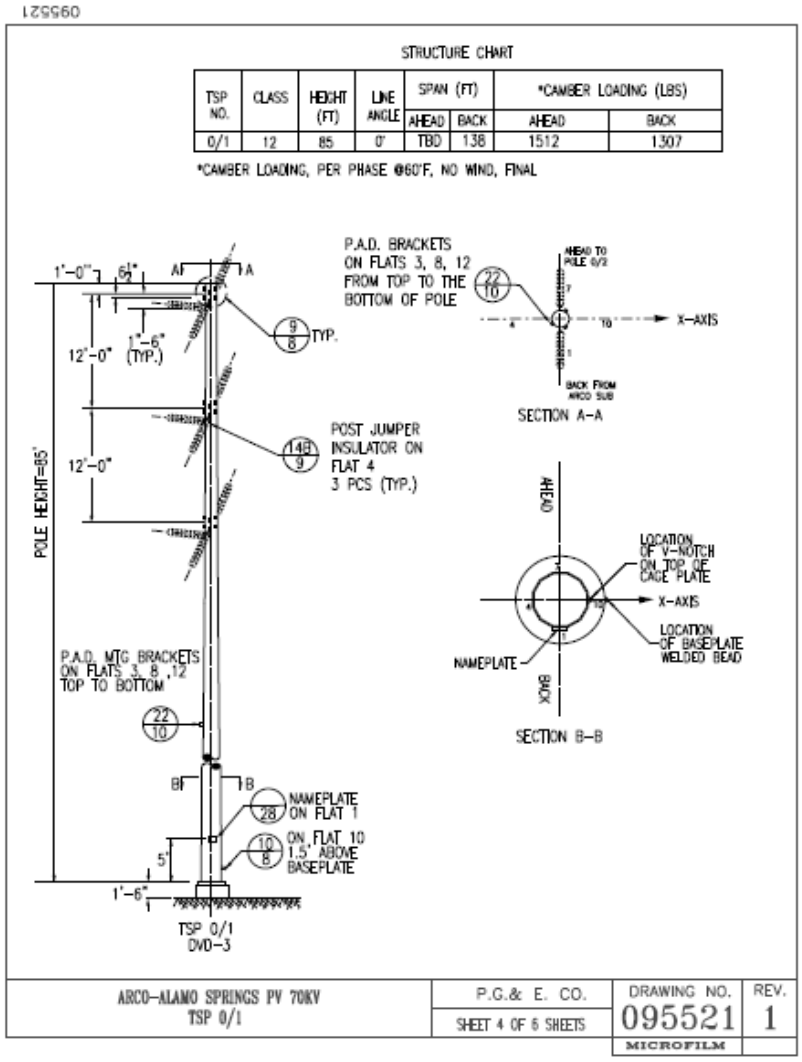


Figure 3-14: Typical Tubular Steel Design

Jasmine Solar Project by SF Jasmine, LLC

APN: 295-132-15
APN: 295-132-16
Sec. 31 - T32S/R27E

Modified Substation Construction

Construction of the modified substation would require ground disturbance to and vegetation removal to create pads on which to install the new equipment. Site preparation would begin with vegetation clearing, including grasses and other organic material but prior to the start of construction a SWPPP would be prepared and BMPs would be installed. The vegetation material would be stockpiled within the footprint of the modified substation area and eventually removed from the site. Topsoil would be stripped, stockpiled, and reused for agriculture or site restoration. Grading is anticipated to balance on site and the grade would be cut to drain to the proposed stormwater retention basin. Engineered fill (gravel) would be spread on the pad surface to create a stable work area for subsequent construction activities and installation of new electrical equipment. While the engineering design would attempt to balance the cut and fill, some existing soil may not be suitable for the proposed use. To the extent possible, all cut materials would be reused as fill following suitability testing. Representative samples of excess soil would be collected, analyzed, and profiled for disposal in accordance with all federal, state, and local regulations. Engineered fill material would be imported as needed to accomplish the necessary compaction and final grade.

The site would then be improved with installation of a security fence, excavating and installing the subsurface ground grid, conduit chases, and forming and pouring concrete footings and foundations for all the aboveground structures. After the concrete has cured, PG&E would install the aboveground steel structures, circuit breakers, busses, dead ends, and other electrical equipment, including associated control system hardware.

Equipment to be placed on foundation slabs or footings would either be bolted or welded securely to meet the appropriate seismic requirements. All metallic structures within the substation would be connected to the station grounding grid. A final dressing of aggregate would be spread on all unpaved areas in the modified substation area to provide an all-weather stable surface for O&M activities while limiting the amount of impervious surface created to minimize site run-off. Areas where equipment access is needed for maintenance would be stabilized using compacted aggregate base.

Power Line Reconfiguration/Interconnection Construction

Power line construction would be divided into four phases: (1) Installing TSP foundation, including construction of access to each new TSP location as necessary; (2) Installing TSPs; (3) Stringing power line relocations, which may require shoo-fly poles and temporary work areas to cut-over lines and construct pull sites; (4) Removing poles and conductors, access roads, and pull sites, and restoring surfaces as necessary.

Installing New Poles

TSPs would be secured to the foundation using a single bored foundation hole approximately 4.5 to 7 feet in diameter and 15 to 30 feet deep depending on the soil conditions. Poles would be secured using steel to a bolt assembly plate and concrete in the reinforced steel assembly plate. The TSPs typically consist of two or three sections, depending on the length or diameter of the pole. The top section of the pole would be fitted with arms and insulators prior to being lifted into place and wires strung.

Erosion and Sediment Control and Pollution Prevention

PG&E would implement a SWPPP during construction to prevent pollution of nearby drainages with sediment or other polluted runoff related to project construction. The plan would outline BMPs that would include but not be limited to placing erosion and sediment controls such as fiber rolls, silt fence, mulch, and

seed as appropriate during project construction. BMPs would be installed prior to preconstruction vegetation clearing, as appropriate.

Cleanup

Cleanup operations of the area used for the gen-tie line involves final grading to original contours and cleaning up all disturbed areas. Clean of all temporary workspaces and the ancillary access roads including the pole reconfiguration work areas and the temporary access road to the modified substation area also would occur. Poles and conductors removed from the project would be dismantled and taken to appropriate disposal facilities to be reused, recycled, or disposed of properly. PG&E would conduct a final survey to ensure that cleanup activities have been successfully completed.

Construction Schedule

While substation modification and power line construction would require approximately 16 months of construction activity, there would be gaps in the schedule due to equipment delivery logistics, power load considerations, and other factors and is anticipated to be in service by 2024, with final close out items completing in 2025.

The improvements to the Lakeview Substation would be constructed by PG&E which would be connected the gen-tie line by the applicant. Both the gen-tie and Lakeview Substation would be under the regulatory authority of the California Public Utility Commission (CPUC). CPUC General Order No. 131-D preempts local authorities from regulating electric power line and substation projects. PG&E would consult with Kern County to avoid and/or resolve conflicts with existing land uses. Potential environmental impacts associated with PG&E supporting facilities are addressed in this CEQA analysis, as these are critical project components.

3.7.6 Decommissioning

Solar equipment typically has a lifespan of over 35 years. The proposed project expects to sell the renewable energy produced by the project under the terms of a long-term Power Purchase Agreement with a utility or other power off taker. Upon completion of the Power Purchase Agreement term, the project operator may, at its discretion, choose to enter into a subsequent Power Purchase Agreement or decommission and remove the system and its components. With the removal of proposed project infrastructure, the site would be reverted and remain undeveloped and be returned to support agricultural production. The decommissioning and restoration process involves removing aboveground and belowground structures and restoring topsoil. Temporary erosion and sedimentation control BMPs would be used during the proposed project's decommissioning phase.

Solar panels would be removed and placed in secure transport crates or container boxes for storage and transported to another site for reuse, material recycling, or disposal. The bolts and reusable fasteners that had attached each module to the racks would be removed and saved for reuse. Once the solar modules are removed, the racks would be disassembled and the structures supporting the racks would be removed and salvaged or recycled. Electrical equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment offsite. Electrical equipment, transformers, and switching gear on the inverter and interconnection transformer pads and all above ground electrical wiring would be removed and recycled or disposed. All other aboveground site infrastructure—including fences, awnings, and the concrete pads that supported the

inverters, and related equipment—would be removed. The fence and gate would be removed per a fencing plan and may include the replacement of some perimeter array fencing with fencing to facilitate livestock management. Removed materials would be recycled to the greatest extent possible. All debris would be removed from the area.

3.8 Entitlements Required

The Kern County Planning and Natural Resources Department as the Lead Agency (per CEQA Guidelines Section 15052) for the proposed project has discretionary responsibility for the proposed project. The anticipated approvals needed for the project include adoption of CUP and cancellations of active Williamson Act Land Use Contracts. Construction and operation of the proposed solar energy facility may require additional local, state, and federal entitlements, as well as discretionary and ministerial actions and approvals, including those listed below.

Federal

- U.S. Fish and Wildlife Service (USFWS) Section 10 Incidental Take Permit and Habitat Conservation Plan (if required)
- United States Army Corps of Engineers Section 404 Permit (if required)

State

- California Public Utilities Commission (CPUC)
  - Section 851 Permit
- California Department of Fish and Wildlife (CDFW)
  - Section 1600 et seq. permits (Streambed Alteration Agreements) (if required)
  - Section 2081 Permit (State-listed endangered species) (if required)
- Central Valley Water Quality Control Board (RWQCB)
  - Waste Discharge Requirements
  - Regional Water Quality Certification (401 Permit) (if required)
  - National Pollution Discharge Elimination System (NPDES) Construction General Permit
  - General Construction Stormwater Permit (Preparation of a SWPPP)
- California Department of Transportation (Caltrans)
  - Right-of-Way Encroachment Permit (if required)
  - Permit for Transport of Oversized Loads

Local

- Kern County
  - Certification of Final Environmental Impact Report
  - Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
  - Adoption of Mitigation Monitoring and Reporting Program
  - Approval of Conditional Use Permit
  - Approval of Williamson Act Land Use Contract Cancellation
  - Approval of Kern County Grading and Building Permits
  - Approval of Kern County Access Road Design and Encroachment Permits

  - Approval of Fire Safety Plan
- San Joaquin Valley Air Pollution Control District
  - Approval of Fugitive Dust Control Plan
  - Authority to Construct (ATC)
  - Permit to Operate (PTO)

The preceding discretionary actions/approvals are potentially required and do not necessarily represent a comprehensive list of all possible discretionary permits/approvals required. Other additional permits or approvals from responsible agencies may be required for the proposed project.

3.9 Relationship of the Project to Other Solar Projects

The project is being developed independently of other approved or proposed solar projects in the County. If approved, the project facilities would be subject to their own use permits, conditions of approval, interconnection agreements, and power purchase agreements. Kern County understands that the project facilities would be built and operated independently of any other solar project and, if approved, would not depend on any other solar project for economic viability.

3.9.1 Cumulative Projects

CEQA requires that an EIR evaluate a project's cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of other related past, present, and reasonably foreseeable future projects. As set forth in the *CEQA Guidelines*, the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. As stated in CEQA, Title 14, Section 21083(b), "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable."

According to the *CEQA Guidelines*:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable and which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Section 15355).*

In addition, as stated in *CEQA Guidelines*, it should be noted that:

> *"The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the project's incremental effects are cumulatively considerable." (CCR, Title 14, Division 6, Chapter 3, Section 15064[h][5]).*

Cumulative impact discussions for each environmental topic area are provided at the end of each technical analysis presented in Chapter 4 of this EIR. As previously stated, and as set forth in the *CEQA Guidelines*, related projects consist of "closely related past, present, and reasonably foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area" (CCR, Title 14, Division 6, Chapter 3, Section 15355).

The geographic scope for cumulative impact and analysis is a 6-mile buffer around the project's boundaries. The project site and 6-mile buffer generally fall between the Tehachapi foothills to the south, Hwy-99 to the east, Milux Road to the north, and undeveloped and agricultural land to the west.

Table 3-4: *Cumulative Projects List*, shows the related projects considered in the cumulative analysis. **Figure 3-15:** *Cumulative Projects*, show the approximate location of the proposed solar projects in Kern County considered in the cumulative analysis.

TABLE 3-4: CUMULATIVE PROJECTS LIST

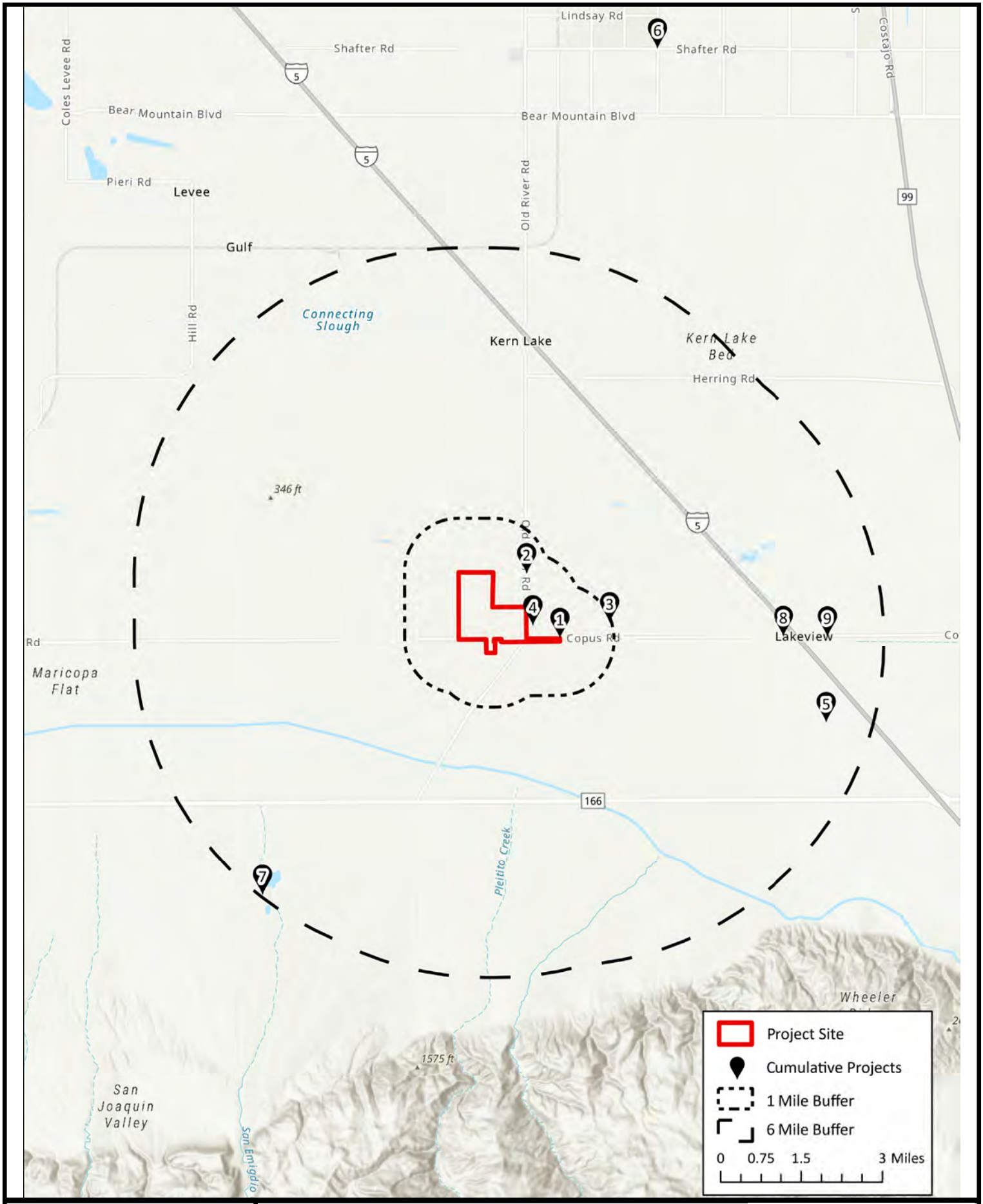
Project Name	Project Location	Project Description	Case Type	Request	Project Site APN	Acres	Project Status
1. Sandrini Solar Project*	Copus Road and Schallock Road	Commercial Solar Project (65 MW) Williamson Act Nonrenewal, Exclusion, and Cancellation	CUP, Map 3	CUP	295-050-17	3,469.9	Approved
2. Swanson Engineering, Inc.*	27300 Old River Road, Bakersfield, CA	CUP 26, Map 160 for EOT of agricultural trucking facility	CUP	CUP	295-130-397	9.55	Applied
3. Maricorps East Solar PV, LLC*	12866 Copus Road, Maricopa, CA	Addendum to EIR: Solar/Wind; CUP for 170 MW Solar Facility on 1,134.5 acres	Addendum to EIR	CUP	295-130-819; 295-130-827; 295-130-835, 295-040-307	1,134.5	Approved
4. Applicant: Willow Avenue Investment, LLC*	13608 Copus Road, Mettler, CA	Map 160 ZCC (change in zone classification)	Zone Change	Zone change	295-130-363	37.27	Applied
5. Tetra Tech BAS	9705 Valpredo Avenue, Mettler CA	CUP for soil amendment facility	CUP	CUP	238-211-072	18.94	Applied
6. Recurrent Energy by Seth Israel	Shater Road and Ashe Road Metro Area	CUP for 28 MW Solar Project	CUP	CUP	184-490-04		Processing

Project Name	Project Location	Project Description	Case Type	Request	Project Site APN	Acres	Project Status
7. Vulcan Materials Company		(a) Zone Change from A-1 to within the south half of Sections 13 and 14, T11N/R22W, SBBM; (b) Expansion of existing surface mining (c) Operation of a concrete batch plant, asphalt batch plant, and asphalt and concrete processing plant	Zone change	Zone change	239-041-11		Applied
8. Taher Merchant	10555 Copus Road, Bakersfield	Map 160, PD 3, Modification - Diesel Fueling Pumps	Precise development	Precise development	295-120-60	4.84	Applied
9. Murray Family Farms	9557 Copus Road, Bakersfield	Map 160, ZCC - Murray Family Farms	Zone change	Zone change	445-073-20	18.8	Applied
10. Jasmine Solar (proposed project)	Copus Road and Old River Road	CUP for Solar Facility	Map 160, CUP	CUP	295-131-12	527	Applied

NOTES:

* Indicates that the cumulative project is located within 1 mile of the proposed project.

**Indicates that the cumulative project is located within 6 miles of the proposed project.



Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 3-15: Cumulative Project

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

Section 4.1
Aesthetics

4.1.1 Introduction

This section of the EIR discusses impacts associated with the potential for the project to degrade the existing visual character or quality of the project site and its surroundings through changes in the existing landscape. Potential effects are evaluated relative to important visual features (e.g., scenic highways, scenic features) of the existing visual landscape and its users. Degradation of the visual character of a site is addressed through a qualitative evaluation of the changes to the aesthetic characteristics of the existing environment, and the project-related modifications that would alter the visual setting. The terms and concepts are used in the discussion below are used to describe and assess the aesthetic setting and impacts from the project.

Visual Concepts and Terminology

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, a visual or aesthetic impact may occur.

The following terms and concepts are used in the discussion below to describe and assess the aesthetic setting and impacts from the project:

- **Viewshed** – defined as the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations. "project viewshed" is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view the project site.
- **Key Observation Point (KOP)** – one or a series of points on a travel route or at a sensitive use area, such as a residence, where the view of a project would be the most revealing.
- **Scenic vista** – an area identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing.
- **Scenic highway** – any stretch of public roadway that is designated as a scenic corridor by a federal, State, or local agency.
- **Sensitive receptors or sensitive viewpoints** – viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, type of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities), to discouraging close observation (such as commuting in heavy traffic). Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive. Viewers from public parks, recreational trails, and/or culturally important sites also have high visual sensitivities; therefore, such locations are considered sensitive viewpoints. Viewers in commercial, military, and industrial areas are not

typically focused on the views and the areas do not promote enjoyment of views; therefore, viewers in these locations are assumed to have low sensitivity.

- **Viewing distance zones** – the landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are: foreground, middleground, and background. The foreground zone includes areas less than ¼ mile away, the middleground zone includes areas ¼ mile to 3 miles away, and the background zone includes areas beyond 3 miles.
- **Visual sensitivity** – the overall measure of an existing landscape's susceptibility to adverse visual changes. When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. Nonetheless, generalizations can be made about viewer sensitivity to scenic quality and visual changes.

Residents and recreational users (e.g., hikers, equestrians, tourists, etc.) are expected to be highly concerned with scenery and landscape character. Local motorists who commute daily through the same landscape may have a moderate concern for scenery, while people who work within highly urbanized areas may generally have a lower concern for scenic quality or changes to existing landscape character.

The visual sensitivity of a landscape is affected by the viewing distances at which it is seen. The visual sensitivity of a landscape also is affected by the travel speed at which a person is viewing the landscape (high speeds on a highway, low speeds on a hiking trail, or stationary at a residence).

The same feature of a project can be perceived differently by people depending on the distance between the observer and the viewed object. When a viewer is closer to a viewed object in the landscape, more detail can be seen, and there is greater potential influence of the object on visual quality because of its form or scale (relative size of the object in relation to the viewer). When the same viewed object is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the horizon and skyline are dominant. In the middle ground, some detail is evident in the foreground and landscape elements are seen in context with landforms and vegetation patterns in the background. The same levels of sensitivity apply in this case as with close-up and further away views—views from cars at high speeds would be less sensitive to changes than views at low speeds because more details can be drawn from the landscape at lower speeds.

4.1.2 Environmental Setting

Regional Character

Kern County's geography is diverse, with mountainous areas, agricultural lands, and desert areas. Kern County consists of three general areas or regions – Valley Region, Mountain Region, and Desert Region. The County encompasses more than five million acres within these diverse geographic regions. The project site is located in the San Joaquin in the Valley Region of the western portion of Kern County, California. The project and is outside the sphere of influence (SOI) of any cities including the nearest major City, Bakersfield, approximately 18 miles to the northeast.

Valley Region

The San Joaquin Valley is located in the central portion of the County and is bounded by several intersecting mountain ranges that form a horseshoe shaped valley. Within unincorporated Kern County the Valley Regions major land uses include agriculture, oil extraction and production, and undeveloped and vacant land. While the majority of the area is undeveloped, the Valley Region does include the City of Bakersfield metropolitan area, which is the dominant urban area in Kern County. The area also contains more rural developments including the cities of Arvin, Delano, Maricopa, McFarland, Shafter, Taft, and Wasco.

The landscape of the Valley Region is mostly flat, lacking significant topographic relief, and tends to be visually monotonous because of the repetitive expanse of agricultural and extractive land uses. There is little variety of vegetative covers (i.e., grazing grasses, croplands, solitary trees, and residential landscaping) and few panoramic views.

There are viewsheds, however, that do afford visual receptors minor topographic relief in the form of mountainous terrain along the eastern, western, and southern edges of the San Joaquin Valley. These topographical elements are physiographically separated from the flat Valley floor and their summits and ridgelines are important focal points throughout Kern County. From certain vantage points, as one nears the edges of the Valley floor, mountainous topographic features rise abruptly from the ground plane, adding visual variety and dramatic focal points; this is considered high quality adjacent scenery.

While much of Kern County is rural and undeveloped, over the years, Kern County has experienced a great deal of urbanization, resource extraction, and renewable energy development. Urbanization has resulted in the introduction of numerous man-made modifications into the viewshed, including residential, commercial, and industrial uses; roadways and highways; and utilities to support development. In addition, mineral, oil, and natural gas extraction and agricultural activities are common to the region. Common visual elements include oil wells, storage tank batteries, access roads, utility infrastructure, barns and other agricultural-related buildings tend to dominate the visual landscape in the western Valley region. In general, the aesthetic features of the regional visual environment are relatively uniform, with broad, flat landscapes leading to distant mountains and interspersed with urban, rural, and industrial development in varying densities and intensities.

Local Character

The project site and immediately surrounding area is rural in nature and is dominated by agricultural uses and other areas used by the oil and gas industry. There are numerous wells and above ground pipes and pump stations in the surrounding properties. The nearest major city to the project site is Bakersfield, approximately 18 miles northeast. There are a few other smaller populated areas in the unincorporated areas of the county including Mettler, approximately 7 miles to the southeast. As discussed above, existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, access roadways, small canals and detention basins uses for water transport and storage, and pads cut into the agricultural land used for petroleum wells and associated infrastructure.

The project site occupies an “L” shaped parcel and is located adjacent to the northwest intersection of Copus Road and Old River Road. Interstate 5 (I-5) which provides north and south access through the state is located approximately 4.0 miles east of the project site and is accessed via an interchange with Copus Road. Old River Road intersects I-5 and also provides a north and south on-ramp and off-ramp approximately 4.5 miles to the north. As such, the project site currently has access points via dirt roads from Copus Road and

Old River Road. As part of the project, and once construction is completed, the project site would take primarily access via an existing dirt road adjacent to the northeast property line from Old River Road as well as an access point on the south via Copus Road.

Topography within the project site is generally flat, with elevations ranging from 340-394 feet (104- 120 meters) above mean sea level (amsl). The project site also is surrounded by lands that are mostly flat and exhibit little topographic variation. As described in more detail in Section 4.4, *Biological Resources*, the project site typically lacks vegetation with some of the canals and detention basins containing hydrophyte communities (plants that live in water).

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Designated State Scenic Highways within Kern County (see Section 4.1.3, *Regulatory Setting*, below for more information on the State Scenic Highway Mapping System). The closest Eligible Scenic Highway is where State Route (SR) 166 meets SR 33, located near Cuyama, CA, approximately 25 miles southwest of the project site (Caltrans, 2019). In addition to the State Scenic Highway Mapping System, the Kern County General Plan Circulation Element designates scenic routes and defines a scenic route as any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality and must be officially set as a Scenic Route by the Kern County Board of Supervisors or the State of California.

Lighting Environment

The project site does not currently contain any lighting and none of the dirt roads bordering or traversing the project site include street lighting. Offsite fixed lighting in the area immediately surrounding the project site includes lighting fixtures associated with the commercial development immediately to the east and the nearby PG&E Lakeview substation to the east. These sources of lighting produce sufficient nighttime lighting for operations and security. An additional source of nighttime lighting, although insubstantial, is from motorists passing through the area with headlights on.

Solar Panel Glare Potential

A solar panel comprises numerous solar cells. A solar cell differs from a typical reflective surface in that its surface is microscopically irregular and designed to trap the rays of sunlight for the purposes of energy production. The intent of solar technology is to increase efficiency by absorbing as much light as possible (which further reduces reflection and glare).

A common misconception about solar photovoltaic (PV) panels is that they inherently cause or create “too much” glare, posing a nuisance to neighbors and a safety risk for pilots. In certain situations, the glass surfaces of solar PV systems can produce glint (a momentary flash of bright light) and glare (a reflection of bright light for a longer duration); however, light absorption, rather than reflection, is central to the function of a solar PV panel so that it may absorb solar radiation and convert it to electricity. Solar PV panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV panels reflect as little as two percent of incoming sunlight, which is similar to water and less than soil and wood shingles. Some of the concern and misconception is likely due to the confusion

between solar PV systems and concentrated solar power (CSP) systems. CSP systems typically use an array of mirrors to reflect sunlight to heat water or other fluids to create steam that turns an electric generator.

Despite their low potential to create glare, PV panels can reflect sunlight skyward toward the light source, creating a potential glare impact for aircraft in the area. The effect is similar to what a motorist experiences when the sun is low in the sky and the car passes between the sun and a glass-fronted building that has been treated with an anti-reflective coating. If the motorist is heading directly toward the building, the glare would be in the motorist's eyes. Otherwise, the motorist would have to rotate his or her head to observe the glare off to the side. Because aircraft typically travel at a higher rate of speed than vehicles, the effect is momentary, lasting only as long as the angle between the sun, water body, and aircraft is maintained. Unless an aircraft were descending at an angle sloped directly at the solar array with the sun directly behind the aircraft, any glare that might occur from solar panels would be below the pilot's horizon. Though unlikely, given the distance from publicly accessible roads to the project site, effects on eastbound motorists would likely be greatest in the early evening hours, when the sun is at its lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers in the early morning hours, when the sun is rising in the east.

4.1.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Scenic Highway Program

Caltrans manages the California Scenic Highway Program, which was created in 1963 by the California legislature to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are designated or eligible for designation as scenic highways. A highway may be designated as scenic based on certain criteria, including how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the traveler's enjoyment of the view. State laws governing the Scenic Highway Program are found in Sections 260 through 263 of the Streets and Highways Code.

As described in Section 4.1.2, *Environmental Setting*, there are no Designated State Scenic Highways within Kern County and the project site is not located directly adjacent to any eligible State Scenic Highway. The closest Eligible Scenic Highway is where State Route (SR) 166 meets SR 33, located near Cuyama, CA, approximately 25 miles southwest of the project site.

Local

Construction and operation of the solar facility would be subject to policies and regulations contained within the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to aesthetics. The policies, goals, and

implementation measures in the Kern County General Plan related to aesthetics that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan (Kern County, 2009) evaluates the visual and aesthetic setting of Kern County and assess the potential for visual impacts. The Kern County General Plan Energy Element sets forth policies to encourage orderly energy development in visually sensitive areas.

The Kern County General Plan Circulation Element also provides a discussion regarding Scenic Routes. A Scenic Route is defined in the Kern County General Plan as any freeway, highway, road, or other public right-of-way which traverses an area of exceptional scenic quality. A roadway can only be designated as a scenic route by direct action of the Kern County Board of Supervisors or the State of California. A route may not be selected as scenic until a visual assessment of the route has been conducted to determine if the route meets the current scenic highway criteria as mentioned above and to what extent development has encroached on the scenic views. The County also has to prepare and adopt a plan and program for the protection and enhancement of adjacent roadside viewshed land. As such, goals, policies and implementation measures regarding Scenic Routes in the Circulation Element are focused on the need for the County to further develop their Scenic Route program and measures to protect scenic resources, which are not applicable to the proposed project.

The Kern County General Plan acknowledges the three routes identified as part of the California Scenic Highways Master Plan that are designated “Eligible State Scenic Highway” within the County. Route 1, which begins north of Mojave and continues to the Inyo County Line, consists of State Route 14 and State Highway 395. Route 2 consists of State Route 58 between Mojave and Boron. Route 3 consists of 5 miles of State Route 41 in northwest Kern County. The project site would not be visible from any of these routes. The Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources.

As SR-166 and SR 33 are not officially designated, it is not considered a scenic highway for this analysis; therefore, no policies regarding development within Scenic Routes would be applicable to the project. However, the Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources. The policies and implementation measures in the Kern County General Plan for aesthetic resources applicable to the proposed project are provided below. The Kern County General Plan contains goals, policies, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Open Space, and Conservation Element

1.10.7 Light and Glare

Policies

Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.

Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Implementation Measures

Measure AA: The County shall utilize CEQA guidelines and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.

Chapter 5: Energy Element

5.4.7 Transmission Lines

Goal

Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.

Policy

Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.

Kern County Zoning Ordinance

Chapter 19.81, Dark Skies Ordinance (Outdoor Lighting)

In November 2011, Kern County approved a Dark Skies Ordinance. The purpose of this ordinance is to maintain the existing character of Kern County by requiring a minimal approach to outdoor lighting, recognizing that excessive illumination can create a glow that may obscure the night sky and excessive illumination or glare may constitute a nuisance. The ordinance provides requirements for outdoor lighting within specified unincorporated areas of Kern County in order to accomplish the following objectives:

Objective 1: Encourage a safe, secure, and less light-oriented night-time environment for residents, businesses and visitors.

Objective 2: Promote a reduction in unnecessary light intensity and glare, and to reduce light spillover onto adjacent properties.

Objective 3: Protect the ability to view the night sky by restricting unnecessary upward projections of light.

Objective 4: Promote a reduction in the generation of greenhouse gases by reducing wasted electricity that can result from excessive or unwanted outdoor lighting.

Kern County Development Standards

The Kern County Development Standards have specific regulations pertaining to lighting standards including the requirement that lighting must be designed so that light is reflected away from surrounding land uses so as not to affect or interfere with vehicular traffic, pedestrians, or adjacent properties.

4.1.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to aesthetics for the project. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable.

Methodology

The project's potential impacts to aesthetics have been evaluated using a variety of resources. In general, the potential aesthetic, light, and glare impacts associated with development projects are evaluated on a qualitative basis. This visual impact assessment is being utilized to identify and assess any potential long-term adverse visual impacts on aesthetics and visual resources that might result from implementation of the project during construction and operation. This assessment is based on the approved visual assessment practices employed by the FHWA (FHWA, 2015), the Bureau of Land Management (BLM) (BLM, 1986), the U.S. Forest Service (USFS, 1995), and other federal regulatory agencies. This method includes:

- Defining the project and its visual setting by assessing the project proponent's submitted project application materials, including plans and descriptions, and reviewing Google Earth Pro aerial photographs and street-level photography, Kern County Geographic Information System (GIS) topographic and land use data, and U.S. Geological Survey (USGS) topographic data;
- Conducting a field visit in May 2022 of the project site and vicinity to document the following:
  - Project site's visual characteristics.
  - Project vicinity's visual characteristics.
  - Establish a visual characteristic baseline.
  - Location of visual (sensitive) receptors in the vicinity.
- Establishing four Key Observation Points (KOPs) within vicinity from which to evaluate potential visual impacts resulting from implementation of the proposed project.
- Preparing visual simulations of post-development views from the KOPs.
- Assessing the project's impacts to sensitive views by applying the visual quality rating system to each of the visual simulations.
- Proposing methods to mitigate any potentially significant visual impacts identified.

The evaluation of project impacts is based on professional judgment, analysis of the Kern County General Plan goals and policies related to visual resources, and the significance criteria established by CEQA *Guidelines*, Appendix G. More detailed information on the methodology behind the selection of KOPs and rating visual quality is provided below.

Selection of Key Observation Points (KOPs)

KOPs were selected to represent views that would be experienced from sensitive viewpoints. KOPs are single viewpoints that appropriately reflect the impact implementation of the project would have on one or more sensitive receptors. Sensitive receptors near the project site fall into the following categories: motorists, employees, and residents. KOPs were identified based on review of available land use data, preliminary viewshed analysis, and a review of aerial maps.

The process of identifying KOPs focused on selecting viewpoints that could be used to accurately represent views from a broader range of viewpoints, particularly viewpoints from area sensitive receptors. The nature of solar fields, with large numbers of nearly identical and relatively low-lying PV panels, means that the views encountered from differing angles would often be quite similar. Sensitive receptors near the project site include motorists and viewers of the project site from rural scattered residences along local roads.

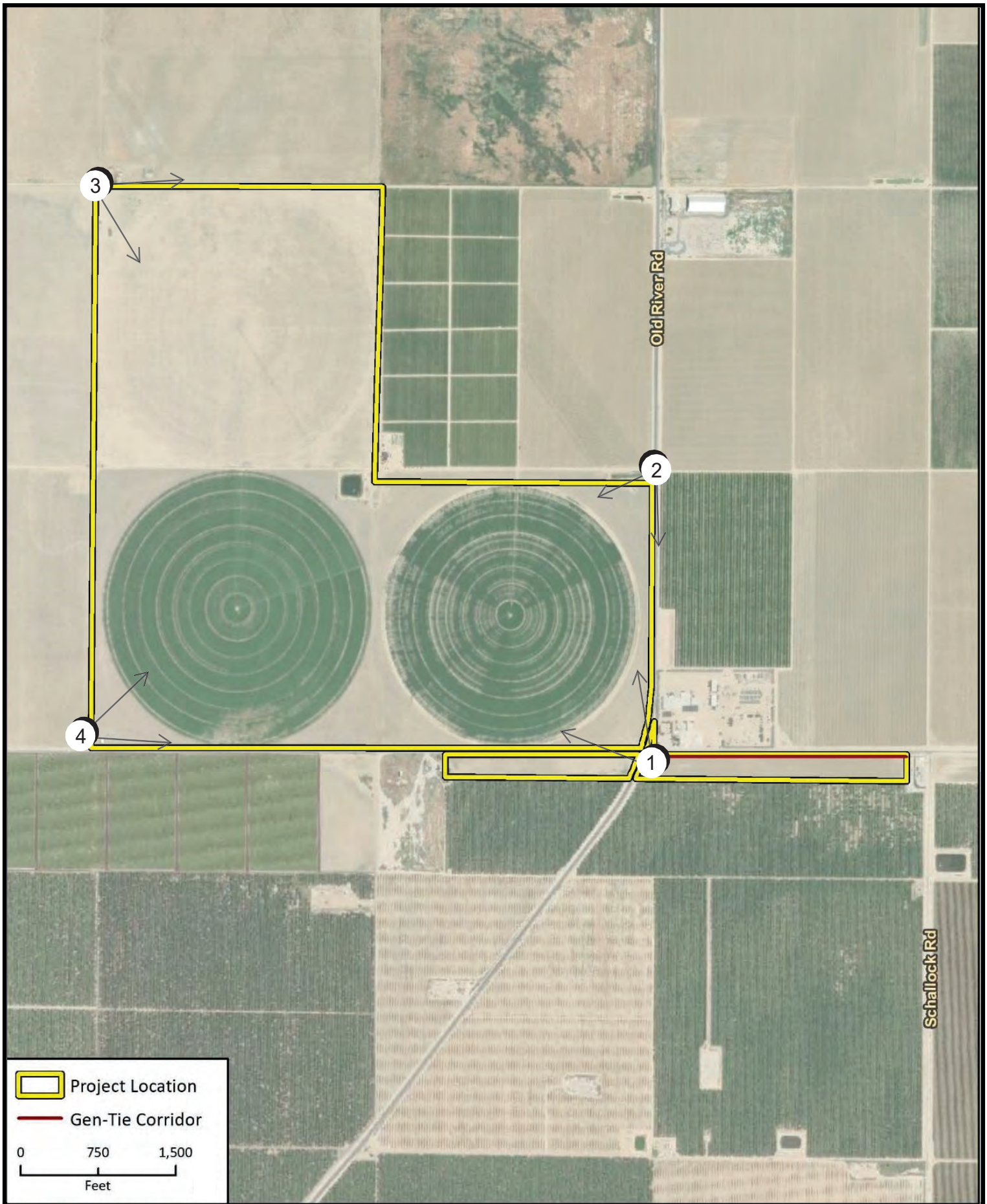
The familiarity with the view also influences how much attention is spent on the visual environment. Regular motorists may be highly familiar with the view and sometimes pay less attention; however, these motorists tend to be much more sensitive to changes in that view. People who are less familiar with the view may spend more time looking at the surrounding land, but would not notice changes in the view. The majority of existing motorists are likely to be residents and employees driving to and from home.

The project site is located in a rural area. As described in Section 4.1.2, *Environmental Setting*, the nearest sensitive use is an agriculturally zoned residence at 14017 Copus Road, approximately 175 feet to the south of the nearest project boundary line. In addition, there is a residence approximately 2,000 feet to the west along Copus Road and to the east adjacent to Old River Road and northeast property boundary is an agricultural business Gold Coast Harvesting. Due to the lack of elevation, the residence to the east would have minimal views of the proposed project, but the residence to the south and business to the east would have direct view of the project site. Residents, with direct views of the project site from their homes would tend to be the most sensitive to changes in the view. These residents tend to have much more familiarity with the existing viewshed and a heightened sensitivity to any visual changes within the landscape. Employees of the agricultural facility also would be able to see the project site but are less likely to be sensitive to the aesthetic change given that they are at the facility to work.

Four KOPs were selected for visual simulation to create post-development views that would most closely represent views that could be seen by people in the vicinity, motorists, and recreational users. The KOP locations are discussed below in **Table 4.1-1:** *Key Observation Points* and displayed below in **Figure 4.1-1:** *Key Observation Point (KOP) Locations*.

TABLE 4.1-1: KEY OBSERVATION POINTS

KOP	Location	Representative Sensitive Viewers
1	From the southeast corner of the project site on Copus Road and Old River Road intersection looking northwest toward the project site.	Residence on adjacent properties near the project site and travelers on adjacent roadways.
2	From the eastern most north corner of the project site on Old River Road looking southwest towards the project site.	Workers on adjacent properties near the project site and travelers on adjacent roadways.
3	From the northwest corner of the project site on the dirt road looking southeast towards the project site.	Workers on adjacent properties near the project site.
4	From the southwest corner of the project site on Copus Road looking northeast towards the project site.	Workers on adjacent properties near the project site and travelers on adjacent roadways.



Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.1-1: KOP Observation Point (KOP) Locations

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

Simulation Preparation

Visual simulations of the project from the identified KOPs were prepared to provide a comparison of pre- and post-project conditions as well as context for qualitative description of the aesthetic changes that would result from the project. Photographs were taken during a site visit in May of 2022 and simulations were prepared by VisionScape using the assumptions and methodologies listed below in **Table 4.1-2:** *Visual Simulation Methodology and Assumptions*.

TABLE 4.1-2: VISUAL SIMULATION METHODOLOGY AND ASSUMPTIONS

Photography from Key Observation Points	• Photos were taken on a sunny with wispy light clouds day in May of 2022. • Canon 5D digital camera with a 35 to 52 mm zoom
Visual simulation assumptions	• Solar modules would be up to 12 feet in height and installed in rows. • Modules on single axis tracking system were used to show the worst-case visual impact. • O&M Building(s) covering approximately 2,000 square feet with a height of 12 feet.* • Energy Storage Systems would be approximately 1 acres in area.* • Collection line structures up to 125 feet in height.
Methods	Following data gathering phase, the process begins with a determination of proposed camera locations and/or station points. Upon review and approval of camera locations VisionScape coordinates the engineered site photography and schedules the initial site visit with County staff and/or project planner. This includes identification of reference points with GPS coordinates and specific fields of vision for each view. Concurrently, the modeling team develops an exact computer model of the proposed solar modules to illustrate elevations. Natural and finished pads, including existing and surrounding contextual elements such as streets, terrain, pads, and adjacent buildings (where applicable), were used as a reference. Upon completion of the 3D modeling phase realistic materials, maps, and textures are then applied. The next phase is assembly, during which the modeling is inserted into photographs taken during the field study using a full frame camera and camera match technology. 3D pads and boundary outlines are used to situate the modules to the proposed positions as shown on the cad provided. During this process, a computer model camera is aligned with the onsite photography to depict the project setting within each view. Lastly, final modifications are made to ensure the appearance of the simulation accuracy is consistent and is representative of the project design. GPS and Camera Match Technology includes the use of a Trimble GeoXT (Sub-Meter) GPS device and a "Full Frame" digital camera for documenting coordinates at requested station points.

* These project components were considered in the photo simulations and due to their positioning within the project site would be visible from KOP 1.

* Option 2 for the project substation, O&M Building, and BESS, as seen in **Figure 3-8:** *Proposed Site Plan*, would be located immediately to the west of the existing PG&E Lakeview substation. The visual impact of Option 2 is anticipated to be less than Option 1, as it is located next to existing substation infrastructure. The improvements associated with the project would be of similar use and not would not result in a significant change in visual character. Option 1 would result in infrastructure on vacant land, without existing development of a similar use immediately adjacent. Therefore, as a conservative approach Option 1 for the location of the O&M building, project substation, and BESS was analyzed further and depicted in the simulated views.

A comparison of existing views from the KOPs with visual simulations depicting visible project features, aided in determining project-related impacts. The simulations present a representative sample of the existing landscape setting contained within the project site, as well as an illustration of how the project may look from the identified KOPs. Solar arrays are visually similar regardless of the manufacturer. Therefore,

the solar arrays shown in the visual simulations are not necessarily identical to those that would be developed on the sites, but are similar enough to evaluate project impacts to aesthetics.

Rating Visual Quality

"Visual quality" is a measure of a landscape or view's visual appeal. While there are a number of standardized methods for rating visual quality, the "Scenic Quality Rating Criteria" method utilized by the BLM is believed to be superior because it allows the various landscape elements that comprise visual quality to be easily quantified and rated with a minimum of ambiguity or subjectivity.

According to this method, visual quality is rated according to the presence and characteristics of seven key components of the landscape. These components include landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications.

1. The ***landform*** component of the visual quality rating criteria takes into account the fact that topography becomes more interesting visually as it gets steeper or more massive, or more severely or universally sculptured. Outstanding landforms may be monumental, (as found in Yosemite Valley), or they may be exceedingly artistic and subtle (such as certain badlands, pinnacles, arches, and other extraordinary formations).
2. The ***vegetation*** component of the rating criteria gives primary consideration to the variety of patterns, forms, and textures created by plant life. Short-lived displays are given consideration when they are known to be recurring or spectacular. Consideration is also given to smaller scale vegetation features that add striking and intriguing detail elements to the landscape (e.g., gnarled or wind beaten trees, Joshua trees, etc.).
3. The ***water*** component of the rating criteria recognizes that visual quality is largely tied to the presence of water in scenery, as it is that ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score for the water component.
4. The ***color*** component of the visual quality rating criteria considers the overall color(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.). Key factors that are used when rating the color of scenery are variety, contrast, and harmony.
5. The ***adjacent scenery*** component of the rating criteria takes into account the degree to which scenery outside the view being rated enhances the overall impression of the scenery under evaluation evaluated. The distance of influence for adjacent scenery normally ranges from 0 to 5 miles, depending upon the characteristics of the topography, the vegetation cover, and other such factors. This factor is generally applied to views that would normally rate very low in score, but the influence of the adjacent high visual quality would enhance the visual quality and raise the score.
6. The ***scarcity*** component of the visual quality rating criteria provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare within a region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often, it is a number of not so spectacular elements in the proper combination that produces the most pleasing and memorable scenery – the scarcity factor can be used to recognize this type of area and give it the added emphasis it should have.
7. The ***cultural modifications*** component of the visual quality rating criteria takes into account any man-made modifications to the landform, water, vegetation, and/or the addition of man-made structures. Depending on their character, these cultural modifications may detract from the scenery in the form of a negative intrusion or they may complement and improve the scenic quality of a view.

Based on the above criteria, views are rated numerically and a total score of visual quality can be tabulated. Based on the BLM's rating system, there are a total of 32 points possible. Views that score a total of 19 points or more are typically considered very high in visual quality. Views that score a total of 15 to 19 points are typically considered to have a high level of visual quality. Views that score a total of 12 to 15 points are typically considered to have an above average level of visual quality. Finally, views that score a total of 11 points or less are typically considered to have average visual quality. See **Table 4.1-3**, *Visual Quality Rating System*, for the point values associated with the various criteria.

An important premise of this evaluation method is that views with the most variety and most harmonious composition have the greatest scenic value. Another important concept is that man-made features within a landscape do not necessarily detract from the scenic value. In fact, certain man-made features that complement the natural landscape may actually enhance the visual quality. In making this determination, it is therefore important to assess project effects relative to the "visual character" of the project setting. Visual character is qualitatively defined by four primary components: form, line, color, and texture.

Projects that create a high level of contrast to the existing visual character of a project setting are more likely to generate adverse visual impacts due to visual incompatibility. Conversely, projects that create a low level of contrast to the existing visual character are less likely to generate adverse visual impacts due to inherent visual compatibility. On this basis, project modifications are quantified and evaluated for impact assessment purposes.

By comparing the difference in visual quality ratings from the baseline ("before" condition) to post-project ("after" condition) visual conditions, the severity of project related visual impacts can be quantified. However, in some cases, visual changes caused by projects may actually have a beneficial visual effect and may enhance scenic quality. The following designations are used to rank the significance of project impacts according to the pre- and post-project differences in numerical visual quality scores:

- **Potentially Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by 2 points or more, and for which no feasible or effective mitigation can be identified.
- **Less-than-Significant Impact with Mitigation Incorporated:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by two points or more, but can be reduced to less than two points with mitigation incorporated. Therefore, specific mitigation measures are provided to reduce the impact to a less-than-significant level.
- **Less-than-Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by one point or less. In visual impact analysis, a less than significant impact usually occurs when a project's visual modifications can be seen but do not dominate, contrast with, or strongly degrade a sensitive viewpoint.
- **No Impact:** The project would not have an impact from an identified sensitive viewpoint. In visual impact analysis, there is no impact if the project's potential visual modifications cannot be seen from an identified sensitive viewpoint.

TABLE 4.1-3: VISUAL QUALITY RATING SYSTEM

Key Factors	Rating Criteria and Score		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers.	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
	Score 5	**Score 3**	**Score 1**
Vegetation	A variety of vegetative types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
	Score 5	**Score 3**	**Score 1**
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present but not noticeable.
	Score 5	**Score 3**	**Score 1**
Color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields.	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element.	Subtle color variations, contrast, or interest; generally mute tones.
	Score 5	**Score 3**	**Score 1**
Influence of Adjacent Scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality.
	Score 5	**Score 3**	**Score 1**
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	Distinctive, though somewhat similar to others within the region.	Interesting within its setting but fairly common within the region.
	Score 5*	**Score 3**	**Score 1**
Cultural Modifications	Modifications add favorably to visual variety while promoting visual harmony.	Modifications add little or no visual variety to the area, and introducing no discordant elements.	Modifications add variety but are very discordant and promote strong disharmony.
	Score 5	**Score 3**	**Score 1**

NOTES:

* A rating greater than 5 can be given but must be supported by written justification

SOURCE: BLM 1986

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established iix G of the CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect on aesthetic resources.

A project would have a significant impact on aesthetics if it would:

a. Have a substantial adverse effect on a scenic vista;

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or

d. Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

Project Impacts

Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.

Scenic vistas are areas identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing.

The project site is substantially developed with an existing composting facility. While the project site is not designated as a scenic vista, as defined by the County of Kern or any other local governing body, the incorporation of additional processing equipment to the facility may result in alteration to the existing viewshed. However, the entire site is extensively disturbed and new equipment would not add any substantial effect to the scenic vista. The project site is also approximately 15.5 miles southeast of the Kern River which has been described as the single most valuable visual resource in the southern San Joaquin Valley. The project site is also approximately 10.0 miles southeast of the Buena Vista Aquatic Recreation Area. Views of either feature are not anticipated to be significantly affected by the proposed project. There are no scenic resources identified within the immediate vicinity. Therefore, impacts to scenic vistas would be less than significant and no mitigation would be required.

PG&E Lakeview Substation Expansion and Electrical Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9 acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. These improvements are located approximately 0.5 east of the project site and therefore impacts to scenic vistas would be the same less than significant impact and no mitigation would be required.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would also be less than significant for the PG&E Interconnection Facilities.

Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The project would not be visible from any Officially Designated State or County Scenic Highway. The closest Eligible Scenic Highway is where SR 166 meets SR 33, located approximately 25 miles southwest of the project site. Additionally, there are no rock outcroppings or known historic buildings in the vicinity of the project. Overall, construction and operation of the proposed project would not change the viewshed from any Officially Designated State or County Scenic Highway or substantially damage a scenic resource, therefore impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electrical Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. These improvements are located approximately 0.5 east of the project site and therefore would also have a less than significant impacts to a state scenic highway. Additionally, distance and intervening topography would likely result in the PG&E Lakeview Substation improvements producing no noticeable impact to views from a designated scenic highway. Further, there are no other scenic resources in the vicinity of the PG&E Interconnection Facilities. Therefore, impacts would be the same less than significant impact and no mitigation would be required.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would also be less than significant for the PG&E Interconnection Facilities.

Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

As described in Chapter 3, *Project Description*, and above in Section 4.1.2, *Environmental Setting*, existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, rural commercial buildings, and a rural residence. As the project is located within a nonurbanized area, the analysis below will focus on whether development of the project would substantially change the existing visual character or quality of public views of the site and its surroundings.

Construction

Construction activities associated with the project would create temporary changes in views of the project site. Furthermore, construction activities would introduce a considerable amount of heavy equipment, including backhoes, compactors, tractors, and trucks, into the viewshed of all viewer groups. During construction, there would be multiple crews working on the site with various equipment and vehicles, including special vehicles for transporting the modules and other equipment. The influx of construction vehicles, equipment, and worker vehicles would create visible contrast within the rural and primarily undeveloped (with the exception of commercial buildings to the east and residential structures to the south) setting of the project site. However, vehicles, equipment, and construction activity would be temporary in nature (12 months) and would be limited to active areas of construction as opposed to the entirety of the project site at the same time.

Viewers are accustomed to seeing heavy machinery associated with agriculture in the area. In addition, the visual effects associated with the presence of construction vehicles, equipment, and workers in the project area landscape would be limited in duration and would be spatially limited at any given time to the active area of construction. Therefore, impacts to existing visual character or quality of the project site and surrounding area during construction of the project would be less than significant.

Operation

In order to determine whether the project would substantially degrade the existing visual quality of the project site, this analysis compares the existing visual setting with visual simulations of the post-construction visual conditions. As described above, four (4) KOPs were selected for visual simulation. These KOPs are representative of views that would be experienced from off-site viewers.

Visual simulations are provided in **Figures 4.1-2** through **4.1-5**. KOPs are described in **Table 4.1-2**, *Visual Simulation Methodology and Assumptions*. Impacts associated with operation of the project would vary by viewer location and are discussed below by KOP. The rating system and impacts methodology are discussed in the "Rating Visual Quality" section above.

The solar facility would introduce solar arrays into much of the project site. Battery containers, collection lines, an O&M building, dirt or gravel access roads, and a 7-foot-high perimeter fence (6 feet of wire fence with one foot of three-strand barbed wire on top) would be visible for an estimated lifespan of over 35

years, would be visible to residents, workers at the nearby commercial buildings, and travelers on surrounding roadways.

The O&M facility would include a building and an unpaved parking lot, which would be constructed to provide a base for ongoing operations and maintenance at the project site. The building would house electronic controls and communication systems; provide storage space for tools, maintenance supplies, and spare parts; and provide on-site facilities for the staff.

Roads, driveways, and parking lot entrances would be constructed in accordance with Kern County improvement standards, would be consistent with existing roadways in the area, and would not greatly alter the visual landscape. Fences would be 7 feet tall (6 feet of wire fence with one foot of three-strand barbed wire on top). The battery containers and other equipment which would comprise the battery energy storage systems (BESS) could introduce industrial-looking elements into the landscape that could be visible to sensitive viewers if viewers are located in proximity to these features and if terrain, vegetation, and the proposed solar modules do not obscure views of these features. In addition, collection lines are proposed to connect the project site to existing PG&E Lakeview Substation.

Solar modules would be made up of individual panels that would use either fixed-tilt or tracker technology. Each module would be up to 20 feet tall and have 18 inches of clearance between the bottom and the ground.

KOP 1. Figure 4.1-2: *KOP 1: Existing and Simulated Views from the southeast project boundary looking northwest toward the project site,* shows views looking northwesterly across the site. This KOP reflects views to the project site that would be experienced by people on Copus Road which delineates the southern boundary of the project site. The pre-development views from KOP 1 shows that the landscape is relatively flat with minimal topographic relief. From the photo location, the 'T' intersection of Copus Road and Old River Road is visible. Properties adjacent to these roadways are visible and consist primarily of dirt/gravel and non-native vegetation. Overhead powerlines are visible along the roadways. The interior of the site and entire middle ground of the site is covered with brownish low-lying vegetation and some greenish groundcover. A few shrubs are located along the roadway shoulder, but trees are seen. The background consists of flat, agricultural uses with distant views of agricultural equipment. Beyond this point, there are no distant views afforded. No development is shown within this viewpoint. The post-development view from KOP 1 (see Figure 4.1-2) shows the solar array within the foreground and midground, and into the background. The solar panels and associated elements would be clearly visible from KOP 1. This view would interrupt the long view across the project site to the northwest and would stand in contrast to the existing colors and landscape. As discussed in **Table 4.1-4**: *Visual Quality Rating Analysis – KOP 1*, further below the predevelopment score is 7, and the post-development score is 6. Since the difference in scores would be 1 point, visual impacts from KOP 1 are less than significant.

KOP 2. Figure 4.1-3: *KOP 2: Existing and Simulated Views from the North Eastern-most boundary and Old River Road Looking Southwest towards the Project Site,* shows views from the Old River Road looking southwest toward the lower portion of the project site. This KOP reflects views to the project site that would be experienced by people using the Old River Road which delineates the eastern boundary of the project site. The pre-development views from KOP 2 depicts broad and relatively flat terrain covered with brown vegetation and bare ground. This is characteristics of both the foreground and midground areas. Overhead powerlines are visible along Old River Road and through the project site. There is a portion of an orchard visible west of Old River Road that continues westerly until it is out of view. In the background the Transverse range is visible rising beyond flat terrain of the project site and surrounding area. The Transverse range hills appear darker grey and brown in color in contract to the brown and tan colors that dominate the

foreground and midground of the project site. The post-development view from KOP 2 (see **Figure 4.1-3**) shows the solar array on the eastern portion of the project site. The array is not immediately visible in the foreground and would not be visible against the horizon of the westerly hills on the project site and would not visually contrast with the rise of the distant Transverse Range. The solar arrays would not interrupt the long view across the valley terrain to the south and would be a similar color to the project site and surrounding area. As discussed in **Table 4.1-5:** *Visual Quality Rating Analysis – KOP 2*, the pre-development score is 8, and the post-development score is 8. Since there is no difference in scores, visual impacts from KOP 2 are less than significant.

KOP 3. Figure 4.1-4: *KOP 3: Existing and Simulated Views from the Northwestern Project Boundary Southeast towards the Project Site,* shows views from the adjacent dirt road looking northwest toward the project site. This KOP reflects views to the project site that would be experienced by people using the dirt road that delineates the northern boundary of the project site. The pre-development views from KOP 3 depicts flat terrain with covered by dirt and bare ground with sparse green shrubs. This is characteristics of both the foreground and midground areas. Limited low-lying vegetation is observed in the background of KOP 3. In the background the Transverse Range is visible rising beyond the project site and surrounding area. The colors of the coast range in the picture appear darker grey and brown in contract to the brown and tan colors that dominate the foreground and midground of the project site. The post-development view from KOP 3 shows the solar array within the midground and into the background. Due to the distance between the project site and Transverse Range, the solar array does not affect views between the project site and the transition of views and color delineation to the rise of Coast Range. The array does not rise above the horizon of block views of the top of the Range As discussed in **Table 4.1-6**: *Visual Quality Rating Analysis – KOP 3*, the pre-development score is 10, and the post-development score is also 10. Since there is no difference in scores, changes and impacts to the visual environmental would be less than significant as experienced from KOP 3.

KOP 4. Figure 4.1-5: *KOP 4: Existing and Simulated Views from the Southwestern Project Boundary Northeast towards the Project Site,* shows views from Copus Road looking northeast toward the project site. This KOP reflects views to the project site that would be experienced by people using Copus Road that delineates the southern boundary of the project site. The pre-development views from KOP 3 depicts flat terrain with covered by dirt and bare ground. This is characteristics of both the foreground and midground areas. There is a portion of an orchard visible south of Copus Road that continues westerly until it is out of view. In the background the Transverse Range is visible at a distance rising beyond properties to the south. The colors of the range in the picture appear darker grey and brown in contrast to the brown and tan colors that dominate the foreground and midground of the project site. Fencing surrounding the solar arrays is visible in the foreground. The post-development view from KOP 3 shows the solar array within the midground and background to the north of Copus Road. The solar array located north of Copus Road does not affect views between the project site and the transition of views and color delineation to the rise of Transverse Range which is located to the south. As discussed in **Table 4.1-7**: *Visual Quality Rating Analysis – KOP 4*, the pre-development score is 5, and the post-development score is also 5. Since there is no difference in scores, changes and impacts to the visual environmental would be less than significant as experienced from KOP 3.

Existing



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Figure 4.1-2: KOP 1 -Existing and Simulated Views from the Southeast Corner of the Project Site on Copus Road and Old River Road Intersection Looking Northwest Toward the Project Site
By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

TABLE 4.1-4: VISUAL QUALITY RATING ANALYSIS – KOP 1

Sensitive Receptor(s): Workers located near the project site.
Pre-development and post-development conditions are depicted in Figure 4.1-2.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Landform	1	1	0	Less than Significant
Explanation:	Relatively flat terrain covered with low-lying vegetation and no mountainous terrain in the background.	The flat topography of the area would not be noticeably modified by project development.		
Detail:	Flat landforms dominate the foreground, middle ground, and background of the visible landscape. The low height of solar arrays on the project site would not obstruct or substantially interrupt views of any of the or skyline. Views would not be substantially changed There would be a less than significant impact to landforms resulting from project operations.			
Vegetation	1	1	0	Less than Significant
Explanation:	Low growing green and brown vegetation with brown dirt adjacent to roadways.	Visible vegetation would be removed from the solar sites in the middle ground.		
Detail:	Post-development views show the ground surface covered with bare ground and existing vegetation removed. Solar arrays would be visible from adjacent roadways; however, contrast associated with vegetation removal would not be prominent due to the low profile of existing vegetations. Impacts would be less than significant.			
Water	1	1	0	No Impact
Explanation:	No water is present on the site or in the vicinity.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	1	1	0	Less than Significant
Explanation:	The project site is dominated with shades of brown from the dry vegetation and bare ground. Low-lying green vegetation is visible within the midground.	Solar arrays would display a low and thin brown horizontal band in the middle ground but would present minimal contrast with the muted earth tones within the project area.		

TABLE 4.1-4: VISUAL QUALITY RATING ANALYSIS – KOP 1

	Detail:	Muted earth tones of brown from the vegetation and bare ground dominate the foreground, middle ground, and background. Some green tones are currently visible within the middle ground. The color of solar arrays would be visible but would not substantially contrast with the drab tones displayed by terrain and minimal vegetation in the foreground, midground, and background of the project site. The Project would have a minimal visual impact and color contrast, which creating a change would not be substantially different from this KOP.		
Adjacent Scenery		1	1	0	Less than Significant
	Explanation:	The adjacent areas have the same or similar visual elements as the project site.	The project would not affect the visual elements of any of the adjacent areas.	
	Detail:	The project would not modify, substantially obstruct, or interrupt views of adjacent scenery. Less-than-significant impacts to views of adjacent scenery would result.		
Scarcity		1	1	0	Less than Significant
	Explanation:	The available view is broad. There are no unique aspects from this view. Similar views exist throughout the area.	Views would be slightly modified by solar development in the middle ground.	
	Detail:	Existing views offered from the KOP are typical of the area. Visible features are not particularly unique or unusual. Alteration of the landscape to accommodate the project would not result in visually significant impacts to view scarcity.		
Cultural Modifications		1	0	1	Less than Significant
	Explanation:	Cultural modifications include installation of the solar array.	Project development would add low-profile solar arrays.	
	Detail:	The introduction of solar arrays would be evident in the midground of the project site but would not have a substantial visual impact in relation to cultural modifications. Therefore, the addition of cultural modifications to the middle ground of KOP 1 would be less than significant.		
	Totals:	**7**	**6**	**1**	**Less than Significant**

Existing



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Figure 4.1-3: KOP 2 -Existing and Simulated Views from the Eastern Most North Corner of the Project Site on Old River Road Looking Southwest Towards the Project Site
By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

TABLE 4.1-5: VISUAL QUALITY RATING ANALYSIS – KOP 2

Sensitive Receptor: Workers located near the project site
Pre-development and post-development conditions are depicted in Figure 4.1-3.

Rated Feature	Pre-development Score	Post-development Score	Difference in Scores	Impact Significance
Landform	2	2	0	Less than Significant Impact
Explanation:	Broad and flat terrain in the foreground and middle ground and the Transverse Range in the background.	Project development would not visibly modify the area's topography as viewed from the KOP.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground and middle ground with the Coast Range in the background. The project would not change the viewshed as seen from this KOP and solar arrays would be minimally visible.			
Vegetation	1	1	0	Less than Significant Impact
Explanation:	Low growing and dry vegetation and bare ground covers the foreground and continues into the midground. An orchard is visible on the adjacent parcel to the west. Specific vegetation is not visible in the background.	Vegetation removal would be obscured and minimized due to the intervening fence distance and viewing angle.		
Detail:	Removal of vegetation in the middle ground due to project development would be minimally visible. Solar arrays installed on the project site would replace this vegetation but not substantially change detectable vegetative patterns. The resulting contrast would not be substantial, and impacts to vegetation would be less than significant.			
Water	1	1	0	No Impact
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	1	1	0	Less than Significant Impact
Explanation:	Shades of green and brown are displayed by soil and vegetation. Green is visible in the adjacent orchard but the site is dominated by tan and brown vegetation and earth. The Coast Range in the background is darker grey and brown, which give way to the sky above.	The brown color of solar arrays would be visible but would not substantially contrast with the drab tones displayed by terrain and minimal vegetation in the foreground, midground, and background of the project site. The Project would have a minimal visual impact and color contrast, which creating a change would not be substantially different from this KOP.		

TABLE 4.1-5: VISUAL QUALITY RATING ANALYSIS – KOP 2

Detail:	Pre- and post-development views are and would continue to be dominated by earth tones. The by solar arrays would be noticeable in views, but would not stand in substantial contrast to the existing site or to the low lying Coast Range in the background view.			
Adjacent Scenery	2	2	0	Less than Significant Impact
Explanation:	Views of the existing site terrain are enhanced by the orchard to the west and views of the Coast Range to the south.	The orchard and Coast Range would remain visible. The installation of the solar array would not block or obscure views of either of these features.		
Detail:	The project would not modify, substantially obstruct, or interrupt views of adjacent scenery. Impacts to views of adjacent scenery would be less than significant result.			
Scarcity	1	1	0	Less than Significant Impact
Explanation:	The extent of the broad view is not limited by existing site topography or features. There are no particularly unique or unusual aspects in the view, other than the views of the Coast Range but which are similar throughout the area.	The middle ground would be modified by the introduction of solar arrays but they would be marginally visible at a distance. In addition, there are other solar developments in the region and because views of the project site are similar to other, views are not scarce.		
Detail:	The view from Old River Road is typical of views available throughout the area and landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would result in minimal impact to view scarcity.			
Cultural Modifications	0	0	0	No Impact
Explanation:	Cultural modifications include roads, an orchard and fencing.	Project development would add low-profile solar arrays visible from this part of the project area. The solar arrays would have a minimal visual impact.		
Detail:	The introduction of solar arrays would be evident in the midground of the project site but would not have a substantial visual impact in relation to cultural modifications. Therefore, the addition of cultural modifications to the middle ground of KOP 2 would be less than significant.			
Totals:	**8**	**8**	**0**	**Less than Significant Impact**

Existing



Proposed



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Figure 4.1-4: KOP 3 -Existing and Simulated Views from the Northwest Corner of the Project Site on the Dirt Road Looking Southeast Towards the Project Site
By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

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TABLE 4.1-6: VISUAL QUALITY RATING ANALYSIS – KOP 3

Sensitive Receptor: Workers located near the project site
Pre-development and post-development conditions are depicted in Figure 4.1-4.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Landform	2	2	0	No Impact
Explanation:	Broad and flat terrain in the foreground and midground with the Coast Range in the project background.	Project development would not visibly modify the area's topography as viewed from the KOP.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground and middle ground with the Transverse Range in the background. The project would not change the viewshed as seen from this KOP and solar arrays would be minimally visible.			
Vegetation	2	2	0	Less than Significant Impact
Explanation:	The site is predominantly bare ground, but some low growing shrubs area visible in the foreground and midground. Some green vegetation is visible on the project site in the middle ground.	Vegetation removal would remove green groundcover within the project site. The views of the darker vegetation on the foothills would largely remain visible and minimally obscured due to the intervening panels.		
Detail:	Removal of vegetation in the middle ground due to project development would be alter the vegetative patterns of the site and block some views of the colors of vegetation in the distance. Vegetative patters and associated colors of the Coast Range would be minimal and only block the northerly portion of the view. The resulting contrast would be noticeable, but due to the minimal visual quality, impacts to vegetation would be less than significant.			
Water	1	1	0	No Impact
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	2	2	0	Less than Significant Impact
Explanation:	Shades of yellowish and brown vegetation and bare ground dominate the foreground, with minor amounts of interspersed green plants. The foreground is characterized dirt roads and the background is darker brown and grey within the foothills.	The color and context of the foreground would not be noticeably different upon project implementation due to the distance of solar infrastructure from the KOP. Color contrast would not be substantially changed with project operation.		
Detail:	Pre- and post-development views are and would continue to be dominated by earth tones. The dark line displayed by solar arrays would be noticeable in views but would be similar in tone to the color displayed by foothills in the background.			

TABLE 4.1-6: VISUAL QUALITY RATING ANALYSIS – KOP 3

Adjacent Scenery	1	1	0	Less than Significant Impact
Explanation:	The adjacent areas have the same or similar visual elements as the project site. The Transverse Range is visible in the background.	The project would not block views of the Transverse Range from this vantage point.		
Detail:	The project would not substantially obstruct, or interrupt views of adjacent scenery. Impacts would be less than significant as the hills would remain visible and horizon would not be blocked.			
Scarcity	1	1	0	Less than Significant Impact
Explanation:	The views to the west and the foothills, and those of the orchard and undeveloped properties are common in the project area as well as the localized region. There are no particularly unique or unusual aspects in the view, and as discussed, similar views are available elsewhere.	The middle ground would be modified by the introduction of solar arrays but these modifications would not be substantial in consideration of reducing the availability of other similar views in the areas. While the project introduces a different visual element, it would not create a scarcity in the existing types of views.		
Detail:	The view from the roadway is typical of views available throughout the area and landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would change the visual environmental but impacts would be less than significant.			
Cultural Modifications	1	1	0	Less than significant.
Explanation:	Cultural modifications include dirt roads and plowed/disturbed fields.	The project would introduce new cultural modifications to include new fencing, solar panels, and other electrical equipment and infrastructure.		
Detail:	The introduction of solar arrays would be evident in the middle ground and introduce a new cultural structural element. While changes would occur, the differences in comparison to the overall visual context would be less than significant.			
Totals:	**10**	**10**	**0**	**Less than Significant Impact**

Existing



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Figure 4.1-5: KOP 4 -Existing and Simulated Views from the Southwest Corner of the Project Site on Copus Road Looking Northeast Toward the Project Site
By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

TABLE 4.1-7: VISUAL QUALITY RATING ANALYSIS – KOP 4

Sensitive Receptor: Workers using the dirt road to access other properties.
Pre-development and post-development conditions are depicted in Figure 4.1-5.

Rated Feature	Pre-development Score	Post-development Score	Difference in Scores	Impact Significance
Landform	1	1	0	Less than Significant Impact
Explanation:	Broad and flat terrain in the foreground, middle ground and distant views of the Transverse Range in the background.	Project development would not visibly modify the area's topography as viewed from the KOP.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground and middle ground with distant views of the Transverse Range in the background. The project would moderately change the viewshed as seen from this KOP but changes would not be not substantially modify landforms in the view.			
Vegetation	0	0	0	Less than Significant Impact
Explanation:	Bare ground with limited dry vegetation covers the foreground and continues into the midground. Green vegetation is visible within the orchard to the south. Specific vegetation is not visible in the background.	The project site is characterized by bare ground and would require limited vegetation removal. Adjacent views of the orchard and green vegetation would not be obscured.		
Detail:	Removal of vegetation in the middle ground due to project development would be minimally visible. Solar arrays installed on the project site would replace this vegetation but not substantially change detectable vegetative patterns. The resulting contrast would not be substantial, and impacts to vegetation would be less than significant.			
Water	0	0	0	No Impact
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			

TABLE 4.1-7: VISUAL QUALITY RATING ANALYSIS – KOP 4

Sensitive Receptor: Workers using the dirt road to access other properties.
Pre-development and post-development conditions are depicted in Figure 4.1-5.

Rated Feature	Pre-development Score	Post-development Score	Difference in Scores	Impact Significance
Color	1	1	0	Less than Significant Impact
Explanation:	Shades of brown are display by the bare ground and limited vegetation. Green is visible in the adjacent orchard but the site is dominated by tan and brown vegetation and earth. The Transverse Range in the background is darker grey and brown, which give way to the sky above.	The dark color of solar arrays would be visible but would not substantially contrast with the drab tones displayed by terrain and minimal vegetation in the foreground, midground, and background of the project site. The Project would have a minimal visual impact and color contrast, which creating a change would not be substantially different from this KOP.		
Detail:	Pre- and post-development views are and would continue to be dominated by earth tones. The dark line displayed by solar arrays would be noticeable in views, but would not stand in substantial contrast to the existing site or to the low lying Transverse Range in the background view.			
Adjacent Scenery	1	1	0	Less than Significant Impact
Explanation:	Views of the existing site terrain are enhanced by the orchard to the south and views of the Transverse Range to the south.	The orchard and Coast Range would remain visible. The installation of the solar array would not block or obscure views of either of these features.		
Detail:	The project would not modify, substantially obstruct, or interrupt views of adjacent scenery. Impacts to views of adjacent scenery would be less than significant result.			
Scarcity	1	1	0	Less than Significant Impact
Explanation:	The extent of the broad view is not limited by existing site topography or features. There are no particularly unique or unusual aspects in the view, other than the views of the Transverse Range but which are similar throughout the area.	The middle ground would be modified by the introduction of solar arrays but they would be marginally visible at a distance. In addition, there are other solar developments in the region and because views of the project site are similar to other, views are not scarce.		
Detail:	The view from Rosamond Boulevard is typical of views available throughout the area and landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would result in minimal impact to view scarcity.			

TABLE 4.1-7: VISUAL QUALITY RATING ANALYSIS – KOP 4

Sensitive Receptor: Workers using the dirt road to access other properties.
Pre-development and post-development conditions are depicted in Figure 4.1-5.

Rated Feature	Pre-development Score	Post-development Score	Difference in Scores	Impact Significance
Cultural Modifications	1	1	0	Less than Significant Impact
Explanation:	Cultural modifications include roads and wells on site.	Project development would add low-profile and dark solar arrays and fencing visible from this part of the project area. The solar arrays would have a minimal visual impact.		
Detail:	The introduction of solar arrays would be evident in the midground of the project site but would not have a substantial visual impact in relation to cultural modifications. Therefore, the addition of cultural modifications to the middle ground of KOP 2 would be less than significant.			
Totals:	**5**	**5**	**0**	**Less than Significant Impact**

Factors Reducing Visual Impacts

The following attributes of the project and elements of the existing conditions would reduce visual impacts of the project:

- The project site is generally flat and would reduce the need for grading and visible alteration of landforms.
- The lack of scenic designation of local roads in the immediate project area reduces viewer sensitivity and expectations for scenic landscapes.
- Solar panels, the primary feature of the project, would cover most of the land on the site and would generally be 20 feet in height or less. Therefore, solar panels would not block long-distance views and would be diminished when viewed from 0.5 miles or farther.
- Solar panels do not create significant levels of glare, as explained in Impact 4.1-3, below.
- Minimal onsite lighting would be required during operations, as explained in Impact 4.1-4, below. Facilities would operate at night however, regular operation and maintenance activities would not occur at night, and no regular nighttime staffing would be required.

Summary

As shown in **Tables 4.1-4** through **4.1-7**, implementation of the project would result in changes to existing views and result in visual impacts to the existing aesthetic quality and character of the site and surrounding area. As shown in the visual simulations, while much of the existing viewshed would remain, the new solar development would be replace the current undeveloped but disturbed project site. New darker and linear arranged solar panels would replace areas with mostly bare ground consisting of muted earth tones and brown vegetation interspersed with small green plants. The effects of the installation of the solar arrays as viewed from off-site areas would result in a visual conflict with the adjacent undeveloped land. Further, the

introduction of thousands of solar panels, the O&M facilities, the energy storage facilities, and the collection lines would increase the footprint of solar and electrical transmission development in the region. Accordingly, the project would introduce additional manufactured elements where they do not currently dominate the landscape, resulting in potentially significant aesthetic impacts.

Mitigation Measures MM 4.1-1 through MM 4.1-3 would reduce visual impacts associated with the proposed project by limiting vegetation removal, planting native vegetation, providing privacy fencing, reducing the visibility of project features, and ensuring that the site is kept free of debris and trash. Native vegetation would be left in place around the proposed project area where feasible, allowing for a natural screening of project components. Furthermore, the color treatment of buildings would help these components to better blend in with the natural landscape and would reduce impacts to less than significant.

PG&E Lakeview Substation Expansion and Electrical Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. These improvements are located approximately 0.5 east of the project site. The Lakeview Substation expansion would match the existing use and not create a significant visual impact. Further, there are no other scenic resources in the vicinity of the PG&E Interconnection Facilities. Therefore, impacts would be the same less than significant impact and no mitigation would be required.

Mitigation Measures

MM 4.1-1: Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted for review and approval to the Kern County Planning and Natural Resources Department. The program shall include, but not be limited to the following:

a. The project proponent/operator shall clear debris from the project area at least four times per year; this can be done in conjunction with regular panel washing and site maintenance activities.

b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department.

c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans.

d. Trash and food items shall be contained in closed secured containers at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall submit a proposed color scheme and treatment plan, for review and approval by the Kern County Panning and Natural Resources Department, that will ensure all project facilities including operations and maintenance buildings and associated array facilities, etc. blend in with the colors found in the natural landscape to the greatest extent possible. All color treatments shall result in matte or nonglossy finishes.

MM 4.1-3: Wherever possible, within the proposed project boundary the existing vegetation shall remain undisturbed unless mowing is necessary for placement of the project components. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

a. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be revegetated with a site-specific native seed mix or native plants and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.

b. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and (4) a clear prohibition of the use of toxic rodenticides.

c. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).

d. Vegetation/ground cover shall be continuously maintained on the site by the project operator.

e. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during the three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for each of the three years. Should efforts to revegetate with the existing native seed bank in the top soil prove in the second year to not be successful by 75 percent cover rate, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. Should, through consultation with a qualified botanist, a 75% rate be determined not to be feasible, evidence of such shall be submitted to Kern County

Planning and Natural Resources Department. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Level of Significance after Mitigation

Impacts would be less than significant for the project with MM 4.1-1 through MM 4.1-3. Impacts would also be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.1-4: The project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

Regarding night lighting and daytime glare conditions, "light" refers to artificial light emissions, or the degree of brightness, generated by a given source. Regarding glare conditions, the Illuminating Engineering Society of North America (IES, 2000) defines "glare" as the sensation produced by luminance in the visual field that is sufficiently greater than the luminance to which the eye has adapted to cause annoyance, discomfort, or loss of visual performance and visibility.

Construction

Lighting

According to the County's Noise Ordinance, construction is allowed during the hours of 6:00 a.m. to 9:00 p.m. Monday through Friday and 8:00 a.m. to 9:00 p.m. on weekends. Construction of the project would generally occur during daytime hours; however, non-daylight hours may be necessary at times to make up for unanticipated schedule delays or to complete critical construction activities. In the event that work is performed between the hours of 9:00 p.m. to 6:00 a.m., construction crews would use minimal illumination in order to perform the work safely. All lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. During construction, dusk-to-dawn security lighting would be required for the temporary construction staging area, parking area, construction office trailer entries, and project site access points. Lighting is not planned for typical construction activities because construction activities would occur primarily during daylight. Per Mitigation Measure MM 4.1-5, any nighttime construction would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby residents. As a result, construction of the project would result in less-than-significant impacts to nighttime views.

Glare

Most of the proposed construction activities are planned to occur during daylight hours. Increased truck traffic and the transport of the solar arrays and construction materials to the project site and transmission lines would temporarily increase glare conditions during construction. However, this increase in glare would be minimal and temporary. Construction activity would occur on focused areas of the project site as construction progresses and any sources of glare would not be stationary for a prolonged period of time. Additionally, the surface area of construction equipment would be minimal compared to the scale of the site. Therefore, construction of the project would not create a new source of substantial glare that would affect daytime views in the area and impacts would be less than significant.

Operation

Lighting

As described in Chapter 3, *Project Description*, night lighting will be installed for security and maintenance needs at the main access entrances, O&M Building(s), substation (as necessary), and major equipment enclosures. The O&M Building(s) and any substation lighting will be controlled by motion sensors, by a control switch accessible within the site control center or as required by code. Maintenance of the plant may be necessary during nighttime hours. In this event, portable, directional lighting would be utilized for the work areas. The solar field would not require lighting. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Additionally, lighting would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. Potential operational impacts associated with new sources of lighting at the solar sites would be minimized through compliance with applicable development standards pertaining to lighting, including Chapter 19.81 (Dark Skies Ordinance), as required with implementation of Mitigation Measure MM 4.1-5, which states that projects would be designed to provide the minimum illumination needed to achieve safety and security objectives. Therefore, implementation of Mitigation Measure MM 4.1-5 and compliance with applicable local development standards and regulations pertinent to lighting would minimize the potential for light trespass onto adjacent properties and roads, and impacts would be less than significant.

Glare

Potential new sources of glare would be produced by sunlight reflecting off the glass surfaces of the solar modules. Although solar facility glare potential is much lower than is commonly perceived, solar panels have the potential to create some glare. Although the project may produce glare, it is not expected to cause extreme visual discomfort or impairment of vision for residents because the panels are designed to absorb as much sunlight as possible and, therefore, would have minimal reflectivity. Similarly, and also due to their low reflectivity, the panels would not be expected to cause visual impairment for motorists on area roadways. This is because local motorists would pass well under the angle of refraction (i.e., less than 30 degrees). Effects on eastbound motorists would likely be greatest in the early evening hours, when the sun is at its lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers on Copus Road in the early morning hours, when the sun is rising in the east. To reduce glare potential, the project would be required to implement Mitigation Measures MM 4.1-4 through MM 4.1-6, which require the use of non-reflective and glare-minimizing materials. With implementation of these mitigation measures, impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electrical Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The expansion of the Lakeview Substation would not create a new or significantly increased glare or light impact as the proposed improvements are the same as the existing use. Therefore, impacts would be the same less than significant impact and no mitigation would be required.

Mitigation Measures

MM 4.1-4: Prior to commencement of project operations of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the Dark Skies Ordinance (Chapter 19.81 of the Kern County Zoning Ordinance) and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.

MM 4.1-5: Prior to the issuance of building permits, the project proponent shall demonstrate that the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.1-6: Prior to commencement of project operations of the solar facility, the project operator shall demonstrate that all onsite buildings utilized non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, impacts would be less than significant. Impacts would be less than significant with no mitigation for the PG&E Interconnection Facilities.

Cumulative Setting Impacts and Mitigation Measures

As shown in **Table 3-3**, *Cumulative Project List*, there are ten projects within six mile of the project site including three solar energy storage facility. Additional solar projects in both the valley and desert in Kern County comprise more than 60,000 acres of land. As with the other listed projects, solar facilities have and /or will modify the open valley character of the project region and result in the reduction of visual quality. Although limited in the surrounding area, when combined with existing and/or proposed solar facilities, the project would increase the footprint of solar development such that cumulative impacts to views and visual quality would occur. For example, previously unobstructed (or minorly obstructed) views of hillsides and mountains, or uninterrupted views of agricultural lands along the I-5 corridor, would be interrupted and modified as solar developments, including dark solar panels and vertical substation, switchyard, and electrical transmission facilities, are constructed and come online. View impacts associated with these existing and proposed developments would persist throughout the operational lifespan of projects. The size and scope of already existing development of more than 60,000 acres of solar projects would be increased by the proposed project, and there would be cumulative impacts to aesthetics when considered together with the project.

The project would result in a less than significant related to visual character with implementation of mitigation. However, in consideration with other projects in the region that would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural desert area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the San Joaquin Valley would be cumulatively significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 through MM 4.1-6.

Level of Significance after Mitigation

Cumulative impacts would be significant and unavoidable.

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Section 4.2
Agriculture and Forestry Resources

4.2.1 Introduction

This section of the EIR describes the affected environment and regulatory settings for agriculture and forest resources for the project. It also describes the impacts on agricultural and forest resources that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. This section is based, in part, on information provided in the *Agricultural Conversion Study* (2022) for Kern County Jasmine Solar Project (project) prepared by Rincon Consultants, Inc. located in Appendix B of this EIR.

4.2.2 Environmental Setting

Regional Setting

Kern County covers 8,161 square miles (2,223,019 acres) including, according to the most recent Census of Agriculture data compiled by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), 1,731 farms comprising 2,295,497 acres with an average farm size of 1,326 acres (USDA 2017). The 2022 Annual Agricultural Crop report documented that Kern County's gross value of all agricultural commodities is $7,724,166,300, which represents an decrease of seven percent from the 2021 agricultural commodities value ($8,341,294,840). The top five commodities for Kern County in 2022 were grapes, citrus, almonds, pistachios, and milk, which make up more than $5 billon (66%) of the gross value.

Kern County is a growing population and like many agricultural based jurisdictions, must balance urbanization and the loss of farmland. The most recent data from 2016 – 2018 published by the California Department of Conservation (CDOC) provides the acres of prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance that have been converted to a non-agricultural use. These values are shown in **Table 4.2-1:** *Kern County Farmland Conversions*, below.

TABLE 4.2-1: KERN COUNTY FARMLAND CONVERSIONS

Agricultural Designation	Total Acres 2016	Total Acres 2018	Acres Lost	Acres Gained	Total Acres Changed	Net Acres Changed
Prime Farmland	579,297	573,935	7,017	1,655	8,672	-5,362
Farmland of Statewide Importance	209,484	208,323	3,566	2,405	5,971	-1,161
Unique Farmland	91,321	91,768	1,915	2,326	4,277	447
Farmland of Local Importance	0	0	0	0	0	0
Important Farmland Subtotal	**880,102**	**874,026**	**12,498**	**6,422**	**18,920**	**-6,076**
Grazing Land	1,849,267	1,854,641	6,346	11,720	18,066	5,374
Agricultural Land Subtotal	**2,729,369**	**2,728,667**	**18,844**	**18,142**	**36,986**	**-702**

Source: CDOC, 2018

As shown in **Table 4.2-1** between 2016 and 2018 prime farmland has decreased by approximately 5,362 (0.92%), farmland of statewide importance as decreased by approximately 1,161 acres (0.55%), unique farmland has decreased by approximately 447 acres (0.4%), farmland of local importance remains at zero acres within the County, and total CDOC designated farmland has decreased by approximately 6,076 acres (0.69%). At the same time, grazing land has increased by approximately 5,374 (0.2%). According to Kern Council of Governments in their *Regional Growth Forecast* report (2020), it is estimated that the total population of Kern County will reach approximately 1,227,200 individuals in 2050, growing from 2022's population of approximately 909,813 (DOF, 2022). The anticipated growth in population will most likely decrease the amount of agricultural land in Kern County even further. However, it is important to note, the conversion of agricultural land is affected by numerous factors other than population growth and urban development. Actual production is dependent on commodity prices, water prices and supply, labor, the proximity of processing and distribution facilities, and pest management. Factors such as weather, trade agreements, and labor disputes can also affect decisions regarding what crops are grown and which lands go in and out of production. Most conversion of prime farmlands or farmland of statewide importance, or other agricultural lands is occurring within the planned development footprint of Metropolitan Bakersfield. Very little conversion of the most productive agricultural lands has occurred in outlying areas of the County.

Local Setting

Project Site Designation

The project site is located in an unincorporated agricultural area of southwestern Kern County in the Valley Region. Existing land use at the project site is primarily dry-farmed agriculture that has been intermittently irrigated. For the past 10 years, the crops on the project site have been rotated between periods of low-yield agricultural production. This includes periods with the site having been tilled, seeded, and harvested for winter wheat) and times being irrigated with drip or sprinkler and harvested for alfalfa seed or other crops.

The project site is in Wheeler Ridge-Maricopa Water Storage District (WRMWSD), which experienced significant growth in agricultural development in the 1940's and peaking in the mid-1970's. Since the 1970's, much of the district shifted from field crops to more permanent crops in the 1990s. Permanent crops, primarily almonds, citrus, and grapes, account for slightly more than 75 percent of the total area of the crops planted in the WRMWSD service area in 2020. The current crop makeup of the WRMWSD has further evolved with the conversion from annual crops to high value permanent crops over time, which has led to a "hardening" or more consistent total water requirement (WRMWSD 2021a). Although other areas have tended toward permanent crops, the project site has been growing alfalfa and winter wheat, with approximately one-third of the fields now being fallow. Pistachios were last grown in 2017 and the percent of fallow fields increased on those parcels of land (Rincon, 2021)

The project site is zoned Exclusive Agricultural (A) in the Kern County Zoning Ordinance and located within the boundaries of Agricultural Preserve No. 12 designated by Kern County. Most of the project site is currently subject to a Williamson Act Land Use Contract. All of APN 295-131-12, the area in which the solar field would be located, and the easterly half of APN 295-132-15, the area proposed for the gen-tie line, are under a Williamson Act Contract. The project proposes cancellation of Williamson Act Contracts on APN(s) 295-131-12 and 295-132-15, which would result in a total of 528 acres. See **Table 4.2-2:** *Williamson Act Land Use Cancellations* and **Figure 3-7:** *Williamson Act Land Use Contracts,* in Section 3.0, *Project Description.*

TABLE 4.2-2: WILLIAMSON ACT LAND USE CONTRACT CANCELLATIONS

WALUC Cancellation Number	Kern County Recorded Document Number	Original Contract Date	Status	APN(s)	Acreage to be Removed
23-04	Book 4373, Page 24	02/17/1970	Nonrenewal	295-131-12	513.61
23-04	Book 4272, Page 933	04/29/1969	Nonrenewal	295-132-15	14.5
NOTES: WALCU = Williamson Act Land Use Contract APN = Assessor's Parcel Number					

The project site is also designated Farmland of Statewide Importance and Grazing Land by the California Important Farmland Finder on the Farmland Mapping & Monitoring Program (FMMP) (CDOC, 2016), see **Figure 3-6**: *California Important Farmland Map* in Section 3.0, *Project Description.*

4.2.3 Regulatory Setting

Federal

Farmland Protection Policy Act (FPPA) (7 United States Code [USC] Section 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 nonagricultural uses. It also directs Federal programs to be compatible with State and local policies for the protection of farmland. Under the FPPA, the term "farmland" includes Prime Farmland, Unique Farmland, and Farmland of Statewide of Local Importance. Farmland that is subject to FPPA requirements does not have to be currently used as cropland. It can be forestland, pastureland, or other land but not urban and built-up land or water. FPPA assures that, to the extent possible, federal programs are administered to be compatible with State, and local units of government, and private programs and policies to protect farmland.

In 1981, Congress passed the Agriculture and Food Act (Public Law 97-98) which contained the FPPA, Subtitle I of Title XV, Sections 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994. Federal agencies are required to develop and review their policies and procedures related to implementing the FPPA every two years.

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. Projects are subject to FPPA requirements if they irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a Federal agency or rely on assistance from a Federal Agency (Natural Resources Conservation Service [NRCS], 2019).

State

California Department of Conservation (DOC), Division of Land Resource Protection

The DOC applies the NRCS soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC uses a minimum mapping unit of 10 acres; parcels that are smaller than 10 acres are absorbed into the surrounding classifications.

The list below describes the categories mapped by the DOC (DOC California Important Farmland Finder, 2019) through the FMMP. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as "farmland."

- **Prime Farmland.** Farmland that has the ideal combination of physical and chemical features. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and long-tern agricultural production land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Farmland of Statewide Importance.** Farmland that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or lower moisture content. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Unique Farmland.** Land with lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include land that supports non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been used for crops at some time during the 4 years prior to the mapping date.

- **Farmland of Local Importance.** Land that is important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

- **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 with an interest in grazing activities.

- **Urban and Built-Up Land.** Land that is developed with structures that have been built to a density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land supports residential, industrial, commercial, institutional, public administrative uses; railroad and other transportation yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment facilities; water control structures; and other developed uses.

- **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 40 acres. Undeveloped and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act (California Government Code Section 51200-51297.4), and is applicable to specific 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 a Williamson Act contract. The Williamson Act program is administered by the CDOC, in conjunction with local governments that administer the individual contract arrangements with landowners. Participation in the Williamson Act program is dependent on County adoption and implementation of the program and is voluntary for landowners (CDOC, 2019a).

Under the Williamson Act, a landowner commits the parcel to a 10-year period, during which time no conversion out of agricultural use is permitted. In return, the land is taxed at a rate based on the actual use (i.e., agricultural production), as opposed to its unrestricted market value. Each year the contract automatically renews unless a notice of nonrenewal or cancellation is filed. However, the application to cancel must be consistent with the criteria of the affected county or city. Nonrenewal or contract cancellation does not change a property's zoning. Participation in the Williamson Act program, which is voluntary for landowners, is dependent on a county's willingness to adopt and implement the program. The Williamson Act states that a board or council will, by resolution, adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the allowed uses. Generally, any commercial agricultural use would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted under a permit (CDOC, 2019a).

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. Also Section 51238 states that board 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. Furthermore, under California Government Code Section 51238.1, a board or council may allow 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 would not significantly compromise the long-term agricultural capability of the subject contracted parcel or parcels on other contracted lands in agricultural preserves;
- The use would not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations 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; and
- The use would not result in the significant removal of adjacent contracted land from agricultural or open-space use.

A Williamson Act Contract cancellation is an option under limited circumstances and conditions set forth in Government Code Section 51280 et seq. In such cases, landowners may petition a board/council for Williamson Act Contract cancellation. The board/council may grant tentative cancellation only if it makes required statutory findings (Government Code Section 51282(a)). If the required findings are met, the

landowner is required to pay a cancellation fee equal to 12.5% of the cancellation valuation (unrestricted fair market value) of the property (Government Code Section 51283(b)) (DOC, 2019b).

California Government Code Section 51282

California Government Code Section 51282 outlines the permitted reasoning for cancellation of Williamson Contracts below, under (a) and (b).

(a) The landowner may petition the board or council for cancellation of any contract as to all or any part of the subject land. The board or council may grant tentative approval for cancellation of a contract only if it makes one of the following findings:

(1) That the cancellation is consistent with the purposes of this chapter.

(2) That cancellation is in the public interest.

(b) For purposes of paragraph (1) of subdivision (a) cancellation of a contract shall be consistent with the purposes of this chapter only if the board or council makes all of the following findings:

(1) That the cancellation is for land on which a notice of nonrenewal has been served pursuant to Section 51245.

(2) That cancellation is not likely to result in the removal of adjacent lands from agricultural use.

(3) That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.

(4) That cancellation will not result in discontiguous patterns of urban development.

(5) That there is no proximate noncontracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.

As used in this subdivision "proximate, non-contracted land" means land not restricted by contract pursuant to this chapter, which is sufficiently close to land which is so restricted that it can serve as a practical alternative for the use which is proposed for the restricted land.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act. It was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy in the State. Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner who is 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 improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses.

Public Resources Code Section 21060.1

Public Resources Code Section 21060.1 uses the FMMP to define agricultural land for the purposes of assessing environmental impacts. The FMMP was established in 1982 to assess the location, quality, and

quantity of agricultural lands and analyze the conversion of such lands. The FMMP provides analysis pertaining to agricultural land use changes throughout California.

Local

Kern County General Plan

The Kern County General Plan states that agriculture is vital to the future of Kern County and sets goals to protect important agricultural lands for future use and prevent the conversion of prime agricultural lands to other uses (e.g., industrial or residential). The Kern County General Plan includes four (4) designations for agricultural land:

- **8.1 Intensive Agriculture (minimum parcel size 20 acres gross)** – Lands devoted to the production of irrigated crops or having potential for such use.

  Uses shall include, but are not limited to, the following: Irrigated cropland; orchards; vineyards; horse ranches; raising of nursery stock ornamental flowers and Christmas trees; fish farms' bee keeping' ranch and farm facilities and related uses; one single-family dwelling unit; cattle feed yards; dairies; dry land farming; livestock grazing; water storage; groundwater recharge acres; mineral; aggregate; and petroleum exploration and extraction; hunting clubs; wildlife preserves; farm labor housing; public utility uses; and agricultural industries pursuant to provisions of the Kern County Zoning Ordinance, and land within development areas subject to significant physical constraints.

- **8.2 Resource Reserve (minimum parcel size is 20 acres gross, except to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to areas of mixed natural resource characteristics including rangeland, woodland, and wildlife habitat which occur in an established County water district.

- **8.3 Extensive Agriculture (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to uses involving large amounts of land with relatively low value-per-acre yields such as livestock grazing, dry-land farming, and woodlands.

- **8.4 Mineral and Petroleum (minimum parcel size 5 acres gross)** – Areas which contain producing or potentially productive petroleum fields, natural gas, and geothermal resources, and mineral deposits of regional and Statewide significance. Uses are limited to activities directly associated with the resource extraction. Minimum parcel size is five gross acres. Uses shall include, but are not limited to, the following:

  – Mineral and petroleum exploration and extraction, including aggregate extraction; extensive and intensive agriculture; mineral and petroleum processing (excluding petroleum refining); natural gas and geothermal resources; pipelines; power transmission facilities; communication facilities; equipment storage yards; and borrow pits.

- **8.5 Resource Management (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands consisting primarily of open space containing important resource values, such as wildlife habitat, scenic values, or watershed recharge areas. These areas may be characterized by physical constraints, or may constitute an important watershed recharge area or wildlife habitat or may have value as a buffer between resource areas and urban areas. Other lands with this resource attribute are undeveloped, non-urban areas that do not warrant

additional planning within the foreseeable future because of current population (or anticipated increase), marginal physical development, or no subdivision activity.

Additionally, the designation of 8.5 (Resource Management) can be used for agricultural uses such as dry-land farming and ranch facilities.

The policies, goals, and implementation measures in the Kern County General Plan for agricultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference (Kern County, 2009).

Chapter 1. Land Use, Open Space, and Conservation Element

1.9 Resource

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: Ensure the development of resource areas minimize effects on neighboring lands

Goal 5: Conserve prime agriculture lands from premature conversion.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of general plan designation.

Policy 5: Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.

Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

Policy 16 The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Implementation Measure

Measure B: Areas designated as Resource Reserve (Map Code 8.2), Extensive Agriculture (Map Code 8.3), Resource Management (Map Code 8.5) that are under Williamson Act Contracts or Farmland Security Zone Contracts will have a minimum parcel size of 80 acres until such time as a contract is expired or is cancelled, at which time the minimum parcel size will become 20 acres.

Kern County Zoning Ordinance

The Kern County Zoning Ordinance establishes basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to state law, the zoning ordinance must be consistent with the Kern County General Plan. The basic intent of the Kern County Zoning Ordinance is to promote and protect the public health, safety, and welfare via the orderly regulation of the land uses throughout the unincorporated area of the county. The zoning ordinance applies to all property in unincorporated Kern County, except land owned by the United States or any of its agencies.

Chapter 19.12 Exclusive Agriculture (A) District

The purpose of the Exclusive Agriculture (A) District (Chapter 19.12) is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to non-agricultural uses. Uses in the A district are limited primarily to agricultural uses and other activities compatible with agricultural uses. Allowable land uses within the A district are set forth in Sections 19.12.020 and 19.12.030 and include those associated with growing and harvesting of crops, breeding and raising animals, agricultural industries, residential uses to house farm workers or the landowner, Christmas tree farms, utility corridors, resource extraction, waste facilities, institutional/educational uses, and various miscellaneous uses such as animal shelters and clubs. Facilities permitted on properties zoned A with approval of a conditional use permit (CUP) include those associated with recreation, entertainment, and tourist facilities, utilities and communications, resource extraction and energy development (i.e., wind and solar generators, mining, dams, batch plants), institutional uses (i.e., churches, zoos, government facilities), and schools.

Williamson Act Standard Uniform Rules

Kern County has adopted a set of rules that identify compatible land uses within agricultural preserves established under the Williamson Act. The rules restrict uses on such land to agricultural or other compatible uses. Agricultural uses include crop cultivation, grazing commercial wind farms, livestock breeding, dairies, and uses that are incidental to these uses. Other compatible agricultural uses include those associated with public utilities (e.g., gas, electric, communications, water, and other similar public utilities). For purposes of this analysis, the conversion of agricultural land to a solar facility itself would be incompatible with the farming provisions necessary for projects under the existing Williamson Act Contract. The project is subject to these rules, as it is on contracted land, and would be required by Kern County to petition for an early cancellation of the contract.

4.2.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on agriculture and forest resources have been evaluated on a qualitative basis by reviewing the *Agricultural Conservation Study* for the Jasmine Solar Project (2021) (Appendix B) and the DOC California Important Farmland Map, and Kern County's Online GIS mapper. The quality and availability of agricultural resources for the project site also was evaluated using Kern County Board of Supervisors' Conversion of Agricultural Land to Solar PV Use flowchart and the Land Evaluation and Site Assessment (LESA) Model using available data from the FMMP. the LESA Model is intended to provide lead agencies with an optional methodology to ensure significant effects on the environment of agricultural land conversion are quantitatively and consistently considered in the environmental review process. The model provides an approach for rating the relative quality of land resources using a point-based evaluation composed of six different factors.

A change in land use would normally be determined to be significant if the effects described in the thresholds of significance were to occur (see CCR Title 14, Section 15064.7(a)). The evaluation of project impacts is based on a thorough analysis of the Kern County General Plan's applicable goals and policies related to agricultural resources, professional judgment, and the significance criteria established by CEQA.

TABLE 4.2-3: CALIFORNIA LESA MODEL SCORING THRESHOLDS

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA sub-scores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA sub-score is less than 20 points
80 to 100 Points	Considered Significant

Notes: LE- Land Evaluation, SA- Site Assessment
Source: Department of Conservation, 1997

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the CEQA Guidelines, that a project would have a significant impact on agriculture and forest resources if it would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;

b. Conflict with existing zoning for agricultural use or Williamson Act Contract;

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g).

d. Result in the loss of forestland or conversion of forest land to non-forest use.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use; or

f. Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.

The lead agency determined in the NOP/IS (see Appendix A) that the following environmental issues areas resulted in no impact and were scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following impacts:

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g).

   No lands affected by the proposed project are zoned as forest land or timberland, or for timberland production. Therefore, the project would not conflict with existing zoning for, or cause the rezoning of, forest land, timberland, or timberland zoned for timberland production. Therefore, there would be no impact and further analysis in the EIR is not required.

d. Result in the loss of forestland or conversion of forest land to non-forest use.

   The project site is neither situated on forest or timberland nor is located near any such areas that are currently under production. There is no land in the vicinity of the project site that is zoned as forest land, timberland, or lands zoned for timberland production. Therefore, there would be no impact related to the loss of forest land or conversion of forest land to non-forest use. No further analysis is warranted in the EIR.

Project Impacts

Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

The project site is designated as Farmland of Statewide Importance pursuant to the FMMP. Construction of the project would result in the conversion of approximately 490 acres of farmland for use as a solar facility. Because the project site has a history of farming (10-years or greater), the County considers the site to be productive farmland. In part, the impacts to the project site were evaluated using the LESA Model, which considers soil resource quality based on the Land Capability Classification (LCC) and Storie Index Score. These values are based on four factors including size of the site, water resource availability, surrounding agricultural land, and surrounding protected resource land. These factors are then weighted relative to one another and combined, resulting in a single numeric score for the project, with a maximum attainable score of 100 points, which is summarized in **Table 4.2-4**: *LESA Score Sheet*, below.

TABLE 4.2-4: LESA SCORE SHEET

	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
Land Capability Classification	<1> 60	0.25	15
Storie Index	<2> 79	0.25	19.75
LE Subtotal	--	0.50	**34.75**
SA Factors			
Project Site	<3> 100	0.15	15
Water Resource Availability	<4> 100	0.15	15
Surrounding Agricultural Land	<5> 70	0.15	10.5
Protected Resource Land	<6> 50	0.05	2.5
SA Subtotal	--	0.50	**43**
		Final LESA Score	**77.75**

As shown above, the project site was determined to have a LESA Score of 77.75, because of this the project site is considered productive farmland and therefore the project could result in a significant impact in this regard.

CEQA requires that all feasible and reasonable mitigation be reviewed and applied to projects. CEQA Section 15364 defines feasible to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." The standard of applicability also includes CEQA case law and determinations on the ability to impose specific mitigation on projects. Agricultural conservation easements are legally recorded deed restrictions that are placed on a specific property used for agricultural production. The goal of an agricultural conservation easement is to maintain agricultural land in active production by removing the development pressures from the land. Such an easement prohibits practices that would damage or interfere with the agricultural use of the land. Because the easement is a restriction on the deed of the property, the easement remains in effect even when the land changes ownership. While such voluntary easements are an important tool for land owners for tax purposes and land trust groups encourage agricultural uses and protect land from urban encroachment, they are no longer considered mitigation under CEQA.

The Fifth Appellate District February 25, 2020 decision in King and Gardiner Farms, LLC et al. v County of Kern et al. [F077656 (Superior Ct Nos. BCV-15-101666, BCV-15-101679)] determined that mitigation to require placing other lands at a 1:1 ratio, or any other ratio, under an agricultural easement does not mitigate for the loss of farmland as it does not create new farmland. The court also concluded that allowing purchase of credits for conversion of agricultural lands from an established agricultural farmland mitigation bank or equivalent program or allowing participation in an agricultural land mitigation program adopted by the County that "provides equal or more effective mitigation" did not provide effective mitigation for the conversion of agricultural land. The court found that no such programs currently exist, and, if they did, like conservation easements, such programs would not actually offset the conversion of agricultural land.

A number of jurisdictions such as San Joaquin County, Stanislaus County, Yolo County, and the Cities of Davis, Livermore, and Stockton have adopted General or Specific Plan policies or zoning code prevision, as exercise of their police power, that require agricultural conservation easements as a condition of development that converts agricultural land. However, Kern County has not done so.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project boundary to the Lakeview Substation. These improvements would be located on land also designated as Farmland of Statewide Importance. Improvements would include 0.9 acres of land immediately adjacent to the west corner of the existing substation and power line structures. PG&E would consult with Kern County to avoid any land use conflicts. This element of the project would not preclude continued operation of the property under the contract. Impacts in this regard would be less than significant.

Mitigation Measures

There are no feasible mitigation measures available that would reduce the impact to a less than significant level for the project.

Level of Significance after Mitigation

Because the court of appeal rejected agricultural conservation easements, and other measures discussed above, and concluded that agricultural conservation easements do not offset the loss of agricultural land in whole or in part, and therefore do not reduce a project's impact on agricultural land no feasible mitigation exists for impacts due to the conversion of Prime Farmland, the impact remains significant and unavoidable. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.

Implementation of the project would allow the siting of a solar PV facility, which is an authorized use with a CUP in the 'A' zone. An application for Nonrenewal Land Use Contract has been submitted to the County for approximately 528 acres currently under a Williamson Act Land Use Contract. The Land Use Contract(s) would not expire until August 2030.

As mentioned above, the project area is zoned Exclusive Agriculture (A). According to Kern County Zoning Ordinance Section (§) 19.12.030 and § 19.12.030, solar energy electrical facilities are permitted within the A (Exclusively Agricultural) Zone District with approval of a CUP. Therefore, pending discretionary approval of a CUP, the development of the project site for solar energy generation would be consistent with the zoning.

As indicated above, a Williamson Act Land Use Contract cancellation will be requested as part of the project and a Petition for cancellation of the contract was submitted to the County pursuant to Section 51282(a)(1), which requires that the cancellation is in the public interest. The County may grant cancellation only if it makes the required statutory findings (Government Code §51282(a)). To determine that the cancellation is in the public interest, the County must find: (1) that other public concerns substantially outweigh the objectives of the Williamson Act, and (2) that there is no proximate non-contracted land that is both available and suitable for the proposed use or that development of the contracted land would provide more contiguous patterns of urban development (Government Code §51282(c)).

The Williamson Act contract cancellation findings are shown in **Table 4.2-5:** *Williamson Act Contract Cancellation Findings,* below. The table provides a consistency analysis of whether or not the proposed project would meet the required findings. As noted in the table, the public benefit of the project to supply energy, provide energy security, reduce the impacts of global climate change, and provide employment

opportunities, would substantially outweigh the objectives of the Williamson Act. These finding are further set forth in Government Code Section 51282(c)(1) and would be applicable.

TABLE 4.2-5: WILLIAMSON ACT CONTRACT CANCELLATION FINDINGS

Government Code Section 51282.1(c)(1). Cancellation of a contract shall be in the public interest only if the council or board makes the following findings:	
Required Finding	**Determination**
Other public concerns must substantially outweigh the objectives of this chapter.	**Consistent:** Property under a Williamson Act contract must be used for qualifying agricultural uses. These properties originally filed for use as crop or orchard land which requires appropriate soils and irrigation. There is no dry farming in Kern County. The contract terms can no longer be satisfied due to water limitations in the Valley due to the mandatory restrictions of the Groundwater Sustainability Plans submitted to the Department of Water Resources by the valley Groundwater Authorities. The cancellation of the submitted Williamson Act Contract is therefore in the public interest of Kern County for integrity of the contract system. The alternative use of the property for the proposed solar energy facility is in the public interest for the State of California to achieve climate change goals and for Kern County as a productive use of the land. Over 500,000 acres of land will have to be fallowed over the next 10 years to balance the basins. Any water allocated to this property can be moved to other farmland to balance the basin and utilization of the land is at the discretion of the property owner. More specifically, cancellation of the Williamson Act contract for the purposes of constructing a solar farm is in the public interest for the following reasons: **Rebalances Land Use for water availability** Large scale solar projects are dependent on access to transmission and ability to consolidate parcels for appropriate size inside constraints of mineral resources, biological and cultural resources. These parcels have been determined to have water allocations better utilized by the farmer for other areas of the valley. Future water availability of farming is not certain and compliance with the requirements of the Williamson Act Contract that the land be farmed. The removal of the contract will provide for consistency in the implementation of the County's Williamson Act Contract program and ensure that uses are consistent with the Uniform Rules. **Creates new source of renewable energy that reduces dependency on foreign energy sources** The project's primary objective is to support the generation of renewable energy in the State of California per the recent objectives outlined in SB 100. This legislation increased California's Renewable Portfolio Standard and established the State's intention to have zero- carbon and eligible renewable energy resources supply 100% of the State's retail electricity sales by the year 2045. This project will supply solar photovoltaic energy that will help the State meet those ambitious goals. Increasing renewable energy sources in the County, such as the solar resources available increases the state and nation's sources of renewable energy and assists in meeting new environmental targets to reduce greenhouse gas emissions, including California's important Renewable Portfolio Standards of energy utilities. **Promotes economic diversification and creates economic stimulus** The County is dedicated to diversifying its economic base and has chosen the development of its natural renewable energy resources as one strategy to diversify while maintaining its rural character with reduced impacts to existing agricultural resources. Projects such as this one assists the County in its economic diversification strategy through the creation of new jobs—both direct

Government Code Section 51282.1(c)(1). Cancellation of a contract shall be in the public interest only if the council or board makes the following findings:	
	and indirect—and opportunities for additional jobs, economic growth, and wealth creation. The solar project proposed on this land would create many new construction jobs in a county which suffers from an 11.6% employment rate. Long-term permanent jobs associated with the project's operation are expected to exceed the employment level associated with current operations on the project site. Employees anticipated for this project include a plant manager, maintenance technicians, equipment operators, and security personnel. These jobs would include benefits and would be year-round, higher paying jobs (typically $15 to $35 per hour) than the seasonal farm labor displaced.
There must be no proximate noncontracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.	**Consistent:** There are no proximate contracted lands available and suitable for siting a solar power facility. The unique siting requirements for a solar plant limit the number of parcels available and suitable for such use. The siting of solar facilities is largely determined by the needs to locate (1) at or very near existing substation/electrical transmission lines; (2) available transmission capacity in the substation/lines to carry the additional electricity produced which is a function not only of line capacity but also the arrangement of the electrical grid balanced loads. Furthermore, the applicants believe the County would be able to determine that in addition to cancelling the agricultural contract because of regular project boundaries, the County would also find that there is no proximate non-contracted land that is both available and suitable for the project. In searching for suitable parcels upon which to site this project, research was conducted within a roughly two-mile radius of the substation. This initial search strongly prioritized finding land that was not under Williamson Act contract due to both the stated purpose of the program as well as the significant financial penalties associated with cancelling existing contracts. However, the overwhelming majority of the land in this area is under Williamson Act contract. As an additional constraint, many of the lots are not large enough to accommodate a 70 MW utility scale solar PV facility, BESS, and related substation equipment. Assembling a development site large enough to accommodate the proposed development would require negotiations with multiple landowners. Some of the landowners in this area have made major long-term investments in permanent crops that make their properties unsuitable for solar. The proximity to existing or proposed transmission and the substation is also a factor in eliminating non-contracted parcels. Finally, given the financial returns historically generated by permanent crops, even many landowners that have not yet planted permanent crops would have required land payments incompatible with a competitive solar project to compensate for foregoing the future opportunity to plant permanent crops. The proposed project footprint, which entirely avoids impacts to permanent crops and has 42% of impacted acres outside Williamson Act contracts, therefore represents efforts to minimize impacts to agricultural operations in the area.

As shown above as **Table 4.2-5**, the proposed Williamson Act contract cancellations would be consistent with all required findings for cancellation in a public interest. It should be noted that the decision-makers retain the ability to propose alternate findings or modify the findings as they see fit. The cancellation petition would be submitted to the DOC for review and concurrence regarding whether both aforementioned findings could be made by the Kern County Board of Supervisors. The Kern County Board of Supervisors would consider the project proponent's petition for cancellation of the Williamson Act Contract concurrent with the consideration of the necessary land use approvals, and review all information and data provided to determine if the two findings can be made and the cancellation can be granted. Therefore, once all the

findings have been satisfied, Kern County has the ability to approve the Petition for Cancellation of Contract. As such, the applicant would be obligated to pay the cancellation fees pay the Williamson Act contract cancellation fee as determined by the Kern County Assessor's Office, which would be required as a Condition of Approval of the proposed Conditional Use Permits by the lead agency. With the payment of the cancellation fee, the contract cancellation process would be completed. However, payment of fees does not fully mitigate for conversion of farmland that would be a result of the cancellations of the contracts. Therefore, Williamson Act contract cancellations would constitute a significant impact.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements to the Lakeview Substation would include an approximately 0.9 acre extension and power line restructuring adjacent to the west of the existing substation. The gen-tie route would traverse approximately 0.5 miles of APN# 295-132-15 that is partially under a Williamson Act contract. The installation of power poles and the gen-tie line would constitute a minimal and temporary disturbance and would not preclude continue management of the property under the contract. Thus, this element of the project would not conflict with a Williamson Act Contract and impacts are less than significant in this regard.

Mitigation Measures

There are no feasible mitigation measures available that would reduce the impact to a less than significant level.

Level of Significance

Impacts would be significant and unavoidable for the project. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.2-3: The project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

Development of the proposed project would not lead to changes in the existing environment that would cause the indirect conversion of off-site farmland to non-agricultural use. Construction of the project would be confined to the boundaries of the project parcels as discussed in this EIR, and would be separated from off-site land uses. The project does not include driveways that would provide access to off-site areas, and would not construction new or improve existing roadways that would improve access to off-site areas. Thus, the project would not induce growth in the vicinity of the project site. Furthermore, the project would make no other changes to the existing environment that would affect the defining characteristics of off-site farmland to include land use, soil quality, or water availability. Therefore, the project would not involve changes in the existing environment that could result in the conversion of farmland to a non-agricultural use. Impacts in this regard would be less than significant and mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements to the Lakeview Substation would include an approximately 0.9 acre extension and power line restructuring adjacent to the west of the existing substation. The gen-tie route would traverse approximately 0.5 miles of

APN# 295-132-15 that is partially under a Williamson Act contract. The installation of power poles and the gen-tie line would constitute a minimal and temporary disturbance and would not preclude continue agricultural operations. Thus, impacts are less than significant in this regard.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant without mitigation for the project and the connection to the PG&E Interconnection Facilities.

Impact 4.2-4: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 acres or more (Public Resources Code Section 15206(b)(3)).

Kern County's adopted threshold analyzes whether the project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code. Implementation of the project would result in the construction of a photovoltaic solar facility located on parcel 295-131-12 and a gen-tie connection located on parcel 295-132-15 which are currently subject to a Williamson Act Contract. The applicant will file a Notice of Non-Renewal and a Petition of Cancellation for the parcel prior to start of construction, which would subsequently remove those properties from the Williamson Act. The project site is not subject to a Farmland Security Zone Contract pursuant to Public Resources Code Section 15206(b)(3). As stated above, the project would result in the cancellation of Williamson Act Contracts in non-renewal status on parcels 295-131-12 and 295-132-15 for a total of approximately 528 acres. As discussed in more detail under 4.2.3, Regulatory Setting, above, the principal purpose of the Williamson Act is to preserve agricultural and open space lands from conversion to nonagricultural or incompatible uses. A commercial solar facility is not listed as a compatible use in the Williamson Act Standard Uniform Rules, as adopted by the Kern County Board of Supervisors; therefore, the project would not be consistent with the existing contract. The project proponent will petition for cancellation of the Williamson Act Contract, pursuant to California Government Code Section 51282(a)(1), which pertains to cancellation of a Williamson Act in the public interest. Cancellation of a Williamson Act Contract is an option under the limited circumstances and conditions as set forth in Government Code Section 51280 et seq. In such cases, landowners may petition the Kern County Board of Supervisors for cancellation of a Williamson Act Contract. The Kern County Board of Supervisors may grant a tentative cancellation only if it makes the required statutory findings (Government Code Section 51282(a)).

The cancellation of the project's contracts is a potentially significant amount of land in terms of its agricultural value. The parcel exceeds the adopted 100 acre per parcel threshold of significance, which would be a significant impact. Notwithstanding the benefits of the project stated above, the cancellation of approximately 528 acres of contracted land constitutes a potentially significant impact.

As the project site is currently subject to a Williamson Act Contract, development of the project prior to expiration would conflict with the contract, which, as noted above, was made to restrict the project site to agricultural and compatible uses. Therefore, the project would require the cancellation of an open space

contract made pursuant to the California Lands Conservation Act of 1965 for a parcel over 100 acres. As stated in Section 3.3: Project Objectives, the project is being developed to assist the State of California in meeting its renewable energy goals, to develop a commercially viable solar power generation and battery storage facility, and assist Kern County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County. To achieve these objectives, a solar facility of larger than 100 acres is required. Reducing the project size to less than 100 acres would not make the project feasible. Please see Section 6.4.3: Reduced Acreage Alternative. Mitigation Measure MM 4.2-1 is provided to ensure the loss of Williamson Act lands are accounted for; however, impacts would not be reduced to a level that is less than significant because the project would still result in a cancellation of an open space contract for the protection of agricultural lands. Impacts would remain significant and unavoidable.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9 acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The gen-tie route would traverse approximately 0.5 miles of APN# 295-132-15 that is partially under a Williamson Act contract. The installation of power poles and the gen-tie line would constitute a minimal and temporary disturbance and would not preclude continue management of the property under the contract. Thus, this element of the project would not conflict with a Williamson Act Contract and impacts are less than significant in this regard.

Mitigation Measures

MM 4.2-1: Prior to issuance of any grading or building permit or any use of the property for storage of materials or panels, cancellation of all Williamson Act contracts shall be completed for the project development area or the period for nonrenewal shall have been completed and the identified parcels determined to no longer be under contract.

Level of Significance

Impacts would be significant and unavoidable for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The project would construct a new solar facility that would result in the conversion of approximately 490 acres of farmland. Impacts of the conversion are considered potentially significant. The geographic scope for cumulative impacts is Kern County as a whole. As discussed previously, Kern County ranks high on the list of California counties with respect to urbanization and loss of farmland. Although, growth in population is likely to decrease the amount of agricultural land in Kern County in the future, other factors, including availability of water also contribute to decreases in farmland.

Current conditions related to drought, water availability, and the economic impacts of water purchases may have resulted in some of the project sites being excluded from agriculture during previous years. The proposed project is a compatible, low intensity use that do not limit agricultural activities such as pesticide spraying and crop dusting or create impacts such as dust or debris that would otherwise force agricultural activities from the area.

As discussed above, while the project would not result in the conversion of land subject to a Williamson Act Contract, the project would result in the conversion of farmland to a non-agricultural use. While the project does propose mitigation that would reduce project specific impacts to less than significant (through replacement at a 1.5 to 1 ratio, or funding of a program that benefits the long term stability of agricultural production in Kern County), the cumulative loss of farmland would be potentially significant.

The project would result in beneficial aspects relative to the increased use of renewable energy production, job creation and increased sale and property taxes, and the project would have favorable impacts on regional agriculture by reducing on-site water consumption thereby making more water available for other farmers. However, notwithstanding the beneficial factors of the proposed project, which reduce project impacts, the loss of approximately 490 acres of agricultural land combined with other past, present, and reasonably foreseeable projects in Kern County over the 35-year life of the project would result in a cumulatively significant impact related to the loss of agricultural resources.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9 acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The gen-tie route would traverse approximately 0.5 miles of APN# 295-132-15 that is partially under a Williamson Act contract. This land is also designated as Farmland of Statewide Importance and as stated in the *Agricultural Conversion Study* in 2019 this area was primarily Alfalfa and Fallow. However, the installation of power poles and the gen-tie line would constitute a minimal and temporary disturbance and would not preclude continue agricultural uses. Thus, this element of the project would not result in a cumulatively considerable impact.

Mitigation Measures

Implement Mitigation Measure MM 4.2-1.

Level of Significance

Impacts would be significant and unavoidable for the project. Impacts would less than significant without mitigation for the PG&E Interconnection Facilities.

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Section 4.3
Air Quality

4.3.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project and evaluates the short- and long-term air quality impacts associated with development of the site. Further, this analysis describes the affected environment and regulatory setting for air quality. Where necessary, mitigation measures are included to avoid or lessen the impacts of the project.

Information in this section is based primarily on the *Air Quality and Greenhouse Gas Emissions Study* located in Appendix C of this EIR. The report was prepared in accordance with the Kern County Planning Department's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County, 2006) and San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD, 2015a).

4.3.2 Environmental Setting

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic drainage features. The project site is located in the Kern County portion of the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the SJVAPCD. The SJVAPCD includes the western half of Kern County. It is separated from the Mojave Desert Air Basin to the southeast by the Tehachapi Mountains and the south end of the Sierra Nevada Mountains.

Topography and Meteorology

Air pollution, especially the dispersion of air pollutants, is directly related to a region's topographic features. Air quality is a function of both the rate and location of pollutant emissions and the meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects ambient air quality.

The project is located in the southwestern portion of unincorporated Kern County. The nearest populated area to the project site in Kern County is the City of Bakersfield, located approximately 20 miles southwest of the project site. Additionally, the City of Taft is located approximately 17 miles west of the project site in Kern County. Existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, and access roadways.

Kern County is predominately affected by the San Joaquin Valley, which is considered to be a Mediterranean climate area. Mediterranean climate zones are characterized by sparse rainfall, which occurs mainly in winter, and hot dry summers (SJVAPCD, 2015a). The San Joaquin Valley Air Basin in particular is characterized by hot, dry summers and cool, rainy winters. The climate is a result of the topography and the strength and location of a semi-permanent, subtropical high-pressure cell.

The SJVAB's topography has a dominating effect on wind patterns. Winds tend to blow somewhat parallel to the valley and mountain range orientation. In spring and early summer, thermal low-pressure systems develop over the interior basins east of the Sierra Nevada mountain range, and the Pacific High (a high-pressure system that develops over the central Pacific Ocean near the Hawaiian Islands) moves northward. These developments and the topography produce the high incidence of relatively strong northwesterly winds in the spring and early summer. This effect moderates air temperatures in the region, with average minimum winter temperatures ranging from the low 40s degrees Fahrenheit (°F) to the mid-40s°F and average maximum summer temperatures ranging from the low 90s°F to 100°F (Western Regional Climate Center [WRCC], 2021). Wind speeds are moderate in this region, with annual average wind speeds of approximately 5 miles per hour (WeatherSpark, 2021).

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the San Joaquin Valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet). Winter-time high-pressure events can often last many weeks with surface temperatures often lowering into the 30s°F. During these events, fog can be present, and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015a).

Sensitive Receptors

Sensitive receptors 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. Residences, schools, hospitals, convalescent homes, and parks 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 greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The project is located in unincorporated southwestern Kern County. A total of seven sensitive receptors were identified with all locations consisting of single-family residences. The sensitive receptor closest to the Project site is a single-family residence located approximately 100 feet north of the closest Project parcel across Copus Road.

Ambient Air Quality Standards

National and State Standards

Regulation of air pollution is achieved through both federal and State ambient air quality standards and permitted emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur

dioxide (SO_2), particulate matter (PM) (specifically PM_{10} and $PM_{2.5}$), and lead (Pb). These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, EPA has set "primary" and "secondary" ambient standards for each of the criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

Regional and Local Standards

NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]).

Table 4.3-1: *National and State Criteria Pollutant Standards and SJVAPCD Attainment Status*, presents both sets of ambient air quality standards (i.e., national and State) as well as attainment status for each of these standards within the SJVAPCD jurisdiction. If a pollutant concentration in an area is lower than the established standard, the area is classified as being in "attainment" for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a "nonattainment" area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

As shown in **Table 4.3-1**, the State attainment status for SJVAPCD is currently nonattainment/severe for 1-hour ozone standards, nonattainment for 8-hour ozone standards, nonattainment for 24-hour and annual arithmetic mean (AAM) for PM_{10} standards, and nonattainment for AAM for $PM_{2.5}$. The national attainment status for the project area is currently nonattainment/extreme for 8-hour ozone standards and nonattainment for 24-hour and AAM for $PM_{2.5}$ standards. State and national standards of all of the other criteria pollutants are classified as attainment and/or unclassified (SJVAPCD 2022; SJVAPCD 2018b).

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND SJVAPCD ATTAINMENT STATUS

		California Standards		National Standards	
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Primary**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm	Non-Attainment/Severe	—	-[b]
	8-hour	0.070 ppm	Nonattainment	0.070 ppm[a]	Nonattainment/Extreme
Particulate Matter (PM_{10})	AAM[c]	20 µg/m^3	Non-Attainment	–	Unclassified
	24-hour	50 µg/m^3		150 µg/m^3	Attainment
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12.0 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	Nonattainment
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment
	8-hour	9.0 ppm		9 ppm	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	0.053 ppm	Attainment
	1-hour	0.18 ppm		100 ppb[d]	
Sulfur Dioxide (SO_2)	24-hour	0.04 ppm	Attainment	-	-
	3-hour	–	-	0.5 ppm	Attainment
	1-hour	0.25 ppm	Attainment	0.075 ppb	Unclassified
Lead	30-day Average	1.5 µg/m^3	Attainment	—	-
	Rolling 3-Month Average	—	-	0.15 µg/m^3	Attainment
Sulfates	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (42 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Unclassified		

Note: ppm = parts per million by volume, $\mu g/m^3$ = micrograms per cubic meter
[a] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[b] No federal 1-hour standard (revoked as of June 15, 2004).
[c] AAM = annual arithmetic mean
[d] To attain this standard, the 3-year average of the 98th percentile daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).
SOURCE: SJVAPCD, 2022; SJVAPCD, 2018a

Local Air Quality

To assess localized CO impacts, the significance thresholds are based on the state CO standards, shown in **Table 4.3-1:** *National and State Criteria Pollutant Standards and SJVAPCD Attainment Status*, which are 20 parts per million (ppm) for 1-hour CO concentration levels and 9 ppm for 8-hour CO concentration levels. If CO concentration levels with the project would be less than the standards, then there would be no significant impact on local air quality. If future CO concentrations with the project would be above the standards, then the increase due to the project would determine if the impact would be significant or less than significant. A project would have a significant impact on local air quality if the project would result in an increase of 1 ppm or more for the 1-hour averaging time or 0.45 ppm or more for the 8-hour averaging time.

Ambient Air Monitoring

CARB has established and maintains a network of sampling stations (called the State and Local Air Monitoring Stations [SLAMS] network) that work in conjunction with local air pollution control districts (APCDs) and air quality management districts to monitor ambient pollutant levels. The SLAMS network in Kern County consists of eight stations that monitor various pollutant concentrations. The locations of these stations were chosen to meet monitoring objectives, which, for the SLAMS network, call for stations that monitor the highest pollutant concentrations, representative concentrations in areas of high population density, the impact of major pollution emissions sources, and general background concentration levels.

The primary pollutants of concern in the project area are ozone, PM_{10}, and $PM_{2.5}$ because the San Joaquin Valley is designated nonattainment for these pollutants by the EPA and/or CARB. Ten ambient air monitoring stations operate in Kern County. The nearest monitoring station is in Arvin at 19405 Buena Vista Boulevard, approximately 16 miles east of the Project site. This monitoring station measures only ozone. For PM_{10}, $PM_{2.5}$, and NO_2, the Bakersfield-5558 California Avenue monitoring station was used, which is approximately 18 miles north of the project site. Because monitoring is not generally conducted for pollutants that are no longer likely to exceed ambient air quality standards, there is no recent monitoring data available for CO or SO_2. Ambient monitoring data obtained for 2018 through 2020 is summarized below in **Table 4.3-2:** *Air Quality Data Summary (2018 - 2020)*.

TABLE 4.3-2: AIR QUALITY DATA SUMMARY (2018–2020)

Pollutant	Monitoring Year		
	2018	2019	2020
Ozone (O_3)[1]			
Maximum concentration (1-hour average)	0.113	0.108	0.105
Number of days State 1-hour standard exceeded	15	3	22
Maximum concentration (8-hour average)	0.101	0.087	0.105
Number of days 8-hour standard exceeded (state/national)	69/65	39/37	74/70
Suspended Particulate Matter ($PM_{2.5}$)[2]			
Maximum concentration (24-hour)	98.5	59.1	159.7
Number of days national standard exceeded	36	12	44
Suspended Particulate Matter (PM_{10})[2]			
Maximum concentration (24-hour)	140.2	125.9	196.8
Number of days standard exceeded (state/national)	13/0	17/0	18/1
Nitrogen Dioxide (NO_2)[2]			
Maximum concentration (24-hour)	61.5	67.1	50.4
Number of days standard exceeded (state/national)	0/0	0/0	0/0

SOURCE: Rincon Consultants, 2022.
[1] Measurements taken from the Arvin monitoring station.
[2] Measurements taken from the Bakersfield-5558 California Avenue monitoring station.

Criteria Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants shown in **Table 4.3-1:** *National and State Criteria Pollutant Standards and SJVAPCD Attainment Status*.

Ozone (O_3)

Ozone (O_3) occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. At ground level, tropospheric, or "bad," ozone is an air pollutant that damages human health, vegetation, and many common materials. Ozone is a key ingredient of urban smog. The troposphere extends to a level approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric, or "good," ozone layer extends upward from approximately 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays (UV-B).

"Bad" ozone is what is known as a photochemical pollutant, which needs reactive organic gases (ROG), oxides of nitrogen (NO_X), and sunlight to form. ROG and NO_X are emitted from various sources throughout Kern County. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant, which is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically NO_X and ROG. Sources of precursor gases number in the thousands and include common sources such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Health Effects

While ozone in the upper atmosphere protects the earth from UV-B, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to high ozone levels.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation, lung tissue damage, and a reduction in the amount of air inhaled into the lungs. Health effects include potential increased susceptibility to respiratory infections and reduced ability to exercise. Health effects are more severe in people with asthma and other respiratory ailments. People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. Also, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures. Elevated ozone concentrations also reduce crop and timber yields, damage native plants, and damage materials such as rubber, paints, fabric, and plastics (CARB and American Lung Association of California, 2007).

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including reactive organic gases (ROGs) and volatile organic compounds (VOCs), which include all hydrocarbons except those exempted by CARB. Therefore, ROGs are a set of organic gases based on State rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by Federal law. Both VOCs and ROGs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

Health Effects

The primary health effects of hydrocarbons result from the formation of ozone and its related health effects (see ozone health effects discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate federal or California ambient air quality standards for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). An example is benzene, which is a carcinogen. The health effects of individual ROGs are described in the "Toxic Air Contaminants" section below.

Carbon Monoxide (CO)

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, which contributes more than 66 percent of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Health Effects

When inhaled, CO enters the bloodstream and binds more readily to hemoglobin, the oxygen-carrying protein in blood, than oxygen, thereby reducing the oxygen-carrying capacity of blood and reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. Exposure to CO can cause chest pain in heart patients, headaches, and reduced mental alertness. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and, with prolonged enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin in the blood. Exposure to elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al., 2001).

Oxides of Nitrogen (NO_X)

Oxides of nitrogen (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and reacts in the atmosphere to form acid rain. NO_X is emitted from solvents and combustion processes in which fuel is burned at high temperatures, principally motor vehicle exhaust and

stationary sources such as electric utilities and industrial boilers. In terms of NO_X emissions, the two principal species of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2), with the vast majority (95 percent) of the NO_X emissions being comprised of NO. NO is converted to NO_2 by several processes, the two most important of these are: (1) the reaction of NO with ozone; and (2) the photochemical reaction of NO with hydrocarbons. A brownish gas, NO_X is a strong oxidizing agent that reacts in the air to form corrosive nitric acid as well as toxic organic nitrates.

Health Effects

NO_X is an ozone precursor that combines with ROG to form ozone. See the ozone section above for a discussion of the health effects of ozone. Direct inhalation of NO_X can cause a wide range of health effects. Health effects of NO_X include irritation of the lungs, lung damage, and lowered resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO_2 are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_X contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. NO_X can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_X can also impair visibility. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms. NO_X also contributes to visibility impairment (CAPCOA, 2019).

Sulfur Dioxide (SO_2)

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO_2) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SO_2 is a colorless, irritating gas with a "rotten egg" smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO_2 was a pollutant of concern in Kern County, but with the successful implementation of regulations, the levels have been reduced significantly.

Health Effects

High concentrations of SO_2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO_2 include aggravation of lung diseases, especially bronchitis, and constricting of breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Short-term exposures of individuals to elevated SO_2 levels during moderate activity may result in health effects including breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other health effects that have been associated with longer-term exposures to high concentrations of SO_2, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO_2 also is a major precursor to particulate matter that is 2.5 microns or less ($PM_{2.5}$), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO_2 not only has a bad odor, but can irritate the respiratory system. Exposure to high concentrations for short periods of time can constrict the bronchi and increase mucous flow, making breathing difficult. SO_2 can also irritate the lung and throat at concentrations greater than 6 ppm in many people; impair the respiratory system's defenses against foreign particles and bacteria when exposed to concentrations less than 6 ppm for longer time periods; and enhance the harmful effects of ozone (combinations of the two gases at concentrations occasionally found in the ambient air appear to increase airway resistance to breathing).

SO_2 tends to have more toxic effects when acidic pollutants, liquid or solid aerosols, and particulates are also present. Effects are more pronounced among "mouth breathers," e.g., people who are exercising or who have head colds. These effects include:

- Health problems, such as episodes of bronchitis requiring hospitalization associated with lower-level acid concentrations;
- Self-reported respiratory conditions, such as chronic cough and difficult breathing, associated with acid aerosol concentrations (individuals with asthma are especially susceptible to these effects. The elderly and those with chronic respiratory conditions may also be affected at lower concentrations than the general population);
- Increased respiratory tract infections associated with longer term, lower level exposures to SO_2 and acid aerosols; and
- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

SO_2 easily injures many plant species and varieties, both native and cultivated. Some of the most sensitive plants include various commercially valuable pines, legumes, red and black oaks, white ash, alfalfa, and blackberry. The effects include:

- Visible injury to the most sensitive plants at exposures as low as 0.12 ppm for eight hours;
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for eight hours; and

- Positive benefits from low levels in a very few species growing on sulfur-deficient soils.

Increases in SO_2 concentrations accelerate the corrosion of metals, probably through the formation of acids. SO_2 is a major precursor to acidic deposition. Sulfur oxides may also damage stone and masonry, paint, various fibers, paper, leather, and electrical components.

Increased SO_2 also contributes to impaired visibility. Particulate sulfate, much of which is derived from SO_2 emissions, is a major component of the complex total suspended particulate mixture.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter (PM) pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. PM is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. PM also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. PM or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are those that are 10 microns or less in diameter (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$). Thus, $PM_{2.5}$ is a subset of PM_{10}. PM_{10} and $PM_{2.5}$ are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

The composition of PM_{10} and $PM_{2.5}$ can vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM_{10} and $PM_{2.5}$. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO_2 and NO_X in the atmosphere to create sulfates (SO_4) and nitrates (NO_3), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western U.S., there are sources of PM_{10} in both urban and rural areas. PM_{10} and $PM_{2.5}$ are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

Health Effects

PM_{10} and $PM_{2.5}$ particles are small enough—about one seventh the thickness of a human hair, or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses and can be trapped in the nose, throat, and upper respiratory tract. Health effects from exposure to PM_{10} and $PM_{2.5}$ begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. PM_{10} and $PM_{2.5}$ can aggravate respiratory disease and cause lung damage, cancer, and premature death. Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis, are especially vulnerable to the effect of PM_{10}. Of greatest concern are recent studies that link PM_{10} exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM_{10} can also damage manmade

materials and is a major cause of reduced visibility in many parts of the United States. Non-health related effects include reduced visibility and soiling of buildings.

Premature deaths linked to particulate matter are now at levels comparable to deaths from traffic accidents and secondhand smoke. One of the most dangerous pollutants, fine particulate matter (e.g., from diesel exhaust) not only bypasses the body's defense mechanisms and becomes embedded in the deepest recesses of the lung but also can disrupt cellular processes. Population-based studies in hundreds of cities in the United States and around the world have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Long-term studies of children's health conducted in California have demonstrated that particulate pollution may significantly reduce lung function growth in children (CARB and American Lung Association of California, 2007).

A 2006 study provides evidence that exposure to particulate air pollution is associated with lung cancer. This study found that residents who live in an area that is severely affected by particulate air pollution are at risk of developing lung cancer at a rate comparable to nonsmokers exposed to secondhand smoke. This study also found approximately 16 percent excess risk of dying from lung cancer due to fine particulate air pollution (Pope & Dockery, 2006).

Another study shows that individuals with existing cardiac disease can be in a potentially life-threatening situation when exposed to high levels of fine air pollution. Fine particles can penetrate the lungs and cause the heart to beat irregularly, or can cause inflammation, which could lead to a heart attack (Peters et al., 2001).

Attaining the California particulate matter standards would annually prevent about 6,500 premature deaths, or 3 percent of all deaths. These premature deaths shorten lives by an average of 14 years. This is roughly equivalent to the same number of deaths (4,200 to 7,400) linked to secondhand smoke in 2000. In comparison, motor vehicle crashes caused 3,200 deaths, and 2,000 deaths resulted from homicide. Attaining the California particulate matter and ozone standards would annually prevent 4,000 hospital admissions for respiratory disease, 3,000 hospital admissions for cardiovascular disease, and 2,000 asthma-related emergency room visits. Exposure to diesel particulate matter (DPM) causes about 250 excess cancer cases per year in California (Kern County, 2006).

Sulfates

Sulfates (SO_4^{2-}) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Health Effects

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. When acidic pollutants and particulates are also present, SO_2 tends to have an even more toxic effect. In addition to particulates, SO_3 and SO_4 are also

precursors to acid rain. SO_X and NO_X are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property (CARB, 2022).

Lead

Lead is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Historically, lead was used to increase the octane rating in automobile fuel. However, because gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels and that use has been mostly phased out, the ambient concentrations of lead have dropped dramatically.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that lead may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals and humans through ingestion (EPA, 2002).

This highly toxic metal has been used for many years in everyday products, and has been found to cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children six years old and under are most at risk, because their bodies are growing quickly.

If not detected early, children with high levels of lead in their bodies can suffer from:

- Damage to the brain and nervous system;
- Behavior and learning problems (such as hyperactivity);
- Slowed growth;
- Hearing problems; and
- Headaches.

Lead is also harmful to adults. Adults can suffer from:

- Difficulties during pregnancy;
- Other reproductive problems (in both men and women);
- High blood pressure;
- Digestive problems;
- Nerve disorders;
- Memory and concentration problems; and

- Muscle and joint pain.

Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

Other Pollutants

Hydrogen Sulfide

Hydrogen sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S in the atmosphere would likely oxidize into SO_2 that can lead to acid rain. At low concentrations H_2S, which has a characteristic "rotten egg" smell, may cause irritation to the eyes, mucous membranes and respiratory system, dizziness and headaches. In high concentrations (800 ppm can cause death) hydrogen sulfide is extremely hazardous, especially in enclosed spaces. Occupational Safety and Health Administrations (OSHA) has the primary responsibility for regulating workplace exposure to H_2S.

Health Effects

Exposure to low concentrations of H_2S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Exposure to higher concentrations (above 100 ppm) can cause olfactory fatigue, respiratory paralysis, and death. Brief exposures to high concentrations of H_2S (greater than 500 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in many individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. No health effects have been found in humans exposed to typical environmental concentrations of H_2S (0.00011–0.00033 ppm). Deaths due to breathing in large amounts of H_2S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

Vinyl Chloride

Vinyl chloride monomer is a sweet-smelling, colorless gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as PVC pipes, pipe fittings, and plastics.

Health Effects

In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of liver angiosarcoma, which is a rare cancer, and have suggested a relationship between exposure cancers of the lung and brain. There are currently no adopted ambient air standards for vinyl chloride.

Short-term exposure to vinyl chloride has been linked with the following acute health effects (EPA, 2020):

- Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.

- Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness; irritation to the lungs and kidneys; inhibition of blood clotting in humans; and cardiac arrhythmias in animals.
- Tests involving acute exposure of mice to vinyl chloride have shown high acute toxicity from inhalation exposure to the substance.

Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects (EPA, 2020):

- Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.
- A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed "vinyl chloride disease," which is characterized by Raynaud's phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).
- Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (EPA, 2020):

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by lack of quantitative exposure information and possible co-occurring exposure to other chemicals.
- Several epidemiological studies have reported an association between vinyl chloride exposure in pregnant women and an increased incidence of birth defects, while other studies have not reported similar findings.
- Epidemiological studies have suggested an association between men occupationally exposed to vinyl chloride and miscarriages during their wives' pregnancies, although other studies have not supported these findings.
- Long-term exposure to vinyl chloride has also been identified as a cancer risk. Inhaled vinyl chloride has been shown to increase the risk of a rare form of liver cancer (angiosarcoma of the liver) in humans. Animal studies have shown that vinyl chloride, via inhalation, increases the incidence of angiosarcoma of the liver and cancer of the liver.

Visibility Reducing Particles

Visibility-reducing particles is a measure of visibility. CARB does not yet have a measurement method that is accurate or precise enough to designate areas in the State as being in attainment or nonattainment. Visibility-reducing particles consist of 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. Except for Lake County (which is designated to be in attainment), California's attainment status with respect to visibility-reducing particles is currently designated as unclassified.

Toxic Air Contaminants (TAC)

Toxic air contaminants (TACs), as known under the California Clean Air Act of 1988 (CCAA), are 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system, and respiratory disorders. CARB provides TAC emission inventories for only the larger air basins.

Sources include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports to CARB and periodically update those reports. While TACs do result in potential health risks for those exposed, the project would not emit TACs with the exception of diesel particulate matter, which, therefore, is the only TAC described further in this analysis.

Diesel Particulate Matter

DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute approximately 24 percent of the statewide total, with an additional 71 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about 5 percent of total DPM.

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde, and nickel) have the potential to contribute to mutations in cells that can lead to cancer. Long-term exposure to diesel exhaust particles poses the highest cancer risk of any TAC evaluated by the California Office of Environmental Health Hazard Assessment (OEHHA). CARB estimates that approximately 70 percent of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles.

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, CARB estimates that diesel-particle levels measured in California's air in 2000 could cause 540 "excess" cancers (beyond what would occur if there were no diesel particles in the air) in a population of one million people over a 70-year lifetime. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated similar cancer risks from diesel exhaust as those calculated by OEHHA and CARB.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs,

which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks (OEHHA – ALA, 2001).

Airborne Fungus (*Coccidioides immitis*)

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Approximately 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms include fatigue, cough, loss of appetite, rash, headache, and joint aches. In some cases, painful red bumps may develop on the skin. One important fact to mention is that these symptoms are not unique to Valley Fever and may be caused by other illnesses as well. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum or body fluid sample; (2) growing a culture of CI from a tissue specimen, sputum, or body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called *coccidioidin* or *spherulin*), which indicate prior exposure to the fungus (Valley Fever Center for Excellence, 2022a).

Valley Fever is not contagious and, therefore, cannot be passed on from person to person. Most of those who are infected would recover without treatment within six months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole and fluconazole in chronic, mild-to-moderate disease, and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease. Although these treatments are often helpful, evidence of disease may persist and years of treatment may be required (Valley Fever Center for Excellence, 2022b).

Table 4.3-3: *Range of Valley Fever Cases*, presents the range of Valley Fever cases based on information from the Valley Fever Center for Excellence.

TABLE 4.3-3: RANGE OF VALLEY FEVER CASES

Infection Classification	Percent of Total Diagnosed Cases
Not apparent	60 percent
Mild to Moderate	30 percent
Complications	5-10 percent
Fatal	less than 1 percent

SOURCE: Valley Fever Center for Excellence, 2022b.

Asbestos

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. In addition, naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to information provided by the Department of Conservation Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (CDOC, 2000).

Coronavirus Disease 2019

Coronavirus Disease 2019 (COVID-19) is a new disease, caused by a novel (or new) human coronavirus that has not previously been seen in humans. The first known case of COVID-19 was confirmed in the United States on January 20, 2020 (Holshue, et al, 2020). There are many types of human coronaviruses, including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a respiratory illness that can spread from person to person. According to the Center for Disease Control (CDC), older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. Symptoms may appear 2 to 14 days after the exposure to the virus and may include, but are not limited to: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea (CDC, 2021a). According to the CDC, COVID-19 is believed to spread between people who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC, 2021b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long term exposure to $PM_{2.5}$ (averaged from 2000 to 2016) as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard, 2020). Though COVID-19 remains a concern world-wide, the national public health emergency declaration regarding COVID-19 ended on May 11, 2023.

4.3.3 Regulatory Setting

In California, air quality is regulated by several agencies, including EPA, CARB, and local air districts such as the SJVAPCD. Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, some State and local regulations may be more stringent than federal regulations. The project site is located within the SJVAB, which is under the jurisdiction of the SJVAPCD. SJVAPCD has developed CEQA guidance for assessing air quality impacts. In addition, Kern County has its own CEQA Guidelines for assessing air quality impacts.

Federal

U.S. Environmental Protection Agency

The principal air quality regulatory mechanism on the federal level is the CAA and in particular, the 1990 amendments to the CAA, and the NAAQS that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants include ozone, CO, NO_2 (which is a form of NO_X), SO_2 (which is a form of SO_X), PM_{10}, $PM_{2.5}$, and lead. EPA also has regulatory and enforcement jurisdiction over emission sources beyond State waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. EPA's primary role at the State level is to oversee the State air quality programs. EPA sets federal vehicle and stationary source emission standards and oversees approval of all State Implementation Plans (SIP), as well as providing research and guidance in air pollution programs. The SIP is a State level document that identifies all air pollution control programs within California that are designed to meet the NAAQS.

State

California Air Resources Board

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the state implementation plan (SIP). Its primary responsibility lies in ensuring implementation of the 1989 amendments to the CCAA, responding to the federal CAA requirements and regulating emissions from motor vehicles sold in California. CARB also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish the CAAQS, and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide and vinyl chloride (there are currently no NAAQS for these latter pollutants). They are also generally more stringent than the national standards in most cases, although recently promulgated NAAQS for 1-hour NO_2 and SO_2 can in some instances be more stringent than the respective CAAQS.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a

formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into their local air basin. Each APCD and air quality management districts (AQMDs) in the State ranks the data into high, intermediate and low priority categories. When considering the ranking, the potency, toxicity, quantity, volume, and proximity of the facility to receptors are given consideration by an air district.

CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project's emissions through the phasing in of cleaner on- and off-road engines. Additionally, CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a statewide program to operate their equipment which must meet specified program emission requirements, throughout California without having to obtain individual permits from local air districts. Since the project is not proposing to install any applicable stationary sources, the AB 2588 program would not apply to the project.

In 2007, CARB enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 CCR Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NO_X emissions for owners of fleets of diesel-fueled off-road vehicles. It applies to equipment fleets of three specific sizes, and the target emission rates are reduced over time with full implementation by 2023 for large and medium fleets and 2028 for small fleets.

Title V and Extreme Designation

Title V of the CAA, as amended in 1990, creates an operating permit program for certain defined sources. In general, owner/operators of defined industrial or commercial sources that emit more than 25 tons per year (tpy) of NO_X and ROG must process a Title V permit. In "Extreme Designation" areas, the definition of a major source which requires Title V permitting, changes from 25 tpy to 10 tpy. This change results in more businesses having to comply with Title V permitting requirements under the Extreme nonattainment designation.

Title V does not impose any new air pollution standards, require installation of any new controls on the affected facilities, or require reductions in emissions. Title V does enhance public and EPA participation in the permitting process and requires additional record keeping and reporting by businesses, which results in significant administrative requirements.

California Renewables Portfolio Standard Program

Established in 2002 under SB 1078 and accelerated by SB 107 [2006] and SB 2 [2011], California's Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. In 2015, SB 350 further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. The California Public Utilities Commission (CPUC) and the California Energy Commission are jointly responsible for implementing the program. While not assumed in the analysis below, the legislature is likely to increase the existing RPS requirements; more specifically, Senate Bill 100 [2017] proposes to require a 50 percent renewable resource target by December 31, 2026, and 60 percent by December 31, 2030.

California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

Enacted in 1981, AB 2588 is a state-wide program that requires facilities that exceed recommended Office of Environmental Health Hazards Assessment (OEHHA) levels to reduce risks to acceptable levels. Typically, during construction and operation diesel trucks and/or equipment generate diesel emissions. Diesel exhaust is composed of particulate matter and gases that contain potentially cancer-causing substances. DPM emissions include over 40 substances listed by the EPA as hazardous air pollutants, and/or by CARB as TACs. CARB adopted a comprehensive diesel risk reduction plan in 2000 with a goal of reducing DPM emissions associated with health risk by 85 percent by 2020.

California State Implementation Plan

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The EPA has the responsibility to review all State Implementation Plans to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the EPA for approval and publication in the Federal Register.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan (Kern County, 2009) applicable to air quality as related to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

Chapter 1. Land Use, Conservation, and Open Space Element

1.10.2 Air Quality

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision-making body, as part of its deliberations, will ensure that:

(1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and

(2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts efforts to reduce PM_{10} and $PM_{2.5}$ emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

1. Minimizing idling time.
2. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

1. Pave dirt roads within the development.
2. Pave outside storage areas.
3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
4. Use of alternative fuel fleet vehicles or hybrid vehicles.
5. Use of emission control devices on diesel equipment.
6. Develop residential neighborhoods without fireplaces or with the use of
7. Environmental Protection Agency certified, low emission natural gas fireplaces.
8. Provide bicycle lockers and shower facilities on site

9. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
10. The use and development of park and ride facilities in outlying areas.
11. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5. Energy Element

Solar Energy Development

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

San Joaquin Valley Air Pollution Control District

The SJVAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the SJVAPCD implements air quality programs required by State and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The SJVAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings, and Tulare Counties, and the San Joaquin Valley portion of Kern County.

The SJVAPCD has prepared several air quality attainment plans to achieve the O_3 and particulate matter standards, the most recent of which include the *2013 Plan for the Revoked 1-Hour Ozone Standard* (SJVAPCD, 2013), *2007 PM10 Maintenance Plan and Request for Redesignation* (SJVAPCD, 2007), *2012 PM2.5 Plan* (SJVAPCD, 2012), *2015 Plan for the 1997 PM2.5 Standard* (SJVAPCD, 2015b), *2016 Ozone Plan for 2008 8-Hour Ozone Standard* (SJVAPCD, 2016), *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* (SJVAPCD, 2018b), and *2020 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan* (SJVAPCD, 2020).

Air Quality Conformity Determination for Transportation Plans and Programs

The CAA amendments of 1990 require a finding to be made stating that any project, program, or plan subject to approval by a metropolitan planning organization conforms to air plans for attainment of air quality standards. Kern Council of Governments (COG) is designated the Regional Transportation Planning Agency and Metropolitan Planning Organization for Kern County. In that capacity, Kern COG models air quality projections on population projections in conjunction with current general plan designations and estimated vehicle miles as well as the current Regional Transportation Plan (RTP) and the Federal

transportation plan for Kern County. These results are compared to pollutant budgets for each basin approved by EPA in the 1999 base year. Kern County is contained within two air basins: San Joaquin Valley Air Basin and the Mojave Desert Air Basin. Each air basin has its own plans and pollutant budgets. Kern COG makes conformity findings for each air basin.

Kern County recently prepared a draft 8-hour ozone air quality conformity analysis to analyze Kern County's 2021 federally approved Federal Transportation Improvement Program (FTIP) and the 2018 RTP. The conformity findings conclude that all air quality conformity requirements have been met (Kern COG, 2021).

4.3.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to air quality for the project. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Where warranted, measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Methodology

The air quality significance criteria were developed considering the CEQA significance criteria developed by the local air quality district in the project area, approved CEQA air quality checklists, and considering other federal criteria. The analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with construction, operation, and maintenance of the project. The findings in the *Air Quality and Greenhouse Gas Emissions Study* prepared for the project (located in Appendix C of this EIR), which was prepared in accordance with Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* documents (Kern County, 2006).

Air Quality Plan Consistency

As a component of the cumulative impact analysis, the County Air Quality Assessment guidance (Kern County, 2006) states that the following should be included in the consistency determination for existing air quality plans:

- Discuss project in relation to Kern COG conformity and traffic analysis zones (TAZs)
- Quantify the emissions from similar projects in the Ozone Attainment Plan for the applicable basin. Discuss the Ozone Attainment Plan for the applicable air district, development, and relation to regional basin, Triennial Plan, and SIP

Pollutant Emissions

The construction and operational emissions were estimated from several emissions models and associated spreadsheet calculations, depending on the source type and data availability. The primary emissions models used included CARB's on-road vehicle emission factor model (EMFAC) version 2017 and the California Emissions Estimator Model (CalEEMod). Construction and operational emissions were estimated using

project specific data and schedules within the models. Refer to Appendix C of this EIR for details on equipment fleet, hours of operation, vehicle miles traveled and other assumptions used.

Construction Emissions

County guidance states that an air quality assessment should include estimates of short-term construction emissions in tons per year (Kern County, 2006). The estimates must include site grading and building construction emissions, with comparison to the adopted County CEQA thresholds and the applicable air district (SJVAPCD for the project site) thresholds. Per the County's guidance, all assumptions should be clearly presented, including length of each construction phase, equipment that would be used during each phase, and the amount of soil disturbance, including any import or export of soil. The emission factors used to estimate emissions should be clearly documented, and the model output should be included in the report.

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and offsite sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). CalEEMod Version 2016.3.2 was used to estimate emissions from construction of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with construction activities from a variety of land use projects, such as residential, commercial, and industrial facilities. The AQ model was performed in July 2021 using CalEEMod version 2016.3.2 just after the release of version 2020.4.0. Based on the comparison between the two versions and Emission Factor (EMFAC) models, it was determined version 2020.4.0 would yield similar results as version 2016.3.2 based on the size of the project and not necessary to use version 2020.4.0. CalEEMod input parameters, including the land use type used to represent the project and size, construction schedule, and anticipated construction equipment utilization, were based on information provided by the SJVAPCD, the project applicant, or default model assumptions if project specifics were unavailable.

Construction emissions consist of vehicle and equipment exhaust and fugitive dust. Construction of the project is anticipated to take approximately 12 months. Air emissions calculations were performed for both before and after the incorporation of Applicant-proposed Mitigation Measures MM 4.3-1 to MM 4.3-7. These mitigation measures include those typically required by Kern County for NO_X (compliance with applicable CARB and SJVAPCD rules) and PM_{10} (watering program for dust control); See Appendix C for a complete list of construction assumptions, including equipment, and vehicles. Details regarding the methods and activity assumptions by source type are provided below.

Off-Road Equipment. For the purpose of this project, off-road equipment is defined as equipment powered by an EPA defined non-road engine. The off-road equipment exhaust emissions were calculated with emission factors from the California Emissions Estimator Model (CalEEMod). The analysis with these CalEEMod emission factors provided the total peak emissions that would occur if all pieces of equipment were used on the same day. This is a conservative estimate and, therefore, represents a worst-case scenario. It is not likely that all equipment would be working at the same time, and, therefore, emissions would be lower than this worst-case scenario.

On-Road Vehicles and Trucks. EMFAC2017 emissions factors were applied to the estimated vehicle miles traveled for the project. Construction of the project would generate emissions associated with the transport of machinery and supplies to and from the site, emissions from trucks transporting materials and water to and from the site, other deliveries and emissions associated with worker trips.

Fugitive Dust Emissions. The following potential sources of fugitive dust were considered in the analysis:

- Site grading and other construction activities during the construction phases to prepare for installation of various project facilities were calculated with AP-42 factors;
- Vehicles and equipment driving on paved roads (both on- and off-site) during construction and operations were calculated with EMFAC2017 factors; and
- Vehicles and equipment driving on the unpaved, on-site, roads during operations were calculated with AP-42 factors.

Operational Emissions

Operational emissions associated with the proposed project were also calculated using EMFAC2017 and CalEEMod, version 2016.3.2. Long-term emissions result from operational mobile sources from new employees, cleaning of the solar panels, the Battery Energy Storage System (BESS) facilities and emergency backup generators. All assumptions and calculations are provided in Appendix C of this EIR.

Vehicle Emissions. Once placed into service, the project would be operated by approximately five permanent employees. The employees would monitor and report the performance of the project and conduct preventative and corrective maintenance. It should be noted that preventative maintenance kits and certain critical spares would be typically stored onsite, while all other components would be readily available from a remote warehouse facility. As such, vehicle trips associated with project operation and maintenance would be minimal. Additionally, mobile source emissions for water deliveries and panel washing for the project have been calculated and are figured into the approximate 480 miles travelled per day for foreman, journeyman, apprentice, and laborer, and a total miles per year of 54,000.

BESS Facility. The project may include a BESS. The BESS system would be connected to the power grid, and could be charged by the project and/or charged by energy from the electrical grid. The BESS facilities would not have any additional mobile trips, solid waste, or water usage attributed to them. The BESS operation emissions were calculated using CalEEMod.

Emergency Backup Generator Emissions. The project would include an emergency backup generator (Backup Generator). The Backup Generator would either be diesel or battery powered; for air emission modeling purposes it is assumed the backup generator would be diesel powered. The emergency Backup Generator would follow compliance with SJVAPCD and CARB rules and regulations. It is assumed that the emergency backup generator would be 100 horsepower. It is assumed the generator would run for 12 hours per year. The operational emissions of these emergency generators were calculated using CalEEMod.

Decommissioning Emissions

At such time as the project is decommissioned, equipment operation and site restoration activities would result in impacts to air quality. Given the assumption that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. It should be noted that this does not take into account any future improvement in technology or subsequent reductions in air emissions. Project decommissioning is projected to be shorter in duration than construction and take four to eight months to complete, instead of 12 months for construction. Therefore, decommissioning is assumed to be one-third of the predicted construction emissions. Mitigation measures related to the decommissioning of utility sized solar facilities are included as a requirement of all proposed

solar projects in Kern County, not just this project, in order to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County.

Ambient Air Quality Analysis

The Kern County *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County, 2006) require a dispersion modeling analysis of the maximum 24-hour average concentrations of PM_{10} and $PM_{2.5}$ resulting from construction in comparison to applicable ambient air quality standards and thresholds; therefore, an ambient air quality analysis (AAQA) was performed for the project during construction using AERMOD.[1] The purpose of the AAQA is to determine whether the project's construction emissions would cause or contribute to exceedances of any CAAQS or NAAQS during construction. Dispersion modeling assumptions and results are provided in Appendix C of this EIR.

CO Hotspot

Heavy traffic congestion can contribute to high levels of CO. Individuals exposed to these CO "hot-spots" may have a greater likelihood of developing adverse health effects. The potential for the project to result in localized CO impacts at intersections resulting from addition of its traffic volumes is assessed based on Kern County's suggested criteria, which recommends performing a localized CO impact analysis for intersections operating at or below level of service (LOS) E.

Visibility Impacts

The County guidance states that potential impacts to visibility should be evaluated for all industrial projects and any other projects, such as mining projects, that have components that could generates dust or emissions related to visibility.

Based on the Kern County guidelines, a visibility analysis is not required since the project is not a large industrial stationary-source or mining project, and it would not have long-term operational components that could generate substantial dust or emission plumes related to visibility.

Coccidioides immitis Exposure

While there are no specific thresholds for the evaluation of potential *Coccidioides immitis* (Valley Fever) exposure, the potential for workers or area residents contracting Valley Fever as a result of the project is evaluated based on the anticipated earth-moving activities, and considers applicant-proposed measures and compliance with Rule 8021, Section 6.3, which requires development and implementation of a dust control plan to help control the release of the *Coccidioides immitis* fungus during construction activities.

Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos. The project site is not located in an area where naturally occurring asbestos is likely to be present. Therefore, impacts associated with

[1] Since operational activities would be minimal, consisting of minor daily trip increases and maintenance activities, ambient air quality modeling was not performed.

exposure of construction workers and nearby sensitive receptors to asbestos are not anticipated and no further analysis is required.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist includes items taken from previous versions of Appendix G of the CEQA *Guidelines*. However, Appendix G was updated in 2018, resulting in minor changes to the checklist items. The analysis herein is based on the updated CEQA *Guidelines*, which differ slightly from the Kern County CEQA Implementation Document and Kern County Environmental Checklist.

The current CEQA *Guidelines* state that a project could potentially have a significant adverse effect to air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Specifically, if implementation of the project would exceed any of the following adopted thresholds:

    i. SJVAPCD:

        a. Operational and Area Sources:

            - 10 tons per year for ROG
            - 10 tons per year for NO_X
            - 15 tons per year for PM_{10}.

        b. Stationary Sources – determined by District Rules

            - Severe nonattainment: 25 tons per year
            - Extreme nonattainment: 10 tons per year

c. Expose sensitive receptors to substantial pollutant concentrations;

    - Cancer Risk: Emit carcinogenic or toxic contaminants that exceed the maximum individual cancer risk of 10 in one million.
    - Non-Cancer Risk: Emit toxic contaminants that exceed the maximum hazard quotient of 1 in one million.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Project Impacts

Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan and if the project implements all reasonably

available and feasible air quality control measures. The consistency with the Air Quality Management Plan (AQMP) is discussed below for construction and operation.

Air quality impacts are controlled through policies and provisions of the SJVAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations. The CCAA requires air pollution control districts with severe or extreme air quality problems to provide for a 5 percent reduction in nonattainment emissions per year. The Attainment Plans prepared for the SJVAPCD complies with this requirement. CARB reviewers approve or amend the document and forward the plan to EPA for final review and approval within the SIP.

Required Evaluation Guidelines

CEQA *Guidelines* and the CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the project and the applicable AQMP for the projects. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQMP:

Determination that an AQMP is being implemented in the area where the project is being proposed. SJVAPCD's most recently adopted air quality management plan is its current, modified 2016 8-hour AQMP that is approved by CARB and USEPA for the 2008 8-hour O_3 standard.

The project must be consistent with the growth assumptions of the applicable AQMP. The Kern COG growth modelling for the 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides for future employment/population factors. The project would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the Kern County General Plan and, therefore, incorporated into the AQMP.

The project must contain in its design all reasonably available and feasible air quality control measures. The project incorporates various policy and rule-required implementation measures that would reduce related emissions.

Because implementation of the project would not result in additional growth beyond what was anticipated by the Kern County General Plan and incorporated into the AQMP, conclusions may be drawn from the following criteria:

- The findings of the analysis conducted using Traffic Analysis Zones (TAZ) show that sufficient employment increase is planned for the project area such that new employment opportunities afforded by the project were included in the growth assumptions used to develop the AQMP.
- The primary source of emissions from the project would be from construction and operation vehicles that are licensed through the State and whose emissions are already incorporated into CARB's emissions inventory.

Construction

As noted in **Table 4.3-4:** *Short-Term (Construction) Project Emissions*, temporary unmitigated emissions during construction would not exceed the thresholds adopted by Kern County for any pollutants. Further, Mitigation Measures MM 4.3-1 and MM 4.3-2 would be required to reduce fugitive dust emissions by implementing exhaust reduction measures and a Fugitive Dust Control Plan, respectively. Exhaust reduction measures include equipment maintenance, idling restrictions, and compliance with CARB and

SJVAPCD rules which would lower pollutant emissions during construction activities. The project would not conflict with implementation of the air quality management plan.

TABLE 4.3-4: SHORT-TERM (CONSTRUCTION) PROJECT EMISSIONS – WITH SJVAPCD RULE 9510 AND RULE 8021 COMPLIANCE

		Pollutant (tons/year)					
Emissions Source	**Year**	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Jasmine Solar Facility	2023	0.9	7.1	9.2	<0.1	7.4	0.8
	2024	0.1	0.2	0.2	<0.1	0.4	<0.1
SJVAPCD Threshold		10	10	100	27	15	15
Is Threshold Exceeded?		*No*	*No*	*No*	*No*	*No*	*No*

NOTES:
Values may not add exactly due to rounding.
Particulate Matter Mitigation Measures include the following: water exposed surfaces two times daily, apply water during soil loading/unloading, manage haul road dust by watering two times daily, and reduce speed on unpaved roads to less than 15 miles per hour.
Emissions by construction year are based on an estimated construction schedule and construction starting in 2023 this is used as a conservative estimate of emissions.
Assumptions used in the analysis are detailed in Appendix C.
SOURCE: Rincon Consultants, Inc., 2021.

Operation

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan. The land uses designated in the Kern County General Plan forms the basis for the growth assumptions in the air quality plans. The project would be consistent with the existing land use designations in the current Kern County General Plan and would not introduce a land use that would induce population or housing growth that could result in a substantial increase in vehicle miles traveled and associated criteria pollutant emissions. Operational emissions associated with the project would be those generated from mobile sources traveling to and from the project area, panel washing and maintenance, operation of the BESS system, and the emergency back-up generator. As shown below in **Table 4.3-5:** *Project Operational Emissions*, the project's long-term operational emissions would be well below SJVAPCD's applicable significance thresholds.

TABLE 4.3-5: PROJECT OPERATIONAL EMISSIONS

	Pollutant (tons/year)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Emissions						
On Road and On-Site Vehicles	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Maintenance Vehicles	-	-	-	-	<0.01	<0.01
O&M Building and Emergency Diesel Generator	0.1	0.4	0.1	0.2	0.1	0.1
Total Unmitigated Operational Emissions	**0.1**	**0.4**	**0.1**	**0.2**	**0.2**	**0.1**
SJVAPCD Threshold	10	10	27	100	15	15

Is Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

NOTES:
Values may not add exactly due to rounding.
Assumptions used in the analysis are detailed in Appendix C.
SOURCE: Rincon Consultants, Inc., 2021.

Further, the solar power generation system of the project could also function to reduce the air pollutant emissions within the SJVAB to the extent that the power generated is used to offset power production from fossil fueled power plants within (or contributory to) the SJVAB. This power production is not projected within the existing air quality plans, and so the solar facility could further aid in reducing air pollutant emissions and increase the potential for attainment of the Ozone AQMP/SIP. Thus, the project would result in a positive cumulative benefit related to air quality because it would introduce a non-fossil-fuel-based energy source. This would have the indirect effect of displacing emissions otherwise occurring at natural gas and coal-fired power plants. This would help offset the projects contribution to the regions emissions during operation.

The operation of the project as a renewable energy source would indirectly cause the replacement of fossil fuel energy production facilities and thereby displace criteria pollutants created by existing power generation sources. The project would generate a maximum of 70 MW of electricity at any given time. Over the 35-year lifespan of the project, approximately 5,482 gigawatt-hours (GWh) of electricity would be produced, which equates to 157 GWh of electricity per year. This estimate only includes emissions, which can been seen above, in **Table 4.3-5**, generated by the combustion of fossil fuels and does not include operational employee trips or the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of emissions from the portion of the California electricity market that comes from fossil fuels (approximately 67 percent of the market) and does not include displacement of emissions from the portion of the California electricity market generated by non-combustion sources (i.e., wind, solar, nuclear, hydro-electric) (CEC, 2021). Over the lifetime of the proposed project (35 years), the operational phase of the project would displace approximately 2 tons of Reactive Organic Gases (ROG), 1,381 tons of Nitrous Oxides (NO_x), 52 tons of Sulfur Oxides (SO_x), 168 tons of Carbon Monoxide (CO), 50 tons of Particulate Matter - 10 micrometers (PM_{10}), and 21 tons of Particulate Matter – 2.5 micrometers ($PM_{2.5}$); this can be seen in **Table 4.3-6**, *Criteria Pollutant Emissions Displaces by the Project*, below.

TABLE 4.3-6: CRITERIA POLLUTANT EMISSIONS DISPLACED BY THE PROJECT

	Emissions					
	ROG	**NO_x**	**SO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Emissions Displaced Annually (tons per year)	<1	39	1	5	1	1
Total Emissions Displaced over Lifetime of Project – 35 Years (tons)	2	1,381	52	168	50	21

NOTES:
NOx = Nitrous Oxides; ROG = Reactive Organic Gases; PM10 = Particulate matter with a diameter of 10 microns or less; PM2.5 = Particulate matter with a diameter of 2.5 microns or less.
Source: Rincon Consultants, Inc., 2021.

Once the project is operational, emissions would be limited to vehicle exhaust and re-entrained road dust associated with maintenance activities, including water truck trips for panel cleaning and periodic materials deliveries, as well as employee vehicle trips. As shown in **Table 4.3-5**, above, the annual operational emissions would not exceed the SJVAPCD thresholds adopted by Kern County. Therefore, the project

would not conflict with the SJVAPCD's Ozone AQMP and implementation of the project would not obstruct implementation of an air quality plan during operation and impacts would be less than significant.

Decommissioning

The project is anticipated to operate for approximately 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time if its Power Purchase Agreement (PPA) is not extended, or the project otherwise ceases operation. The project will be required to develop a decommissioning plan and financial assurances for review and approval by the Kern County Planning and Natural Resources Department. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations.

At such time as the facility is decommissioned, equipment operation and site restoration activities could result in impacts to air quality. Given the fact that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. Since the construction emission would not exceed the SJVAPCD thresholds, decommissioning activities would not exceed SJVAPCD thresholds. Therefore, operation of the project would not obstruct implementation of an air quality plan and impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the interconnection facilities to the PG&E Lakeview Substation for the transport of renewable energy is not anticipated to conflict with any applicable air quality management plan. The construction and operation of the Interconnection Facilities are expected to include an approximately 0.9-acre extension of the existing substation into the adjacent parcel 295-132-15. Minor improvements and connections would be made to facilitate the transfer of electricity from the solar field within the existing substation. These improvements would be required to accommodate the substation facilities and temporary construction work area. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation. The existing access road from Copus Road to the project site would require minimal grading to level and gravel. Accordingly, neither construction nor operation of the PG&E Lakeview Substation and interconnection would conflict with applicable air quality management plan. Impacts would be less than significant.

Mitigation Measures

MM 4.3-1: The project shall continuously comply with the following:

Construction and operations of the project shall be conducted in compliance with applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive, and any other measures to reduce fugitive dust emissions not listed shall be encouraged.

a. **Land Preparation, Excavation and/or Demolition.** The following dust control measures shall be implemented:

1. All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations.

2. All disturbed areas shall be sufficiently watered or stabilized by SJVAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.

3. All fine material transported off site shall be either sufficiently watered or securely covered to prevent excessive dust.

4. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.

5. Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.

6. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.

b. **Site Construction**. After clearing, grading, earth moving and/or excavating is completed within any portion of the project sites, the following dust control practices shall be implemented:

1. Once initial leveling has ceased, all temporarily open and inactive soil areas within the construction site shall be (1) seeded and watered until plant growth is evident, (2) treated with a dust palliative, or (3) watered twice daily until soil has sufficiently crusted to prevent fugitive dust emissions.

2. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas so planned as soon as practical after installation of the solar panels. A native seed mix of grass and flowers shall also be added to the spread topsoil to enhance regrowth.

3. All active disturbed soil areas shall be sufficiently watered at least twice daily or have dust palliatives applied to prevent excessive dust.

c. **Vehicular Activities.** During all phases of construction, the following vehicular control measures shall be implemented:

1. Onsite vehicle speed shall be limited to 15 miles per hour.

2. All areas with vehicle traffic shall be paved, treated with dust palliatives or watered a minimum of twice daily.

3. Streets adjacent to the project sites shall be kept clean, and project-related accumulated silt shall be removed.

4. Access to the project sites shall be by means of an apron into the project sites from adjoining surfaced roadways. The aprons shall be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of vehicles, a grizzly, wheel washer, or other such device shall be used on the road exiting the project sites, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires

MM 4.3-2: Prior to issuance of any grading permit, the project proponent shall submit a Site-Specific Dust Control Plan for review and approval by the Kern County Planning and Natural Resources Department. The Site-Specific Dust Control Plan shall serve to minimize fugitive dust emissions during project construction. The Site-Specific Dust Control Plan shall take into consideration grading and construction schedule, seasonal winds, site-specific wind patterns and soil conditions to ensure adequate measures are implemented to manage fugitive dust. The Site-Specific Dust Control Plan shall:

a. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of solar panels and other areas of infrastructure associated with the solar facility.

b. The Site-Specific Dust Control Plan shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized. Measures may include, but are not limited to:

1. Use of water trucks as required for the expected level of winds in the area.

2. Use of dust suppressant (i.e., soil binders or mulch).

3. Pre-seeding and irrigating prior to construction to create vegetation with useful root structures.

4. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening).

5. A copy of the approved Site-Specific Dust Control Plan shall be kept at the on-site construction office and all measures included in the Site-Specific Dust Control Plan shall be included on all Grading Plans issued for the project by the Kern County Public Works Department.

MM 4.3-3: Prior to issuance of any building and grading permits, the project proponent shall provide the Kern County Planning and Natural Resources Department with proof that an Indirect Source Review application has been approved by the San Joaquin Valley Air Pollution Control District.

MM 4.3-4: Valley Fever. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever Provisions:

a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 5 days of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The training may be administered using video or other electronic media. The evidence submitted to the Kern County Planning and Natural Resources Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following:

    1. A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.

    2. Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.

    3. Training on methods that may help prevent Valley Fever infection.

    4. A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

b. The project proponent also shall consult with the Kern County Health Services Department to develop a Valley Fever Dust Management Plan that addresses the potential presence of the Coccidioides spore and mitigates for the potential for Coccidioidomycosis (Valley Fever). Prior to issuance of permits, the project operator shall submit the Plan to the Kern County Public Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential Coccidioides spores. Measures in the Plan shall include the following:

    1. Provide High-Efficiency Particulate Air filters for heavy equipment equipped with factory enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment.

    2. Provide communication methods, such as two-way radios, for use in enclosed cabs.

    3. Require National Institute for Occupational Safety and Health- approved half-face respirators equipped with minimum N-95 protection factor for use during worker

collocation with surface disturbance activities, as required per the hazard assessment process.

4. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Occupational Safety and Health Administration Respiratory Protection Standard (8 California Code of Regulations Section 5144).
5. Provide separate, clean eating areas; hand washing facilities will be provided with portable restrooms.
6. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off site. Hand washing stations will be provided with portable restroom facilities.
7. Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.
8. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever.
9. Work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 3 miles of the project boundaries.
10. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.
11. Prohibit smoking at the worksite outside of designated smoking areas. Handwashing facilities will be provided with portable restrooms facilities.
12. Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection.

MM 4.3-5: The project proponent and/or its contractors shall continuously implement the following measures during construction and operation of the project to control emissions from the on-site equipment:

a. All equipment shall be maintained in accordance with the manufacture’s specifications.

b. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for extended periods of time. Engine idling of all equipment shall be minimized.

c. Construction equipment shall not operate longer than eight cumulative hours per day.

d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOX emissions.

e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.

f. All on-site off-road equipment and on-road vehicles shall be new equipment that meets the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate.

MM 4.3-6: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), including decommissioning, the project proponent shall provide written notice to the public through mailing a notice to all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.3-7: Prior to the issuance of any grading or building permit, the project proponent shall establish a "construction coordinator" and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following:

a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved.

b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed.

c. Maintaining an ongoing up-to-date log of all construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from request.

Level of Significance

With implementation of Mitigation Measures MM 4.3-1 and MM 4.3-7, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.3-2: Construction and operation of the project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are particularly sensitive to air pollution because they are persons that are ill, elderly, or have lungs that are not fully developed. Locations where such persons reside, spend considerable amount of time, or engage in strenuous activities are also referred to as sensitive receptors. Typical sensitive receptors include inhabitants of long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities. As detailed in the sensitive receptors discussion under Section 4.3.2, the closest sensitive receptor is approximately 100 feet north of the project border. A total of seven sensitive receptors were identified with all locations consisting of single-family residences. Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-8 would minimize emissions including NOx, CO, ROG, and PM emission from construction equipment, minimize ground disturbance and dust through implementation of a Fugitive Dust Control Plan to include watering and ceasing construction during high winds. These measures as well as other available and feasible air quality control measures would be implemented to reduce emissions associated with construction.

Toxic Air Contaminants (TACs)

The primary TAC of concern for this project would be DPM emitted within the project site from the construction, operation phases, and decommissioning of the project. Projects are considered for potential health risks wherein a new or modified source of TACs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to TACs.

Construction of the project would require use of heavy-duty construction equipment and diesel trucks which would emit DPM. In 1998, CARB identified diesel exhaust as a TAC. SJVAPCD does not consider construction-equipment-diesel-related cancer risks to be an issue because of the short-term nature of construction activities. Cancer health risks associated with exposure to diesel exhaust typically are associated with chronic exposure, in which a 70-years, acute exposure (i.e. exposure periods of 2 to 3 years) to diesel exhaust typically are not anticipated to result in an increased health risk because acute exposure typically does not result in the exposure concentrations necessary to result in a health risk.

Activities associated with construction and decommissioning would each take place over approximately 16 months. Health impacts associated with exposure to diesel exhaust from project construction are not anticipated to be significant because construction activities are expected to last well below the 70-year exposure period used in health risk assessments. The potential for operational effects over the life of the project also would not emit a substantial volume of TACs, including diesel exhaust, because heavy equipment would rarely be required. Additionally, while the nearest sensitive receptor is 100 feet north of the project site, modeled cancer risk and chronic risk associated with project construction would not exceed the SJVAPCD risk criteria. Thus, neither construction or operation of the project are anticipated to result in an elevated cancer risk to exposed persons. As such, the health risk impact attributed to the construction, operation and maintenance, and eventual decommissioning of the project would not exceed SJVAPCD and OEHHA thresholds. Impacts would be less than significant and mitigation in this regard is not required.

Ambient Air Quality Analysis

The USEPA and CARB have established NAAQS and CAAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like the SJVAPCD, have established emission-based thresholds that provide project-level estimates of

criteria air pollutant quantities that air basins can accommodate without affecting the attainment dates for the NAAQS. Accordingly, elevated levels of criteria air pollutants as a result of a project's emissions could cause adverse health effects associated with these pollutants. As noted previously, the SJVAPCD is a nonattainment area for the State 1-hour O_3, 8-hour O_3, PM_{10}, standards and is a nonattainment area for National 8-hour O_3, and $PM_{2.5}$ standards.

Project Heath Effects of Criteria Air Pollutants

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. The air districts such as SJVAPCD establish and recommend that the analyses of criteria air pollutants use CEQA significance thresholds that are set at emission levels tied to the region's attainment status, based on emission levels at which stationary pollution sources permitted by the air district must offset their emissions. Such offset levels allow for growth while keeping the cumulative effects of new sources at a level that will not impede attainment of the NAAQS. The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. The mass emissions significance thresholds used in CEQA air quality analysis are not intended to be indicative of human health impacts that a project may have.

Construction of the project would generate air pollutant emissions from entrained dust, off-road equipment use, vehicle emissions, and architectural coatings. Off-site emissions would be generated by construction worker daily commute trips and heavy-duty diesel haul and vendor truck trips. Construction emissions would vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Of particular note in this regard are sensitive receptors that can be exposed to a substance through several different pathways. Typically, the primary environmental exposure pathway is direct inhalation of gaseous and particulate air pollutants. However, there also is the potential for exposure via non-inhalation pathways due to the deposition of particulate pollutants (DPM) in the environment. Based on the emission calculations for the construction and operational phase of the project, the project's construction emissions do not indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

To determine the potential for exposure levels and overall project contributions or effects it could have on air quality, the ambient air quality assessment was performed to determine if the project has the potential to impact local ambient air quality through an exceedance of the ambient air quality standards or make a substantial contribution to an existing or projected air quality standard. It was found that construction emissions would not exceed SJVAPCD thresholds. The assessment was based on outputs from CalEEMod version 2020.4.0 and used an average daily emission based on the pounds per day and total tons per year for each pollutant. The analysis was performed based on the guidelines of the SJVAPCD Ambient Air Quality Analysis – Project Daily Emissions. A threshold/screening level of 100 pounds per day of any criteria pollutant after all enforceable mitigation measures are implement as based on the Guidance for Assessing and Mitigating Air Quality Impacts was used.

Table 4.3-7: *Construction Emissions – Without Compliance With SJVAPCD Rule 9510 And Rule 8021* shows the estimated annual construction emissions by construction year absent the requirements of Rule 9510 and Rule 8021. All unmitigated construction emissions would be below the SJVAPCD annual threshold for both years of construction.

TABLE 4.3-7: CONSTRUCTION EMISSIONS – WITHOUT COMPLIANCE WITH SJVAPCD RULE 9510 AND RULE 8021

		Emissions (tons per phase)[2]					
Emission Type	**Source**	**ROG**	**NO_x**	**SO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2023							
Exhaust	Off-Road Construction Equipment	0.9	7.9	<0.1	8.5	0.4	0.3
	On-Road Vehicles	<0.1	0.8	<0.1	0.7	<0.1	<0.1
Fugitive Dust[1]	Off Road Construction Activity	-	-	-	-	6.8	0.7
	On-Road Vehicles (resuspended)	-	-	-	-	7.0	0.7
Total		**0.9**	**8.7**	**<0.1**	**9.2**	**14.2**	**1.7**
Threshold		10	10	27	100	15	15
Exceed Threshold?		No	No	No	No	No	No
2024							
Exhaust	Off-Road Construction Equipment	**<0.1**	**0.2**	**<0.1**	**0.2**	**<0.1**	**<0.1**
	On-Road Vehicles	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Fugitive Dust[1]	Off Road Construction Activity	**-**	**-**	**-**	**-**	**0.1**	**<0.1**
	On-Road Vehicles (resuspended)						
Total		**<0.1**	**0.2**	**<0.1**	**0.2**	**0.8**	**0.1**
Threshold		10	10	27	100	15	15
Exceed Threshold?		No	No	No	No	No	No

[1] Fugitive dust describes particulate matter that is emitted into the air due to earth moving activities or that has been re-suspended.
[2] Emissions by construction year are based on an estimated construction schedule and construction starting in 2023, this is used as a conservative estimate of emissions.
NO_X= Nitrous Oxides; ROG = Reactive Organic Gases; PM_{10} = Particulate matter with a diameter of 10 microns or less; $PM_{1.5}$ = Particulate Matter with a diameter of 2.5 microns or less
Notes: Rounded values shown; columns may not add up correctly. Subtotal equals the sum of all exhaust and fugitive dust emissions from off-road construction equipment and on-road vehicles. See Appendix C for calculations.

However, the project would be required to comply with SJVAPCD Rule 9510, Indirect Source Review, which requires large development projects to reduce exhaust emissions from construction equipment by 20 percent for NO_X and 45 percent for PM_{10} compared to the statewide average. Further, in addition to the required Rule 9510, the project would also have to comply with dust mitigation per Rule 8021 which would further reduce dust emissions. The NO_x emissions account for Rule 9510 and the PM emissions in **Table 4.3-7**, account for water control measures along with Rule 9510. As shown in **Table 4.3-8:** *Construction Emissions - Without Compliance with SJVAPCD Rule 9510 and Rule 8021*, compliance would further reduce annual emissions of NO_X and PM emissions below the SJVAPCD annual threshold. Impacts would be less than significant.

TABLE 4.3-8: CONSTRUCTION EMISSIONS – WITHOUT COMPLIANCE WITH SJVAPCD RULE 9510 AND RULE 8021

		Emissions (tons per phase)[2]					
Emission Type	**Source**	**ROG**	**NO_x**	**SO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2023							
Exhaust	Off-Road Construction Equipment	0.9	6.3	<0.1	8.5	0.2	0.3
	On-Road Vehicles	<0.1	0.8	<0.1	0.7	<0.1	<0.1
Fugitive Dust[1]	Off Road Construction Activity	-	-	-	-	3.5	0.1
	On-Road Vehicles	-	-	-	-	3.7	0.4
Total		**0.9**	**7.1**	**<0.1**	**9.2**	**7.4**	**0.8**
Threshold		10	10	27	100	15	15
Exceed Threshold?		No	No	No	No	No	No
2024							

Exhaust	Off-Road Construction Equipment	<0.1	0.1	<0.1	0.2	<0.1	<0.1
	On-Road Vehicles	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fugitive Dust[1]	Off Road Construction Activity	-	-	-	-	<0.1	<0.1
	On-Road Vehicles	-	-	-	-	0.4	<0.1
Total		**<0.1**	**0.2**	**<0.1**	**0.2**	**0.4**	**<0.1**
Threshold		10	10	27	100	15	15
Exceed Threshold?		No	No	No	No	No	No
Notes are consistent with Table 4.3-6 above.							

The SJVAB is a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$ under the NAAQS and/or CAAQS. The current air quality in the SJVAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., ROG and NO_X for ozone) potentially contribute to poor air quality. Construction activities would not exceed the SJVAPCD's recommended 100 pounds per day screening threshold during construction, as shown in **Table 4.3-9:** *Maximum Daily Construction Emissions*. Therefore, an AAQA is not required for construction activities and Project construction would not potentially violate air quality standards or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

TABLE 4.3-9: MAXIMUM DAILY CONSTRUCTION EMISSIONS

	Emissions (tons per phase)					
	ROG	**NO_x**	**SO_x**	**CO**	**PM_{10}[1]**	**$PM_{2.5}$[2]**
2023						
Maximum Daily Emissions	9.0	65.8	0.2	91	76.5	7.4
Threshold	100	100	100	100	100	100
Threshold Exceeded?	No	No	No	No	No	No
[1] Includes compliance with Rule 8021 dust control measures, which accounts for watering						

Thus, regarding the health effects of criteria air pollutants, the project's potential to result in regional health effects associated with ROG, NO_X, PM_{10} and $PM_{2.5}$ on specific vulnerable populations is anticipated to be less than significant. Additionally, because emissions would largely cease with exception of emissions from routine vehicle operations needed for maintenance, and the solar generation would not result in emissions, the effects of operation of the project also would be less than significant.

Criteria Air Pollutants

Sierra Club vs. County of Fresno (December 24, 2018)

In *Sierra Club V. County of Fresno* (S219783) (*Sierra Club*) the Supreme Court held that CEQA requires environmental impact reports to either (i) make a "reasonable effort" to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). However, the Court also clarified that that CEQA "does not mandate" that EIRs include "an in-depth risk assessment" that provides "a detailed comprehensive analysis … to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated with those levels of exposure." *Id*. at 1665. However, correlating the project's criteria air pollutant to specific health impacts, particularly with respect to O_3 is not possible because there is no feasible or established scientific method to perform such analysis. This conclusion is supported by both the SJVAPCD and the SCAQMD who have determined that this type of analysis is speculative and infeasible and there are no unique issues for the SJVAPCD that would make this analysis invalid.

Writing as amicus curiae in *Sierra Club*, the SJVAPCD explained that "[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the (National Ambient Air Quality Standards [NAAQS]). Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task" (SJVAPCD, 2015).

Instead, the SJVAPCD explained that it assesses a project's potential to exceed NAAQS by evaluating the project's compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD, 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have been set at a level that ensures that NAAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVAPCD, 2015). The SJVAPCD explained that attempting to connect criteria pollutant emissions to localized health impacts will "not yield reliable information because currently available modeling tools are not well suited for this task" (SJVAPCD, 2015). Available models are only equipped to model the impact of all emissions sources on an air basin-wide or regional basis, not on a project-level basis, and "[r]unning the photochemical grid model used for predicting ozone attainment with emissions solely from one project would thus not be likely to yield valid information given the relative scale involved" (SJVAPCD, 2015).

This inability to "accurately ascertain local increases in concentration" of mass emissions and then to further link emissions with health effects is particularly true for O_3 and its precursors NO_X and ROG and VOC; O_3 is not directly emitted into the air, but is instead formed as ozone precursors undergo complex chemical reactions through sunlight exposure (SJVAPCD, 2015). Given the complex nature of this process, and the fact that O_3 can be transported by wind over long distances, "a specific tonnage amount of NO_X or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area" (SJVAPCD, 2015). For this reason, the photochemical analysis for O_3 is done on a regional scale and it is inappropriate to analyze O_3 impacts at a local or project-level basis because a localized analysis would at most be speculative, and at worst be misleading. Speculative analysis is not required by CEQA (*CEQA Guidelines* Section 15145; *Laurel Heights Improvement Association V. Regents of the University of California 1988*).

The SJVAPCD also explained that the disconnect between the tonnage of precursor pollutants and the concentration of O_3 or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD, 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like O_3 and particulates, it would still be "impossible, using today's models, to correlate that increase in concentration to a specific health impact" (SJVAPCD, 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD cannot determine "whether and to what extent emissions from an individual project directly impact human health in a particular area" (SJVAPCD, 2015). The SJVAPCD explained that this is particularly true for development projects like the project, where most of the criteria pollutants derive from mobile and area sources and not stationary sources. The SCAQMD also, as amicus curiae in *Sierra Club*, made similar points, reiterating that "an agency should not be required to perform analyses that do not produce reliable or meaningful results" (SCAQMD, 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to O_3, opining that the only possible means of successfully doing so is for a project so large that emissions would essentially amount to *all* regional increases (SCAQMD, 2015). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from large amount of $PM_{2.5}$, the primary author of the methodology has reported that it "may yield unreliable

results due to various uncertainties" and CARB staff has been directed by its Governing Board to reassess and improve it, which factor "also counsels against setting any hard-and-fast rule" about conducting this type of analysis (SCAQMD, 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as part of Appendix D of this EIR.

Regarding health effects of criteria air pollutants, the project's potential to result in regional health effects associated with ROG, NO_X, PM_{10} and $PM_{2.5}$ on specific vulnerable populations cannot be calculated given existing scientific constraints. A scientific method to calculate the exact number of individuals in a vulnerable population that will get sick has not been developed and therefore, it is assumed localized health effects associated with NO_x, PM_{10}, and $PM_{2.5}$ emissions from project implementation could occur. The project proposes the construction and operation of a large-scale utility solar project that would require dust-generating construction activities such as pile-driving, mowing, and grading, over a large area. Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants such as $PM_{2.5}$ and potentially contribute to the transmission of respiratory diseases like COVID-19.

Since COVID-19 is understood to spread as result of close, person-to-person contact, especially within poorly ventilated indoor spaces, the likelihood of emissions from the proposed project directly increasing the spread of COVID-19 is remote. However, a nationwide study by Harvard University found a linkage between long term exposure to $PM_{2.5}$ as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard, 2020). Though construction dust suppression measures would be implemented as a requirement of Mitigation Measure MM 4.3-2, exposure to dust during construction could still occur which could increase the severity of the disease project employees and nearby residents to COVID-19 should they contract it. However, the vaccines for COVID-19 drastically reduce the likelihood of hospitalization, much less death, as a result of contracting COVID-19. In spite of a readily available COVID-19 vaccine supply in the United States, the COVID-19 pandemic is on-going as a result of low vaccination rates and mask compliance by unvaccinated individuals. People of color may also have a higher risk of getting sick or dying from COVID-19 (California Department of Public Health 2020) and may live in areas already burdened by air pollution (NRDC 2014). On-site workers and residents near project activities potentially could be exposed to increased levels of $PM_{2.5}$ from project activities due to the emissions of $PM_{2.5}$ from the project.

Therefore, in addition to implementation of Mitigation Measure MM 4.3-2, the project would implement Mitigation Measure MM 4.3-10, which requires implementation of a COVID-19 Health and Safety Plan in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. Implementation of Mitigation Measures MM 4.3-2 and MM 4.3-10 would be required to reduce the project's regional and localized health effects associated with criteria air pollutants and COVID-19; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints. Consequently, the United States COVID-19 national health emergency ended on May 11, 2023, rendering COVID-19 as less of a threat to public health as opposed to the previous three years. With implementation of MM 4.3-2 and MM 4.3-10, impacts would be less than significant.

CO Hotspots

A CO "hotspot" can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning Department's, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (2006) states that CO hotspots must be analyzed when one of the following conditions occur: (a) a project increases traffic at an intersection or roadway that operates at a Level of Service (LOS) E or worse; (b) a project involves adding

signalization and/or channelization to an intersection; or (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or signalization. In addition, the SJVAPCD requires localized CO concentrations associated with traffic congestion be analyzed to ensure that monitored concentrations remain below CAAQS and NAAQS, and that sensitive receptors are not exposed to elevated localized concentrations near roadways that may not show up at monitoring stations. SJVAPCD, has developed a set of preliminary screening criteria that can be used to determine with fair certainty that the effect of a project has on a given intersection would not cause a potential CO hotspot. A project can be said to have not met: level of service CO violation or create a localized "hotspot" if either of the following conditions are not met: LOS on one or more streets or intersections would be reduced to LOS E or F; or the project would substantially worsen an intersection with an existing LOS F in the project vicinity.

The nearby existing roadways, Copus Road and Old River Road, operate at LOS A. With the construction traffic from the project, the LOS conditions would be reduced to LOS B for a majority of the intersections, while the Copus Road/Old River Road intersection would be reduced to LOS C during PM peak hour traffic (GHD 2021). Thus, none of the existing intersections operate at LOS F and the project's construction traffic would not reduce conditions to LOS F. Furthermore, construction traffic is temporary and would cease upon completion. The intersections would then operate at similar LOS as the existing conditions. In addition, during project operation there would only be a total of eight daily trips for one O&M employee and deliveries. These vehicle trips could not result in a CO hotspot due to the small magnitude of emission sources and the low emission rates that occur due to catalytic converters. Moreover, the project site is in a rural flat area where air dispersion is not impeded by buildings or nearby terrain; therefore, CO emissions generated would disperse rapidly and construction traffic would not generate CO hotpots. Therefore, the SJVAPCD screening thresholds would not be exceeded, and the project would not result in a localized CO hotspot. Impacts would be less than significant.

Valley Fever

Although not a direct air pollutant, valley fever (*coccidioidomycosis*) fungal spores can cause infections to develop through inhalation of airborne fungal spores contained in windblown dust. During the proposed ground disturbing activities associated with the project, the potential exists that such activities could disturb dust particles and, if present, *Coccidioides immitis* (CI) spores, which could then be released into the air and potentially be inhaled by on-site workers and nearby sensitive receptors; exposure to these spores can cause an illness in some individuals known as Valley Fever. Because dust can be an indicator that increased efforts are needed to control other airborne particulates (including CI spores, if any), the project is required to control dust and the potential for exposure to any CI spores as well as provide training and awareness of Valley Fever via Mitigation Measures MM 4.3-6 and MM 4.3-7.

Mitigation Measure MM 4.3-2 requires the project to have comprehensive site construction controls in place to proactively control the generation of fugitive dust as required and regulated by the SJVAPCD. The proposed project would implement a Dust Control Plan prepared in accordance with SJVAPCD Regulation VIII.

Mitigation Measure MM 4.3-4 requires that training be provided to construction workers on measures they must take to proactively control and reduce fugitive dust and the potential for the release of CI spores during their ground disturbing activities, training on specific worker/task safety procedures, and general information regarding symptoms testing and treatment options for Valley Fever. All workers would be trained in and are expected to use their "stop work" authority if their activities are deemed to be causing

the release of fugitive dust. This mitigation measure also requires that an educational Valley Fever Training Handout be developed for distribution to onsite workers and nearby residents. This handout contains general information about the causes, symptoms, and treatment instructions regarding Valley Fever, including contact information of local health departments and clinics knowledgeable about Valley Fever. Mitigation Measure MM 4.3-9 would require a one-time fee of $3,200 to be paid to the Kern County Public Health Services Department Valley Fever public awareness programs. With the implementation of the mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less than significant levels.

With the implementation of Mitigation Measures MM 4.3-2 and MM 4.3-4, the potential for the release of CI spores, if present, and the associated potential for workers or nearby residents to contract Valley Fever would be minimized; accordingly, the project would not add significantly to the existing exposure level of construction workers or nearby residences to the CI fungus. Adherence to the Dust Control Plan would prevent the project from substantially increasing windblown dust concentrations compared to background level. Therefore, this impact would be less than significant.

Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects, and at mining operations. Constant, regular exposure to high levels of asbestos may cause cancer in humans, including lung cancer and mesothelioma, a rare cancer that attacks the lining of the lungs, stomach, and heart.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. Surveys conducted by the California Department of Conservation Division of Mines and Geology indicate the closest known bedrock formations containing ultramafic rock are in the mountainous areas of eastern Tulare County. Thus, the project site is not located in an area where naturally occurring asbestos is likely to be present (U.S. Geological Survey, 2011). Accordingly, the project would not be subject to CARBs “Asbestos Airborne Toxic Control Measure for Construction , Grading, Quarrying, and Surface Mining Operations.”. In addition, to further reduce potential impacts, the project would implement a rigorous Dust Control Plan prepared in accordance with SJVAPCD Regulation VIII as detailed in MM 4.3-2. Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Construction of the gen-tie is incorporated into the provided construction schedule and equipment mix. Therefore, emissions associated with the gen-tie are inherently incorporated into the impacts associated with the project, as discussed above. The construction and operation of the Interconnection Facilities to the Lakeview Substation for the transport of renewable energy is not anticipated to expose sensitive receptors to substantial pollutant concentrations. These improvements would be required to accommodate the substation facilities and temporary construction work area. PG&E’s best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and

operation, including those regulations that relate to the protection of air quality. Therefore, the interconnection to the PG&E Lakeview Substation would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.3-2, MM 4.3-4, and:

MM 4.3-8: To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:

a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.

b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground.

c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.

d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying.

e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.

f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne *Coccidioides immitis* (CI) spores, to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department within 5 days of the training session.

g. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.

h. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personal, upon request. When exposure to dust is unavoidable, provide appropriate NIOSH-approved respiratory protection to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144).

MM 4.3-9: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of $3,200 for Valley Fever public awareness programs.

MM 4.3-10: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern

County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval.

Level of Significance after Mitigation

Toxic Air Contaminants Except Covid-19

With Implementation of Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-6 through MM 4.3-10 impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Covid 19

With implementation of Mitigation Measures MM 4.3-1 through MM 4.3-10, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as $PM_{2.5}$ along with indirect linkages of criteria pollutants and COVID-19 on vulnerable populations remains, but would be less than significant as a result of concerns over COVID-19 being lessened with the end of the public health emergency related to COVID-19 on May 11, 2023. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.3-3: Construction and Operation of the project would Result in Other Emissions (such as those leading to odors) Adversely Affecting a Substantial Number of People.

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses that would be associated with objectionable odors. Odors would come predominantly from construction equipment, such as that from diesel exhaust from operation of construction equipment as well as from truck deliveries during long-term operations. However, construction emissions would cease immediately after construction is complete and deliveries would be intermittent and would not generate substantial volumes of emissions such that a substantial number of people would be affected. The project is located in a rural area and is surrounded primarily by agricultural development. The nearest sensitive receptor is approximately 100 feet north of the project site.

The project also would be required to comply with California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. Additionally, the project would follow every SJVAPCD rule and regulation to keep odors down. Lastly, given the large project area any odors would be dispersed and would not create significant objectionable odors. As discussed, construction- related odors would be short-term and cease upon project completion. Therefore, both short term and long term odors, during construction (including decommissioning) and operation, respectively, would not impact a substantial number of people. As such, the proposed project is not expected to result in adverse emissions affecting a substantial number of people.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the Interconnection Facilities for the transport of renewable energy would include the expansion of the existing PG&E Lakeview Substation area and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area and would have not result in emissions adversely affecting a substantial number of people. The Lakeview substation interconnection would not result in emissions leading to orders that would adversely affect a substation number of people.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project without mitigation. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.3-4: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past present development, and the SJVAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As described previously, the project would have a less than significant impact for construction and a less than significant impact for operations.

Consistency with Existing Air Quality Plans

The project's consistency with the existing air quality plan is discussed under Impact 4.3-1 and the project was determined to be consistent because it would not exceed Kern County's or the SJVAPCD's criteria air pollutant emission thresholds.

Localized Impacts

There are a total of 10 projects within a six-mile radius of the project site. Several of the cumulative projects are renewable energy projects, for which the primary source of criteria pollutant emissions would be generated during their respective construction phases.

Short-term localized construction emissions, given that the SJVAPCD is currently designated as nonattainment for O_3, $PM_{2.5}$, and PM_{10}, the addition of these pollutants resulting from cumulative construction and decommissioning emissions could contribute to these existing air quality violations. Assuming on a worst-case basis that the construction schedules for all cumulative project would overlap with each other and with the proposed project, the localized effect could result in cumulatively significant construction emissions. Additionally, at a regional level, the project when considered with other reasonably

foreseeable planned solar projects with the SVAPCD, could potentially result in significant cumulative construction emissions for NO_x and PM. The project would result in a contribution to significant cumulative short-term, construction-related air quality impacts.

During operation, the only likely sources of emissions for renewable facilities would be limited to vehicular emissions associated with routine employee vehicle trips for maintenance and monitoring activities, the ESS facilities, and emergency backup generators. Additionally, employee trips may also be made for the washing of solar PV panels, which may only occur seasonally throughout the year. As such, the concurrent operation of all related projects along with the project is not anticipated to exceed SJVAPCD CEQA thresholds.

Operation of the project would result in an overall net reduction of emissions by providing electricity that would displace energy produced from fossil fuels. Operation of the project does not exceed the project-level regulatory thresholds and, therefore, would not contribute to a long-term cumulative increase in criteria pollutants. The project's incremental contribution to operational impacts would not be cumulatively considerable.

California Air Resources Board (CARB) Air Basin Emissions

To evaluate the contribution of the project's construction emissions relative to the cumulative air quality conditions in Kern County and the SJVAB, the project's specific emissions are compared to the 2019 emissions of ROG, NO_x, CO, SOx, PM_{10}, and $PM_{2.5}$. and Kern County portion of the basin. **Table 4.3-10:** *Annual Cumulative Percentage of Project Construction Emissions*, shows these values and each is less than 0.001% of total emissions.

TABLE 4.3-10: ANNUAL CUMULATIVE PERCENTAGE OF PROJECT CONSTRUCTION EMISSIONS

	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
	Tons per year					
Kern County	22,484	20,842	33,872	511	13,688	3,833
SJVAB	112,931	96,105	199,509	2,738	95,667	21,681
Proposed Project						
Proposed Project % of Kern County	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%
Proposed Project % of SJVAB	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%	<0.001%
Source: (CARB 2019a) (CARB 2019b)						

As shown in **Table 4.3-10**, the increased emissions contributed by the project in relation to the total air basin would be insignificant since air basin emissions would be essentially unchanged with or without the project.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately to the corner of the existing substation and power line restructuring. These improvements would not generate greenhouse gas emissions, either directly or indirectly, with the potential to significantly affect the environment. Further, as facilities used to transport renewable energy to the grid, the Lakeview Substation would not result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project without mitigation. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006) require three steps for estimating the potential significance of cumulative impacts: (1) evaluate localized impacts (Guideline Instruction 16a); (2) evaluate consistency with existing air quality plans (Guideline Instruction 16b); and (3) summarize CARB air basin emissions (Guideline Instruction 16c).

The geographic scope for cumulative air quality impacts is a six-mile radius for regional impacts and a one-mile radius for impacts on sensitive receptors. These geographic scopes of analysis are appropriate for determining air quality impacts because of the Statewide, regional, and localized nature of air quality impacts, which could occur cumulatively with the project.

Cumulative Impacts Summary

As discussed above, the construction emissions generated by the project individually would not exceed SJVAPCD thresholds. With regard to project level construction emissions of ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$, during both construction and operations are below SJVAPCD's significance thresholds. Implementation of Mitigation Measures would further reduce impacts below thresholds. As such, it was determined that the project would not obstruct SJVAPCD's ability to achieve further progress toward attainment of the state standards.

However, potential cumulative impacts to air quality could occur from construction of the proposed project in combination with regional growth projections in the same air basin. It is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health impacts mentioned. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SJVAB at the present time and it has not provided methodology to assess the specific correlation between mass emission generated and the effect on public health and welfare. Therefore, cumulative impacts for criteria pollutants are considered significant and unavoidable.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the Interconnection Facilities and PG&E Lakeview Substation improvements for the transport of renewable energy is not anticipated to result in or contribute to a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during

construction and operation. The implementation of the access road from Copus Road to the project site would consist of minor grading to level and gravel the road. Neither the Lakeview Substation interconnection nor access road improvements would result in cumulatively considerable impacts to air quality.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1 through MM 4.3-10.

Level of Significance after Mitigation

Cumulative impacts would be significant and unavoidable during temporary construction and decommissioning of the project after implementation of Mitigation Measure MM 4.3-1 through MM 4.3-8. Cumulative impacts related to operation would be less than significant.

The uncertainty of the project's regional and localized health impacts on vulnerable populations associated with criteria air pollutants, such as $PM_{2.5}$, along with indirect linkages of criteria pollutants could result in significant and unavoidable cumulative level impacts.

Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

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Section 4.4
Biological Resources

4.4.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for biological resources either present or with the potential to be present on the project site. The section includes the physical and regulatory setting for the project; an evaluation of the existing biological conditions on the project site and its vicinity; the criteria used to evaluate the significance of potential impacts on biological resources; the methods used in evaluating these potential impacts; an analysis of potential impacts; and project-specific mitigation. The analysis presented in this section is based on a review of relevant literature, field reconnaissance surveys, and focused biological surveys that were used to prepare the *Biological Resources Assessment* (BRA) for SF Jasmine LLC., prepared by Rincon Consultants. The report is in Appendix E of this EIR.

4.4.2 Methods

Regulatory Overview

Regulatory authority over biological resources is shared by Federal, State, and local jurisdictions and includes oversight over sensitive resources including special-status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. These agencies generally regulate special-status species that include the following:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the project;
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA);
- Special designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW);
- Species designated as sensitive by the U.S. Forest Service of Bureau of Land Management, if the project would affect lands administered by these agencies;
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy.

Environmental Statutes

The following statutes were used in the evaluation.

- California Environmental Quality Act (CEQA)

- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Kern County General Plan
- Kern County Municipal Code

Technical Studies

The study area evaluated included the 528.49 acre project footprint which included the approximate 493-acres that are proposed to be developed with the solar facilities and ancillary structures and the approximate 0.5-mile gen-tie corridor. The biological study area also included standard buffers from the project site as applicable for various species (e.g., 0.5 miles for raptor nests), as feasible. Authorization to enter adjacent properties was not provided and buffer areas were evaluated from public roads.

Literature Review

The relevant agency databases and literature (peer reviewed journals and standard reference materials) were consulted to develop a baseline for the presence and potential presence of biological resources within the project site and surrounding areas. In addition, aerial photographs, topographic maps, soil survey maps, geologic maps, and climatic data for the study area and vicinity were reviewed to inform the baseline conditions to include mapping of land-cover types and aerial imagery that was verified or modified after confirmation during the field reconnaissance surveys. Database searches included the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Rare and Endangered Plants of California, Biogeographic Information and Observation System (BIOS), Information for Planning and Consultation (IPaC), United States Fish and Wildlife Service (USFWS) Critical Habitat Portal and National Wetland Inventory, CDFW Special Animals List, Special Vascular Plants List, Wildlife Habitat Relationship System, eBird, and the Natural Resources Conservation Service (NRCS) Web Soil were referenced for information on special-status species with the potential to occur within the vicinity of the study area.

Field Reconnaissance Survey

The field reconnaissance survey was conducted on November 13, 2020 from 0800 to 1530. The survey focused on documenting existing biological conditions through verifying and confirming land cover types, wildlife habitats, vegetation communities, and jurisdictional areas. The plant and animal species present within the study area and vicinity were documented and the condition of plant and animal habitats present on site were evaluated and the study area was assessed for its potential to support special-status species and other sensitive biological resources. Surveys were conducted using meandering pedestrian surveys around the entire

perimeter of the project site and throughout the gen-tie corridor. Other sites with variations in topography, hydrology, or vegetation within the study area were also surveyed on foot. The majority of the study area consists of actively farmed and tilled agricultural fields, which were surveyed with the aid of 10 X 42 binoculars.

4.4.3 Environmental Setting

Regional and Local Setting

The project is located in an unincorporated area of southwest Kern County in the San Joaquin Valley (Valley) which comprises the southern two-thirds of the Central Valley of California. The Valley is situated between the Sierra Nevada Mountains to the east, the Diablo and Temblor Ranges (Coast Ranges) to the west, and the Tehachapi Mountains to the south. The Valley occupies a trough created by tectonic forces related to the collision of the Pacific and North American Plates.

The study area is bounded by unpaved dirt roads to the north and west. Old River Road runs north to south along the eastern boundary of the Project site. Copus Road runs along the southern boundary of the project site and northern boundary of the gen-tie corridor. The PG&E Lakeview substation lies directly east of the eastern end of the gen-tie corridor. The study area consists of previously developed agricultural land, as well as the Grapevine Energy LLC Bordeaux Facility. The project site is located primarily on flat terrain, currently used for agricultural operations and/or designated for agricultural use. Surrounding land consists of actively farmed and tilled agricultural fields, vineyards, and orchards.

Climate

The climate in this region is characterized by very long, dry, hot summers and mild winters. The average high temperature during summer months (June through September) is 94 °F and the average low temperature is 67 °F. The average high temperature during the winter months (December through March) is 61 °F and the average low temperature is 42 °F. Average annual precipitation is only 6.47 inches, with the majority of rainfall occurring during December through March.

Land Use

The general region surrounding the project site and gen-tie routes is dominated by active and dormant agricultural fields. Existing land use in the immediate vicinity of the project site generally includes undeveloped lands, agricultural lands, access roadways, and the California Aqueduct. The PG&E Lakeview substation is approximately 0.5 miles east of the proposed project facility. A few rural residential uses and commercial developments are sparsely located in the surroundings areas as well.

Physical Characteristics

Local Setting

The project site and surrounding land are relatively flat and exhibit little topographic relief except for gently rolling slopes. The project site is located approximately four (4) miles west of Interstate 5 and 2.5 miles

north of State Route 166. Primary access to the project site is proposed off of Copus Road which bounds the solar site on the south and Old River Road, which bounds the solar field on the east. Existing land uses surrounding the Project site consist of agriculture, solar development, and a few rural residences.

The site lacks significant channelization or perennial water sources. Plant communities within the project site and immediately surrounding area are heavily influenced by disturbances from anthropogenic sources, specifically agricultural uses. In addition, soil types, topography, past agricultural and grazing activities, and minimal precipitation contribute to lack of diversity in vegetative composition.. There are no trees or woody shrubs within the project site. Existing land use at the Project site is primarily dry-farmed agriculture that has been intermittently irrigated. For the past 10 years, the Project site has been periodically in low-yield agricultural production (tilled, seeded, and harvested for winter wheat); occasionally irrigated (drip or sprinkler) and harvested for alfalfa seed or other crops. Accordingly, habitats within the project site include the agricultural fields and patches of ruderal habitat along the fenced boundaries of the site.

Soils

The soils in the San Joaquin Valley formed predominantly on alluvial fans and terraces, with parent material derived from granitic and sedimentary rock from the Coast Ranges to the west, and the Sierra Nevada Mountains to the east. According to the USDA NRCS Web Soil Survey, there is just one soil map unit, Calflax loam, 0 to 1 percent slopes, that underlies the entire study area. This soil map unit is described in detail below.

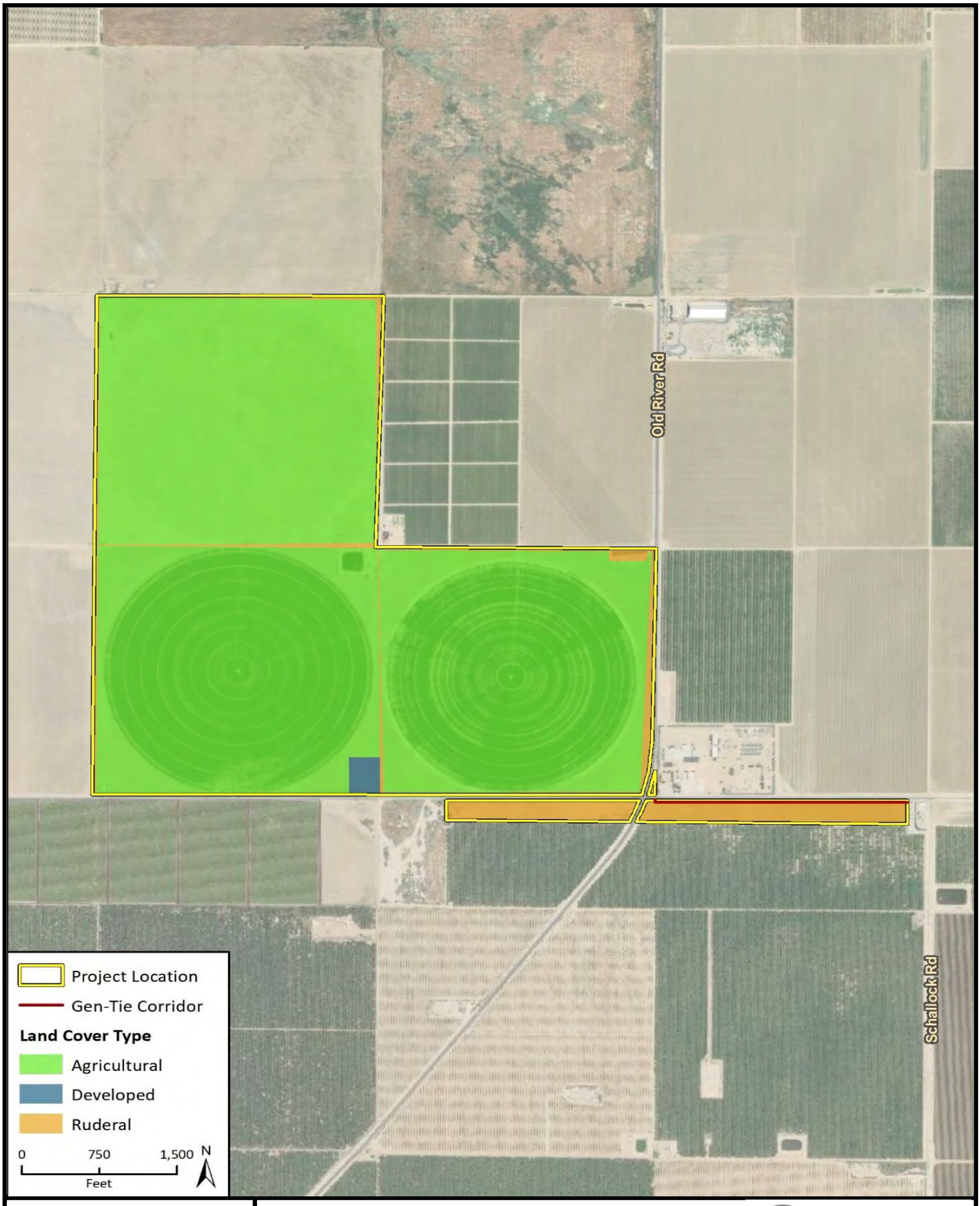
Calflax Loam, 0 to 1 Percent Slopes

Calflax loam, 0 to 1 percent slopes, is derived from alluvium and is found at elevations of 290 to 490 feet above msl. Available water capacity is moderate (about 8.7 inches) and the frequency of flooding is rare to none. The depth to the water table is 80 inches and the soil is classified as well drained, with negligible run-off. Calflax loam is not classified as a hydric soil.

Vegetation Communities/Land Cover Types

Vegetation types in the San Joaquin Valley to include the project site have been significantly modified and disturbed by anthropogenic activity with a large portion occurring from agricultural operations. The region once consisted of a diverse assemblage of perennial bunchgrass ecosystems that included a variety of vegetation communities and mosaic of habitats including prairies, oak-grass savannas, desert grasslands, riparian woodlands, freshwater marshes, alkali sink, and vernal pools. However, the extensive agricultural as well as urban and suburban development over the last 100 years has resulted in substantial modifications to the vegetation and land cover.

Grasslands in the region are now dominated by non-native grasses and most wetlands and lakes have been drained to support the extensive irrigation infrastructure. In general, agricultural development, urban expansion, and changes to the hydrologic regimes have resulted in a loss of the majority of natural habitats and native vegetation communities. The study area consists primarily of heavily disturbed agricultural fields and no intact native vegetation communities are present. Three land cover types exist within the study area and surrounding vicinity: Agriculture, Ruderal and Developed, which are shown in **Figure 4.4-1:** *Land Cover Types,* and each are discussed in additional detail as follows.



Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.4-1: Land Cover Types

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County
Planning & Natural
Resources Department

Agriculture

Agricultural fields comprise approximately 95% of the project site. This land cover type is not naturally occurring and within the study area includes actively tilled and commercially farmed fields where crops such as alfalfa (*Medicago sativa*) are grown.

Ruderal

The project site consists of approximately 4-5% ruderal habitats. Ruderal areas are those that have been heavily disturbed or altered such that natural vegetation has largely been removed. Ruderal land cover exists throughout the study area, primarily along roadsides and between agricultural fields. Plant species observed within these areas during the field survey consist primarily of weedy non-native species, including: Bermuda grass (*Cynodon dactylon),* Russian thistle (*Salsola tragus*), field bindweed (*Convolvulus arvensis*), and tamarisk (*Tamarix ramosissima*). Several disturbance-tolerant native plant species were observed in this land cover type, including: prostrate pigweed (*Amaranthus blitoides*), horseweed (*Erigeron canadensis*), and seaside heliotrope (*Heliotropium curassavicum*).

Developed

The remaining portions of the project site, approximately 1%, are developed land cover types. Developed land consists of areas that have been modified such that most or all native vegetation has been removed and only small areas of landscaped vegetation are present. Developed portions of the project site include paved and dirt roads, storage areas for agricultural equipment, and a small energy facility operated by Grapevine Energy LLC, located just north of Copus Road. The PG&E Lakeview substation lies just east of the study area, adjacent to the gen-tie corridor and is considered a developed area.

Hydrologic Features

The project site is located in the Middle Kern-Upper Tehachapi watershed and the Pleitito Creek-Frontal Kern Lake Bed sub-watershed and is located approximately two miles north of the California Aqueduct and approximately two miles south of the New Rim Ditch irrigation canal. There are no creeks or drainages within the study area, and there is no connectivity onsite with any waterways. There are three agricultural basins within the project site but these appear man made and used for agricultural purposes but are described in additional detail further below.

Wildlife

As discussed above, the project site and the surrounding vicinity consist predominantly of disturbed agricultural lands. Due to the disturbed nature of the site, wildlife diversity and abundance within the study area are low. Some bird species that are typically found in open grassland and are adapted to agricultural habitats including: red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), Say's phoebe (*Sayornis saya*), killdeer (Charadrius vociferus), and greattailed grackle (*Quiscalus mexicanus*) were observed. Other avian species more commonly associated with developed areas including common crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), and mourning dove (*Zenaida macroura*) were observed.

Special- Status Species

Based on the results of the CNDDB, CNPS Online Inventory of Rare and Endangered Plants of California, and USFWS IPaC queries, as well as the literature review and reconnaissance survey, 18 special-status plant species and 32 special-status wildlife species were evaluated for their potential to occur within the project site.

Special-status species are defined as those plants and wildlife that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or local agencies as being under threat from development pressures as well as natural causes. Some of these species receive specific protection that is defined by the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). Other species have been designated as special-status on the basis of adopted policies and expertise of state resource agencies, organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities and/or special districts to meet local conservation objectives. Special-status species include the following:

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under FESA or the CESA;
- Species that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) *Guidelines* Section 15380;
- All of the plants constituting California Rare Plant Rank (CRPR) 1B and CRPR 2B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act [NPPA]) or Sections 2062 and 2067 (CESA) of the California Fish and Game Code (CFGC), and are eligible for state listing. Many CRPR 4 species do not meet the definitions of special-status plants but may be significant locally and are recommended for consideration under CEQA (CNPS, 2001);
- Wildlife designated by the CDFW as “species of special concern” or “special animals”;
- Wildlife “fully protected” in California (CFGC Sections 3511, 4700, and 5050);
- Wildlife species protected as “fur-bearing mammals” (CFGC Section 4000 et seq.);
- Species and open lands that are identified in the Kern County General Plan (Kern County, 2009) ;
- Avian species protected by the MBTA and CFGC (Sections 3500–3516).

Potential for Species to Occur

Local, state, and federal agencies regulate special-status species and other sensitive biological resources and require an assessment of their presence or potential presence to be conducted onsite prior to the approval of proposed development on a property. This section discusses sensitive biological resources observed within the study area and evaluates the potential for the study area to support additional sensitive biological resources. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, previous reports for the study area, and the results of reconnaissance-level site visit. The potential for each special-status species to occur in the study area was evaluated according to the following criteria:

Present: Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

Low Potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.

Not expected: Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.

Special Status Plant Species

Of the eighteen special status plant species evaluated, only one has potential to occur on site based on the presence of potentially suitable habitat: hispid bird's-beak (*Chloropyron molle ssp. hispidum*). The remaining 17 species were excluded based on the absence of habitat, lack of suitable soils, and historical disturbance experienced in the study area (see Appendix E for a species-by-species evaluation).

Hispid bird's-beak

Hispid bird's-beak is designated as CRPR 1B.1, rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat). The species occurs in alkaline soils in meadows and seeps, playas, or valley and foothill grasslands at elevations of 1-155 meters above mean sea level (amsl). The plant is hemiparasitic and blooms from June through September. One occurrence of the species was recorded by CNDDB within five miles of the project site in 2010. Due to intensive agricultural use, very limited suitable habitat for the species is present, but there is low potential for the species to occur within an agricultural basin near the center of the study area.

Special Status Wildlife Species

The potential for thirty-two special-status wildlife species to occur within the project site or adjacent habitats were evaluated. Of the thirty-two species, eight have potential to occur within the project site. Of the eight species, five have a low potential to occur, one has moderate potential to occur, and two were observed within in the project site and are assumed present. Two sensitive status species, listed in additional detail further below, a ferruginous hawk *(Buteo regalis*, CDFW Watch List [WL]) and a loggerhead shrike (*Lanius ludovicianus*, CDFW Species of Special Concern [SSC]), were observed flying over the project site and foraging in the northwestern corner of the study area, respectively. A coyote (*Canis latrans*) was the only mammal species observed during the field survey, but many California ground squirrel (*Otospermophilus beecheyi*) burrows were present. **Table 4.4-1:** *Wildlife Species with Potential to Occur within the Study Area*, provides a list of all special-status wildlife species their potential to occur and their state and/or federal status.

TABLE 4.4-1: WILDLIFE SPECIES WITH POTENTIAL TO OCCUR WITHIN THE STUDY AREA

Common Name	Scientific Name	Status	Potential to Occur
California glossy snake	*Arizona elegans occidentalis*	SSC	Low Potential
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	SSC	Low Potential
Tricolored blackbird	*Agelaius tricolor*	SSC	Low Potential
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, ST	Low Potential
Swainson's hawk	*Buteo swainsoni*	ST	Low Potential
Burrowing owl	*Athene cunicularia*	SSC	Moderate Potential
Ferruginous hawk	*Buteo regalis*	WL	Present (non-nesting)
Loggerhead shrike	*Lanius ludovicianus*	SSC	Present (foraging)

FE = Federally Endangered FT = Federally Threatened SE = State Endangered ST = State Threatened

SSC = CDFW Species of Special Concern FP = State Fully Protected WL = State Watch List

Based on the absence of riparian, grassland, woodland, scrub, or other suitable natural habitats or vegetation communities, and/or because the range of the species does not overlap with the study area, the remaining twenty-four species are not anticipated to occur in the study area or immediate vicinity. The special-status wildlife species with potential to occur are discussed individually below.

California Glossy Snake

The California glossy snake is a CDFW SSC found in a range of scrub and grassland habitats, often with loose or sandy soils. The species is nocturnal and hides underground beneath rocks during the daytime. California glossy snakes are typically active from late February through November and are most active in May. Prey species include small lizards, snakes, birds, and small mammals. Females typically lay 5 to 12 eggs during June and July, which typically hatch in late summer and early fall.

There are two historical occurrences (1932 and 1946) of California glossy snake recorded in the CNDDB within five miles of the study area. There is a very limited amount of suitable sandy soil habitat around the margins of the project site. In addition, the lack of scrub or grassland habitat or rocks within the area make the presence of this species unlikely and the California glossy snake has a low potential to occur.

San Joaquin Coachwhip

The San Joaquin Coachwhip is a CDFW SSC found in valley grassland and saltbush scrub in the San Joaquin Valley in areas with little or no tree cover. The snake requires mammal burrows for refuge and oviposition sites but is active during the daytime and able to tolerate high temperatures. Diet includes small mammals, birds, eggs, other reptiles, and carrion and the species breeds in May and eggs are laid in early summer.

There are currently no CNDDB records for San Joaquin coachwhip within five miles of the study area. While the project site is within this species known range, there is a very limited amount of suitable burrow habitat along the margins of the site where the species would occur. Therefore, the San Joaquin coachwhip has a low potential to occur.

Tricolored Blackbird

The tricolored blackbird is a state threatened species and a CDFW SSC. Tricolored blackbird historically nested in large colonies in wetlands with cattails, bulrushes, and willows throughout the central valley. As wetlands have been developed and converted for agriculture, the species has begun to utilize agricultural fields for nesting. Foraging habitats included cultivated fields, feedlots associated with dairy farms, and wetlands. This species now nests almost exclusively in triticale fields, especially those with invasive mustard or mallow plants. Females select the nesting site within a male's territory, typically close to freshwater with plenty of concealing vegetation. Females build nests in vegetation from just above ground level up to about eight feet above ground level.

There is one occurrence of tricolored blackbird documented by the CNDDB within five miles of the study area. There is limited habitat for the species within the study area, but a stand of cattails (*Typha sp.)* within an agricultural basin near the center of the study area could provide marginal foraging and nesting habitat for the species. Therefore, tricolored blackbird has a low potential to occur within the study area.

San Joaquin Kit Fox

The San Joaquin kit fox (SJKF) is a federally endangered and state threatened species. SJKF is endemic to California west of the Sierra Nevada Mountains. This species occurs in the Central Valley generally from the Sacramento area south to the southern end of the San Joaquin Valley, in the Carrizo Plain, the Panoche Valley, and from northern San Luis Obispo County north through the Salinas Valley. Individuals are about the size of a house cat, weighing 4-7 pounds and are approximately 30 inches in length. Diet consists primarily of kangaroo rats (*Dipodomys* sp.) and other small mammals, occasionally including black-tailed jackrabbits (*Lepus californicus*), desert cottontails (*Sylvilagus audubonii*), and ground squirrels (*Otospermophilus* sp.) SJKF will also eat insects, reptiles, small birds, bird eggs, and vegetation. Predators include coyotes, large raptors, bobcat, red fox, and feral dogs. SJKF are most commonly found in gently sloping to relatively flat terrain vegetated with grasslands or grassy open stages with scattered shrubby vegetation. They may occur on a limited basis in areas under less intense agricultural production, such as dry-land grain farming and orchards, and they are known to occur in urban areas. The species requires loose-textured sandy soils for burrowing, and breeding can occur from December to March. Pups are born within dens after a 48- to 52-day gestation period.

Four occurrences of SJKF are documented by the CNDDB within five miles of the study area. However, three of these occurrences were documented in 1975 and one was documented in 1991. During the field reconnaissance survey, several burrows were detected within the study area that were large enough to be utilized by SJKF (greater than 8 inches in diameter). None of these burrows showed any sign (tracks, scat, prey refuse) of SJKF occupation. The intensive agricultural activities onsite, the lack of suitable habitat for prey species, and the presence of coyotes, substantially reduce the habitat value, and the potential for SJKF to occur within the study area is considered low. Were SJKF to occur within the study area, it is likely that they would only use the site for foraging and satellite denning during dispersal, and not for breeding.

Swainson's Hawk

The Swainson's hawk is listed as a state threatened species. The historical breeding range of Swainson's hawk in California included the Great Basin, Sacramento and San Joaquin Basins, the coast from Marin County to San Diego County, and scattered sites in the Mojave and Colorado Deserts. The species continues to breed across its entire historical range, but in significantly lower numbers. In the Central Valley, much of the native

habitat has been converted to agricultural and urban uses, thereby limiting nesting and foraging opportunities for Swainson's hawk. This species is often found nesting in trees associated with scattered rural residences, particularly in relation to alfalfa fields, grasslands, or dry-land grain fields. Throughout its range the species nest almost exclusively in trees, typically on the edges of woodlands adjacent to grass or shrubland habitat (England et al. 1997). Prey species include squirrels, mice, voles, rabbits, and insects. Nests are typically constructed in solitary trees or small groves of trees near streams.

The CNDDB does not contain any records of Swainson's hawks nesting within 10 miles of the project site, and no Swainson's hawks or raptor nests were observed during surveys. Occurrences of the species have been documented by ebird at Buena Vista Lake (located approximately 9.5 miles northwest of the study area) during the breeding season, but no nests have been documented at this location in recent years. No trees are present within the project site. Almond orchards to the south of Copus Road and ornamental trees on properties to the east and south provide marginal nesting habitat for the species; however, no raptor nests are currently present in these trees. Swainson's hawk has a low potential to nest within ½ mile of the study area.

Burrowing Owl

The burrowing owl is a CDFW SSC that occupies open, treeless areas within grassland, low density scrub, and desert biomes. This species generally inhabits gently sloping areas, characterized by low and sparse vegetation, and is often associated with high densities of burrowing mammals. Burrowing owl often use relatively disturbed areas such as agricultural fields, golf courses, cemeteries, and vacant urban lots in addition to natural breeding habitats. Nests are most often in fossorial animal burrows, such as California ground squirrel or American badger (*Taxidea taxus*), but atypical nests such as culverts or rubble piles may also be used. Nest sites are typically selected in an area with a high density of burrows.

There are four burrowing owl occurrences recorded by the CNDDB within five miles of the project site. Active agricultural fields do not provide suitable habitat for this species, but ruderal areas and berms along fence-lines and the margins of agricultural fields where ground squirrel burrows are present provide marginal breeding habitat. An intensive survey of suitable habitat on the project site was conducted during the reconnaissance surveys, and no burrowing owls or their signs were observed. However, there is a moderate potential for burrowing owl to forage or nest within suitable habitat in the study area and within 500 feet of the study area.

Ferriginous Hawk

Ferruginous hawk is a CDFW WL species that occurs in open country within grasslands, sagebrush, saltbush-greasewood shrublands, and edges of pinyon-juniper forests at low to moderate elevations. The breeding range for the species is northeast of California, and breeding habitat includes cliffs, outcrops, and tree groves. Wintering habitat within California includes grasslands or deserts with abundant rabbits, pocket gophers, or prairie dogs. Diet includes rabbits, hares, ground squirrels, prairie dogs, and pocket gophers. West of the Rocky Mountains, their diet consists primarily of jackrabbits and cottontail rabbits.

There are no occurrences of ferruginous hawk documented by the CNDDB within five miles of the study area. One individual was observed flying over the center of the study area during the field reconnaissance survey, but the region is outside of the breeding range for the species. Agricultural fields within the study area provide marginal winter foraging habitat. Ferruginous hawk is present during the winter months within the study area but is not expected to nest within the vicinity of the study area.

Loggerhead Shrike

Loggerhead shrike is a CDFW SSC that inhabits open county with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. The species can be found in agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, and prairies, and is frequently seen along mowed roadsides with access to fence lines and utility poles. Diet includes insects and other arthropods, amphibians, reptiles, small mammals and birds. Loggerhead shrikes often build their nests in thorny vegetation, including in brush piles or tumbleweeds. Eggs are laid from March to May in California, and young become independent in July or August.

One loggerhead shrike was observed foraging within the northwestern portion of the study area during the field reconnaissance survey, and the species is considered present as a forager in the study area. The margins of agricultural fields, roadsides, and utility pole lines within the study area provide suitable foraging habitat for the species. Almond orchards to the south of the study area could provide suitable nesting habitat for the species. Russian thistle and other shrubs along the perimeter of the study area and within the agricultural basin in the northeast corner of the study area could provide marginally suitable nesting habitat for the species.

Other Protected Species

Nesting Birds

Non-game migratory birds protected under the MBTA and the CFGC Section 3503, such as native avian species common to grasslands, agricultural, developed, and ruderal areas, have the potential to breed and forage throughout the study area. Nesting by a variety of common birds protected by the MBTA and CFGC Section 3503 could occur in virtually any location throughout the study area on the ground surface or within native or non-native vegetation.

Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Movement corridors can be both large and small in scale and fallow agricultural fields and untilled margins of agricultural areas provide local-scale opportunities for wildlife movement throughout the study area. Existing roads within the study area also act as corridors for wildlife movement, particularly for relatively disturbance-tolerant species such as coyote. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return, but the study area does not occur within a migration corridor. Others may be important as dispersal corridors for young animals; however, the study area does not occur within a dispersal corridor. A group of habitat linkages in an area can form a wildlife corridor network. Nonetheless, there are no Natural Landscape Blocks or Essential Connectivity Areas mapped within the study area.

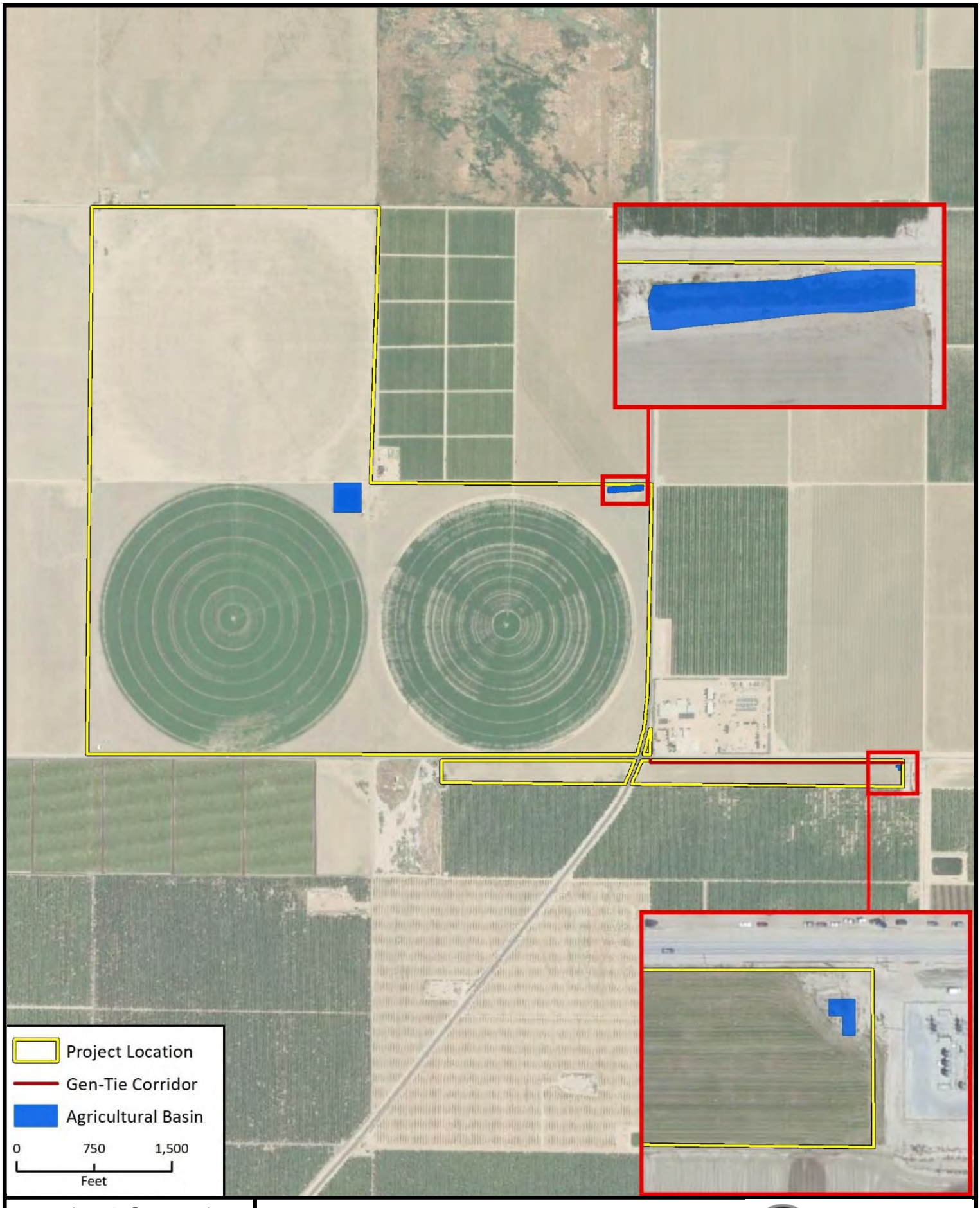
Sensitive Plant Communities and Critical Habitat

Based on the CNDDB query, there are four sensitive plant communities known to occur within the nine USGS quads surrounding the project site. These include Valley Sacaton Grassland, Valley Sink Scrub, Valley Saltbush Scrub, and Great Valley Mesquite Scrub. None of these communities, nor other sensitive

plant communities, occur within the study area and there is no designated Critical Habitat located within the study area.

Jurisdictional Water and Wetlands

There are three agricultural basins within the study area that are shown on **Figure 4.4-2:** *Agricultural Basins.* None of these features are considered navigable waters, nor are they connected to any navigable waters. The USACE has issued an Approved Jurisdictional Determination for the study area (Appendix E), confirming that none of the agricultural basins are considered Waters of the United States, and therefore would not require a USACE permit to fill. These features were excavated for agricultural purposes, have no connectivity with any other waterways, and are also not expected to fall under CDFW jurisdiction. The Central Valley RWQCB has confirmed via letter (Appendix E) that the three agricultural basins located within the project site are either wetlands that are not considered Waters of the State or non-wetland Waters of the State that are excluded from the permitting procedures. Based on the issuance by the RWQCB, it is not anticipated that a permit will be required for activities, including fill, within the basins.



Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.4-2: Agricultural Basins

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County
Planning & Natural
Resources Department

Unnamed Agricultural Basin (southeast corner of study area).

This unnamed basin is located in the southeast corner of the study area, just west of the PG&E Lakeview Substation. The area is classified by the National Wetland Inventory (NWI) as PEM1Cx (Palustrine [P], Emergent [EM], Persistent [1], Seasonally Flooded [C], and Excavated [x]). While the feature had approximately one foot of standing water in the basin at the time of the field reconnaissance survey, there is no visible bank or bed and it appears to be an excavated agricultural basin that is filled by a water pipe. No native riparian or wetland vegetation was observed, and vegetation surrounding the basin consisted primarily of invasive and ruderal plant species, including Russian thistle, prostrate pigweed , and horseweed. Due to the anthropogenic nature of the basin and the lack of native riparian vegetation surrounding it, the basin would be better classified as an agricultural basin than a freshwater emergent wetland. Nonetheless, the RWQCB may assert jurisdiction over this basin under the Porter-Cologne Water Quality Control Act, though it is unlikely due to the human-made nature of the feature.

Unnamed Agricultural Basin (near center of project site)

This unnamed agricultural basin is located near the center of the study area and was excavated for irrigation purposes. There are human-made berms surrounding the basin and a metal drain located at its center. There was no water at the time of the field reconnaissance, but a stand of cattails (*Typha sp.)* was in the eastern portion of the basin. This cattail stand may provide habitat for species that forage and breed in wetlands, such as tricolored blackbird. The feature, however, will be avoided and is not associated with any lake or streambed and CDFW is therefore not anticipated to assert jurisdiction. The RWQCB may assert jurisdiction over this basin under the Porter-Cologne Water Quality Control Act, though it is unlikely due to the anthropogenic nature of the feature. Any impacts to this feature may require a RWQCB discharge permit.

Unnamed Agricultural Basin (northeast corner of project site)

This unnamed basin, likely excavated for agricultural purposes and is located in the northeast corner of the project site. There was no water in the depression at the time of the site reconnaissance visit, and there is no visible bank or bed. The basin contains vegetation but the plants are not native riparian species. Plant species within the basin consisted of primarily invasive and ruderal species, such as tamarisk and jimsonweed (*Datura wrightii*). Although this feature would be avoided, the RWQCB may assert jurisdiction over this basin under the Porter-Cologne Water Quality Control Act, though it is unlikely due to the anthropogenic nature of the feature. Any impacts to this feature may require a RWQCB discharge permit.

Habitat Conservation Plan

The study area falls within the proposed Kern County Valley Floor Habitat Conservation Plan. The US Fish and Wildlife Service issued a notice in the Federal register that Pursuant to the National Environmental Policy Act (NEPA), the Fish and Wildlife Service (Service), advises the public that we intend to gather information necessary to prepare, in coordination with the California Department of Fish and Game (DFG), California Energy Commission, the California Department of Conservation Division of Oil, Gas and Geothermal Resources, and the County of Kern, a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) on the Kern County Valley Floor Habitat Conservation Plan (VFHCP) Project. The VFHCP is being prepared under Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973, as amended (Act). The County of Kern intends to apply for a 30-year incidental take permit from the Service. The permit is

needed to authorize the incidental take of threatened and endangered species that could occur as a result of public and private development. However, to date, the EIS has not been completed, the plan has yet to be implemented, and implementation of the plan is not expected to occur in the foreseeable future. Currently there are no active HCPs in effect within the project area.

4.4.4 Regulatory Setting

Federal

Endangered Species Act of 1973 (USC Title 16, Sections 1531–1543)

The Federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at Code of Federal Regulation (CFR) Title 50, Sections 13 and 17 for species under the jurisdiction of USFWS, and at CFR Title 50, Sections 217, 220, and 222 for species under the jurisdiction of the NMFS.

FESA Section 4(a)(3) and (b)(2) requires the designation of critical habitat to the maximum extent possible and prudent based on the best available scientific data and after considering the economic impacts of any designations. Critical habitat is defined in FESA Section 3(5)(A): (1) areas within the geographic range of a species that are occupied by individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special

management consideration or protection; and (2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

Migratory Bird Treaty Act (USC Title 16, Sections 703–711)

The MBTA, first enacted in 1918, domestically implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (USC Title 16, Section 703). The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Bald and Golden Eagle Protection Act of 1940 (USC Title 16, Section 668, enacted by 54 Statute 250)

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species, and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (Federal Register volume 72, page 31132; 50 CFR 22.3).

Federal Clean Water Act (USC Title 33, Sections 1251–1376)

The federal CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project proponent for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

State

California Endangered Species Act (CFGC Section 2050 et seq.)

The CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is "consistent" with the CESA under CFGC Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project proponent would have to apply for a take permit under Section 2081(b).

Regional Water Quality Control Board

Under CWA Section 401, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB also regulates waters of the state under the Porter-Cologne Act Water Quality Control Act. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to wetlands and/or waters of the state, which may include waters deemed 'isolated' or not subject to Section 404 jurisdiction, under the Solid Waste Agency of Northern Cook County (SWANCC) legal decision. The thrust of the SWANCC legal decision is that isolated, non-navigable, and intrastate waters are not "waters of the United States" subject to USACE jurisdiction under the CWA. Filling, dredging, or excavation of isolated waters may constitute a discharge of waste to waters of the state and if so, then prospective dischargers are required to file a Report of Waste Discharge to obtain Waste Water Discharge Requirements as authorization for that fill or waiver thereof from the RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under CWA Section 401.

California Fish and Game Code

Sections 1600–1616. Under these sections of the CFGC, the project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported

riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

Sections 2080 and 2081. CFGC Section 2080 states that "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act." Pursuant to CFGC Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or memoranda of understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project proponent ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Sections 3503, 3503.5, 3513, and 3800. Under these sections of the CFGC, the project proponent is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey or their nests or eggs; the taking or possessing of any migratory nongame bird as designated in the MBTA; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to CFGC Section 3800.

Sections 3511, 4700, 5050, and 5515. Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the CFGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

Sections 4000–4003. Under Section 4000 of the CFGC, it is unlawful to conduct activities that would result in the taking, possessing, or destroying of any fur-bearing mammals, including kit foxes, without prior authorization from the CDFW.

CEQA *Guidelines*, Section 15380

In addition to the protections provided by specific federal and state statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the ESA and the section of the CFGC dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effort on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural

communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDB as sensitive are considered by CDFW to be significant resources and fall under the *CEQA Guidelines* for addressing impacts. Local planning documents such as general plans often identify these resources as well.

Native Plant Protection Act (CFGC Sections 1900–1913)

California's NPPA requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

Regional

Kern County Draft Valley Floor Habitat Conservation Plan

The project site is within the area of the pending Draft Kern County Valley Floor Habitat Conservation Plan (KCVFHCP). The Draft Kern County Valley Floor Habitat Conservation Plan area occurs in the western portion of Kern County except for areas at the base of the Tehachapi Mountains. The area is limited to the southern San Joaquin Valley floor of Kern County including the project site.

The KCVFHCP is a pending Habitat Conservation Plan (HCP) pursuant to the FESA and if adopted as proposed would cover over 3,110 square miles in Kern County. The purposed of the plan is to create a comprehensive strategy to conserve and protect the San Joaquin kit fox, blunt-nosed leopard lizard, and 23 other sensitive species. In addition, the HCP provides a streamlined program for complying with the requirements of the CESA and FESA. The HCP has not yet been approved by the USFWS, CDFW, or the Kern County Board of Supervisors.

If and when the HCP is completed and adopted, it would enable the use of incidental take permits for 13 covered species that would be issued to participating local jurisdictions and state agencies. This incidental take authorization cannot be implemented, however, until the local governments complete the application for incidental take permits and receive approval from state and federal wildlife agencies.

Local

Kern County General Plan

The Kern County General Plan identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also ensuring the conservation

of the County's agricultural, natural, and resource attributes. Section 1.10, *General Provisions*, provides goals, policies, and implementation measures that apply to all types of discretionary projects including the proposed project and needed associated infrastructure.

Chapter 1. Land Use, Open Space, and Conservation Element

1.10 General Provisions; 1.10.5 Threatened and Endangered Species

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.

Policy 28: The County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFW and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

Policy 4: The County should encourage solar development in the desert and valley regions previously disturbed and discourage development of energy projects on undisturbed land supporting State of federally protected plant and wildlife species.\

Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish wildlife, and botanical resources, wherever practical.

Polity 9: The County should develop and implement measures which result in long-term compensation for wildlife habitat, which is unavoidably damaged by energy exploration and development activities.

5.4.5: Solar Energy Development

Policy

Policy 4: The County should encourage solar development in the desert and valley regions previously disturbed, and discourage development of energy projects on disturbed land supporting State or federally protected plant and wildlife species.

Kern County Zoning Ordinance

Chapter 19.81, Dark Skies Ordinance (Outdoor Lighting)

In November 2011, Kern County approved a Dark Skies Ordinance. The purpose of this ordinance is to maintain the existing character of Kern County by requiring a minimal approach to outdoor lighting, recognizing that excessive illumination can create a glow that may obscure the night sky, and that excessive illumination or glare may constitute a nuisance. The ordinance provides requirements for outdoor lighting within specified unincorporated areas of Kern County in order to accomplish the following objectives:

Objective 1: Encourage a safe, secure, and less light-oriented night-time environment for residents, businesses and visitors.

Objective 2: Promote a reduction in unnecessary light intensity and glare, and to reduce light spillover onto adjacent properties.

Objective 3: Protect the ability to view the night sky by restricting unnecessary upward projections of light.

Objective 4: Promote a reduction in the generation of greenhouse gases by reducing wasted electricity that can result from excessive or unwanted outdoor lighting.

Kern County Development Standards

The Kern County Development Standards have specific regulations pertaining to lighting standards including the requirement that lighting must be designed so that light is reflected away from surrounding land uses so as not to affect or interfere with vehicular traffic, pedestrians, or adjacent properties.

4.4.5 Impacts and Mitigation Measures

This section evaluates the impacts to biological resources that may occur during construction and operation of the proposed project. It describes the sensitive biological resources located on and adjacent to the project site that may be affected and identifies the thresholds used to determine whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate) significant impacts accompany each impact discussion, where applicable.

Methodology

This section addresses the potential direct and indirect impacts on biological resources that would result from implementation of the proposed project and provides an analysis of significance for each impact. For those impacts considered to be potentially significant under CEQA, mitigation measures are proposed to avoid, minimize, and/or mitigate the impacts. Biological resources evaluated included sensitive natural communities and aquatic resources, special-status plant and animal species, and wildlife movement corridors. The potential for special-status species and habitats to occur on the project site is based on the results of database research, biological assessments, surveys conducted on the project site and vicinity, presence of suitable habitat, and the proximity of the project site to previously recorded occurrences in the CNDDB, CDFW, and USFWS data that were documented in a biological resources technical report prepared for the project.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in of the *CEQA Guidelines* Appendix G, to determine if a project could potentially have a significant adverse effect on biological resources.

A project would have a significant adverse effect on biological resources if it would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the USFWS;

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or the USFWS;

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Project Impacts

Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The proposed project involves ground disturbance, construction, and operational activities involved with ground clearing (grubbing, clearing and grading), installation of solar panels and support structures, construction of the BESS, access roadways and other needed infrastructure and improvements that could result in impacts to special status plant and wildlife species. Impacts also could occur during operations and decommissioning activities of the solar site.

Regarding animal species, impacts resulting from removal and/or degradation of existing habitat would reduce habitat availability to local wildlife populations. Wildlife also could be affected by interactions with on-site personnel, traffic, equipment operations including vehicle collisions, entrapment in trenches, crushing by equipment or stockpiled materials, and burial in collapsed burrows. Construction activities also would result in the generation of noise, vibrations, and introduction of nighttime lighting which could result in disturbances but these disturbances would be unlikely to result in loss. To determine the potential for project impacts, extensive literature reviews and a field survey for biological resources including plant species was conducted.

Permanent and temporary loss of habitat as a result of construction activities also could directly affect animal species. Indirect effects also would occur due to loss of foraging habitat for wildlife as a result of construction and the permanent installation of the solar facilities. In response to the increase in human activity (e.g., equipment operation, vehicular traffic, and noise), wildlife may avoid the sources of disturbance and move to other habitats. Wildlife habitats adjoining the project site may also be affected by fugitive dust produced by vehicles and noise during grading and wildlife in these areas may avoid or move away.

Special-Status Plants

One special-status plant species, Hispid bird's beak has the potential to occur within the study area based on known ranges, habitat preferences, species occurrence records in the vicinity of the study area, and presence of suitable habitat.

Hispid bird's-beak

There has been one noted occurrence of Hispid bird's beak within five miles of the project site in 2010 and the species is considered to have a low potential to occur. Due to intensive agricultural use, very limited suitable habitat for the species is present, with the exception of the basin containing alkaline soil near the center of the study area. If present, direct impacts to the species may include loss of plants or loss of habitat due to grading and/or removal of the existing agricultural basin. However, this species is not state or federally listed as threatened or endangered and impacts would only be considered significant if construction and operation of the project would jeopardize the regional population. Because of the small size of suitable habitat and isolation from natural vegetation communities, the removal of a small number of individuals, if present, would not represent an impact to the regional population. Therefore, impacts to hispid bird's-beak would be less than significant and mitigation is not required.

Special-Status Wildlife

Based upon observations made during the field reconnaissance survey, known ranges and habitat preferences, species occurrence records within the vicinity of the study area, and presence of suitable habitat, eight special-status wildlife species have potential to occur within the study area. Five of these animal species are considered to have a low potential to occur, these include the California glossy snake, San Joaquin coachwhip, tricolored blackbird, San Joaquin kit fox, and Swainson's hawk. One of the eight species, the burrowing owl, has a moderate potential to occur within the study area. Two of the eight species, the ferruginous hawk (foraging) and the loggerhead shrike (foraging), were observed within the study area during the field reconnaissance survey. In addition, nesting special-status bird species and/or nesting birds protected under the MBTA and CFGC have potential to occur throughout the study area during the nesting season (February 1 to August 31). Finally, although Crotch's Bumble Bee (CBB) is not expected to occur on the project site, MM 4.4-11 would be included to ensure surveying for the CBB is done if suitable habitat is found on the project site. Potential impacts to each of the special-status wildlife species with the potential to occur within the study area, as well as applicable mitigation measures for reducing impacts, are described below.

Tricolored Blackbird

There is habitat with a small amount of the constituent features required for tricolored blackbird nesting within cattails in the unnamed agricultural basin near the center of the study area. However, this area is too small of a patch of cattail to function as a likely location to contain a nesting colony of tricolored blackbirds; furthermore, the basin will be avoided. Consequently, potential impacts would be limited to disturbance of a nesting colony, should a colony be established in the patch of cattails and construction occur in the vicinity of the colony during the nesting season. Mitigation Measures MM 4.4-2 and MM 4.4-9 would include recommendations to reduce impacts to nesting birds and avoid violations of the MBTA and CFGC. Implementation of these measures would reduce impacts to less than significant.

Swainson's Hawk

Marginally suitable nesting habitat for the Swainson's hawk and other raptors exists within ½ mile of the study area in planted palm trees, as well as citrus and almond orchards. Construction activity initiated within ¼ mile of an active Swainson's hawk nest could significantly reduce foraging habitat and disturb nesting hawks, thereby resulting in nest abandonment. Construction impacts that result in a significant reduction in foraging habitat in the proximity of an active nest or nest abandonment during construction or decommissioning would be considered significant under CEQA. Mitigation Measures MM 4.4-1, MM 4.4-

2, MM 4.4-4, and MM 4.4-9 include recommendations to reduce impacts to Swainson's hawks to less than significant.

Burrowing Owl

No burrowing owls or signs of burrowing owl was detected during the field reconnaissance survey of the study area. Isolated and low-density California ground squirrel colonies in the study area and associated ditches and roadside berms provide suitable breeding habitat, predominantly at the margins of agricultural fields. Burrowing owls may utilize the study area for foraging; however, ongoing agricultural uses and low abundance of prey make most of the study area poor-quality foraging habitat. The species is most likely to occur as a transient; however, the presence of small numbers of California ground squirrel burrows in isolated locations on and adjacent to the site present a low potential for burrowing owls to establish a nest onsite in the future. If this were to occur during construction, operations and maintenance, or decommissioning, the project could directly impact the nest either through ground disturbance activities destroying the nest, or through disruption of normal biological behaviors during construction of the project resulting in nest failure. Such impacts would be considered significant under CEQA. Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-3, MM 4.4-4, and MM 4.4-8would reduce impacts to burrowing owl to a less than significant level.

Ferruginous Hawk

A single ferruginous hawk was observed foraging within the study area during the field reconnaissance survey. The species typically occurs in open country within grasslands, sagebrush, saltbush-greasewood shrublands, and edges of pinyon-juniper forests at low to moderate elevations. The study area is disturbed agricultural land, which represent marginal foraging habitat for the species, and is outside the typical breeding range of the species. Because the project site is highly disturbed and the species is not expected to nest within the site or vicinity, the potential loss of this small amount of marginal foraging habitat is considered a less than significant impact and no mitigation is required.

Loggerhead Shrike

One loggerhead shrike was observed foraging within the northwestern portion of the study area during the field reconnaissance survey, and the species is considered present as a forager in the study area. The margins of agricultural fields, roadsides, and utility pole lines within the study area provide suitable foraging habitat for the species. The species may also attempt to nest within stored construction materials onsite during the construction period, within the facility during operations and maintenance, and within stored materials onsite during decommissioning. Mitigation Measures MM 4.4-2**,** MM 4.4-4,and MM 4.4-9 would reduce impacts to nesting loggerhead shrike to less than significant.

San Joaquin Kit Fox

Several burrows of sufficient size to accommodate SJKF were detected during site surveys; however, no sign of the species was observed and there was no indication that existing burrows were occupied or incidentally used by the species Thus, SJKF is considered to have a low potential to occur on-site. Furthermore, the low abundance of prey and the presence of coyote predators makes the site marginal as foraging habitat for SJKF. SJKF is a highly mobile species and individuals can travel long distances during dispersal and the species may occur within the study area irregularly during dispersal.

Impacts to SJKF, if present even on a transient basis, during construction, operations and maintenance, and decommissioning could include injury or mortality of individuals, which would be considered significant under CEQA. Mitigation Measures MM 4.4-1, MM 4.4-2, MM 4.4-3, MM 4.4-4, MM 4.4-5, and MM 4.4-6 would reduce direct impacts to SJKF to a less than significant level.

Special-Status Reptiles

Special-status reptiles with potential to occur within the study area include California glossy snake and San Joaquin coachwhip, both CDFW SSC. Impacts to these non-listed species would be considered significant under CEQA if they would threaten the continued existence of the population. Due to the disturbance of habitat from intensive agricultural activities, California glossy snake and San Joaquin coachwhip have only a low potential to occur within ruderal areas that contain non-native vegetation and ground squirrel burrows along the periphery of the study area. The continued existence of these population would not be threatened due to the disturbance of a small area of marginally suitable habitat within the study area. Therefore, project impacts to special-status reptile species would be less than significant and mitigation is not required. General Mitigation Measures MM 4.4-1, MM 4.4-2, and MM 4.4-4, however, further reduce potential impacts to the California glossy snake and the San Joaquin coachwhip.

Nesting and Migratory Birds

Impacts to special-status avian species are discussed above, but there is the potential for project-related direct impacts on nesting birds that could occur during construction, operation and maintenance, and decommissioning. Many bird species protected by the MBTA and CFGC have the potential to nest within the study area. Nests of non-special status bird species, if present in the study area, could experience directs impact through project activities including destruction of the nest, or through disruption of normal biological behaviors resulting in nest failure. Direct impacts to non-listed species would not be significant under CEQA but would be a violation of the MBTA and CFGC.

Impacts could also occur through individual collisions with project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment. Factors that determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of structures (guy wires and lighting/light attraction). Other factors include the siting in high-risk areas, frequency of inclement weather, type of development, and the species at potential risk. Injury or mortality of avian species can result from electrocution. Collisions with project facilities and equipment could also occur and would be considered a potentially significant impact under CEQA.

Direct and indirect impacts to migratory birds would be less than significant with the implementation of Mitigation Measure MM 4.4-1, MM 4.4-2, MM 4.4-4, 4.4-9, and 4.4-10, which includes general avoidance measures, biological monitoring, environmental awareness training, avoidance and protection measures, and preconstruction survey would reduce impacts to less than significant. Mitigation Measures MM 4.1-4 through MM 4.1-6, from Chapter 4.1, *Aesthetics*, also would be implemented to ensure compliance with Kern County Dark Sky Ordinance, require minimization of glare and spectral highlighting, and the use of non-reflective materials as detailed in Chapter 4.1, *Aesthetics*, which would reduce bird attractants and potential for collisions. These measures would further ensure impacts are reduced to less than significant.

Operations and Maintenance

Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because the project will not remove habitat of special-status species on the project site after construction is completed. Some wildlife movement through or around the project site would still be expected but minimized through the use of fencing but the use of wildlife fencing as appropriate would still allow limited movement. Additionally, Mitigation Measures MM 4.4-2 and MM 4.4-10 require methods designed to reduce wildlife mortality and impacts, promote long-term project site suitability, and educate onsite personnel. However, maintenance activities within the project site could impact the special-status species if avoidance measures are not implemented. Project operation could result in indirect impacts to wildlife in proximity to the project if nighttime lighting is used. In addition, the potential indirect impact from nighttime lighting during operation and maintenance would be minimized through compliance with all development standards, the Kern County Zoning Ordinance, and the goals, policies, and implementation measures of the Kern County General Plan. The proposed project would be required to implement Mitigation Measure MM 4.1-4, which requires compliance with Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County.

Decommissioning

Upon decommissioning of the proposed project, the project site would be disturbed and have some areas of compacted soil (e.g., on roads, laydown yards, and structure foundations). The post-project condition of the project site as a result of project construction and operation would be different than pre-project conditions. If special-status species have recolonized the project site during operation, decommissioning could impact these species. Decommissioning would only directly impact areas that were previously disturbed during project construction; therefore, direct impacts to native habitats and special-status plants are expected to be less than significant. If special-status wildlife re-occupy the project site during operations, these species could be directly impacted by decommissioning, similar to the direct impacts described for construction. Wildlife with the potential to utilize partially-developed habitats and man-made structures include burrowing owls, kit fox, bats, giant kangaroo rats, and nesting birds. Burrowing owls are known to use burrows under concrete slabs and along active road berms.

Indirect impacts to biological resources would be similar to those that would occur during construction, but would depend on the resources present adjacent to the project site at the time of decommissioning. Additional indirect impacts could include degradation of adjacent habitat if the site is colonized by invasive species or generates excessive runoff or dust due to a lack of vegetation. Depending on the species and biological resources present within and adjacent to the project site at the time of decommissioning, decommissioning activities could result in significant impacts to biological resources.

However, the same measures, Mitigation Measure MM 4.4-1 through MM 4.4-10, as applicable at the time, would be required upon the initiation of decommissioning activities. Implementation of these mitigation measures during the decommissioning period would reduce potentially significant impacts to special-status wildlife and plant species to less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project boundary to the Lakeview Substation. These improvements would be located on land also designated as ruderal in the biological report prepared for the project. Improvements would include 0.9 acres of land immediately

adjacent to the west corner of the existing substation and power line structures. Construction and operation of this element of the project would implement all applicable mitigation measursand would comply with PG&E's standard best management practices and APMs. As a result, impacts would be less than significant and no mitigation is required.

Mitigation Measures

Implementation Mitigation Measures MM 4.1-4 through MM 4.1-6, see Chapter 4.1, *Aesthetics*, would be required.

MM 4.4-1: Prior to the issuance of grading or building permits from the County, the project proponent/operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by California Department of Fish and Wildlife (CDFW) to oversee compliance with protection measures for all listed and other special-status wildlife species that may be affected by the construction operation, and decommissioning of the project. A Lead Biologist possess the appropriate credentials and experience to handle all aspects of the construction, operations and maintenance, or decommissioning of the project as it may affect special-status species. The Lead Biologist is responsible for being aware of the latest United States Fish and Wildlife Service (USFWS) and CDFW protocols and guidelines for special-status species. The following measures pertain to qualified biologists (i.e., biologists with the appropriate training approved by the Lead Biologist) on site:

a. The qualified biologist(s) shall be on the project site during construction of perimeter fencing, clearing of vegetation, grading activities, and similar ground-disturbance activities that will be associated with the construction and decommissioning phases.

b. The qualified biologist(s) shall have the right to halt activities that are in violation of the special-status species mitigation measures, as well as any regulatory permits from the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk, or at the qualified biologist's discretion.

c. The qualified biologist(s) shall maintain a copy of applicable permits and biology-related plans on the project site.

d. The qualified biologist(s) shall have in her/his possession a copy of all the mitigation measures while work is being conducted on the project site.

e. Prior to issuance of grading or building permits, contact information for the Lead Biologist shall be submitted to the Kern County Planning and Natural Resources Department.

f. Individuals involved in biological monitoring shall be supervised by the Lead Biologist or qualified biologist(s) and shall have the appropriate experience to accomplish biological monitoring. Biological monitors shall comply with the above measures.

MM 4.4-2: Prior to the issuance of grading or building permits and for the duration of construction activities, and within a minimum of one week of initial ground disturbance at the project

site, staging areas and/or transmission corridors, all construction personnel shall attend a Worker Environmental Awareness Training and Education Program developed and presented by a qualified biologist(s) or e, or designee approved by the qualified biologist(s) and may be conducted in person or via videotape or other electronically recorded media.

Any personnel associated with construction that did not attend the initial Worker Environmental Awareness Training shall have Worker Environmental Awareness Training prior to working on the project site. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training prior to starting work on the project and on an annual basis.

The Worker Environmental Awareness Training and Education Program shall include the components described below.

a. Information on the life history and identification of the California glossy snake, San Joaquin coachwhip, tricolored blackbird, Swainson's hawk, burrowing owl, Ferruginous hawk, loggerhead shrike, and San Joaquin kit fox; as well as other wildlife, special-status plant species, and the CDFW regulated drainages, as well as other wildlife and plant species that may be affected during project activities. The Worker Environmental Awareness Training and Education Program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the California Environmental Quality Act mitigation measures and agency permit requirements.

b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education Program has been completed shall be kept on file at the site.

c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education Program and signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department.

d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary.

e. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker.

MM 4.4-3: As applicable during construction, operations and maintenance, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures described below.

a. Prior to conducting vegetation clearing or grading activities associated with construction or decommissioning, a qualified biologist or biological monitor that has been approved by the qualified biologist shall perform pre-construction visual surveys of the area immediately prior to conducting these activities to ensure that no special-status animals are present. The qualified biologist or biological monitor shall monitor all initial construction and decommissioning ground disturbance activities. A report of those activities shall be submitted to the Kern County Planning and Natural Resources Department within 30 days of completion of activities.

b. Sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) within proposed impact areas, including solar fields, generator-tie lines, staging areas, access routes, and areas of disposal or temporary placement of spoils shall be delineated with stakes and/or flagging prior to construction to avoid sensitive biological resources where possible. Construction-related activities outside of the planned impact areas shall be avoided.

c. Access roads that are planned for use during construction shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact areas or in previously disturbed areas. Where new access routes are required, the route will be clearly marked (i.e., flagged and/or staked) prior to construction.

d. The project proponent/operator shall minimize the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be demarcated and disturbance activities, vehicles, and equipment shall be confined to these areas.

e. Spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (see Section 4.7, Geology and Soils, for more details on Stormwater Pollution Prevention Plan requirements). All detected erosion shall be remedied as described in the Erosion Control Plan of the Stormwater Pollution Prevention Plan. Spoils that have been stockpiled and inactive for greater than 10 days shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing the spoils.

f. To prevent inadvertent entrapment of San Joaquin kit foxes, American badgers, or other animals, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist or their biological monitor at the beginning and end of each day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained staff approved by the retained qualified biologist for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, the USFWS and/or

CDFW, as appropriate for the species, and Kern County Planning and Natural Resources Department shall be contacted immediately.

g. San Joaquin kit fox, burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the site for one or more overnight periods, and without endcaps, shall be thoroughly inspected by a qualified biologist or the designated biological monitor for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist holding the appropriate handling permits from the Resource Agencies.

h. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.

i. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated impact areas shall be prohibited.

j. A speed limit of 15 miles per hour shall be enforced within the limits of the project. If night work occurs on the project, the speed limit will be 10 miles per hour.

k. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

l. Trash and food items shall be contained in closed containers to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

m. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.

n. Intentional killing or collection of any plant or wildlife species shall be prohibited.

o. No rodenticides shall be used on the project site.

p. To enable San Joaquin kit fox and other wildlife (e.g. American badger) to pass through the project site after construction, the security fence and any permanent interior fencing shall be made a wildlife friendly design that meets the goal of allowing wildlife to move freely through the project site during operation by leaving 4- to 7-inch openings or portals in the fence or raising the bottom of the fence up 5 to 7 inches from the ground leaving a gap between the fence mesh and the ground. In the latter case, the bottom of the fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

MM 4.4-4 During clearing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Natural Resources Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.

MM 4.4-5 As applicable during construction, operations and maintenance, and decommissioning, the Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction/decommissioning in the event a special-status species wanders into the project site.

Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow USFWS and/or CDFW preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, per the associated resource-specific mitigation measure.

MM 4.4-6: Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days prior to commencement of construction activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed.

a. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:

   San Joaquin kit fox potential den: 50 feet.

   San Joaquin fox active den: 100 feet.

   San Joaquin fox natal den: 500 feet.

b. If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the San Joaquin kit fox:

1. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent San Joaquin kit foxes from re-using them during construction.
2. If the qualified biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for 7 days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that San Joaquin kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

MM 4.4-7: Preconstruction surveys shall be conducted by a qualified biologist for the presence of special-status and protected plant species within the project area for the Hispid Salty Bird's Beak within 14 days prior to commencement of ground-disturbing activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed.

If preconstruction surveys document the absence of this species, no further action is warranted for special-status plants.

If preconstruction surveys determine presence of this species, additional surveys shall be conducted to determine the exact location on the project site and the number of individuals or populations present. The project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below.

a. Protocol-level Special-Status Plan Survey(s).
    1. Summer/ fall surveys shall be conducted prior to construction. Surveys shall focus on the Hispid Salty Bird's Beak, but should be floristic in nature (all species identified). Summer/ fall surveys should focus on the entire access road area, especially disturbed areas and roadside drainages.

b. The number of specimens affected by the proposed project should be assessed to determine if potential impacts exceed the thresholds of significance under CEQA.

c. If any plants listed as CRPR special-status species are found at the project site, the plants will be flagged, mapped and a setback of a minimum of 50 feet from Project Footprint will be implemented where feasible. If setbacks are not feasible, a monitor shall be present to ensure populations are avoided. To compensate for significant impacts on plants with a CRPR ranking of 1A, 1B, 2, 3, or 4 that cannot be avoided, offsite habitat occupied by the affected species shall be preserved and managed in perpetuity at a minimum 1:1 mitigation ratio (at least one plant preserved for each plant affected, and also at least one occupied acre preserved for each occupied acre affected), up to the significance threshold as follows:
    1. for CRPR-ranked 1A species, mitigation must be provided at 1:1 equivalent.

2. for a CRPR -ranked 1B and 2 species where 10% or more of the known population within 5 miles of the work area is impacted, mitigation must be provided at 1:1 equivalent.

3. for a CRPR -ranked CRPR of 3 or 4 species where 30% or more of the known population within 5 miles of the work area is impacted, mitigation must be provided at 1:1 equivalent.

4. Areas proposed for preservation and serving as compensatory mitigation for special-status plant impacts must contain verified extant populations of the CRP-ranked plants that would be impacted by the work areas. Mitigation areas shall be managed in perpetuity to encourage persistence and even expansion of the preserved target species.

MM 4.4-8: Preconstruction surveys shall be conducted by a qualified biologist within suitable habitat to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to commencement of ground-disturbing activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed.

The survey methodology shall be consistent with the methods outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart within suitable habitat, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, surveying biologists shall also look for signs of American badger and San Joaquin kit fox. Copies of the survey results shall be submitted to the Kern County Planning and Natural Resources Department.

If burrowing owls are detected onsite, the avoidance buffers outlined below should be established. These buffers be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist, verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Visible markers shall be placed near the identified burrow(s) to ensure that machinery does not collapse the burrow(s).

Location	**Time of Year**	**Level of Disturbance**		
		Low	**Med**	**High**
Nesting sites	April 1 – Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16 – Oct 15	200 m*	200 m	500 m
Nesting sites	Oct 16 – Mar 31	50 m	100 m	500 m
*meters (m)				

If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial

Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation.

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:

a. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.

b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.

c. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.

MM 4.4-9: Preconstruction surveys shall be conducted by a qualified biologist of all potential nesting habitat within the project site no more than 14 days prior to commencement of construction activities within the project site during the breeding season (i.e., February 1 to August 31). Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 10 days prior to that portion of the project site disturbed. If construction is scheduled to commence during the non-nesting season for any nesting birds (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required.

The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance.

The raptor survey shall focus on potential nest sites (e.g., large trees, windrows) within a 0.5-mile buffer around the project site.

A tricolored blackbird nest colony survey shall occur within suitable habitat. Tricolored blackbird nesting season in the San Joaquin Valley is March to mid-June, though most

colonies begin nesting in late March. Suitable habitat shall be assessed in March with three follow-up surveys occurring April through June, comprising a total of four surveys of each location. The Swainson's hawk nest survey shall focus on potential nest sites within a 5-mile buffer around the project site and follow the 2010 Swainson's hawk protocol surveys (SWHA Survey Protocols, Impact Avoidance, and Minimization Measures, 2010).

Surveys shall encompass the project site plus the potential nest buffers as listed above, where access has been granted.

If active nests are found, a suitable no-disturbance buffer (e.g., 500 feet for common raptors; 0.5 miles for Swainson's hawk; 250 feet for non-raptor species shall be established around active nests until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist provided the biologists has monitored the nest prior to construction to establish a behavioral baseline and continues to monitor the nest during construction to ensure the nest is not negatively affected. Buffer distances can also be adjusted if there is a compelling biological reason such as when a construction area would be concealed from a nest site by topography of vegetation as determined by a qualified biologist. For State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.

Compensation for loss of Swainson's hawk foraging habitat will be based on the results of the protocol SWHA survey (SWHA TAC 2000) as described in CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG 1994). If an active Swainson's hawk nest is detected and a ½-mile no disturbance buffer is not feasible, CDFW will be consulted to discuss how to implement the project and avoid take.

MM 4.4-10: The project proponent/operator shall install power lines in conformance with Avian Power Line Interaction Committee (APLIC) standards for electrocution- reducing techniques as outlined in suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006), and for collision-reducing techniques as outlined in Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012), or any superseding document issued by APLIC.

MM 4.4-11: To minimize impacts to Crotch's Bumble Bees (CBB), areas within the project site containing one or more of the following habitat requisites shall be surveyed by a qualified biologist between March 1 and June 30: flowering vegetation, potential preferred nectar plants, small mammal burrows, bunch grasses, thatch, brush piles, old bird nests, or dead trees. A minimum of two surveys shall be completed between the hours of 0800 and 1600 when temperatures are between 65°F and 90°F, and will not be conducted during inclement weather conditions (e.g., foggy, raining, drizzling, or sustained winds greater than 8 mph). Surveyors will photograph potential CBB from various angles to ensure recordation of key identifying characteristics.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11 and MM 4.1-4 through MM 4.1-6 from Chapter 4.1, *Aesthetics*, impacts would be less than significant. Impacts would be less than significant without mitigation PG&E Interconnection Facilities.

Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, fall under the jurisdiction of the CDFW. Section 1600 et seq. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

Recent cases from the US Supreme Court (Rapapos v. United State, and Carabell v. United States), addressed the scope of the USACE's jurisdiction over waters of the United States. The guidance distinguishes between traditional navigable water (TNW), relatively permanent waters (RPW), and non-relatively permanent waters (non-RPW). Factors that are used to determine classification can include adjacent wetlands, ecology, hydrology, and the influence of the water on the "chemical, physical, and biological integrity of downstream traditional navigable waters." These features are used to help determine nexus and the applicability of USACE regulations and jurisdiction regarding the use and dredge or fill within these areas. Wetland and/or channel features not subject to the USACE jurisdiction, however, may be subject to the CDFW and/or the Regional Water Quality Control Board (RWQCB).

The three agricultural basins are the only features on the project site with the potential to be considered riparian. Within the agricultural basin on the southeast of the project site there was no native riparian vegetation observed and the vegetation surrounding the basin consisted primarily of invasive and ruderal plant species, including Russian thistle, prostrate pigweed, and horseweed. The basin in the northeast corner of the project site had more dense vegetation than the surrounding agricultural fields, but no native riparian species were observed. Plant species within this basin consisted of primarily invasive and ruderal species, such as tamarisk and jimsonweed (*Datura wrightii*). The northeast basin would be avoided during construction and operation of the solar facility. The basin in the central portion of the site contained a stand of cattails, there was no water in the basin and the feature was created by human-made berms and it has a metal drain located at its center. This basin would also be avoided during construction and operation of the solar facility.

Based on the above and the findings of the biological resources report, due to the anthropogenic nature of the basins and the overall lack of native riparian vegetation, the project site does not contain any riparian habitat. In addition, due to the highly disturbed nature of the site and its historic use for agriculture, the site lacks sensitive plant communities, or other sensitive natural communities. However, Mitigation Measures 4.4-12 and MM 4.4-13 would be required to reduce any potential impacts by requiring the submittal of a Jurisdictional Delineation report and a Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements, and shall also consult with CDFW on the need for a streambed alteration agreement. Therefore, impacts to riparian habitat or sensitive natural communities would be less than significant with the implementation of Mitigation Measures MM 4.4-12 and MM 4.4-13.

Mitigation Measures

MM 4.4-12: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Central Valley Regional Water Quality Control Board, CDFW, and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

a. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project related activities shall be avoided. This may be shown in plan form.

b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

c. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the delineated boundary of jurisdictional water features.

d. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

MM 4.4-13: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:

a. The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with CDFW on the need for a streambed alteration agreement. Copies of reports shall be submitted to the County.

b. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources.

c. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank.

d. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.

e. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW.

1. If onsite mitigation is proposed, the HMMP shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site).
2. The HMMP shall include remedial measures in the event that performance criteria are not met.
3. If mitigation is implemented offsite, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Offsite land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank.
4. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.

Level of Significance

Impacts would be less than significant for the project with the implementation of MM 4.4-12 and MM 4.4-13. Impacts would also be less than significant without mitigation for the PG&E Interconnection Facilities. This area is not occupied by any riparian habitat or other sensitive natural communities. In addition, PG&E would implement its standard best management practices and APMs.

Impact 4.4-3: The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Three excavated agricultural basins exist within the study area, none of which have enough wetland features, are considered navigable waters, or are connected to any navigable waters that would make them subject to USACE jurisdiction. These three features are all unnamed agricultural fields, one in the southeast corner of the project site, one near the center of the project site, and one in the northeast corner of the project site. All of the features were crated through excavation for agricultural purposes and were not created through natural processes.

Unnamed Agricultural Basin (southeast corner of study area).

This unnamed basin in the southeast corner of the project site is located just west of the PG&E Lakeview Substation. Depending on weather conditions (rainfall) the water level in the basin will vary but occupies approximately 0.05 acres. The basin is classified by the NWI as PEM1Cx (Palustrine [P], Emergent [EM], Persistent [1], Seasonally Flooded [C], and Excavated [x]). The feature does not exhibit any visible bed or bank and is typically filled by a water pipe. The basin does not contain native riparian or wetland vegetation, and vegetation surrounding the basin consisted primarily of invasive and ruderal plant species, including Russian thistle, prostrate pigweed and horseweed.

Unnamed Agricultural Basin (near center of project site)

The unnamed agricultural basin in the center of the study area was excavated for irrigation purposes. The overall excavated area consists of approximately 1.5 acres and it is built up on the sides and contained with human-made berms. There is a metal drain located at its center. At the time the site reconnaissance was performed there was no water, but a stand of cattails (Typha sp.) that may provide habitat for species such as tricolored blackbird was in the eastern portion of the basin. An aerial photograph from April 2021 show an apparent saturated area within the basin of approximately 0.9 acres. This feature, however, will be avoided and is not associated with any lake or streambed, is not a navigable water, and is not connected to any navigable water and was created for anthropogenic (agricultural) purposes.

Unnamed Agricultural Basin (northeast corner of project site)

The unnamed basin in the northeast corner of the project site also was likely excavated for agricultural purposes. At the time of the site reconnaissance there was no water in the depressional area (approximately 0.38 acres) and there is no visible bed or bank. The basin contains vegetation but the plants consisted primarily of invasive and ruderal species, such as tamarisk and jimsonweed. There were no native riparian species. This feature would be avoided.

Agricultural Basin Overview

None of the agricultural basins have any connectivity with any other waterways, none are navigable, and all appear to have been constructed for agricultural purposes. None of the features have definable bed or bank and with the exception of the centrally located basin, all are dominated by non-native and ruderal species. Because of these reasons, none of the basins appear to be jurisdictional to the USACE or CDFW. Features may fall under the jurisdiction of the RWQCB, in which case a permit would be required, but the Central Valley RWQCB does not typically require discharge permits under the Porter-Cologne Water Quality Control Act for disturbances to these types of human-made features.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project boundary to the Lakeview Substation. These improvements would generally be located above the ground level with the wires being suspected using transmission towers, but the expansion of the substantiation would result in impacts to the existing agricultural basin adjacent to the west of the substation. Construction and operation of this element of the project would implement all applicable mitigation measures and would comply with PG&E's standard best management practices and APMs. As a result, impacts would be less than significant and no mitigation is required.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

No mitigation is required, therefore impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.4-4: The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The project site does not contain any Natural Landscape Blocks or Essential Connectivity Areas. Development of the proposed project including grading, construction of structures, and installation of fencing, and solar panel, would have the potential to interfere with local movement of wildlife within and adjacent to the project site. This could disrupt migratory wildlife from using the project site and surrounding areas as a stopover during the migration seasons. In addition, if present some sensitive wildlife would use the site to move to and from other nearby areas.

While some sensitive wildlife was observed, two avian species, and other species have the potential to occur on the project and use the project site and surrounding areas as a wildlife corridor, because these areas have past uses including agriculture, discing, and current grazing activities, the value of the project site is marginal. Nonetheless, the project site may be used by species for dispersal to other areas in the vicinity and region.

Because of the history of disturbance, nature of the site, and incorporation of wildlife permeable fencing into the perimeter fence design, movement within the study area and surrounding land would not be substantially altered by project development. Thus, the project is not expected to alter existing regional wildlife movement or interfere with established resident or migratory wildlife corridors. To ensure impacts to wildlife movement would not be impacted Mitigation Measure MM 4.4-14 would be implemented which would require a qualified biologist to approve a plan which would ensure wildlife movement could exist on-site and that movement corridors be included in the operations plans for the solar facility. Therefore, with MM 4.4-14 impacts to wildlife movement would be less than significant.

Lighting from the project site would be minimal and likely substantially affect local movement of nocturnal wildlife by deterring them from illuminated areas around the project site. However, all lighting installed as a part of the proposed project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as discussed in Mitigation Measures MM 4.1-4 through MM 4.1-6, from Chapter 4.1, *Aesthetics*.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line leading from the project site to the Lakeview Substation would be extended easterly for approximately 0.5 miles adjacent to the existing southerly alignment of Copus Road. Implementation of the gen-tie line would not interfere with the movement of native wildlife species as the route does not intersect local movement corridors or routes for terrestrial species including migratory birds. In addition, potential impacts to biological resources in relation to migration and movement would adhere to PG&E's standard best management practices and APMs would further ensure impacts are reduced.

Mitigation Measures

Implement Mitigation Measures MM 4.1-4 through MM 4.1-6 from Chapter 4.1, *Aesthetics*

MM 4.4-14: Movement Corridors shall be established and managed for the benefit of sensitive species movement in compliance with agency recommendations. A qualified biologist shall be

involved with the design or provide approval of the plan to ensure areas to ensure wildlife movement exist within and around the project site. The use of movement corridors shall be a part of the operations plan and be ensured for the duration and perpetuity of the project.

Level of Significance after Mitigation

With the implementation of Mitigation Measure MM 4.4-14 and Mitigation Measures MM 4.1-4 through MM 4.1-6 from Chapter 4.1, *Aesthetics*, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.4-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The project site is disturbed and has a history of agricultural activities. The project site including all areas that would be disturbed through grubbing, grading, and all other construction activities, do not contain any trees. The Kern County General Plan includes open space, conservation, and land use elements designed to protect biological resources that generally do not apply to areas zoned for agriculture (e.g., Policy 28 of 1.10.15 Threatened and Endangered Species specifying that the County will work closely with State and federal agencies to assure that discretionary Projects avoid or minimize impacts to fish, wildlife, and botanical resources). As currently designed, the proposed project is considered consistent with the Land Use, Open Space, and Conservation Element of the Kern County General Plan.

The project would implement mitigation measures to reduce potential project-related impacts to sensitive biological resources including special-status species and jurisdictional features. With the implementation of these mitigation measures, the proposed project would not conflict with any elements of the General Plan designed to protect biological resources as the site is located in agricultural zoning. Impacts would be less than significant and additional mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line leading from the solar site to the Lakeview Substation would be extended easterly approximately 0.5 miles adjacent to the southerly alignment of Copus Road. There are no trees in this area and the gen-tie line would not conflict with local policies or ordinances protecting biological resources. Impacts would be less than significant without mitigation.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

The project site is entirely within the boundary of the Kern County Valley Floor Habitat Conservation Plan(KCVFHCP). This plan, however, is still in draft form and has not been officially adopted. As such, the proposed project would not conflict with the provisions of this plan.

The project site also is within the PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan (PG&EHCP) which would overlap applicable portions of the site. However, the PG&EHCP only applies to PG&E maintenance projects and because the project does not apply to extension of the gen-tie lines or modifications to the existing substation, it would not be applicable. Thus, the proposed project would not conflict with any provision of an applicable habitat conservation plan and additional mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line leading from the solar site to the Lakeview Substation would be extended easterly approximately 0.5 miles adjacent to the southerly alignment of Copus Road. In addition, the Lakeview substation would be modified and extended westerly to accommodate the new energy source. Mitigation has been proposed that would reduce potential impacts to biological resources from construction and operation of these improvements. Thus, as impacts would be less than significand and not conflict with any adopted existing HCP, additional mitigation or minimization measures related to biological resources would not be not required.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts for a project would be significant if the incremental effects of the individual project are considerable when combined with the effects of past projects, other current projects, and probable future projects. As described above, the project-specific impacts of the project would be less than significant with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 and MM 4.1-4 through MM 4.1-6, See Chapter 4.1, *Aesthetics*.

As large-scale energy projects and urbanization pressures increase within Kern County, impacts to biological resources within the region are expanding on a cumulative level. As described in **Table 3-3:** *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR, other projects with similar species effects have been completed within the Valley Region including the Sandrini Solar Project which are located in the vicinity of project site. In general, bioregions are defined through physical and environmental features, including

watershed boundaries and soil and terrain characteristics. Areas to the west within the foothills and higher elevation of the Coast Range, as well as other bioregion and are separated from the project site topographic features and other natural geography. In addition, built features such as Interstate-5 (I-5) and the California Aqueduct and other major roadways and water conveyances acts as a barrier to wildlife movement.

As described above, there are two special-status animal species that were observed flying over the site and one special status plant species with potential to occur. Due to the high disturbed nature of the project site and continuing use for agricultural production, the potential to contain other sensitive status plant and animal species is low. Nonetheless, implementation of the project, along with related projects, have the potential to impact wildlife species, including San Joaquin coachwhip, California glossy snake, tricolored blackbird, San Joaquin kit fox, burrowing owls, Swainson's hawk, loggerhead shrike, and ferruginous hawk The project site contains habitat that would support plants, insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species.

Given the number of present and reasonably foreseeable future development projects in the Kern County valley region, the proposed project, when combined with other projects, would contribute to cumulative loss of habitat for special-status species. Implementation of Mitigation Measures would reduce impacts to habitat to less than significant for the proposed project. However, the proposed project, when combined with other related development projects proposed throughout the County, would cumulatively impact habitat for special-status species. Thus, cumulative impacts would be significant and unavoidable.

Lastly, when considered in combination with other existing and reasonably foreseeable projects in the surrounding flat, open portions of the Valley Region south from the Tehachapi foothills, west to the coast range, east to the Sierra Nevada, and north beyond the Kern County boundary, the proposed project has the potential to further reduce local wildlife movement. However, the project will install a wildlife permeable fence and wildlife movement within the project site and area is likely diffuse, and flat, developed lands would remain available to facilitate wildlife movement within the valley. Therefore, impacts concerning wildlife movement would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Impacts associated with construction of the gen tie line and expansion of the Lakeview Substation would encompass a small footprint and result in minimal ground disturbance. The construction and operation of the Interconnection Facilities are would include the expansion of the substation area and require minor site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. Potential impacts to biological resources are considered less than significant through the incorporation of above listed mitigation and through use of PG&E's standard best management practices and APMs. This would include pre-construction biological resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant biological resources that might be discovered. By implementing these standard protocols, including measures requiring the cessation of all work within a given radius of the species, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 and MM 4.1-4 through MM 4.1-6, (see Chapter 4.1, *Aesthetics),* would be required.

Level of Significance after Mitigation

With the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 and MM 4.1-4 through MM 4.1-6, cumulative impacts would remain significant and unavoidable to transient wildlife species, San Joaquin coachwhip, California glossy snake, tricolored blackbird, San Joaquin kit fox, burrowing owls, Swainson's hawk, loggerhead shrike, and ferruginous hawk, other raptors, and migratory birds. Cumulative impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Section 4.5
Cultural Resources

4.5.1 Introduction

This section of the EIR provides contextual background information on cultural resources in the project site, including the site's prehistoric, ethnographic, and historical settings of the region. This section also summarizes the results of a *Cultural Resources Assessment Report*, Appendix F. The project's potential impacts on tribal cultural resources, are addressed in Section 4.16, *Tribal Cultural Resources*.

More specifically, the *Cultural Resources Assessment Report* was conducted in compliance with California Public Resources Code (PRC) Section 5024.1 and CEQA to identify archaeological, historic built architectural, and other cultural resources in the project area. Due to the confidential nature of the location of cultural resources, information regarding locations of cultural resources has been removed from these reports and is not included in the Appendix. Additional information related to Paleontological Resources also is provided in *Section 4.7, Geology and Soils*.

Cultural Resource Terminology

For the purposes of CEQA, "cultural resources" generally refer to prehistoric and historical archaeological sites, isolates, and the built environment. Cultural resources can also include areas determined to be important to Native Americans. Below are definitions of key cultural resources terms used in this section.

- **Alluvium:** a fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on flood plains, in river beds, and in estuaries.
- **Archaeological site:** A site is defined as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or nonutilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). Prehistoric archaeological sites generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans. Ethnohistoric archaeological sites are defined as Native American settlements occupied after the arrival of European settlers in California. Historic archaeological sites reflect activities during the Historic period.
- **Artifact:** An object that has been made, modified, or used by a human being.
- **Cultural resource:** Cultural resources are expressions of human culture and history in the physical environment, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the events no longer remains. Cultural resources also include places that are considered to be of traditional cultural or religious importance to social or cultural groups.
- **Ethnographic:** Relating to the study of human cultures. "Ethnographic resources" represent the heritage resource of a particular ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They may include traditional resource-collecting areas,

ceremonial sites, value-imbued landscape features, cemeteries, shrines, or ethnic neighborhoods and structures.

- **Historic period:** The period that begins with the arrival of the first nonnative population and thus varies by area. In 1772, Commander Don Pedro Fages was the first European to enter Kern County, initiating the historic period in the project study area.
- **Historical resource:** This term is used for the purposes of CEQA and is defined in the CEQA *Guidelines* (Section 15064.5) as: (1) a resource listed in, or determined to be eligible for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (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 by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.
- **Holocene:** Of, denoting, or formed in the second and most recent epoch of the Quaternary period, which began 10,000 years ago at the end of the Pleistocene.
- **Isolate:** An isolated artifact or small group of artifacts that appear to reflect a single event or activity. Because isolates may lack identifiable context, and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (PRC Section 21083.2 and CEQA *Guidelines* Section 15064.5).
- **Lithic:** Of or pertaining to stone. Specifically, in archaeology lithic artifacts are chipped or flaked stone tools, and the stone debris resulting from their manufacture.
- **Pleistocene (Ice Age):** An epoch in the Quaternary period of geologic history lasting from 1.8 million to 10,000 years ago. The Pleistocene was an epoch of multiple glaciation, during which continental glaciers covered nearly one fifth of the earth's land.
- **Prehistoric period:** The era prior to 1772. The later part of the prehistoric period is also referred to as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.
- **Quaternary age:** The most recent of the three periods of the Cenozoic Era in the geologic time scale of the ICS. It follows the Tertiary Period, spanning 2.588 ± 0.005 million years ago to the present. The Quaternary includes two geologic epochs: The Pleistocene and the Holocene Epochs.
- **Stratigraphy:** The natural and cultural layers of soil that make up an archaeological deposit, and the order in which they were deposited relative to other layers.
- **Tribal cultural resource:** These are defined in AB 52 as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources (PRC § 21074 (a)(1)).
- **Unique archaeological resource:** This term is used for the purposes of CEQA and is defined in PRC Section 21083.2(g) as 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 either 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; or, is directly associated with a scientifically recognized important prehistoric or historic event or person.

4.5.2 Environmental Setting

The proposed Project site is located at the northwest corner of Copus Road and Old River Road, approximately four (4) miles west of Interstate 5, 2.5 miles north of State Route 166, approximately 17 miles east of Taft, and approximately 20 miles southwest of downtown Bakersfield. The proposed project study area consists of two parcels along Copus Road totaling 527.37 acres. The proposed facility would be located on approximately 493 acres of the 527.37-acre area. The Assessor Parcel Numbers (APNs) include 295-131-12 and 295-132-15, which are located in Bakersfield, Kern County, California. The project lies within the United States Geological Survey (USGS) Conner SW and Coal Oil Canyon 7.5-minute topographical quadrangle and mapped in Section 31 of Township 32 South, Range 27 East in the Mount Diablo Base and Meridian. The project site is bounded by Copus Road to the south, Old River Road to the east, and agricultural lands to the north and west.

Topography within the study area is generally flat, with elevations ranging from 340-394 feet (104- 120 meters) above mean sea level (amsl). The project site also is surrounded by lands that are mostly flat and exhibit little topographic variation. As described in more detail in Section 4.4, Biological Resources, the project site typically lacks vegetation with some of the canals and detention basins containing hydrophyte communities (plants that live in water).

Ethno Graphic Setting

The project area is located in the Southern Valley Yokuts ethnographic territory (Wallace 1978). The Southern Valley Yokuts occupied the southern San Joaquin Valley south of the San Joaquin River to the foot of the Tehachapi Mountains. Adjacent native groups include the Salinan and Chumash to the west, the Foothill Yokuts to the east, and the Kawaiisu and Kitanemuk to the southeast (Kroeber 1925). The three geographical divisions of the Yokuts are the Northern Valley, Southern Valley, and Foothill Yokuts. The distinction between the three groups is primarily based on language dialect (Mithun 2001).

The Yokuts established large permanent village settlements, or closely associated smaller settlements, such as the Tulamniu village. Residential structures were most often of two types: single-family dwellings and larger communal residences that housed ten families or more. Villages frequently included mat-covered granaries and a sweathouse (Mithun 2001; Sutton et al. 2016).

The basic economic unit among the Yokuts was the nuclear family. Totemic lineages were based on patrilineal descent. Totem symbols were passed from father to offspring and families sharing the same totem formed an exogamous lineage. Totems were associated with one of two moieties, a division which played a role during ceremonies and other social events (Wallace 1978).

Yokuts were split into self-governing local groups, most often including several villages. Each group had a chief who directed ceremonies, mediated disputes, handled punishment of those doing wrong, hosted visitors, and provided aid to the impoverished. In certain cases, settlements had two chiefs, one for each moiety. Other political positions included the chief's messenger and the spokesman (Wallace 1978).

Shamans were also an important part of Yokuts village life. The Yokuts' Shaman gained power through a dream or vision. If, after this vision, the man accepted the role as shaman, he would pray, fast, and acquire

talismans to aid him in his future work. Shamans had the ability to heal the sick and served the primary role in religious life (Wallace 1978).

Yokuts subsistence generally was based on a mixed economy focused on fishing, collecting, and hunting small game. Fishermen employed tule rafts and caught fish with nets, spears, basket traps, and bow and arrow. Yokuts often gathered mussels and hunted turtles in lakes, rivers, and streams. Wild seeds and roots contributed a large portion of the Yokuts diet. Tule roots were gathered, dried, and pounded into flour to be prepared as a mush. Tule seeds and grass and flowering herb seeds were prepared in the same way. Leaves and stems of certain plants, such as clover and fiddle-neck, were also collected. Acorns, a staple of most California Native Americans, were not readily available in the Yokuts ethnographic territory. Some Yokuts tribes journeyed to neighboring groups to trade for acorns. Waterfowl was frequently hunted with snares, nets, and bow and arrow. Land mammals and birds contributed a smaller part of the Yokuts diet. Small game was occasionally taken in snares or traps or shot with bows and arrows (Wallace 1978; Sutton et al. 2016).

Yokuts technology depended primarily on tule. Stems of the plant served as the raw material for baskets, cradles, boats, housing, and many other items. Manos and metate would be used to process food and animal hydes (Barton et al. 2010; Sutton et al. 2016). Tools such as knives, projectile points, and scraping tools were made from imported lithic materials as stone was not readily available in the Central Valley, although some tools, such as bead drills, could also be made from obsidian (Sutton et al. 2016). Marine shells secured through trade with coastal peoples were used in the manufacture of shell money and personal adornment items (Wallace 1978) and used to manufacture Olivella beads (Sutton et al. 2016).

Prehistoric Setting

The Central Valley has been described as one of the largest intermontane basins extending 650 kilometers from the Siskiyou Mountains to the Tehachapis (Rosenthal et al. 2007). No single chronological framework covers the entirety of the Central Valley, but California prehistory is generally divided into three broad time periods: the Paleoindian period (ca. 11,550–8550 B.C), the Archaic Period (8550 BCE-CE 1100) and the Emergent Occupation (CE 1000- European Contact) (Fredrickson 1973, 1974) which has been updated and adjusted by Rosenthal et al. (2007) to further separate the Archaic Period into Lower (8550 BCE–5550 BCE), Middle (5550 BCE–550 BCE), and Upper (550 BCE–CE 1100. The prehistoric chronological sequence for the Central Valley presented below is based on Rosenthal et al. (2007) and Moratto (1984).

Paleoindian Period (11,550–8550 BCE)

Little is known about the Paleoindian period in the Central Valley. Geoarchaeological studies have demonstrated that erosion and deposition have buried or destroyed early archaeological deposits. Most claims of ancient human occupation have been dismissed by Moratto (1984) based on radiocarbon dating. Currently, the earliest accepted date of human occupation in the Central Valley ranges from 11,550–8550 BCE and comes from fluted projectile points similar to Clovis points found at sites near Tracy Lake and the Tulare Lake Basin (Rosenthal et al. 2007).

Lower Archaic (8550–5550 BCE)

Climate change at the end of the Pleistocene caused significant periods of alluvial deposition beginning around 9,050 BCE The Lower Archaic, like the Paleoindian Period, is represented only by limited isolated

finds. Only one Lower Archaic site (KER-116) has been identified in the Central Valley proper and few in the foothills surrounding the valley (Rosenthal et al. 2007).

Typical Lower Archaic artifacts include flaked stone crescents and stemmed points. The identification of projectile points and a diverse faunal assemblage at KER-116 point to hunting being an important subsistence activity. However, milling tools and plant remains are largely absent in the valley, thus plant use during the Lower Archaic remains unclear. Several foothill sites contain milling implements and evidence of the use of nut crops such as acorn and pine (LaJeunesse and Pryor 1996). The relationship between foothill and valley floor adaptations is largely unknown during the Lower Archaic. However, distinct adaptations are apparent in the Middle Archaic, and it is possible that these divergent traditions first emerged in the Lower Archaic (Rosenthal et al. 2007).

Middle Archaic (5550–550 BCE)

The Middle Archaic began with substantial climate change to much warmer, drier conditions. Tulare Lake shrank and eventually disappeared. Fans and floodplains stabilized after an initial period of deposition in 5550 BCE Archaeological deposits dating to the Middle Archaic are rare in the Central Valley proper due to these geomorphic changes. The Middle Archaic record has revealed a pattern of organized subsistence strategies and increased residential stability. The archetypal pattern of the Middle Archaic has been identified as the Windmiller Pattern. This pattern is represented by extended burials oriented to the west and a sophisticated material culture (Rosenthal et al. 2007). Middle Archaic sites are relatively common in the foothills surrounding the Central Valley and show relatively little change from the Lower Archaic (McGuire 1995).

During this time, the mortar and pestle become more widespread suggesting a shift toward more intensive subsistence practices and higher reliance on the acorn. Fishing technologies, such as bone gorges, hooks, and spears, also appear during the Middle Archaic suggesting a new focus on fishing, especially in the Marsh Creek area. Several other technologies become apparent during this time. Baked-clay impressions of twined basketry, simple pottery, and other baked clay objects have been found at several sites. Personal adornment items also become more frequent. Exchange with outside groups is evidenced by the presence of obsidian, shell beads and ornaments (Rosenthal et al. 2007; Moratto 1984; Burns et al. 2016). Trade also seemed to be focused on utilitarian items such as obsidian or finished obsidian tools from at least five separate sources (Moratto 1984).

Upper Archaic (550 BCE–CE 1100)

The Upper Archaic began with the onset of the Late Holocene, marked by a cooler, wetter climate. The environmental conditions of the Upper Archaic were characterized by the return of lakes that had disappeared during the Middle Archaic and a renewed fan and floodplain deposition. The Upper Archaic is better represented in the archaeological record than earlier periods. Cultural diversity was more pronounced and is marked by contrasting material cultures throughout the valley (Rosenthal et al. 2007).

During this period, numerous specialized technologies were developed such as bone tools, and implements, manufactured goods such as Olivella and Haliotis beads and ornaments, well-made ceremonial blades, and ground-stone plummets. People living in the San Joaquin Valley region traded with neighboring groups for obsidian.

Upper Archaic period economies varied by region throughout the Central Valley. Economies were primarily focused on seasonal resources such as acorns, salmon, shellfish, rabbits, and deer (Rosenthal et al. 2007).

Emergent Occupation (CE 1000–Historic)

The stable climatic conditions of the Upper Archaic continued into the Emergent Period. There has been sporadic research in the San Joaquin Valley on this time period, and thus only the Pacheco Complex on the western edge of the valley has been formally defined. After CE 1000, many of the technologies witnessed during the Archaic disappeared to be replaced by cultural traditions witnessed at European contact. During the Emergent Period, the bow and arrow replaced the atlatl as the preferred hunting method sometime between CE 1000 and 1300.

Increased social complexity is evidenced by increased variation in burial types and offerings and larger residential communities. Grave offerings such as shell beads, ornaments, and ritually "killed" mortars and pestles are often found in burials. Pottery was frequently obtained through trade with groups living in the foothills to the east. The Panoche side-notched point became important in the western side of the San Joaquin Valley (Rosenthal et al. 2007). In addition to the side-notched point, the Panoche Complex featured large circular structures, flexed burials, marine shell beads, bone awls, millingstones, and mortars and pestles (Moratto 1984).

As with the Archaic Period, Emergent Period economies varied geographically, though throughout the Central Valley fishing and plant harvesting increased in importance. Most Emergent residential sites contain diverse assemblages of mammal and bird remains and large amounts of fish bone. After 1,000 years ago, the mortar and pestle become the dominant tool type and small seeds increase in archaeological deposits over time (Rosenthal et al. 2007).

Historic Context

Post-Contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

Spanish Period (1769–1822)

Spanish explorers made sailing expeditions along the coast of what was then known as Alta (upper) California between the mid-1500s and mid-1700s. The Spanish crown laid claim to Alta California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

By the 18th century, Spain developed a three-pronged approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain

Gaspár de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the Presidio of San Diego as the first Spanish settlement in Alta California in 1769. Franciscan Father Junípero Serra also founded Mission San Diego de Alcalá that same year, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

Construction of missions and associated presidios was a major emphasis during the Spanish Period in California to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns; just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles).

Spain began making land grants in 1784, typically to retiring soldiers, although the grantees were only permitted to inhabit and work the land. The land titles technically remained property of the Spanish king (Livingston 1914).

Mexican Period (1822–1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land. Five ranchos were granted in the 1840s in what would become Kern County (Perez 1982).

During the supremacy of the ranchos, landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

American Period (1848–Present)

The United States went to war with Mexico in 1846, which ended in 1848 with the Treaty of Guadalupe Hidalgo, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as US territories (Waugh 2003). The discovery of gold in the northern part of the state led to the Gold Rush beginning in 1848, and with the influx of people seeking gold, cattle

were no longer desired mainly for their hides but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom.

Kern County

Following the need for supplies during the Gold Rush, Colonel Thomas Baker founded a small agricultural settlement in the swamplands along the Kern River in 1861. Shortly after, the settlement became the town of Bakersfield and served the southern San Joaquin Valley and helped to form Kern County (Zonlight 1979; Hoover et al. 1990; Robinson 1961). Farming later expanded following the statewide no-fence laws in 1874, growing the farming population and the need for irrigation. To create irrigation and divert water for farming, small dams were built across the Kern River starting in 1866, creating more than 80 diversions from the Kern River to farms. The diversions later led to major canal systems that provided water across Kern County (Zonlight 1979; Berg 1971). By the 1870s, smaller canals created a water supply for individual farms and larger canal systems, such as the James Canal, were established in the 1880s, many of which remain in service today.

Although agriculture was the principal industry in Kern County into the 20th Century, petroleum exploration was not far behind and eventually came to lead the economy. Prior to the petroleum boom, petroleum was used for farm machinery. The development of the Southern Pacific Railroad through Kern County allowed for large-scale petroleum production. Oil booms in the 1890s within Kern County brought drilling and oil companies, leading to the development and expansion of oil fields that supplied fuel for the railroad, farm machinery, ships, and automotive industry (JRP Historical Consulting Services 1993). Additionally, pipelines were constructed from oil fields to nearby towns. The Standard Oil Company constructed a pipeline from the Kern River fields to its refineries in the San Francisco Bay in 1903. As petroleum refining advances continued, Kern County oil field production grew, and California rose to become the leading petroleum producing state. By 1903, California alone had produced over 24 million barrels of petroleum, of which approximately 70% was sourced from the Kern County fields (Rintoul 1990).

Agriculture continued to be a dominant land use throughout Kern County well into the 20th Century and sizeable irrigation projects brought water to the valley at a large scale. As the canal systems within Kern County continued, larger canals were constructed, such as the Friant-Kern Canal, which was constructed from 1945 to 1951. The canal remains in service today, carrying water from the San Joaquin River, starting at Friant Dam, to Kern County and the southern San Joaquin Valley. Additionally, as new water resources were brought to the valley, an expansion in crops and related industries followed, leading to more cotton production and oil refining (JRP Historical Consulting Services 1993).

Mining and Oil Production

Kern County was known for its gold production. Gold was discovered on the upper Kern River in 1853, bringing miners and settlers to the area. Kern County was established in 1866 with portions of Los Angeles and Tulare Counties being set aside to form the new county. It is California's third largest county, and the county seat was established at Havilah in 1866. Asbury Harpending, who made a fortune in gold mining along the Kern River, built a toll road from Bakersfield to Havilah. The county seat was moved from Havilah to Bakersfield in 1874 (Hoover et al. 2002:132).

Oil exploration, production, and use are inextricably woven into the history of California, and of Kern County in particular. The first known use of crude oil by the area's Euro-American population took place during the Spanish period. Large seeps along the west side of the San Joaquin Valley were known by travelers of El Camino Viejo, who used the oil to lubricate their wagon wheels (Hodgson 1993:7).

The first company to locate a producing oil well in the San Joaquin Valley was the Buena Vista Petroleum Company. The company was incorporated in February 1864 by Josiah Otis Lovejoy, an entrepreneur and former ship's captain from San Francisco, and began digging and drilling operations later that same year. The Buena Vista Company's headquarters were located at the old Temblor Ranch, and its first refinery (State Registered Landmark No. 504), located 7 miles from the headquarters and 10 miles west of present-day McKittrick, was designed to produce 5,000 gallons of "burning oil," or kerosene, per month (Burmeister 1972:1). During unusually wet years, the kerosene was transported by wagon to the shores of Tulare Lake and then sent by schooner down the San Joaquin River to Stockton and San Francisco. During dry years, the kerosene was hauled overland to the Port of San Luis Obispo and then transported by ship to San Francisco.

Aside from the petroleum industry, which was first developed in the 1890s within the region, agriculture remained the dominant industry in the southern San Joaquin Valley through the twentieth century. Post-World War II irrigation projects, including the Friant-Kern Canal, brought water to the San Joaquin Valley on an even larger scale, and continued to encourage the development of agriculture and related industries. Today the San Joaquin Valley Continues to be a prominent oil and agricultural and oil-producing region.

Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, *Cultural Resources Assessment Report*, Appendix F, relied on background information, archival and records research, historical imagery review, a pedestrian survey, and a Sacred Lands File (SLF) search to support its conclusions. The methodology and results of these studies are summarized below.

Archival and Records Search

On November 2, 2020, search results were received from the California Historical Resources Information System (CHRIS) from the Southern San Joaquin Valley Information Center (SSJVIC) located at the California State University, Bakersfield. The search was conducted to identify any previously conducted cultural resources studies and previously recorded resources within the project site and a 0.5-mile radius. Background research included a review of the following:

- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- Office of Historic Preservation Historic Properties Directory
- California Inventory of Historic Resources
- Built Environment Resource Directory (BERD)
- Archaeological Determinations of Eligibility list.

The SSJVIC records search identified seven previously conducted cultural resources studies within a 0.5-mile radius of the project site. Of the seven previously conducted cultural resources studies, one study (KE-04245) is located within the current project site boundaries and three (KE-03528, KE-04297, and KE-04796) are located adjacent to the project site. A complete list of these studies is included in Appendix F. The SSJVIC records search conducted for this effort identified no previously recorded resources within the project site and a 0.5-mile radius of the project site. The previous studies conducted are summarized in **Table 4.5-1***: Previously Conducted Cultural Resources Studies within 0.5-miles of Project Site.*

TABLE 4.5-1: PREVIOUSLY CONDUCTED CULTURAL RESOURCES STUDIES WITHIN 0.5-MILES OF PROJECT SITE

Report Number	Author(s)	Year	Title	Relationship to APE
KE-00320	Chavez, D.	1978	*FINAL: Cultural Resources Evaluation for the Naval Petroleum Reserve No. 1 (Elk Hills) to Rialto Crude Oil Pipeline, Kern County, California*	Outside
KE-03528	Arrington, C., B. Bass, J. Brown, C. Corey, and K. Hunt	2006	*Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California*	Adjacent
KE-03983	Armstrong, M., K. Larsen, and T. Jackson	2010	*Cultural Resources Inventory of the Maricopa Solar Project, Kern County, California*	Outside
KE-04245	Whitaker, A.	2010	*Lakeview-Andrews Parcel Solar PV Project -Records Search Report*	Within
KE-04297	Carpenter, K.	2009	*Lakeview-Andrews Parcel Solar PV Project -Records Search Report*	Adjacent
KE-04609	Brunzell, D.	2013	*Cultural Resources Assessment of Century Exploration Rio Viejo Oil and Gas Exploration Project, Unincorporated Kern County, California*	Outside
KE-04796	Laurie, L. and A. Pulcheon	2014	*Archaeological Survey Report for the Old River Road Improvement Project from State Route 166 to State Route 119, Kern County, California*	Adjacent

SOURCE: SSJVIC, 2020

KE-03528

Study KE-03528, Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California, was prepared in 2006 by Cindy Arrington, Byron Bass, Joan Brown, Chris Corey, and Kevin Hunt of SWCA Environmental Consultants. This study conducted a cultural resources investigation for the maintenance of the Qwest network fiber optic line throughout California, totaling approximately 1,431 linear feet from the California-Oregon border to the California-Arizona border. A segment of the study runs along the eastern boundary of the current project site. The study

presented the results of archival research, a field survey, and maintenance Monitoring. The study did not result in the identification of any cultural resources within or adjacent to the current project site.

KE-04245

Study KE-04245, Lakeview-Andrews Parcel Solar PV Project -Records Search Report, was conducted by Adrian Whitaker of the Far Western Anthropological Research Group, Inc. (Far Western) in 2010. The letter report documented the results of a records search conducted at the SSJVIC. Whitaker reported that no cultural resources had been previously recorded within the study area. As the analysis of the report was based on records search results alone, it was recommended that a field reconnaissance survey be conducted to determine the presence of surface cultural resources. The study reviewed a portion of the southeast section of the current project site and did not identify any cultural resources within the current project boundaries.

KE-04297

Study KE-04297, Lakeview-Andrews Parcel Solar PV Project -Records Search Report, was conducted by Kim Carpenter of Far Western in 2009. The Letter report documented efforts to assess the cultural sensitivity of the PG&E's proposed Lakeview photovoltaic project. In support of the analysis, Far Western conducted a Native American Heritage Commission Sacred Lands File search, records search of the project area and a 0.25-mile radius, a buried site sensitivity analysis, and pedestrian survey. The study did not identify any cultural material within the current project site.

KE-04796

Study KE-04796, Archaeological Survey Report for the Old River Road Improvement Project from State Route 166 to State Route 119, Kern County, California, was conducted by Leroy Laurie and Andrew Pulcheon of LSA Associates, Inc. in 2014 for the California Department of Transportation (Caltrans) District 6. The study evaluated 13 miles of Old River Road from State Route 166 to State Route 119 for asphaltic concrete overlay. The study included background research, records search of the SSJVIC, Native American consultation, and a field survey. The study did not identify any cultural resources within the current project site.

Historical Imagery Review

Rincon reviewed historical aerials and topographic maps from HistoricAerials.com and from the United States Geologic Survey (USGS) "TopoView" webpage. These images were reviewed to identify potential cultural resource concerns on the project site. Historical topographic maps from 1910 to 1932 depict the project site as undeveloped and bounded by Copus Road to the south and Old River Road to the east (USGS 2020, NETR Online 2020). The 1931 Hayes Ranch and 1934 Coal Oil Quadrangle topographic maps depict an east-west trending road along the north project boundary (USGS 2020). The 1955 Conner SW and Coil Oil quadrangle topographic maps depict two roads intersecting the project site, the first is a north-south trending road along the western project boundary and the second an east-west trending road extending throughout the project site originating from the middle of the north-south trending road. Aerial imagery from 1952 through 2016 confirms the presence of the roads throughout the project site and depict the project site as agricultural (NETR Online 2020).

Pedestrian Survey Methods

Rincon archaeologists Courtney Montgomery, Alli Berry, Laura Maldonado, and Kyle Montgomery conducted a pedestrian survey of the project site between November 9, 2020 and November 11, 2020. The team completed the pedestrian survey using transects oriented generally east-west and spaced no more than 15 meters apart across the project site. Fifteen meter transects are consistent with industry standards and used within the southern San Joaquin Valley. The survey team examined exposed ground surfaces for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock [FAR]), ecofacts (bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were visually inspected. Under the guidance of and with input from qualified architectural historian Susan Zamudio-Gurrola, MHP, built environment features were photographed and recorded on California Department of Recreation (DPR) 523 series forms, which are included in Appendix F of this report. Survey notes were prepared by the surveyors and are available upon request.

Results

Vegetation within the project site consisted of minimal grasses and shrubs with no landscaping. Bare ground visibility was excellent (100%) throughout the project site. Disturbances to the project site were evidenced by recent tilling and animal burrowing. During the current effort, the surveyors noted modern and unmodified faunal remains (rodent, cow, coyote, and bird). Rincon identified and recorded three previously unrecorded unpaved roads (JAS-S-001, JAS-S-002, and JAS-S-003) as a result of the field efforts. Each of these resources is discussed in further detail below and depicted in Figure 3.

Additionally, the surveyors observed a wood-pole transmission line along the northern boundary of the project site. Upon field inspection, the surveyors noted that the wood transmission poles appeared to be recent replacements. As a ubiquitous property type with modern components, Rincon therefore did not record the transmission line as a new resource.

JAS-S-001

Resource JAS-S-001 is a segment of a historic-age, unnamed, unpaved dirt road that generally trends east-west off Old River Road. The road was first depicted on the 1931 Hayes Ranch Quadrangle topographic map. The unnamed dirt road appears to have locally served property owners to access agricultural infrastructure. Archival research, including a review of the Bureau of Land Management's (BLM) General Land Office (GLO) records, did not demonstrate the road is associated with events that have made a significant contribution to broad patterns of national, state or local history (Criteria A/1), nor is it known to be associated with the lives of significant persons in our past (Criteria B/2). The road is an unpaved dirt road, a utilitarian and ubiquitous feature in the largely agricultural area, and thus does not embody distinctive characteristics of a type, period, or method of construction. It does not exhibit significant engineering or materials. Therefore, JAS-S-001 does not appear eligible under Criteria C/3. A review of available evidence and records search results did not indicate the property may yield important information about prehistory or history (Criteria D/4). Thus, the road is recommended ineligible for listing in the NRHP and CRHR under all criteria (A/1-D4).

JAS-S-002

Resource JAS-S-002 is a historic-age, unnamed, unpaved dirt road that generally trends north-south off Copus Road. The road was first depicted on the 1955 Conner SW Quadrangle topographic map (USGS 2020). The unnamed dirt road appears to have locally served property owners to access agricultural infrastructure. Rincon reviewed the BLM GLO records; however, no records were found. Archival research did not demonstrate the road is associated with events that have made a significant contribution to broad patterns of national, state or local history (Criteria A/1), nor is it known to be associated with the lives of significant persons in our past (Criteria B/2). The road is an unpaved dirt road, a utilitarian and ubiquitous feature in the largely agricultural area, and thus does not embody distinctive characteristics of a type, period, or method of construction. It does not exhibit significant engineering or materials. Therefore, JAS-S-002 does not appear eligible under Criteria C/3. A review of available evidence and records search results did not indicate the property may yield important information about prehistory or history (Criteria D/4). Thus, the road is recommended ineligible for listing in the NRHP and CRHR under all criteria (A/1-D4).

JAS-S-003

Resource JAS-S-003 is a segment of a historic-age, unnamed, unpaved dirt road that generally trends east-west approximately 0.5 miles north of Copus Road. The road is first depicted on the 1955 Conner SW and Coal Oil Quadrangle topographic maps (USGS 2020). The unnamed dirt road appears to have locally served property owners to access agricultural infrastructure. Archival research, including the BLM GLO records, did not demonstrate the road is associated with events that have made a significant contribution to broad patterns of national, state or local history (Criteria A/1), nor is it known to be associated with the lives of significant persons in our past (Criteria B/2). The road is an unpaved dirt road, a utilitarian and ubiquitous feature in the largely agricultural area, and thus does not embody distinctive characteristics of a type, period, or method of construction. It does not exhibit significant engineering or materials. Therefore, JAS-S-003 does not appear eligible under Criteria C/3. A review of available evidence and records search results did not indicate the property may yield important information about prehistory or history (Criteria D/4). Thus, the road is recommended ineligible for listing in the NRHP and CRHR under all criteria (A/1-D/4).

Sacred Lands File Search

A search of the Sacred Lands File was requested to the NAHC for the project areas on October 20, 2020. Nancy Gonzalez-Lopez, Cultural Resources Analyst with the NAHC, responded to the request on November 5, 2020 and noted that the search was negative and failed to reveal the presence of known Native American resources within the project area.

4.5.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the California Register is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in, or formally determined eligible for listing in, the National Register of Historic Places (NRHP) and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR (also referred to as the California Register). Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys or designated by local landmarks programs, may be nominated for inclusion in the California Register. A resource, either an individual property or a contributor to a historic district, may be listed in the California Register if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on National Register criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction; 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 in history or prehistory.

Furthermore, under PRC Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4852(c), a cultural resource must retain integrity to be considered eligible for the California Register. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association. Cultural sites that have been affected by ground-disturbing activities, such as farming, often lack integrity because they have been directly damaged or moved from their original location, among other changes.

Typically, an archaeological site in California is recommended eligible for listing in the California Register based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have Statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the California Register.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California);
2. It is associated with an individual or group having a profound influence on the history of California; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California PHI are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. PHI designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type within the local geographic region (city or county);
2. It is associated with an individual or group having a profound influence on the history of the local area; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The CEQA *Guidelines* (Title 14 CCR Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (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 by

the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Section 21084.1 and CEQA *Guidelines* Section 15064.5 apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA *Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the historical resource criteria contained in the CEQA *Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in CEQA Section 21083.2, a "unique" archaeological resource is an archaeological artifact, object, or site, for 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 there is a 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; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.2(b)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA *Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA *Guidelines* Section 15064.5(c)(4)).

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

California Public Records Act Sections 6254(r) and 6254.10 were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies

to withhold information from the public related to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the NAHC, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency."

California Health and Safety Code Sections 7050 and 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code Section 622.5

California Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Public Resources Code Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for cultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1. Land Use, Open Space and Conservation Element

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American Monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

4.5.4 Impacts and Mitigation Measures

Methodology

Impacts on cultural resources could result from ground-disturbing activities needed to construct the project. Ground-disturbing activities include project-related excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and sub-surface disturbance that could damage or destroy surficial or buried cultural resources including prehistoric or historic-period archaeological resources or human burials. Rincon Consultants, Inc. conducted a *Cultural Resources Assessment Report*, Appendix F, which relied on archival and records research, a pedestrian survey, and a Sacred Lands File (SLF) search. Using these resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in *CEQA Guidelines* Appendix G, to determine if a project could potentially have a significant adverse effect on cultural resources.

A project would have a significant adverse effect on cultural resources if it would:

a. Cause a substantial adverse change in the significance of a historical resource, as defined in *CEQA Guidelines* Section 15064.4;

b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to *CEQA Guidelines* Section 15064.4; or

c. Disturb any human remains, including those interred outside of dedicated cemeteries.

All of the above impact thresholds are addressed in the project impacts section below. Impacts to tribal cultural resources have been addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

Project Impacts

Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in *CEQA Guidelines* Section 15064.5.

The archival and records search for known cultural resource studies revealed 7 studies conducted within 0.5 miles of the project site. Of the seven previously conducted cultural resources studies, one study (KE-04245) is located within the current project site boundaries and three (KE-03528, KE-04297, and KE-04796) are located adjacent to the project site. The one study (KE-04245) that was located within the Jasmine Solar project site did not reveal any cultural resources within the current project boundaries.

In addition to the records search, an intensive pedestrian survey of the project site was conducted to identify any previously unrecorded cultural resources that could be affected by the project. The pedestrian survey did reveal three (3) previously unrecorded unpaved roads (JAS-S-001, JAS-S-002, and JAS-S-003). As outlined above all three resources were recommended ineligible for listing in the NRHP and CRHR under all criteria (A/1-D4).

Based on the records search results, field survey, and NAHC Sacred Lands File, the project site appears to have a low sensitivity for prehistoric/Native American cultural resources. The majority of resources are expected to be isolated artifacts rather than archaeological sites. Nonetheless, the project could impact previously unknown and buried archaeological deposits that have the potential to qualify as historical resources. Buried archaeological sites may be encountered during project-related excavation. In the event that unknown archaeological resources that qualify as historical resources are discovered during project construction, significant impacts could occur. Mitigation Measures MM 4.5-1 through MM 4.5-3 would require cultural resources sensitivity training for construction workers, implementation of avoidance measures should prehistoric archaeological resources or sites be inadvertently located, archaeological and Native American Monitoring during construction, and appropriate treatment of unearthed archaeological resources during construction. Implementation of these measures would reduce impacts to unknown resources to less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include an expansion of the substation and power line restructuring. Potential impacts to historic resources within these areas would be minimal. As discussed above, there is no indication that these areas would have a high sensitivity for the presence of these resources. Both areas have been disturbed and surrounding areas have not revealed a significant number of finds. The construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy is not anticipated to result in impacts on cultural resources. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to cultural resources. Impacts would be less than significant.

Mitigation Measures

MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional

archaeology, to carry out all mitigation measures related to archaeological and historical resources during ground-disturbing activities. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:

a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist, in consultation with the Native American Monitor(s), shall prepare Cultural Resources Sensitivity Training materials to be used in orientation program given to all personnel working on the project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit.

b. The project proponent/operator shall ensure all new employees or onsite workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet provisions specified above.

c. The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.

d. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before commencing work on-site.

e. The services of Native American Monitors, as identified through consultation with appropriate Native American tribes, working under the supervision of the Lead Archaeologist, shall be retained by the project to Monitor project-related ground-disturbing activities as identified in Mitigation Measures MM 4.5-2.

MM 4.5-2: Prior to the issuance of any grading or building permit, the project proponent shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:

a. Require that prior to conducting initial ground disturbance in the vicinity of prehistoric archaeological sites, and in coordination with the Lead Archaeologist and Native American Monitor(s), exclusion areas (i.e., the recorded boundaries of the archaeological sites and all areas within 50 feet thereof) shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American MMonitor.

b. Require that the construction zone shall be narrowed or otherwise altered to avoid any exclusion areas.

c. Provide an overview of best management practices to be utilized during ground-disturbing activities to ensure protection of cultural resources.

d. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.

e. Provide a Data Recovery Plan, if required, prepared by the Lead Archeologist in consultation with the Native American Monitor(s), for the recovery of known and unanticipated cultural discoveries that cannot be avoided or preserved in place.

MM 4.5-3: During implementation of the project, in the event that archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground-disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of the discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area, and all entrance into the area shall be avoided until the discovery is assessed by the Lead Archaeologist and Native American Monitor. The Lead Archaeologist, in consultation with any Native American representatives, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act (CEQA) Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.

Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the lead archaeologist, in consultation with any Native American representatives, shall develop additional treatment measures in consultation with the County of Kern (County), which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American Monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource.. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-3, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5.

As discussed in Impact 4.5-1, there is no known cultural resources on site. The *Cultural Resources*

Assessment Report, Appendix F, conducted a cultural resources records search, SLF request, and additional Native American outreach effort and did not identify any resources. However, there is the potential for the project to impact unknown, subsurface archaeological resources. Therefore, there is the potential for buried archaeological resources to be encountered during project-related excavation. In the event that unknown archaeological resources are discovered during project construction, significant impacts could occur. However, with implementation of MM 4.5-1 through MM 4.5-3 and MM 4.5-4, which require cultural resources sensitivity training for construction workers, archaeological Monitoring during construction, and as-needed appropriate treatment of unearthed archaeological resources during construction, potential impacts would be reduced to less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

As discussed in Impact 4.5-1, there is no known cultural resources on site. However, there is the potential for the project to impact unknown, subsurface archaeological resources. Improvements associated with the Lakeview Substation expansion and gen-tie line would include an expansion of the substation and power line restructuring. Potential impacts to archaeological resources within these areas would be minimal. As discussed above, there is no indication that these areas would have a high sensitivity for the presence of cultural resources. Both areas have been heavily disturbed and surrounding areas have not revealed a significant number of finds. The construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy is not anticipated to result in impacts to archaeological resources. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to cultural resources.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-3.

MM 4.5-4: During implementation of the project, the services of both Archaeological and Native American Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to Monitor, on a full-time basis, during ground-disturbing activities associated with project-related construction activities, as follows:

a. All ground-disturbing activities within 50 feet of prehistoric archaeological sites within the Jasmine Solar Site, shall be Monitored by Native American Monitor(s) and Archaeological Monitor(s).

b. During implementation of the project, Archaeological and Native American Monitoring shall be conducted for all initial excavation or ground-disturbing activities. If no archaeological discoveries are made during the course of this Monitoring, no additional Monitoring will be required. If the Lead Archaeologist can demonstrate that the level of Monitoring should be reduced or discontinued, or a need for continuing Monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of Monitoring to circumstances as warranted.

c. All ground-disturbing activities within 100 feet of a grave site, shall be Monitored by Native American Tribal Monitors and Archaeological Monitors.

d. For all other ground-disturbing activities within the project area, initial excavation or ground-disturbing activities shall be Monitored by Archaeological and Native American Monitors. During the course of this initial Monitoring, if the Lead Archaeologist can demonstrate that the level of Monitoring should be reduced or discontinued, or if the Lead Archaeologist can demonstrate a need for continuing Monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of Monitoring to circumstances as warranted.

e. The Archaeological Monitors and Native American Monitors shall work under the supervision of the Lead Archaeologist. The Lead Archaeologist, Archaeological Monitors, and Native American Monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Should the services of any additional individuals be retained (as the Lead Archaeologist, Archaeological Monitor, or Native American Monitor) subsequent to commencement of ground disturbing activities, such individuals shall be provided all proposed project documentation related to cultural resources within the project area, prior to beginning work. Documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, Archaeological Monitor, and Native American Monitor.

f. The Archaeological Monitor shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department and to the Native American Monitor. After Monitoring has been completed, the Lead Archaeologist shall prepare a Monitoring report detailing the results of Monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department, the Native American Monitor, and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research results or the pedestrian foot survey, that any particular location within the study area has been used for human burial purposes in the recent or distant past. However, in the event that human remains are inadvertently discovered during project construction activities, the human remains could be damaged or disturbed, which would be a significant impact. Implementation of MM 4.5-3 and MM 4.5-5 would ensure that any human remains encountered during project implementation are properly treated, thus reducing impacts to a less-than-significant level.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Potential impacts to unknown buried human remains within these areas would also be minimal. Improvements associated with the Lakeview Substation expansion and gen-tie line would include an expansion of the substation and power line restructuring. As discussed above, there is no indication that these areas have a high sensitivity for the presence of human remains. These areas have been previously disturbed and surrounding areas have not revealed a significant number of positive findings. In addition improvements associated with the PG&E Interconnection Facilities would adhere to PG&E's standard best management practices and APMs. Therefore, impacts to human remains would be less than significant and no mitigation would be required.

Mitigation Measures

MM 4.5-5: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in of the California Environmental Quality Act Guidelines Section 15064.4(e)(1). If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code (PRC) Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per PRC Section 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et. seq.) directing identification of the next-of-kin will apply.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-3 and MM 4.5-5, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the projects discussed in Chapter 3, *Project Description*, and as shown in **Table 3-3:** *Cumulative Projects List*, of this EIR, would have on cultural resources. The geographic area of analysis of cumulative impacts for cultural resources includes the surrounding areas within the local as well as regional portions of the Central Valley. This geographic scope of analysis is appropriate because the archaeological and historical resources within this area are expected to be similar to those that occur on the project site because of their proximity, and because the similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity. This is a

large enough area to encompass any effects of the project on cultural resources that may combine with similar effects caused by other past, current, and reasonably foreseeable future projects, and provides a reasonable context wherein cumulative actions could affect cultural resources. Multiple projects, including solar energy production facilities, are proposed throughout Kern County and other areas within the Central Valley. Cumulative impacts to cultural resources could occur if other related projects, in conjunction with the project, had or would have impacts on cultural resources that, when considered together, would be significant.

As discussed above, development of the project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant cultural resources impact due to the potential loss of historical and archaeological resources unique to the region. However, mitigation measures are included in this EIR to reduce potentially significant impacts to unknown archaeological resources that could be encountered during construction of the project. Implementation of MM 4.5-1 requires cultural resources sensitivity training for construction workers. MM 4.5-2 requires the contractor to cease any ground disturbing activities with 50 feet of an archaeological material. MM 5.4-3 requires archaeological and Native American representative monitoring to ensure that any currently unknown archeological resources that qualify as historical resources or unique archaeological resources are identified during construction, and appropriate treatment of uncovered archaeological resources is implemented. Implementation of these mitigation measures would reduce the project's incremental potential impacts to historical and archaeological resources to a less-than-significant level and ensure that project impacts to cultural resources are not cumulatively considerable.

Lastly, although project construction has the potential to disturb human remains, as do other projects in the cumulative study area. Implementation of MM 4.5-4 would ensure that appropriate laws and protocols are followed with regard to identifying and handling remains and would also ensure that cumulative impacts arising from disturbance from the project are not significant.

With implementation of MM 4.5-1 through MM 4.5-5, the project would not result in significant impacts to cultural resources. Given this minimal impact, as well as similar mitigation requirements for other projects in the San Joaquin Valley and Kern County, the project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. Thus, cumulative impacts to cultural resources would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Potential impacts to historical and archaeological resources, as well as human remains within these areas would be minimal. Improvements associated with the Lakeview Substation expansion and gen-tie line would include an expansion of the substation and power line restructuring. As discussed above, there is no indication that these areas have a high sensitivity for the presence of cultural resources. These areas have been previously disturbed and surrounding areas have not revealed a significant number of positive findings. Additionally, PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to cultural resources, including human remains. Impacts would be less than significant without mitigation.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-5.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-5, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Section 4.6
Energy

4.6.1 Introduction

This energy section of the EIR analyzes the energy implications of the project, focusing on the following energy resources: electricity and transportation-related energy (petroleum-based fuels). This Energy section also includes general information relating to natural gas, however, no natural gas is proposed to be used in conjunction with the proposed project. This section includes a summary of the project's anticipated energy needs (detailed energy calculations are based on air quality outputs provided in the *Air Quality and Greenhouse Gas Study* provided in Appendix C of this EIR, and conservation measures. Information in this section is primarily based on the *Energy Utilization Study* prepared by Rincon Consultants, Inc. (2021), provided in Appendix G of this EIR. In addition, the information found herein, as well as other aspects of the project's environmental-related energy impacts, are discussed in greater detail elsewhere in this EIR, including in Chapter 3, *Project Description*, Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, of this EIR.

This section provides the content and analysis required by Public Resources Code, Section 21100(b)(3), and described in Appendix F to the *CEQA Guidelines* (AEP, 2018). Public Resources Code Section 21100(b) and Section 15126.4 of the *CEQA Guidelines* require that an EIR identify mitigation measures to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F states that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018).

4.6.2 Environmental Setting

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines, commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

On the State level, according to the CEC, California consumed approximately 279,402 GWh in 2019. Residential electricity demand accounted for approximately 33 percent of California's electricity consumption, and non-residential demand account for approximately 67 percent.

Petroleum

In 2019, transportation accounted for 39 percent of California's total energy demand, amounting to approximately 3,073 trillion Btu. California's transportation sector, including rail and aviation, consumed roughly 565,056 thousand barrels of petroleum fuels in 2019. According to the United States Energy Information Administration, in 2017, petroleum-based fuels were used for approximately 98 percent of the state's total transportation activity.

Supply

California is nearly self-sufficient with regard to the gasoline and diesel fuel supply, obtaining almost all of the supply to meet local demand from the California refineries. Refineries in California often operate at or near maximum capacity because of the high demand for petroleum products. When unplanned refinery outages occur, replacement supplies must be brought in by marine tanker from refineries in the state of Washington or on the U.S. Gulf Coast. California requires all motorists use, at a minimum, a specific blend of motor gasoline called California Reformulated Gasoline, as part of an overall program to reduce emissions from motor vehicles. Refineries in several other countries can also supply California Reformulated Gasoline. However, locating and transporting replacement motor gasoline that conforms to California's strict fuel specifications from overseas can take several weeks (U.S. EIA 2021a). Because of this, unplanned outages often result in a reduction in supply that causes prices to increase. The energy industry resolves most petroleum supply disruptions or shortage events before they become significant (National Association of State Energy Officials 2018).

Consumption and Distribution

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles (CEC 2021b). Diesel fuel is the second largest transportation fuel used in California, representing 17 percent of total fuel sales behind gasoline. Nearly all heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm, construction vehicles, and heavy-duty military vehicles and equipment have diesel engines. Diesel is the fuel of choice for this equipment because it has 12 percent more energy per gallon than gasoline and has fuel properties that prolong engine life making it ideal for heavy-duty vehicle applications (CEC 2021b).

Regional and Local Setting

California is one of the top producers of petroleum in the nation with drilling operations occurring throughout the state but concentrated primarily in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. Crude oil production in California is in decline, and California refineries depend increasingly on foreign imports. In 2020, California supplied 35 percent of the total and the remaining 48 percent was supplied by foreign imports and Alaska (18%). According to the U.S. EIA, California's field production of crude oil totaled 143,114 thousand barrels in 2020.

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. Their use is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with alternative fuels such as hydrogen, biodiesel, and electricity. Current information in 2021 provided by the Department of Energy (DOE) note there are nine biodiesel refueling stations, 47 hydrogen refueling stations, and 33,596 electric vehicle supply equipment ports across California. In addition, pursuant to Executive Order N-79-20, California has a goal that all new passenger vehicles sales by 2035 would be zero-emission vehicles (ZEV) and by 2045 all new medium- and heavy-duty vehicles would also be ZEV.

Electrical Energy Supply

According to the California Energy Commission (CEC), in 2020 California's in-state electricity generation totaled 190,913 GWh. **Table 4.6-1:** *2020 California In-State Generation*, lists the fuel types and percentage contribution from each source for the 2020 total in-state generation and is shown below.

TABLE 4.6-1: 2020 CALIFORNIA IN-STATE GENERATION

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation
Non-Renewables		
Coal	317	0.17%
Natural Gas	92,298	48.35%
Oil	30	0.02%
Other (Waste Heat/Petroleum Coke)	384	0.20%
Nuclear	16,280	8.53%
Large Hydro	17,938	9.4%
Unspecified	--	0%
Total Non-Renewable and Unspecified Energy	**127,248**	**66.65%**
Renewables		
Biomass	5,680	2.9%
Geothermal	11,345	5.94%
Small Hydro	3,476	1.82%
Solar	29,456	15.43%
Wind	13,708	7.18%
Total Renewables	**63,665**	**33.35%**
Total System Energy	**190,913**	**100%**

Source: CEC 2021a

Pacific Gas & Electric

Pacific Gas & Electric (PG&E) is an investor-owned utility company that provides electricity and natural gas supplies. Operating characteristics of PG&E's electricity and natural gas supply and distribution systems are provided below.

PG&E Utility Operations

Electrical services in the project area are provided by Pacific Gas & Electric (PG&E) obtains its energy supplies from power plants and natural gas fields in Northern California, as well as from energy purchased outside its service area and delivered through high-voltage transmission lines and pipelines. Power is generated from various "bundled" services and sources, include fossil fuel, hydroelectric, nuclear, wind, and geothermal plants, and is fed into the electrical grid system serving Southern California. PG&E services are provided to customers in its service territory and includes residential, commercial, industrial, and agricultural consumers. Customers can also obtain electricity from alternative providers such as municipalities or Customer Choice Aggregators, and from distributed-generation resources, such as rooftop solar installations.

Electricity consumption within the PG&E service is provided for regional and statewide context. As shown in **Table 4.6-2:** *2019 Electricity Consumption in the PG&E Service Area*, the PG&E service area consumed approximately 78,071 GWh in 2019, which was approximately 28 percent of statewide electricity consumption.

TABLE 4.6-2: 2019 ELECTRICITY CONSUMPTION IN THE PG&E SERVICE AREA

Utility Year	Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
PG&E -2019	4,490	29,559	4,349	9,710	1,642	28,015	308	78,071

Source: CEC 2021a

The electric transmission and distribution systems includes integration of renewable energy resources, distributed generation resources, and energy storage facilities, and to help create a platform for the development of new Smart Grid technologies. Accordingly, in recent years, PG&E has improved its electric transmission and distribution systems to integrate new renewable energy resources, distributed generation resources, and energy storage facilities, and to help create a platform for the development of new Smart Grid technologies. In 2020, PG&E generated and/or procured 35,838 GWh of electricity. **Table 4.6-3:** *PG&E'S Percent of Bundled Sales in 2020*, shows an itemized percentage of PG&E's total deliveries of electricity to customers in 2020, represented by each major electricity resource.

TABLE 4.6-3: PG&E'S PERCENT OF BUNDLED SALES IN 2020

Energy Resource	2020
PG&E Owned Generation Facilities	
Renewable	1.3%
Nuclear	42.8%
Large Hydroelectric	9.7%
Fossil Fuel-Fired	17.9%
Other Third-Party Purchase Agreements	**46.3%**
Renewable	34.3%
Large Hydroelectric	0.5%
Fossil Fuel-Fired	18.0%

Others, Net		(10.6%)
	Total	**100%**
	Total Renewable Energy Resources	**35.6%**

[1] Amounts include biopower (e.g., biogas, biomass), solar, wind, certain hydroelectric (i.e., 30MW or less), and geothermal facilities.
[2] Amounts consist primarily of natural gas facilities.
[3]The allocation of "Others, Net" is consistent with CEC guidelines, applied to specified electric generation and procurement volumes (i.e., fossil fuel-fired, nuclear, large hydroelectric, and renewable). Total reported generation and procurement volumes equate to actual electric retail sales.
[4] Amount is mainly comprised of net California Independent System Operator (CAISO) open market purchases.
Source: PG&E 2021

Renewable Energy Resources

SB 100 requires electricity providers, under the Renewable Portfolio Standard (RPS), discussed in additional detail below, such as PG&E, to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Renewable generation resources, for purposes of the RPS program, include bioenergy such as biogas and biomass, certain hydroelectric facilities (30 MW or less), wind, solar, and geothermal energy. As shown in **Table 4.6-4:** *PG&E's Percent of Bundled Retail Sales in 2020 – Renewable Sources*, during 2020, approximately 35.6 percent of PG&E's energy deliveries were from renewable energy sources, exceeding the 2020 RPS target of 33 percent (PG&E 2021).

TABLE 4.6-4: PG&E'S PERCENT OF BUNDLED RETAIL SALES IN 2020 – RENEWABLE SOURCES

Source	Percent Bundled Retail Sales in 2020
Bioenergy	2.8
Geothermal	2.6
RPS-Eligible Hydroelectric	1.2
Solar	16.1
Wind	12.9
Total	**35.6**

Source: PG&E 2021

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the state's total energy requirements. Natural gas is measured in terms of cubic feet (cf). Southern California Gas Company is the natural gas provider in Kern County; however, there is not a known natural gas service for the project site.

Transportation

In 2019, transportation accounted for approximately 39 percent of California's total energy consumption in. amounting to approximately 3,073 trillion Btu. This included California's transportation sector, including rail and aviation that consumed roughly 565,056 thousand barrels of petroleum fuels in 2019. In 2021, this increased to 13.8 billion gallons of gasoline and 3.14 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2021a, and 2021b). Petroleum-based fuels (gasoline) currently

are currently comprised of approximately 90 percent petroleum base and 10 percent ethanol that was used to replace Methyl Tertiary Butyl Ether (MTBE) as a blending agent for California's transportation fuel use (CEC, 2019). The State is still working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas (GHG) from the transportation sector, and reduce vehicle miles traveled (CEC, 2021). The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC, 2021a). According to CEC survey of gasoline sales, Kern County on-road transportation sources consumed approximately 406 million gallons of gasoline and 137 million gallons of diesel fuel in 2019 (CEC, 2021b).

4.6.3 Regulatory Setting

Federal

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (USEPA) jointly administer the CAFE standards (NHTSA 2021). The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (USEPA, NHTSA, and USDOT 2022).

National Energy Policy and Conservation Act

The National Energy Conservation Policy Act serves as the underlying authority for Federal energy management goals and requirements. Signed into law in 1975, it has been regularly updated and amended by subsequent laws and regulations. Pursuant to the Act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005

The Energy Policy Act of 2005 sets equipment energy efficiency standards and seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can attain Federal tax credits for purchasing fuel efficient appliances and products, including hybrid vehicles; constructing energy-efficient buildings; and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

Energy Independence and Security Act of 2007

The Energy and Independence Security Act of 2007 (EISA) sets Federal energy management requirements in several areas, including energy reduction goals for Federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use and increase in alternative fuel use. This Act also amends portions of the National Energy Policy and Conservation Act. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following provisions: Renewable Fuel Standard (RFS); Appliance and Lighting Efficiency Standards; and Building Energy Efficiency Standards.

State

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2016 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California's energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, an update on trends in California's sources of crude oil, an update on California's nuclear plants, and other energy issues.

California's Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (CPUC, 2022).

In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024,

52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's CO2 emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025 (CARB,2017). Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State's GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5, established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. Refer to Section 4.8, *Greenhouse Gas Emissions,* of this EIR for additional details regarding these regulations.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resources Board

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle regulations (ZEV) to require manufactures to produce an increasing number of pure ZEV's (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

In addition to limiting exhaust from idling trucks, in 2008, CARB approved the Truck and Bus regulation to reduce NO_X, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas suppliers; it also identified cost-effective and environmentally sound energy policies, strategies, and actions for California's consumers and taxpayers. In 2005, the CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of AB 32, the California Global Warming Solutions Act (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change (CPUC, 2022).

California Building Standards Senate Bill 1078 and 107; Executive Order S-14-08, S-21-09, and SB 2X

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) accelerated the due date of the 20 percent mandate to 2010 instead of 2017. These mandates apply directly to investor-owned utilities. In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's RPS to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the RPS by signing Executive Order S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its RPS goal of 33 percent renewable energy by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SBX1-2 (2011) codified the 33 percent by 2020 goal.

Executive Order B-30-15; Senate Bill 100 and 350

In April 2015, the Governor issued Executive Order B-30-15, which established a GHG reduction target of 40 percent below 1990 levels by 2030. SB 350 (Chapter 547, Statutes of 2015) advanced these goals

through two measures. First, the law increases the renewable power goal from 33 percent renewables by 2020 to 50 percent by 2030. Second, the law requires the CEC to establish annual targets to double energy efficiency in buildings by 2030. The law also requires the California Public Utilities Commission (CPUC) to direct electric utilities to establish annual efficiency targets and implement demand-reduction measures to achieve this goal. In 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

Assembly Bill 32 (2006) and Senate Bill (2016)

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006." AB 32 codifies the statewide goal of reducing GHG

emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05) and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Reductions in overall energy consumption have been implemented to reduce emissions.

In September 2016, the Governor signed into legislation SB 32, which builds on AB 32 and requires the state to cut GHG emissions to 40 percent. With SB 32, the Legislature also passed AB 197, which provides additional direction for updating the Scoping Plan to meet the 2030 GHG reduction target codified in SB 32.

During June 2021, CARB in collaboration with other State agencies, held a three-day public workshop series to initiate the development of the update to the AB 32 Climate Change Scoping Plan, which is due in 2022 and will reflect California's goal to achieve carbon neutrality by 2045. Part of the effort in meeting California's long-term reduction goals include reducing petroleum use in cars and trucks by 50 percent, increasing from one-third to more than one-half of California's electricity derived from renewable sources, doubling the efficiency savings achieved at existing buildings and making heating fuels cleaner; reducing the release of methane, black carbon, and other short-lived climate pollutants, and managing farm and rangelands, forests, and wetlands so they can store carbon.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law SB 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC. The CEC regulations do the following:

- Establish a standard for baseload generation owned by, or under long-term contract, to publicly owned utilities of 1,100 pounds of carbon dioxide (CO_2) per megawatt-hour. This encourages the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This facilitates public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard.

Cap-and-Trade Program

The achieve the goals of AB 32, the Climate Change Scoping Plan: A Framework for Change included an early action plan to develop a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system. The cap-and-trade regulation, which is a key element of California's climate plan, took effect in January 2012, and compliance obligation began in January 2013. The cap-and-trade program sets a statewide limit on sources responsible for 85% of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest-cost options to reduce emissions. The first phase of the cap-and trade regulation included generated in and imported into California, large combustion sources (i.e., generally

those emitting more than 25,000 metric tons [MT] of CO2e per year), and certain industrial sectors. The second phase added providers of transportation fuels and other combustion fuels (e.g., natural gas, propane) to the cap-and-trade program. The regulation requires that emissions generated by these facilities and combustion of fuels be reduced over time under a declining "cap."

Renewable Energy Sources

SB 1078 established the California Renewables Portfolio Standard (RPS) program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. SB 1078 relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

SB 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) required all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 set a three-stage compliance period: by December 31, 2013, 20% had to come from renewables; by December 31, 2016, 25% had to come from renewables; and by December 31, 2020, 33% had to come from renewables.

SB 350 (2015) expanded the RPS because it requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. SB 100 requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid, and that the achievement not be achieved through resource shuffling.

California Environmental Quality Act

In accordance with CEQA and Appendix F, Energy Conservation, of the 2018 *CEQA Guidelines*, and to assure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *CEQA Guidelines* provides a list of energy-related topics to be analyzed in the EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics for consideration in the discussion of energy use in an EIR, to the extent the topics are applicable or relevant to the project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;

- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018). Appendix F did not describe or require significance thresholds for determining the significance of impacts related to energy. According to the updated Appendix G Checklist, Issue VI. Energy, a project would have a significant impact on energy and energy resources if it would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Energy Element of the Kern County General Plan (Kern County 2009) applicable to energy, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

Chapter 5. Energy Element

5.4.5. Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

4.6.4 Impacts and Mitigation Measures

Methodology

This impact analysis evaluates the potential for the project to result in a substantial increase in energy demand and/or wasteful use of energy during the construction, operation and maintenance, and decommissioning of the solar facility. The analysis includes the estimated energy consumption from project construction and operation, and it is informed by Appendix G of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether construction, operation and maintenance, and decommissioning energy use estimates for the solar facility would be considered wasteful, inefficient, or unnecessary. The fact that the solar facility would be providing a new source of renewable energy is also taken into account.

The construction energy demand in the calculations performed for the anticipated energy consumption during project construction. Operational energy demand account for the anticipated energy consumption during project operation. The analysis in this section utilizes the assumptions identified in the Jasmine Solar Project *Energy Utilization Study* (Appendix G). The following construction and operational sources and activities were analyzed for emissions:

- **On-site construction equipment fuel consumption**: Based on CARB's OFF-ROAD equipment 2017 model (OFFROAD2017) and the EMission FACtor 2017 model (EMFAC2017) emission factors and estimated equipment schedules.
- **On-site and off-site haul truck (includes delivery, freight, and dump/water trucks) fuel consumption**: Based on EMFAC2017 and estimated vehicle miles traveled. The sub-area of Kern (San Joaquin Valley), the calendar year of 2022, aggregate model year, aggregate speed, and the EMFAC 2007 vehicle categories were used for the EMFAC2017 output.
- **Worker Vehicle emissions for trips to and from the site**: Based on EMFAC2017 and estimated vehicle miles travelled provided by the project applicant.

Construction

The approximate amount of diesel and gasoline fuel consumed during construction was estimated using the project-specific construction schedule, equipment, and number of trips anticipated. The OFFROAD2017 model provides the rates for fuel use (gallons per year) and activity hours (hours per year), which were then used to develop a gallons per hour fuel consumption rate. The total hourly usage for each piece of construction equipment was estimated by multiplying the operating hours by the total number of workdays in the construction phase. The total diesel fuel consumption was then calculated by multiplying the fuel consumption rate and the total hourly usage for each piece of construction equipment.

To calculate the diesel and gasoline fuel that would be consumed from construction vehicle trips, the fuel consumption rate (1,000 gallons per day) from the EMFAC2017 model was converted into an average fuel economy rate (miles per gallon) for diesel and gasoline using the provided VMT for each vehicle category. The anticipated gallons of diesel and gasoline consumed was then calculated using the average fuel economy rates and the calculated daily VMT for onsite and on-road travel.

Operation

For operation, the same methodology with the EMFAC 2017 model and output were used to compute fuel consumption from the O&M building (assumed to be 1,000 sf) employees, deliveries, and considered a total of eight daily trips from operational activities. The calculation also included emissions that would occur from the quarterly testing and the single emergency diesel generator (assumed to be approximately 1,000 kW - Generac SD1000) that would be needed. The California Emissions Estimator Model (CalEEMod) version 2020.4.0 was used to estimate emissions using the factors of a "General Light Industrial" building. Energy needed for operation and maintenance activities considered vehicles and equipment needed for routine activities and periodic module washing, mowers or other vegetation management equipment, and additional periodic maintenance equipment such as all-terrain vehicles, tractors, portable generators, and portable water trailers.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the *CEQA Guidelines*, a project would have a significant impact on energy and energy resources if it would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Project Impacts

Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Construction, operation, and decommissioning of the new solar energy generation facility would require the use of non-renewable resources in the form of gasoline and diesel to power off-road construction equipment and on-road vehicles as well as electricity consumed from water pumping during construction of the project.

Construction

Construction would require energy resources primarily in the form of fuel consumption to operate heavy equipment and vehicles but also from fuel consumption from construction tools and equipment, haul trucks, and vehicles trips from construction workers traveling to and from the site. Temporary power may also be provided for construction trailers and electric construction equipment. **Table 4.6-5:** *Project Construction Energy Usage – Fuel Consumption*, summarizes the anticipated energy consumption from these sources. As shown in the table, construction activities would result in the consumption of approximately 167,864 gallons of diesel fuel from construction equipment and vendor, hauling, and water truck trips, and approximately 21,453 gallons of gasoline from construction worker vehicle trips.

TABLE 4.6-5: PROJECT CONSTRUCTION ENERGY USAGE – FUEL CONSUMPTION

Phase	Construction Equipment[1]	On-Road Mobile Trips [1]	On-Site Mobile Trips [1]	Total Diesel	On-Road Mobile Trips [2]	On-Site Mobile trips [2]	Total Gasoline
Phase 1 Site Preparation & Grading	18,191	711	425	19,326	1,928	193	2,121
Phase 2 Tracker Foundations	48,256	1,082	727	50,064	4,542	132	4,674
Phase 3 (underground cable)	20,764	526	243	21,533	1,655	83	1,738,
Phase 4 Mechanical Installation	28,308	1,143	728	30,178	4,954	264	5,218
Phase 5 Electrical Installation	32,897	806	366	34,069	5,162	207	5,369
Phase 6 PG&E substation	9,508	2,219	966	12,693	1,683	650	2,333
Total	157,923	6,487	3,454	167,864	19,925	1,529	21,453

[1] Gallons in Diesel
[2]- Gallons of Gasoline

Construction activities and corresponding fuel energy consumption for both gasoline and diesel would be temporary and localized. Conditions that would help reduce fuel consumption include compliance with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes. Construction equipment also would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as 2019 CALGreen, waste management practices require the diversion of a minimum of 65 percent of construction debris. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. These practices would help ensure the efficient use of energy during project construction. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and impacts in this regard would be less than significant.

Operation and Maintenance

Operation of the project would consume electricity, and gasoline and diesel fuels. Electricity would be used for lighting, appliances, and water and wastewater conveyance at the O&M building, among other purposes. Gasoline and diesel consumption would be associated with vehicle trips generated by customers and employees. It should be noted the project would not require the use of any natural gas.

The project would require the use of electricity from PG&E to operate facility lights and the O&M building. In case of emergency, one diesel-fired emergency generator would be located at the on-site substation in the event that the regional transmission system fails but only until regional power is restored. The generator would be designed to provide up to 24 hours of emergency generation at full demand, and testing would not occur for more than 100 hours annually and would comply with the San Joaquin Valley Air Pollution

Control District's Rule 4207 Internal Combustion Engines (2013). Assuming that approximately 79 gallons of diesel fuel are required per hour to test generators at full load, the backup generator testing would require approximately 15,800 gallons annually. **Table 4.6-6:** *Estimated Project Annual Operational Energy Consumption* summarizes estimated operational energy consumption for the proposed project. As shown therein, operation would require approximately 1,553 gallons of gasoline and 2,361 gallons of diesel for transportation fuels, and 0.01 GWh of electricity. The emergency diesel generator would require approximately 15,833 gallons of diesel per year.

TABLE 4.6-6: ESTIMATED PROJECT ANNUAL OPERATIONAL ENERGY CONSUMPTION

Source	Energy Consumption[1]	
Transportation Fuels		
Gasoline	1,553 gallons	170 MMBtu
Diesel	2,361 gallons	301 MMBtu
Electricity	001 GWh	29 MMBtu
Emergency Diesel Generator	15,833 gallons	1,007 MBtu

MMBtu = million metric British thermal units; GWh = gigawatt-hours
[1] Energy consumption is converted to MMBtu for each source
See Appendix G for energy calculation sheets and CalEEMod output results for electricity and natural gas usage.

To further ensure the project would minimize energy use, the O&M Building would be required to comply with all standards set in the latest iteration of the California Building Standards Code (California Code of Regulations Title 24), which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources through the use of specific buildings standards resulting in energy efficient performance.

In addition, maintenance and emergency use of the backup generator would not result in the wasteful, inefficient, or unnecessary consumption of energy because routine maintenance would be conducted periodically based on the minimum requirements to ensure reliability and operation would only occur during infrequent extended power outage events. Lastly, operation of facility would only require one full time employee with other occasional deliveries and visitors. The amount of vehicle fuel consumed would be minimal. Therefore, project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts in this regard would be less than significant.

Displaced Energy Production

Using the installed photovoltaic capacity of 70 MW (70,000 kW) AC, the solar facility would generate approximately 156,621,500 kWh per year, which would replace approximately 1,566,215 MMBtu of fuel use for power generation. Thus, the minimal amount of electricity required during project operation would be substantially offset by the generation of electricity from the solar facility.

Decommissioning

Decommissioning is anticipated after the anticipated 35-year operational horizon of the facility. Decommissioning would occur in accordance with the Kern County Planning and Community Development Department requirements and would involve the removal of all above-grade facilities, buried electrical conduit, and all concrete foundations in keeping with the approved reclamation plan. These activities are assumed to include the use of similar equipment as for construction activities; therefore, similar energy impacts would be expected. Decommissioning activities and corresponding fuel energy

consumption would be temporary and could be comparable to the construction-related fuel demand; decommissioning-related fuel use also would not represent a substantial demand on energy resources. Thus, decommissioning-related fuel consumption by the project would not result in inefficient, wasteful, or unnecessary energy. Impacts from decommissioning would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The construction and operation of the PG&E Interconnection Facilities at the Lakeview Substation for the transport of renewable energy is not expected to result the wasteful, inefficient or unnecessary consumption of energy.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The project would be consistent with SB 100 and local plans and policies contained in the Kern County General Plan (2009) that have been adopted to reduce energy impacts in California and in Kern County. Because the solar facility would provide a new source of renewable energy, it is supportive of the state's energy goals, offset its fuel usage, and comply with fuel and energy efficiency regulations.

SB 100

The project involves the construction, operation, and decommissioning of a solar facility that would produce a new renewable source of energy in Kern County over a 35-year lifetime. While the construction and operation of the solar facility would require diesel and gasoline fuel, and minimal amounts of electricity through its life, the solar facility would directly support the SB 100 RPS goal of increasing the percentage of electricity procured from renewable sources. In addition, the project would generate minimal mobile trips totaling approximately eight daily trips. The O&M building on the project site would be subject to the latest Title 24, Part 6 Building Energy Efficiency Standards. Additionally, these energy inputs would be offset by the anticipated generation of approximately 156,621,500 kWh per year. Thus, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. No impact would occur.

Kern County General Plan

Kern County has not adopted any specific renewable energy or energy efficiency plan. However, the Kern County General Plan (2009) includes goals and policies related to solar energy development in the Energy Element. **Table 4.6-7:** *Project Consistency with Applicable General Plan Policies*, summarizes the project's consistency with applicable General Plan policies. As summarized below, the project would be consistent with the applicable goals and policies of the General Plan.

TABLE 4.6-7: PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN POLICIES

Policy	Consistency
General Policies in the Energy Element	
Policy 7: The processing of all discretionary energy project proposals shall comply with California Environmental Quality Act (CEQA) Guidelines directing that the environmental effects of a project must be taken into account as part of project consideration.	The project will comply with CEQA, and the appropriate environmental documentation will be prepared to demonstrate that all environmental impacts due to the construction and operation of the project would be less than significant. In the instance where impacts would be possibly significant, mitigation measures would be included to reduce impacts to the greatest extent feasible.
Solar Energy Development Policies	
Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuel and improve air quality.	The project involves the construction and operation of a 70 MW solar facility in unincorporated Kern County. The solar facility would generate 156,621,500 kWh per year, which would be a new source of renewable energy that would be delivered to the State electrical grid. Creating a new source of renewable energy would decrease usage of fossil fuels for electricity generation and indirectly improve air quality due to less combustion of fossil fuels.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The construction and operation of the PG&E Interconnection Facilities at the Lakeview Substation for the transport of renewable energy would contribute to the State of California's ability to meet its renewable energy generation and GHG emission reduction goals. Impacts would be less than significant in this regard.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts occur when the incremental effects of a project are significant when combined with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. As presented in **Chapter 3**, *Project Description*, of this EIR, there are 9 related projects located within the vicinity of the project site. The geographic context for the analysis of cumulative impacts on electricity is PG&E's service area because the project and related projects are located within the service boundaries of PG&E.

Cumulative projects in the project area listed in **Table 3-3:** *Cumulative Projects List*, largely consist of utility-scale solar power generation facilities. The nature of these projects is such that, like the project, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 60 percent of California's energy coming from renewable sources by 2030 and 100 percent renewable sources by 2045. The project and other similar projects are essential to achieving the RPS.

The main contribution of energy consumption from the project would be from construction equipment usage, haul truck trips, and employee trips during the construction phase and panel washing activities, maintenance trips, and employee trips during project operation of the project as well as electricity used for the Operations and Maintenance Building. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector as well as electricity generation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative energy consumption in California, construction of the project would be compliant with goals and policies related to minimizing energy consumption. Additionally, Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR would require the use of energy-efficient and alternatively-fueled equipment during project construction. Operation of the project could offset emissions from the electricity generation sector estimated at over 156,621,500 kWh of renewable electricity annually. As stated above, a majority of the related projects are solar or wind farms that would have similar energy use that would be offset by renewable energy generation and would have minimal operational trips to and from the sites. Overall, the project clearly would not contribute to cumulative energy consumption in California because operation of the project would provide electric power with negligible operational energy consumption over the long term when compared to traditional fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on energy consumption, would not conflict with any renewable energy plans, and cumulative impacts would be less than significant. To further ensure impacts are less than significant MM 4.3-1 in Section 4.3 *Air Quality*, would be implemented.

Mitigation Measures

Implement Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.3-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

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Section 4.7
Geology and Soils

4.7.1 Introduction

This section of the EIR describes the geologic and soil characteristics of the project site and potential geology and soils impacts associated with construction and operation of the Jasmine Solar Project (project) and mitigation measures that would reduce these impacts, if applicable. The analysis in this section is based on the *Geotechnical Engineering Investigation Report* (Appendix H; BSK Associates 2021), the *Paleontological Resources Assessment* (Appendix I); Rincon Consultants Inc., 2021), *Hydrology Report* (Appendix K; GHD, 2021) which were prepared for the proposed project, as well as publicly available resources provided by entities such as the California Department of Conservation.

4.7.2 Environmental Setting

Regional Geologic Setting

The project site is located in Great Valley geomorphic province. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River, and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which deposits of marine and overlying continental sediments have been deposited almost continuously since the Jurassic Period (about 160 million years ago). The thickness of these sediments tends to increase to the west and can reach a thickness as much as 20,000 feet on the west side of the San Joaquin Valley syncline. In addition, great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes and the remnants of an isolated Pliocene volcano rise above the valley floor.

To the south, approximately 17 miles, are the Tehachapi Mountains that mark the southern boundary of the Great Valley province. The Tehachapi Mountains are characterized by the San Andreas and Garlock Faults, which intersect approximately 22 miles south of the project site, and approximately 2 miles southwest of the community of Lebec. The Garlock Fault is a major strike-slip fault that is oriented in a roughly east/west direction. The San Andreas Fault is the main fault in an intricate fault network cutting through the California coastal region; the fault extends from Northern California to the San Bernardino area of Southern California. The project site is not intersected by any known regional faults but is located in a region considered seismically active.

Local Geologic Setting

In preparation of its geotechnical engineering investigation report; BSK Associates reviewed published maps and reports to assess the regional geology and performed a field investigation of the project site. The project site is located in a vacant field bounded by Old River Road to the east, Copus Road to the south and vacant agriculture land to the north and west. The surface conditions at the time of the field exploration

were an actively watered alfalfa field on the south side of the site and a vacant field on the north side of the site. To categorize the site, the field exploration included 29 soil borings taken on December 7th through December 9th, 2020, to observe site features and soil conditions. The geotechnical investigation consisted of a field exploration, laboratory testing, engineering analysis, and preparation of a report summarizing the findings and recommendations. As part of the testing, soil borings were taken and were advanced to depths ranging from 10.5 feet to 51.5 feet below ground surface (bgs). In addition, pile driving and pile load testing was performed on three occasions in November of 2020. Select soil samples were tested in the laboratory for moisture content, dry density, shear strength, expansion index, California Bearing Ratio (CBR), and corrosion characteristics. The purpose of the geotechnical investigation and subsequent testing was to assess soil conditions and to provide an assessment of the bearing conditions at the project site.

A full summary of the findings is described in detail in the geologic and *Geotechnical Engineering Investigation Report* (Appendix H). The following information describes the project's geologic setting and potential geologic hazards. This information is based on BSK's field reconnaissance and review of published maps and reports.

Subsurface Soils

The proposed project is situated in the San Joaquin Valley which is characterized by mostly flat terrain with minimal variations in elevation and generally rich agricultural soils. Based on the soil borings prepared for the geotechnical report the subsurface material generally consists of mostly silty and clayey sands and sandy silt or sandy clay underlain by alternating layers of sands and clays to the maximum depths of exploration (11.5 to 51.5 feet bgs).

This is consistent with the United States Department of Agriculture's (USDA) Natural Resource Conservation Service (NRCS) websoil survey which shows the entire project site containing Califlax loam (USDA, 2022a). Califlax Loam soil have a Hydrologic Soil Group rating of C indicating that the soils will not infiltrate most of the received moisture, especially in above average rain events. The hydrologic soil group was developed by the U.S. Department of Agriculture to describe if rainwater is likely to runoff the soil or infiltrate, with soils likely to infiltrate at a higher rate having a classification of A, and soils that are most likely to experience little infiltration having a rating of D (GHD, 2021).

Considering the above, this soil's general characteristics, according to the USDA NRCS, is that it generally has 0-1% slopes, is well drained, has negligible runoff, parent material is alluvium derived from mixed mineralogy rock, has a frequency of flooding from none to rare, and is not considered hydric (USDA, 2022b).

Groundwater

The project site is located in the Tulare Lake Hydrologic Region, within the San Joaquin Valley Groundwater Basin, and the Kern County Subbasin (Groundwater Basin Number: 5-022.14) is located at the southern end of the San Joaquin Valley. The Kern County Subbasin groundwater is subject to the Kern Groundwater Authority (KGA) as a groundwater sustainability plan area that is broken up into many agencies and water districts. The Wheeler Ridge – Maricopa Water Storage District (WRMWSD) is responsible for the project site and near vicinity groundwater

The Kern County Subbasin covers about 3,040 square miles and is bounded on the north by the Kern County border, the Tule Groundwater subbasin on the east, and southeast by granitic bedrock of the Sierra Nevada

foothills and Tehachapi mountains, and on the southwest and west by the marine sediments of the San Emigdio Mountains and Coast Ranges. Groundwater has been and is an important resource within the subbasin given limits on the available local and imported surface water supply.

Within the project site, groundwater was encountered in at two boring locations (B-3 at 10 feet bgs and B-27 at 27 feet bgs). B-3 is located in the northeast corner of the project site and B-27 is located in southeast corner of the other site. Ground water was not encountered at any of the other boring locations which were advanced to a depth of either 11.5 or 16.5 feet bgs, with the exception of B-27 and B-28 which was advanced to approximately 21.5 feet. It is important to note that the groundwater level may fluctuate both seasonally and from year to year due to variations in rainfall, temperature, pumping from wells, and possibly as the result of other factors such as irrigation that were not evident during the investigation.

Fault Rupture

Ground surface rupture along an earthquake fault may cause damage to aboveground infrastructure and other features and occurs when movement on a fault deep within the earth breaks through to the surface. Fault rupture is considered to be most likely to occur along the identified traces of active faults (Bryant and Hart 2007). Active faults are defined as faults with evidence of displacement in the last 11,000 years. The project site is not located in a Fault-Rupture Hazard Zone. The closest fault zone is associated with the 1952 earthquake fractures on the east side of the Site and the Wheeler Ridge fault zone 6.5 miles south of the site.

Ground Shaking

Faults located within the project site vicinity have the potential to cause ground shaking to occur on the project site; the magnitude of ground shaking experienced onsite is dependent on the distance to causative faults and the earthquake magnitude (a measure of the amount of energy released during an earthquake event). **Table 4.7-1:** *Historic Earthquakes in Project Area Vicinity*, shows some of the significant historical earthquakes that have occurred in the region and their magnitude.

TABLE 4.7-1: HISTORIC EARTHQUAKES IN PROJECT AREA VICINITY

Earthquake (Year)	Approximate Distance to Site (miles)	Earthquake Magnitude
SE Bakersfield (1952)	20 NE	5.8
Wheeler Ridge (1993)	7 - SW	5.2
Kern County (1952)	10 - SE	7.5
Tejon Ranch (1988)	24-SW	5.4

SOURCE: SCEDC, 2022.

Seismic Hazard Zones (Liquefaction and Landslides)

Zones of Required Investigation, referred to as “Seismic Hazard Zones” in California Code of Regulations (CCR) Article 10, Section 3722, are areas where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements.

A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Landslides are a type of "mass wasting," which denotes any down-slope movement of soil and rock under the direct influence of gravity. The term "landslide" encompasses five modes of slope movement: falls, topples, slides, spreads, and flows. These are further subdivided by the type of geologic material (bedrock, debris, or earth). Debris flows (commonly referred to as mudflows or mudslides) and rock falls are examples of common landslide types. Downward slope movement occurs when forces (mainly gravity) exceed the strength of the earth materials that compose the slope. Landslides can be initiated in slopes already on the verge of movement by rainfall, snowmelt, changes in water level, stream erosion, changes in ground water, earthquakes, volcanic activity, disturbance by human activities, or any combination of these factors. The project site and surrounding areas are essentially flat and therefore, the potential hazard due to landslide is low.

Liquefaction is a type of ground failure resulting from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength, lateral spreading, ground oscillation, and loss of bearing strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. The susceptibility to liquefaction also is a function of depth, density, groundwater level, and magnitude of the earthquake and ground shaking. For liquefaction to occur, the soil must be saturated (i.e., shallow groundwater) and be relatively loose. Liquefaction more often occurs in areas underlain by young alluvium, where the groundwater table is higher than 50 feet (bgs).

There are no mapped areas that have Seismic Hazard Zones in the project area and liquefaction potential is low. The nearest mapped zone is located at the base of the foothills, approximately 6 miles south of the project site and the potential for liquefaction is considered low (CDOC, 2022b).

Soil Erosion

Soil erosion is the wearing a way of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind, and subsurface water flow. Excessive soil erosion can eventually lead to damage of building foundations and roadways. In general, areas that are most susceptible to erosion are those that would be exposed during the construction phase when earthwork activities disturb soils and require temporary stockpiling. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection, however changes in drainage patterns can also cause areas to be susceptible to the effects of erosion. There are many factors contributing to soil erosion. Soils containing high silt content have the highest soil erodibility since they are easily detached, tend to crust, and produce high rates of runoff. Coarse textured soils, or sandy soils, are easily detached but typically do not produce substantial runoff and soil erodibility is low.

Subsidence

Subsidence is the sinking of the ground surface; there are four types of subsidence that are currently occurring within Kern County. Tectonic subsidence refers to the long-term slow sinking of the land surface. Subsidence can also occur naturally when moisture-deficient soils are exposed to water, which causes collapse. Subsidence has also been caused by human activities including the extraction of oil and gas and the withdrawal of groundwater. Specific areas identified as experiencing subsidence within the County include the San Joaquin Valley, a large area south of Bakersfield and parts of the California Aqueduct (Kern County, 2009).

Soil Collapse

Collapsible soils consist of loose, dry, low-density materials that collapse, compact and change in settlement under the addition of water or excessive loading, often resulting in severe damage to structures. More specifically, collapse occurs when soil is saturated and the soil fabric cannot support the weight of the overburden or structures. The maximum load that such soils can support is the difference between the saturation collapse and overburden pressures. These soils generally consist of 50 to 90% silt particles, and sandy, silty, and clayey types have been recognized, with most falling into the silty category. Collapsible soils occur in the western United States most commonly in areas with relatively young deposits in alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits.

Expansive Soils

Expansive soils are characterized by their potential "shrink-swell" behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. Expansive soils contain clay types such as smectite, bentonite, montmorillonite, beidellite, vermiculite, and others are known to expand with changes in moisture content. These soils are capable of absorbing water in a manner that results in volumetric changes and the higher the percentage of expansive minerals present in near surface soils, the higher the potential for significant expansion. The greatest effects occur when there are significant or repeated moisture content changes the change in volume can exert enough force on a building or other structure to cause cracked foundations, floors, walls, and roadways.

Paleontological Setting

Paleontological resources are the mineralized (fossilized) remains of prehistoric plants and animals and the mineralized impressions (trace fossils) left as indirect evidence of the forma and activity of such organisms. These resources are located within sedimentary rocks or alluvium and are considered to be nonrenewable. Records search and field survey indicated the project area is underlain by Quaternary young (Holocene) alluvial fan deposits (Qf), derived from the San Emigdio Mountains to the south. Quaternary young-aged units are too young to contain scientifically significant paleontological resources and are considered to have low paleontological sensitivity. However, these younger sedimentary deposits may grade downward into Quaternary old (Pleistocene) alluvial deposits, which may preserve fossil remains, at unknown depths within the project area.

Quaternary old (Pleistocene) sedimentary deposits (i.e., Qc, QP) are mapped at the margins of the San Emigdio Mountains approximately six miles south of the project area and have proven to yield significant vertebrate fossil localities in Kern County and throughout southern California While, these units are not mapped within the project area they are expected to underlie the project area at extensive or unknown depths but are anticipated to range from shallow to moderate depths and would depend on the local topography.

Localities have produced fossil specimens of terrestrial mammals such as mammoth, horse, elephant, camel, bison, birds, rodents, and reptiles (Jefferson 1991; Paleobiology Database 2021; Springer et al. 2009; UCMP 2021). Therefore, Quaternary old (Pleistocene) sedimentary deposits (e.g., Qc, QP) are considered to have a high paleontological sensitivity.

Existing Paleontological Resources

The paleontological resources inventory included a geologic map review, a literature search, a record search conducted by the National History Museum of Los Angeles County (NHMLAC). Although there were no previously recorded fossil localities within the project site, there were 16 Pleistocene vertebrate localities in the general vicinity of the proposed project. The closest vertebrate locality, LACM VP 6731, produced fossil specimens of unspecified vertebrates less than 15 miles south-southwest of the project area near Maricopa. LACM VP 3775 yielded fossil specimens of camel (*Camelidae*) and rabbit (*Lagomorpha*) less than 20 miles west-northwest of the project area. LACM VP 5931, located less than 60 miles northeast-east of the proposed project (near Hoffman Canyon), produced fossil specimens of rabbit/hare (*Leporidae*) near the surface. LACM VP 1543, 5151-5157, 5168, 6178, 7013, 7262, and CIT 266 yielded a suite of fossil specimens at shallow depths, including camel (*Camelops*), camelid (*Hemiauchenia*), bison (*Bison antiquus*), horse (*Equidae*), deer (*Cervidae*), mammoth (*Mammuthus*), Carnivora scapula (possibly *Smilodon*), fish (*Osteichthyes*), bird (*Aves*), and other unidentified vertebrates (Rincon, 2022).

A supplemental review of the museum records maintained in the Universuity of California Museum of Paleontology (UCMP) online collections database did not yield records of any vertebrate fossil localities in the general vicinity of the project area. The closest UCMP vertebrate locality on record is UCMP 1041, which produced a proboscidean tibia (Elephas) and a camel (Procamelus) fossil from Pleistocene sedimentary deposits in an unspecified location in Kern County.

4.7.3 Regulatory Setting

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The conservation elements and seismic safety elements of city and county general plans contain policies for the protection of geologic features and avoidance of hazards.

The California Environmental Quality Act (CEQA) is the major environmental statute that guides the design and construction of projects on nonfederal lands in California. This statute establishes a specific process for environmental impact analysis and public review. In addition, the project proponent must comply with other applicable federal, State, and local statutes, regulations, and policies. Relevant and potentially relevant statutes, regulations, and policies are discussed below.

Federal

Clean Water Act (Erosion Control)

The Federal Clean Water Act (CWA) (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to jurisdictional waters of the United States. Such discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb 1 acre or more are required to obtain NPDES coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit), Order No. 2009-0009-DWQ. The Construction General Permit requires the development and implementation of a

Stormwater Pollution Prevention Plan (SWPPP) that includes best management practices (BMP) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.10, Hydrology and Water Quality, of this EIR.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1997 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards to which the proposed project would be required to adhere.

Paleontological Resources

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally owned or federally managed lands or involves a federal agency license, permit, approval, or funding. The first of these, established in the United State Code (USC), is the Antiquities Act of 1906 (54 U.S.C. 320301– 320303 and 18 U.S.C. 1866(b)), which calls for protection of historic landmarks, historic and prehistoric structures, as well as other objects of historic or scientific interest on federally administered lands, the latter of which would include fossils. The Antiquities Act both establishes a permit system for the disturbance of any object of antiquity on federal land and also sets criminal sanctions for violation of these requirements. The Antiquities Act was extended to specifically apply to paleontological resources by the Federal-Aid Highways Act of 1958. More recent federal statutes that address the preservation of paleontological resources include the National Environmental Policy Act, which requires the consideration of important natural aspects of national heritage when assessing the environmental impacts of a project (P.L. 91-190, 31 Stat. 852, 42 U.S.C. 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, U.S.C. 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations Section 1508.2 identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D of the Omnibus Land Management Act of 2009) is the primary piece of federal legislation.

State

The Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act), regulates the development and construction of buildings intended for human occupancy to avoid hazards associated with surface fault rupture. In accordance with this law, the California Geological Survey maps active faults and designates Earthquake Fault Zones along mapped faults. This act groups faults into categories (i.e., active, potentially active, or inactive). Historic and Holocene faults are considered active, Late Quaternary and Quaternary faults are considered potentially active, and pre-Quaternary faults are considered inactive. These classifications are qualified by conditions. For example, a fault must be shown to be "sufficiently active" and "well defined" through detailed site-specific geologic explorations to determine whether building setbacks should be established. Any project that involves the construction of buildings or structures for human occupancy, such as an operations and maintenance building is subject to review under the Alquist-Priolo Earthquake Fault Zoning Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

The Seismic Hazards Mapping Act of 1990

In accordance with PRC Chapter 7.8, Division 2, the California Geologic Survey (CGS) is directed to delineate seismic hazard zones. The purpose of the act is to reduce the threat to public health and safety and minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by the California Geological Survey in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California.

The 2022 edition of the CBC were published in July of 2022 and will become effective as of January 1, 2023. The code is updated triennially, and by the time the proposed project is under construction, the 2022 codes would be applicable. The 2022 CBC contains California amendments based on the California state agencies reviewed the most recent edition of national model codes and standards and made amendments and additions to most parts of the CBC.

Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in-accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a seismic design category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site; SDC ranges from A (very small seismic vulnerability) to E/F (very high seismic vulnerability and near a major fault). Seismic design specifications are determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 18 – Soils and Foundations of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fill (Section 1804), presumptive load-bearing values of soils (1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories C, D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading. SDC D through F adds a requirement for evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Expansive soils are defined in the CBC as follows:

> **1803.5.3 Expansive Soil.** In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1,2 and 3 shall not be required if the test prescribed in Item 4 is conducted:
>
> 1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
> 2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422.
> 3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.
> 4. Expansion index greater than 20, determined in accordance with ASTM D 4829.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in Public Resources Code (PRC) Section 5097.5 and Section 30244; of these two PRC sections, only the latter (Section 30244) applies to the project as the former (Section 5097.5) is only applicable to projects on public land. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to archaeological or paleontological resources.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate Regional Water Quality and Control Board (RWQCB). Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under CWA Section 401.

State Regional Water Quality Control Board, Stormwater General Construction Permit

The California State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters.

In 1999, the state adopted the NPDES General Permit for Stormwater Discharges Associated with Construction Activities (Construction Activities General Permit) (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The General Construction Permit generally requires that construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development, apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent for coverage, developing a stormwater pollution prevention plan (SWPPP), and implementing best management practices to address construction site pollutants if the project is deemed to discharge into a water of the United States. However, as the project site is in a terminal drainage area of Kern County (e.g., does not drain to a waters of the United States), NPDES coverage is not expected to be required as described in further detail in Section 4.10, *Hydrology and Water Quality*.

The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list the best management practices (BMP) the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Enrollment under the General Construction Permit is through the Stormwater Multiple Application and

Report Tracking System. Also, the SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through the individual regional boards.

Local

Kern County General Plan

Construction and operation of the solar facility and battery energy storage system would be subject to policies and regulations contained within the Kern County General Plan (County of Kern 2009), Kern County Zoning Ordinance, and Kern County Code of Building Regulations pertaining to the avoidance of geologic hazards and/or the protection of unique geologic features, as well as policies for the preservation of paleontological resources. The policies, goals, and implementation measures in the Kern County General Plan for geology and soils that are applicable to the proposed project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general and not specific to development. These measures are not listed below, but as stated in Chapter 2, Introduction, of this EIR. All policies, goals, and implementation measures in the Kern County General Plan (County of Kern 2009) are incorporated by reference.

Chapter 1. Land Use, Conservation, and Open Space Element

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policy

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measure

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Chapter 4. Safety Element

4.1 Introduction

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measures

Measure B: Require geological and soils engineering investigations in identifying significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

Kern County Code of Building Regulations (Title 17 of the Ordinance code of Kern County)

All construction in Kern County is required to conform to the Kern County Building Code (Chapter 17.08, Building Code, of the Kern County Code of Regulations). Kern County has adopted the CBC, 2019 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code (UBC) to denote the areas of highest risk for earthquake ground motion. California has an unreinforced masonry program that details seismic safety requirements for Zone 4. Seismic provisions associated with Seismic Zone 4 have been adopted (Kern County, 2017).

Chapter 17.28. Kern County Grading Code

The purpose of the Kern County Grading Code (Chapter 17.28, Building Code, of the Kern County Code of Regulations) sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction (Kern County, 2017). Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

Section 17.28.140. Erosion Control

A. Slopes. The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

B. Other Devices. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.

C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each workday during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Section 17.28.170. Grading Inspection

A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer, and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.

B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade, and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and

placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official, and the civil engineer.

D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.

G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:

1. The civil engineer, soils engineer, or engineering geologist has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.

2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County Public Works Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acre within Kern County. This form requires the applicant to provide background information on construction activities. Applicants must apply for the permit under one of the following four conditions:

1. All storm water is retained onsite and no storm water runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.

2. All storm water runoff is not retained on site but does not discharge to a Water of the United States (i.e., drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.
3. All storm water runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
4. Construction activity is between one to five acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

Kern County Public Health Services Onsite Wastewater Treatment System Permitting

The Kern County Public Health Services Department is responsible for permitting, inspecting, and approving onsite wastewater treatment systems, including septic tank wastewater disposal systems. The agency provides leach line requirements, seepage pit requirements, percolation testing standards, and other regulations for land development related to wastewater treatment systems.

4.7.4 Impacts and Mitigation Measures

Methodology

Potential significant impacts associated with the project site were identified based on a review of available online sources, the *Geotechnical Engineering Investigation Report* for the Jasmine Solar Project (BSK, 2021), the *Paleontological Resources Assessment* (Rincon Consultants, 2021) located in Appendix H and I of this EIR, respectively, and existing literature including the Kern County General Plan. The Geotechnical Investigation presents findings, conclusions, and recommendations concerning development of the project based on an engineering analysis of geotechnical properties of the subsurface conditions and evaluation of the underlying soils.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on geology and soils.

A project would have a significant adverse effect on geology and soils if it would:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;

- Seismic-related ground failure, including liquefaction;
- Landslides.

b. Result in substantial soil erosion or the loss of topsoil;

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

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

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater;

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Project Impacts

Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map issued by the state geologist for the area or based on other substantial evidence of a known fault.

Primary fault rupture is ground deformation that occurs along the surface trace of the causative fault during an earthquake. Project construction is expected to employ up to approximately 550 workers over the course of approximately one year, which would include the construction of an O&M building. The O&M building would support a complement of two full time equivalent employees (FTE). Thus, the proposed project would introduce structures and people to the project site (construction workers, permanent workers, as well as periodic maintenance workers) and could expose people and structures to seismic risks. While the project site is located in the highly seismic southern California region, it is not located within or within close proximity to a State of California Alquist-Priolo Earthquake Fault Zone and there are no known faults located within the project site. Accordingly, there are no Fault-Rupture Hazard Zone within the project site. The closest fault zone is associated with the 1952 earthquake fractures on the east side of the Site and the Wheeler Ridge fault zone 6.5 miles south of the site. Because the project site is not within a delineated Alquist-Priolo Earthquake Fault Zone and there are no known faults on the project site, the potential for surface fault rupture at the project sites is considered low.

In addition, construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2019 Edition (CCR Title 24). When the proposed project is constructed, however, the 2022 CBC would be in effect and all project elements would be built in accordance with those standards. Adherence to all applicable regulations would mitigate potential impacts related to fault rupture. Thus, based on the absence of any known active faults that cross the project site, and the project compliance with applicable ordinances of the Kern County Building Code to include ethe CBC, impacts related to fault rupture would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements do not include any habitable structures and all utility improvements would be construction in accordance with all applicable building codes and earthquake safe designs. None of these improvements areas are within an Alquist Priolo zone and would not directly or indirect result in substantial adverse effects. In addition, these improvements would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

As stated previously, the project site is in a highly seismic region that could experience one or more substantive seismic events in the future. Depending on the magnitude, distance to the source, and duration of shaking, damage to the PV modules, O&M Building(s), or other ancillary facilities an injury to workers or visitors could result. However, because the proposed project would not establish a permanent on-site population beyond the approximate 2 FTE and intermittent maintenance personnel located at the O&M facility during operations and/or maintenance/repairs, damage to these on-site structures would not expose a substantial number of people to potential adverse effects due to strong seismic ground shaking. Prior to the issuance of grading permits, the project proponent would be required show that the project infrastructure was designed to withstand substantial ground shaking in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the current CBC.

As described below, Mitigation Measure MM 4.7-1 would require a final design-level geotechnical report evaluating soil conditions and geologic hazards, performed by a California licensed geotechnical engineer consistent with CBC requirements. Mitigation Measure MM 4.7-1 would also require a California geotechnical engineer be hired by the project proponent to design project facilities to withstand probable seismically induced ground shaking.

All grading and construction onsite would adhere to the specifications, procedures, and site conditions contained in the report and according to the final design plans, which would be fully compliant with the seismic recommendations provided by the California-registered professional engineer in accordance with California and Kern County Building Code requirements. The required measures would encompass site preparation, foundation specifications, and protection measures for buried metal. The final structural designs would be subject to approval and follow-up inspection by the Kern County Building Inspection

Department. Final design requirements would be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department. Further, the facilities would be constructed in accordance with all applicable codes, which require property line and public roadway setbacks that would protect the general public and onsite staff from potential hazards associated with the facilities that could result from an earthquake. Adherence to the requirements of the Kern County Building Code, the CBC, the latest ASTM standards, and Mitigation Measure MM 4.7- 1 would ensure that seismic hazards would be minimized; impacts related to ground shaking would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed expansion would not include any habitable structures and all utility improvements would be construction in accordance with all applicable building codes and earthquake safe designs. None of these improvements would expose a substantial number of people to risks associated with strong seismic ground shaking nor would these project elements exacerbate the risk of strong seismic ground shaking. Thus, impacts would be less than significant.

Mitigation Measures

MM 4.7-1: Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a final engineering design specific geotechnical study prepared by a qualified geotechnical engineer to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities.

Impact 4.7-3: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving seismic-related ground failure, including liquefaction.

Seismically induced liquefaction occurs when loose, water-saturated sediments of relatively low density are subjected to cyclic shaking that causes soils to lose strength or stiffness because of increased pore water pressure. Should liquefiable materials be present at the project site, damage to the photovoltaic modules and other ancillary facilities could result and construction workers and employees could be exposed to potential adverse effects.

During performance of the geotechnical report, (December 7 through 9, 2020) ground water was encountered in two boring locations (B-3 at 10 feet bgs and B-27 at 27 feet bgs). B-3 is located in the northeast corner of the project site and B-27 is located in southeast corner of the other site. Ground water was not encountered at any of the other boring locations which were advanced to a depth of either 11.5 or

16.5 feet bgs, with the exception of B-27 and B-28 that was advanced to approximately 21.5 feet. It is important to note that the groundwater level may fluctuate both seasonally and from year to year due to variations in rainfall, temperature, pumping from wells, and possibly as the result of other factors such as irrigation that were not evident during the investigation.

The proposed project is not located within a currently, mapped California Liquefaction Hazard Zone. The project proponent would be required to perform a design-level geotechnical report that would evaluate and address the site-specific liquefaction potential of the proposed project; this would be required per Mitigation Measure MM 4.7-1, prior to the issuance of any building or grading permits. This would ensure structures constructed as part of the project would be constructed in accordance with all applicable IBC and CBC earthquake construction standards, including those relating to soil characteristics. Building code requirements may include, but are not limited to, ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. Thus, the potential for the project to be affected by liquefaction or exacerbate the potential for liquefaction is low. Implementation of mitigation would further reduce impacts to less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements do not include any habitable structures and all utility improvements would be construction in accordance with all applicable building codes and earthquake safe designs. None of these improvements would expose a substantial number of people to risks associated with liquefaction nor would these project elements exacerbate the risk of liquefaction. Thus, impacts would be less than significant.

Mitigation Measures

With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

Level of Significance

With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.7-4: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving landslides.

Zones of Required Investigation referred to as "Seismic Hazard Zones" in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where Site investigations are required to determine the need for mitigation of potential earthquake-induced landslide ground displacements. The project site and surroundings are essentially flat; little topographic variation is exhibited across the project site. The project would include an O&M building and BESS, but not any permanently habitable structures. Thus, the potential hazard due to landslides either on-site or from adjacent properties is extremely low. Impacts would be less than significant, and mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements do not include any habitable structures and all utility improvements would be construction in accordance with all applicable building codes and earthquake safe designs. None of these improvements would expose a substantial number of people to risks associated with landslides nor would these project elements exacerbate the risk of landslides. Thus, impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.7-5: The project would result in substantial soil erosion or the loss of topsoil.

Construction of the proposed project and associated improvements would involve earth-disturbing activities that could expose soils to the effects of wind or water erosion. Although the project site consists of relatively flat topography and would not involve substantive cut and fill operations, earthmoving and construction activities could loosen soil, and the removal of existing minimal vegetation could contribute to soil loss and erosion. To help contain runoff, and in accordance with the requirements of the Kern County National Pollution Discharge Elimination System (NPDES) Program, a storm water pollution prevention plan (SWPPP) would be prepared and implemented. The SWPPP would include various types of best management practices (BMPs) to control erosion and minimize the movement of soil and runoff to off-site areas. The proposed project would include temporary BMPs that would be installed and maintained during construction. Temporary BMPs could include but not be limited use of silt fence, straw waddles, revegetation, etc., and other erosion control measures required by the Kern County Grading Code (Chapter 17.28.140). Site specific measures would be incorporated into the SWPPP, as required by Mitigation Measure MM 4.10-1. Also, per Mitigation Measure MM 4.7-1, the proposed project would be required to make all grading improvements in accordance with the recommendations in the engineering report and pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Engineering and Survey Services Department in order to obtain required grading permits. Compliance with Mitigation Measure MM 4.7-1 would ensure that excessive grading does not occur. As a result, project construction would have less-than-significant impacts related to erosion with implementation of Mitigation Measures MM 4.7-1 and MM 4.10-1.

Project operations would include the periodic cleaning of the panels with water; however, this is not anticipated to result in soil erosion because infrequency of these activities and the limited volumes of water involved; water is anticipated to infiltrate into the ground and not generate substantial erosion or soil loss. Project operations would not entail ground disturbance of area which has not previously been subjected to

disturbance. As a result, project operation would have a less than significant impact with relation to soil erosion.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements would be subject to compliance with the NPDES and would implement a SWPPP with BMPs to prevent erosion the same as the balance of the project areas. Thus, construction and operation of these project elements would not result in substantial risks of erosion. Thus, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 and MM 4.10-1 (see **Section 4.10**, *Hydrology and Water Quality*, of this EIR, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 and 4.10-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.7-6: The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

As discussed for Impact 4.7-4, due to the flat topography of the project site, the risk of on-site or off-site landslides associated with development of the proposed project is considered negligible. The depth to groundwater, based on data collected for the geological and soils report indicated groundwater was encountered at two boring locations, but due to fluctuating natural conditions as well as human induced such as ground water withdrawal, shallow groundwater may be present in the project area. The project proponent would be required to perform a design-level geotechnical report. In addition, Mitigation Measure MM 4.7-1 would address potential soil stability impacts and prescribe specific design requirements to address these potential impacts related to unstable soils that could lead to not only liquefaction, but lateral spreading, and subsidence. Through application of geotechnical engineering standards based on site-specific conditions. These design requirements would comply with CBC and State of California design standards Chapters 16 and 18, which are required by law for all new structures in Kern County. The design-level geotechnical report would be required per Mitigation Measure MM 4.7-1 prior to the issuance of any building or grading permits. Based on the conclusions and recommendations of the geological and soils report, potential soil stability–related impacts would be minimized. Through the implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

Six (6) Collapse Potential Tests were performed as part of the geotechnical report on relatively undisturbed soil samples to evaluate collapse potential characteristics and were done in general accordance with ASTM D 5333. The results of the testing are shown in **Table 4.7-2:** *Collapse Potential of Site Soils*, below.

TABLE 4.7-2: COLLAPSE POTENTIAL OF SITE SOILS

Sample Location	Sample Description	Dry Density (pcf)	Initial Moisture	Collapse Potential (at 2,000 psf)
B-4 at 5'	Clayey sand: brown, moist fine to medium grained	104.4	13.3%	1.50%
B-7 at 10'	Sandy silt: brown, moist, fine to medium grained	97.6	20.0%	0.00%
B-12 at 10'	Poorly graded sand w/gravel: brown, moist, fine to coarse grained	126.4	3.4%	1.60%
B-15 at 10' [1]	Silty sand: brown, moist, fine to medium grained sand, trace clay	97.1	18.8%	0.00%
B-22 at 11'	Silty sand: olive, slightly moist, fine to coarse grained, weakly cemented	136.6	9.3%	0.95%
B-27 at 21'	Clayey sand: olive, very moist, fine to coarse grained	100.2	19.0%	0.00%
SOURCE: BSK, Associates				

Based on the values shown above, the potential for impacts from collapse would be low. Further, implementation of the recommended Mitigation Measures MM 4.7-1, impacts would be further reduced to less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements do not include any habitable structures and all utility improvements would be construction in accordance with all applicable building codes and earthquake safe designs. None of these improvements would expose a substantial number of people to risks associated with landslides, lateral spreading, subsidence, liquefaction, or collapse, nor would these project elements exacerbate the risk of these hazards. Thus, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.7-1would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.7-7: The project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Expansive soils are fine-grained soils (generally high plasticity clays) that can undergo a significant increase in volume with an increase in water content, and a significant decrease in volume with a decrease in water content. Changes in the water content of a highly expansive soil can result in severe distress to structures constructed on or against the soil.

The shrink swell behavior of expansive soils can lead to damage of project improvements over time if not addressed appropriately prior to construction. Expansive soils generally consist of clay type soils such as smectite, bentonite, montmorillonite, beidellite, vermiculite, and others are known to expand with changes in moisture content.

However, as described above, Mitigation Measure MM 4.7-1 requires that a design-level geotechnical report be performed by a qualified geotechnical engineer on the project site to evaluate soil conditions and geologic hazards. Mitigation Measure MM 4.7-1 requires that a California geotechnical engineer provide an evaluation for expansive soils and provide recommendations consistent with CBC requirements to reduce potential adverse effects from expansive soils. All grading and construction on site would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the recommendations provided by the California registered professional engineer in accordance with California and Kern County Building Code requirements. The required measures would encompass site preparation, such as treatment of expansive soils or replacement with engineered fill. The final designs would be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements would be provided to the on-site construction supervisor and the Kern County Building Inspector to ensure compliance. Therefore, with implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements do not include any habitable structures and all utility improvements would be construction in accordance with all applicable building codes and earthquake safe designs. None of these improvements would expose a substantial number of people to risks associated with expansive soils nor would these project elements exacerbate the risk of effects of locating improvements on expansive soils. Thus, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.7-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.7-8: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

As described in Chapter 3, *Project Description*, of this EIR, the project would not include use of a septic tank system for the O&M building. The project does not include adding septic tanks or alternative wastewater disposal systems. Portable toilets would be used during construction, operation and decommissioning activities; therefore, no impact would occur.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The associated improvements do not include any on-site wastewater disposal systems, thus, impacts would not occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would also be less than significant without mitigation for the connection with the PG&E Interconnection Facilities.

Impact 4.7-9: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.

Although the project area is determined to have low potential for paleontological resources at or near the surface, and a high paleontological sensitivity at depths exceeding 100 feet bgs, impacts to fossils and fossil localities, and loss of fossils from looting or other destructive activity at fossil sites could occur as a result of project activities. Grading, trenching, and other ground disturbing activities from the proposed project activities could result in impacts to previously undisturbed, paleontologically sensitive geologic deposits. Further, if these resources are damaged or destroyed, it would result in the loss of scientific data and directly impact the ability to conduct scientific research on evolutionary patterns and geological processes. Accordingly, ground disturbing activities in previously undisturbed portions of the project site may result in significant impacts to paleontological resources if Quaternary old (Pleistocene) sediments are impacted at a depth. Impacts would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data.

As proposed, ground disturbing activities associated with the mounting structures will range from 5 to 20 feet bgs and limited grading will occur in heavily disturbed agricultural fields for PV installation. The surficial geology of the project area has a low paleontological sensitivity that increases with depth. Quaternary old (Pleistocene) sediments (e.g., Qc, QP) may underlie Quaternary young (Holocene) alluvial

fan deposits (Qf) at unknown depths within the project area but are assumed to occur below depths of 100 feet based on the distance to the surrounding hills and basin margins.

Given that the fossiliferous deposits may occur at greater depths than anticipated project disturbance and that the project site has been previously disturbed, the potential for encountering fossil resources during project-related ground disturbance is low and impacts to paleontological resources are not anticipated. Although the potential for encountering fossil resources during project-related ground disturbance is low, a low potential for impacts to paleontological resources remains.

Although impacts are anticipated to be low, Mitigation Measure MM 4.7-2 through MM 4.7-4, would reduce potential impacts to unrecorded archeological resources to less than significant.

Mitigation Measures

MM 4.7-2: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources. The qualified paleontologist and lead archeologist may be the same individual.

a. Prior to the start of any ground disturbing activities, the qualified paleontologist shall prepare and conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.

b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.

c. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.

d. The project operator shall ensure all new employees who have not participated in earlier Paleontological Resources Sensitivity Trainings shall meet the provisions specified above.

e. The Paleontological Resources Awareness Training Guides shall be kept available for all personnel to review and be familiar with as necessary.

MM 4.7-3: During construction, the qualified paleontologist or designated monitor shall monitor all ground-disturbing activities (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 15 feet or deeper below ground surface.

The qualified paleontologist shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary.

Following completion of monitoring, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, discuss recovery and curation efforts, and provide the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to an appropriate repository, such as the Natural History Museum of Los Angeles County.

MM 4.7-4: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements would require ground disturbance that could result in disturbance of paleontological resources. None of these improvements would expose a substantial number of people to risks associated with landslides nor would these project elements exacerbate the risk of landslides. Thus, impacts would be less than significant.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-2 through MM 4.7-4, impacts would be less than significant with mitigation. Impact would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

Impacts of the proposed project would be considered cumulatively considerable if they would have the potential to combine with other past, present, or reasonably foreseeable projects to become significant. Cumulative projects listed in **Table 3-3:** *Cumulative Projects List*, would be subject to relatively similar seismic hazards as that of the proposed project. However, the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts or on soils because such impacts are site specific and would only have the potential to combine with impacts of the proposed project if they occurred in the same location as the proposed project.

Development of the proposed project, with implementation of the regulatory requirements and mitigation measures discussed above, would result in less-than-significant impacts related to exposing persons or structures to geology, soils, or seismic hazards including the projects potential to exacerbate any of the

above listed conditions. Although the entire region is a seismically active area, geologic and soil conditions vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific. Similar to the proposed project, other projects in the area would be required to adhere to the same California and Kern County Building Codes which would reduce the risk to people and property to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, State, and local programs, requirements and policies pertaining to building safety and construction would limit the potential for injury or damage to a less-than-significant level. Therefore, the proposed project, combined with past, present, and other foreseeable development in the area, would not result in a cumulatively significant impact by exposing people, or structures to risk related to geologic hazards, soils, and/or seismic conditions. Therefore, the proposed project would result in less-than-significant cumulative impacts related to geology and soils.

Surficial deposits, namely erosion and sediment deposition, can be cumulative in nature, depending on the type and amount of development proposed in a given geographical area. The cumulative setting for soil erosion consists of existing, planned, proposed, and reasonably foreseeable land use conditions in the region. However, construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. Individual projects are required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a drainage plan) to mitigate erosion impacts. The proposed project's compliance with these codes, standards and permitting requirements are required by Mitigation Measure 4.10-2. Other cumulative scenario projects would be required to adhere to similar requirements, thereby minimizing cumulative scenario erosion impacts. Specifically, all planned projects in the vicinity of the proposed project are subject to environmental review and would be required to conform to the Kern County General Plan and Building Code and would implement additional mitigation of seismic hazards to ensure soil stability, especially related to seismically induced erosion. With implementation of Mitigation Measure MM 4.7-1 through MM 4.7-4, the proposed project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. Cumulative impacts related to geology and soils are less than significant.

With implementation of Mitigation Measures MM 4.7-2 through MM 4.7-4, the proposed project would not result in significant impacts to paleontological resources. Given this minimal impact and the requirement for similar mitigation for other projects in the Central Valley, cumulative impacts to paleontological resources would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. These improvements would be required to accommodate the substation facilities and temporary construction work area. Use of these areas for these project elements would not exacerbate the potential for these project elements to result in a cumulative impact from geologic hazards or to paleontological impacts. Impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-4 and MM 4.10-2 would be required (see Section 4.10, *Hydrology and Water Quality*, of this EIR, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-4 and MM 4.10-2, cumulative impacts would be less than significant. Cumulative impact would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Section 4.8
Greenhouse Gas Emissions

4.8.1 Introduction

This section of the EIR describes the affected environment and regulatory setting relating to greenhouse gases (GHGs) for the project. It also describes the impacts associated with GHGs that would result from implementation of the project, and, as necessary, mitigation measures that would reduce these impacts.

Information in this section is based primarily on the project's air quality technical report, Jasmine Solar Project *Air Quality and Greenhouse Gas Emission Study* (Rincon Consultants Inc., 2021) located in Appendix C of this EIR. The impact assessment for the project is also based upon a review of relevant literature and technical reports that include, but are not limited to, information and guidelines by the California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA), and the applicable provisions of CEQA.

4.8.2 Environmental Setting

GHGs and climate change are a cumulative global issue. CARB and the USEPA regulate GHG emissions within the State of California and the United States, respectively. While CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. CARB has divided California into regional air basins. The project is located within the central valley in Kern County, approximately 20 miles southwest of downtown Bakersfield and 17 miles east of Taft. The surrounding area consists of actively farmed agricultural land. Unpaved roads bound the project site to the north and west. Old River Road is along the eastern boundary of the site, while Copus Road is adjacent to the project site's southern boundary. The project site is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SVAPCD), and is located in the San Joaquin Valley Air Basin.

Greenhouse Gases

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (e.g., gases used for aerosols). The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), are listed below (USEPA, 2020).

- **Carbon dioxide:** CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of

cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **Methane:** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide:** N_2O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF_6 are synthetic, powerful climate-change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.
- **Sulfur hexafluoride:** SF_6 is a colorless, odorless, nontoxic, nonflammable gas. SF_6 is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity, including equipment such as electrical circuit breakers, which may be used for the project. The California Climate Action Registry (Registry) lists SF_6 as a potential source of fugitive emissions from electrical transmission and distribution equipment. Fugitive emissions are unintentional leaks of GHGs from equipment such as joints, seals, and gaskets.

Because different GHGs have different GWPs and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually worldwide, is a much more potent GHG with 22,800 times the GWP as CO_2. Therefore, an emission of 1 metric ton (MT) of SF_6 could be reported as an emission of 22,800 MT of CO_2e (IPCC, 2014). Large emissions sources are reported in million MT of CO_2e (MMT CO_2e).

Greenhouse Gas Emissions Inventories

Global Emissions Inventory

Worldwide anthropogenic emissions of GHGs were approximately 49,000 million metric tons (MMT) of CO2e in 2010. Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO2 was the most abundant, accounting for over 75 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while N2O and fluorinated gases accounted for 6 percent and 2 percent respectively.[1]

United States Emissions Inventory

Total U.S. GHG emissions were 6,558 MMT of CO2e in 2019. Emissions decreased by 1.7 percent from 2018 to 2019; since 1990, total U.S. emissions have increased by an average annual rate of 0.06 percent for a total increase of 1.8 percent between 1990 and 2019. The decrease from 2018 to 2019 reflects the combined influences of several long-term trends, including population changes, economic growth, energy market shifts, technological changes such as improvements in energy efficiency, and decrease carbon intensity of energy

[1] Updated global anthropogenic GHG emissions have not been published yet by the IPCC.

fuel choices. In 2019, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of nationwide GHG emissions while the commercial and residential end-use sectors accounted for 16 percent and 15 percent of nationwide GHG emissions, respectively, with electricity emissions distributed among the various sectors.

California Emissions Inventory

Based on the CARB California Greenhouse Gas Inventory for 2000-2018, California produced 418.2 MMT of CO2e in 2019, which is 7.2 MMT of CO2e lower than 2018 levels. The major source of GHG emissions in California is the transportation sector, which comprises 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 21 percent of the state's GHG emissions while electric power accounts for approximately 14 percent. The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO2e. The annual 2030 statewide target emissions level is 260 MMT of CO2e.

Climate Change

GHGs are gases in the atmosphere that trap heat. The major concern with GHGs is that increases in GHG concentrations in the atmosphere are causing global climate change, which is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature.

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) from 2015 to 2017 was approximately 1.0°C higher than the average GMST over the period from 1880 to 1900. Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades.

According to California's Fourth Climate Change Assessment, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. According to CARB, the potential impacts in California due to global climate change may include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. (CARB, 2018).

Potential impacts of climate change in California may include reduced water supply from snow pack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years. In addition to statewide projections, California's Fourth Climate Change Assessment includes regional reports that summarize climate

impacts and adaptation solutions for nine regions of the state and regionally-specific climate change case studies. Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification (including coral bleaching), impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, the potential for substantial environmental, social, and economic consequences over the long-term may be great.

However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

4.8.3 Regulatory Setting

Federal

Environmental Protection Agency

The principal air quality regulatory mechanism at the federal level is the Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

Federal Clean Air Act

The USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR® labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Federal Clean Air Act. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6). The Endangerment Finding was required before the USEPA could regulate GHG emissions under Section 202(a)(1) of the Clean Air Act.

The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks

On May 19, 2009, the federal government announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard jointly approved by the USEPA and the National Highway Traffic Safety Administration (NHTSA) applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy (CAFE) standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mph (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle. In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022–2025 (USEPA, 2018). In March 2020, the USEPA and NHTSA adopted the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule that would maintain the CAFE and CO_2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO_2 standards for model year 2020 are 43.7 mph and 204 grams per mile for passenger cars and 31.3 mph and 284 grams of CO_2 per mile for light trucks, projecting an overall industry average of 37 mph, as compared to 46.7 mph under the standards issued in 2012. The proposal, if adopted, would also exclude CO_2-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020 (USEPA and NHTSA, 2018).

Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 percent to 23 percent over the 2010 baselines (USEPA and NHTSA, 2011). In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (USEPA and NHTSA, 2016).

40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule

This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 $MTCO_2e$ emissions per year (USEPA, 2011). Additionally, reporting of emissions is required for owners of SF6- and PFC-insulted equipment, when the total nameplate capacity of these insulating gases is above 17,280 pounds. The project would not be expected to trigger GHG reporting according to the rule; however, GHG emissions of the project are quantified in this EIR.

40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

USEPA mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose stationary source CO_2e emissions exceed 75,000 tons per year (USEPA, 2010). The project would not be expected to trigger PSD permitting as required by this regulation; however, GHG emissions of the project are quantified in this EIR.

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for non-road diesel engines that are used in construction equipment. The regulations, contained in 40 CRF Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the USEPA adopted a comprehensive national program to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced control technologies (USEPA, 2004).

State

Executive Order N-79-20

On September 23, 2020, the governor issued Executive Order N-79-20, which sets a new statewide goal of phasing out gasoline powered vehicles and equipment. The executive order includes three main goals that CARB will be required to develop regulations for. The order requires that by 2035, all in-states sales of new passenger cars and trucks be 100 percent zero-emissions. By 2045, 100 percent of medium-and-heavy-duty vehicles operating in the State will be zero-emissions where feasible and by 2035 for drayage trucks. Also, by 2035, all off-road vehicles and equipment will be 100 percent zero emissions.

Executive Orders S-3-05 and B-30-15

Executive Order S-3-05 sets target dates to reduce statewide GHG emissions to historical levels, as follows:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order B-30-15 sets a target date of 2030 to reduce GHG emissions to 40 percent below 1990 levels. Executive Orders S-3-05 and B-30-15 are only applicable to "State agencies with jurisdiction over sources of greenhouse gas emissions" (Order 4-29-2015 Section 2), and Kern County is not a State agency. Furthermore, there is currently no implementation strategy for these Executive Orders (i.e., a plan, which apportions GHG reductions by economic sector/activity/region, similar to the Assembly Bill (AB) 32 Climate Change Scoping Plan).

Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is

in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Senate Bill 32 and Assembly Bill 32

On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the state to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) CO_2e by 2030 and two MT CO_2e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (regional, sub-regional, county, or city level), but not for specific individual projects because they include all emissions sectors in the state.

Senate Bill 350 and 100

Adopted on October 7, 2015, SB 350 supported the reduction of GHG emissions from the electricity sector through a number of measures, including requiring electricity providers to achieve a 50 percent renewables portfolio standard by 2030, a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by retail customers by 2030.

SB 100, adopted on September 10, 2018, updated SB 350 and accelerated the state's Renewables Portfolio Standard (RPS) Program, and requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Climate Change Scoping Plan

AB 32 required preparing a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC Section 38561(h)). CARB developed a Climate Change Scoping Plan that contains strategies to achieve the 2020 emissions cap (CARB, 2008). In 2008, the initial Climate Change Scoping Plan contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. In 2014, the First Update to the Scoping Plan upon the initial Climate Change Scoping Plan with new strategies and recommendations (CARB, 2014b). CARB revised the projected statewide 2020 emissions estimate of 509.4 $MMTCO_2e$ using the GWP values from the IPCC AR4 509.4 $MMTCO_2e$ (CARB, 2014b). Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would be 78.4 $MMTCO_2e$, or a reduction of GHG emissions by approximately 15.4 percent. In 2017, the 2017 Scoping Plan established a 2030 GHG reduction target of 40 percent emissions reductions below 1990 levels (CARB, 2017a).

Senate Bill 97

SB 97 was enacted requiring the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the *CEQA Guidelines* for GHG emissions, which became effective in 2010.

Senate Bill 375

SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. CARB adopted the vehicular GHG emissions reduction targets, in consultation with the metropolitan planning organizations (MPOs), which require a 7 to 8 percent reduction by 2020 and a 13 to 16 percent reduction by 2035, for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Kern Council of Governments (KCOG), will work with local jurisdictions in the development of sustainable community strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. KCOG's reduction target for per capita vehicular emissions is 5 percent by 2020 and 10 percent by 2035 (CARB, 2010).

In 2018, CARB published the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. At that time, Metropolitan Planning Organizations (MPOs) had completed the Sustainable Community Strategies (SCS). CARB reviewed and determined, if implemented, all SCSs but one would achieve the SB 375 targets. CARBs 2018 plan updated targets for reductions and the technical and policy rationale supporting the recommendation, with the goal to ensure that the MPOs continue to innovate, while emphasizing implementation and accountability. In addition to increasing the GHG emissions reduction targets themselves (CARB, 2018).

KCOG adopted the 2018 Regional Transportation Plan (RTP), which includes a Sustainable Community Strategies (SCS) component in accordance with SB 375. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County.

California Green Building Standard Code

The State of California adopted the 2010 CALGreen Code, which became effective in January 2011. Building off of the initial 2008 California Green Building Code, the 2010 CALGreen Code represents a more stringent building code that requires, at a minimum, that new buildings and renovations in California meet certain sustainability and ecological standards. The 2010 CALGreen Code has mandatory Green Building provisions for all new residential buildings that are three stories or fewer (including hotels and motels) and all new non-residential buildings of any size that are not additions to existing buildings.

The California Building Standards Commission adopted the 2013 California Building Standards Code that also included the 2013 CALGreen Code, which became effective on January 1, 2014. The mandatory provisions of the code are anticipated to reduce GHG emissions by 3 $MMTCO_2e$ by 2020, reduce water use by 20 percent or more, and divert 50 percent of construction waste from landfills. Additionally, the California Building Code includes a requirement for a 20 percent reduction in indoor potable water usage.

The 2013 California Energy Code (Title 24, Part 6), which is also part of the CALGreen Code (Title 24, Part 11, Chapter 5.2), became effective on July 1, 2014. The 2016 CALGreen Code became effective on January 1, 2017. The updated code addresses clean air vehicles and requirements for electric vehicle charging infrastructure. The CALGreen Code was most recently updated in 2019 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2020 (CalGreen, 2022).

California Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (California Energy Commission, 2019). In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance, (2) reviewing and approving each investor-owned utility's renewable energy procurement plan, (3) reviewing contracts for RPS-eligible energy, and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Senate Bill 100

SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

Senate Bill 1368

SB 1368 requires the CPUC to establish a baseload generation standard for publicly owned or leased facilities that generate electricity at a GHG Emissions Performance Standard (EPS) of 1,100 pounds of CO_2e per megawatt-hour. SB 1368 also requires the posting of notices of public deliberations by publicly owned companies on the CPUC website and establishes a process to determine compliance with the EPS.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combined the control of smog- and soot- causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB, 2017b). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34 percent in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program

by requiring manufactures to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in 2018 to 2025 model years.

California Air Pollution Control Officers Association White Paper

The California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" (*CEQA and Climate Change*—an authoritative report issued by any organization) on evaluating GHG emissions under CEQA (California Air Pollution Control Officers Association, 2008). The strategies provided in that document are guidelines only and have not been adopted by any regulatory agency. The white paper serves as a resource to assist lead agencies in evaluating GHGs during review of environmental information documents. The methodologies used in this GHG analysis are consistent with the CAPCOA guidelines.

Regional

2022 Regional Transportation Plan/Sustainable Communities Strategy

The KCOG is the regional planning agency for Kern County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. KCOG serves as the federally designated metropolitan planning organization for Kern County. With respect to air quality planning and other regional issues, KCOG has prepared the 2022 Regional Comprehensive Plan for the region (Kern COG, 2022). The 2022 RCP is a long-term (24 year) general plan for the region's transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. The plan assesses environmental impacts of proposed projects.

The Kern COG 2022 RTP includes an SCS component in accordance with SB 375, the Sustainable Communities and Climate Protection Act of 2008. The Kern COG board of directors adopted its first SCS on June 19, 2014, and made a determination that, if implemented, the SCS would achieve the per capita passenger vehicle GHG emissions targets established by the board of directors. It should be noted because the Scoping Plan time horizon is limited to 2020, analysis of the Scoping Plan is presented for the year 2020 only, not for 2035 or 2050. While Executive Order S-3-05 sets a goal that statewide GHG emissions be reduced to 80 percent below 1990 levels by 2050, the Executive Order does not constitute a "plan" for GHG reduction, and no state plan has been adopted to achieve the 2050 goal. Thus, the 2020 target that is used sets a 5 percent per capita reduction and the 2035 target is a 10 percent per capita reduction from the 2005 base year (Kern COG, 2022).

The SCS strives to reduce air emissions from passenger vehicle and light-duty truck travel by better coordinating transportation expenditures with forecasted development patterns and, if feasible, help meet CARB GHG targets for the region. As explained in the Kern COG 2022 RTP EIR, the key purpose of SB 375 and the Kern COG SCS is to reduce per capita emissions originating from passenger vehicles and light-duty trucks. Accordingly, the 2022 RTP:

- Describes sources of emissions in the Kern region, 2020 and 2035 emission reduction targets established by CARB for the San Joaquin Valley, and modeling techniques used to estimate and forecast emissions
- Identifies statewide strategies to reduce transportation-related emissions and their anticipated effect within the Kern region

- Identifies regional strategies that complement the RTP/SCS by reducing emissions in other sectors (e.g., energy consumption)
- Quantifies the effect of policies and programs in the RTP/SCS that reduce transportation-related emissions in the region and
- Compares the emissions reductions anticipated with implementation of the RTP/SCS with the regional targets (Kern COG 2022).

Local

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan (Kern County, 2009) provides goals, policies, and implementation measures applicable to air quality, and as related to the project, that would also reduce project GHG emissions. These goals, policies, and implementation measures are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

Chapter 1: Land Use, Open Space, and Conservation Element

Air Quality

Policy

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

(1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and

(2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

1. Minimizing idling time.
2. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

1. Pave dirt roads within the development.
2. Pave outside storage areas.
3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
4. Use of alternative fuel fleet vehicles or hybrid vehicles.
5. Use of emission control devices on diesel equipment.
6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
7. Provide bicycle lockers and shower facilities on site
8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
9. The use and development of park and ride facilities in outlying areas.
10. Other strategies that may be recommended by the local Air Pollution Control Districts.

Chapter 5: Energy Element

Solar Energy Development

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

In 2009, the Kern County Board of Supervisors approved the proposed list of Energy, Efficiency, and Conservation projects for which the County will request funding under the provisions of the American Recovery and Reinvestment Act of 2009. The Kern County Planning and Natural Resources Department has requested an allocation for the preparation of a Climate Change Action Plan (CCAP) for the County General Plan. California's Climate Change Scoping Plan calls for local governments to reduce GHG emissions through the adoption of local programs as an important strategy to reduce community scale GHG emissions. Project conformance with an adopted CCAP would ensure the goal of AB 32 can be attained with the project.

4.8.4 Impacts and Mitigation Measures

Methodology

This section describes the methods used in conducting the CEQA impact analysis for GHG emission, the threshold of significance used in assessing impacts to GHG emissions, and the assessment of impacts

related to GHG emissions and global climate change, including relevant mitigation measures where applicable. Emissions modeling and impact analysis is based on the Jasmine Solar Project Air Quality and Greenhouse Gas Emissions Study. The analysis uses CARB's on-road vehicle emission factor model (EMFAC2017), CARB's 2017 Off-Road Equipment Inventory Model (OFFROAD2017), and emission factors obtained from the USEPA AP-42 Compilation of Air Pollutant Emissions Factors (2006) to develop CO_2, CH_4, and N_2O emission estimates. These emissions results were used to calculate CO_2e.

While most individual projects do not generate sufficient GHG emissions to directly influence climate change, physical changes caused by a project can contribute incrementally to cumulative effects that are significant. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable (State CEQA Guidelines, Section 15064[h][1]).

The significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, consistency with a regional GHG reduction plan, or consistency with statewide regulations adopted to reduce GHG emissions. A project may not have an impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. §15064[h][3]).

Section 15064.4 of the CEQA Guidelines recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which the project may increase or reduce GHG emissions; whether a project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHG emissions. It should be noted that Section 15064.4 does not establish a threshold of significance and that lead agencies have the discretion to establish significance thresholds for their respective jurisdictions as long as any threshold chosen is supported by substantial evidence (CEQA Guidelines Section 15064.7[c]).

According to CEQA Guidelines Section 15183.5, projects can tier off of a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. However, the County has not developed a qualified GHG reduction plan that can used for project-level evaluation.

The next best approach would be to use a quantitative threshold from the local air district. However, the SJVAPCD has not adopted a numeric threshold to address project-level GHG emissions, and SJVAPCD's BPS approach does not include measures to address the 2030 target established by SB 32. Therefore, for the purpose of this project, if the project is found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted CARB 2017 Scoping Plan it would be presumed to have less than significant impact on GHG emissions.

Decommissioning Emissions

At such time as the project is decommissioned, equipment operation and site restoration activities would result in emissions of GHGs. Given the assumption that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. It should be noted that this does not take into account any future improvement in technology or subsequent reductions in air emissions. Project decommissioning also is projected to occur over 12 months.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on GHGs.

A project would have a significant impact on GHGs if it would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California.

Kern County has not developed a quantified threshold of significance for GHG emissions, but a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB Climate Change Scoping Plan is presumed to have less-than-significant GHG impacts.

As discussed above, the SJVAPCD implemented a tiered approach to determining significance with respect to GHG emissions; however, in light of the *Center for Biological Diversity v. California Department of Fish and Wildlife* decision and SB 32, the quantitative threshold presented in their CCAP is no longer appropriate for determining significance of a project related GHG emissions. A quantitative assessment of GHG emissions, is provided, however, for disclosure and informational purposes.

Pursuant to the CEQA thresholds, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements. Specifically, those plans and policies established in accordance with AB 32 and the State's RPS program as well as other federal, state, and local policies.

Project Impacts

Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction and Decommissioning

The estimated total GHG emissions during project construction would be approximately 1,781 MT CO_2e over the approximate 16-month construction period. Construction emissions would consist of vehicle and equipment exhaust and fugitive dust. Decommissioning was conservatively estimated to use the same type and amount of equipment on a similar schedule and also is anticipated to emit 1,781 MT CO_2e. Estimated construction and decommissioning emissions related to the project were amortized over 35 years, the anticipated project lifetime, which results in approximately 102 MT CO_2e per year. **Table 4.8-1:** *Estimated Construction Emissions of Greenhouse Gasses* shows these values in tabular format, below.

TABLE 4.8-1: ESTIMATED CONSTRUCTION EMISSIONS OF GREENHOUSE GASSES

	Emission Source (MT CO_2e)				
Year	**Off-Road**	**On-Site Mobile**	**Off-Site Mobile**	**Indirect GHG Emissions from water Use**	**Total (MT CO_2e)**
2023	1,604	95	34	7	1,740
2024	26	8	5	2	41
Total Construction	1,603	103	53	9	1,781
Total Decommissioning	1,603	103	53	9	1,781
Construction and Decommissioning	3,260	206	106	18	3,562
Amortized Emissions (35-year life)	93	6	3	1	102

Note: numbers were rounded to meet nearest metric tons.
Emissions by construction year are based on an estimated construction schedule and construction starting in 2023 this is used as a conservative estimate of emissions.

Operational Emissions

Operation and maintenance of the project would generate GHG emissions largely through motor vehicle trips to and from the project site; on-site maintenance activities using portable equipment and maintenance vehicles; energy use associated with water consumption; daily operation of the O&M building; and the testing and maintenance of the emergency diesel generator. **Table 4.8-2:** *Estimated Annual Operational Greenhouse Gas Emissions (MT CO_2e)*. The project is estimated to emit 70 MT CO_2e per year during operation. The total construction and decommissioning GHG emissions, amortized over 35 years, was added to the annual estimated operational emissions to estimate annual GHG emissions generated by the project. As shown in Table 4.6-2 the project would emit a total of 172 MT CO_2e per year, throughout the 35 operational years of the project (assumed 35 years).

Although the project would emit a total of 172 MT CO_2e per year, GHG emissions would be offset because the project would replace fossil-fueled power plants. Compared to a fossil-fueled powerplant generating the same amount of electricity, the project's is anticipated to reduce/displace approximately 33,868 MT CO_2e per year. Thus, the net generation of annual GHG emissions from the project would be (-33,696 MT CO_2e). Other elements of the projects, such as the equipment and materials used at the project substation, would have the potential to release GHG. This would include certain circuit breakers that contain SF_6 gas needed for safety measures, but that which has global warming potential due to its long concentration time in the atmosphere. However, these elements of the project would conform to all CARB Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear regulations, have extremely low leakage rating guaranteed by the manufacturer and per International Electro-technical Commission (IEC) standards, and all such equipment would undergo regular inventory gas-insulated switchgear equipment.

Thus, the project would not exceed any regional GHG thresholds and would be consistent with state GHG reduction plans such as SB 32. Further, the project would result in an overall lifetime reduction of approximately 1,179,360 MT CO_2e. Impacts would be less than significant and mitigation is not required.

TABLE 4.8-2: ESTIMATED ANNUAL OPERATIONAL GREENHOUSE GAS EMISSIONS (MT CO_2E)

	Off-road	**On-Site Mobile**	**Off-site Mobile**	**Indirect GHG Emissions from Water Use**	**O&M Building**	**Emergency Generator**	**Total MT (CO_2e)**
Operation	0	1	30	<1	1	38	70

Amortized Construction and Decommissioning Emissions	93	6	3	1	--	--	102
Annual Total	**93**	**7**	**33**	**1**	**1**	**38**	**172**
Annual Displaced GHG Emissions (MT/year)							**33,868**
Net Annual GHG Emissions (MT/year)							**-33,696**

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation and power line restructuring. These improvements would not generate greenhouse gas emissions, either directly or indirectly, with the potential to significantly affect the environment. Further, as facilities used to transport renewable energy to the grid, the Lakeview Substation would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions.

Mitigation Measures

No Mitigation would be required.

Level of Significance

Impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities.

Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas.

Consistency with GHG Reduction Plans and Policies

The project would be consistent with the renewable energy goals under the 2017 Scoping Plan Update and SB 100. The Solar Facility is consistent with the following specific electricity goals outlined in the 2017 Scoping Plan Update:

- Per SB 350, increase the Renewable Portfolio Standard to 50 percent of retail sales by 2030 and ensure grid reliability.
- Continue to increase use of distributed renewable generation at state facilities where space allows.
- Continue GHG reductions through participation in the California Independent System Operator (CAISO) Energy Imbalance Market.
- Per SB 350, efforts to evaluate, develop, and deploy regionalization of the grid and integration of renewables via regionalization of the CAISO should continue while maintaining the accounting accuracy and rigor of California's GHG policies.

As discussed above, the project would be consistent with and help the state achieve the goals set for in SB 100. SB 100 accelerated the state's RPS Program by increasing California's procurement of electricity from

renewable sources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Helping to achieve these goals, the project would generate approximately 157 GWh of electricity each year or approximately 5,482 GWh over the project's 35-year lifetime. The additional solar energy generated by the project would be added to the power grid and used in place of electricity generated by fossil-fuel sources, and thus would directly support energy goals under SB 100 and the 2017 Scoping Plan Update.

The project would not generate GHG emissions that would exceed local and regional significance thresholds and is consistent with applicable GHG reduction plans. Further, due to being a renewable solar energy facility, the project would reduce the local, regional, and statewide cumulative GHG emissions and offset a portion of the incremental cumulative GHG impacts of other projects. The project also would support Kern County's General Plan Resource Goal to promote solar development to conserve fossil fuels and would be regionally beneficial for air quality.

Replacement of fossil-fuel sources with renewable solar energy also would displace GHG emissions, ultimately off-setting any GHG emissions produced by construction, decommissioning, and operation of the project. Additionally, the project would be consistent with the County's General Plan Resource goals to encourage solar development to conserve fossil fuels and improve air quality. Therefore, the project would be consistent with state and regional plans to reduce GHG emissions and impact would be less than significant.

CARB Climate Change Scoping Plan

The project would comply with the strategies recommended by the State of California, the USEPA, and the Climate Change Scoping Plan, as shown in **Table 4.8-3:** *California Greenhouse Gas Emission Reduction Strategies*, below. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the 100 percent RPS by 2045 as well as the other measures listed in **Table 4.8-4:** *Applicable Scoping Plan Strategies for Project*. These measures would primarily be those actions related to energy efficiency. A discussion of the consistency of the project with these measures is provided below. The project and other similar projects are essential to achieving the RPS. Further, as discussed previously, the project is reasonably expected to displace region-wide and Statewide emissions of GHGs over the expected life of the project.

TABLE 4.8-3: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/Mitigation to Comply with Strategy
Vehicle Climate Change Standards: AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004.	These are CARB enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.
Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.	
Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Project would be subject to State law.

Strategy	Project Design/Mitigation to Comply with Strategy
Hydrofluorocarbon Reduction: (1) Ban retail sale of HFC in small cans; (2) Require that only low global warming potential refrigerants be used in new vehicular systems; (3) Adopt specifications for new commercial refrigeration; (4) Add refrigerant leak tightness to the pass criteria for vehicular Inspection and Maintenance programs; (5) Enforce federal ban on releasing HFCs.	This measure applies to consumer products. When CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures.
Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	Not applicable
Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.	Not applicable
Alternative Fuels – Biodiesel Blends: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel.	Not applicable
Alternative Fuels – Ethanol: Increased use of ethanol fuel.	Not applicable
Achieve 50 percent Statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a Statewide basis. Therefore, a two percent additional reduction is needed.	The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended.
Zero Waste – High Recycling: Additional recycling beyond the State's 50 percent recycling goal.	The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended.
Landfill Methane Capture: Install direct gas use or electricity projects at landfills to capture and use emitted methane.	Not applicable
Urban Forestry: A new Statewide goal of planting five million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	Not applicable
Afforestation/Reforestation Projects: Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	Not applicable
Water Use Efficiency: 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	Not applicable
Building Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	The project would be consistent with State law.

Strategy	Project Design/Mitigation to Comply with Strategy
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	The project would be consistent with State law.
Cement Manufacturing: Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not applicable
Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	Not applicable
Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Not applicable
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2005), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. Consistent with Mitigation.	Not applicable
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 megawatts (MW) by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	The project would result in an electric power generating capacity of approximately 70 MW. Therefore, the project would help support and not conflict with this strategy.

TABLE 4.8-4: APPLICABLE SCOPING PLAN STRATEGIES FOR PROJECT

ID #	Sector	Strategy Name
E-3	Electricity and Natural Gas	Renewables Portfolio Standard
E-4	Electricity and Natural Gas	Million Solar Roofs
W-1	Water	Water Use Efficiency
CR-1	Electricity and Natural Gas	Energy Efficiency
H-6	High GWP Gases	SF_6 Leak Reduction Gas Insulated Switchgear

SOURCE: CARB, 2014c.

Action E-3 relates to renewable energy and the RPS, which is intended to increase California's renewable energy production to 20 percent by 2010, to 33 percent by 2020 and up to 100 percent by 2045, pursuant to SB 100. The CPUC estimates that the utilities are well-positioned to meet the 33 percent requirement by

2020 (California Energy Commission, 2019). Utilities would also be required to meet the updated RPS goals of 60 percent by 2030, and 100 percent by 2045, pursuant to SB 100. A key prerequisite to reaching a target of 100 percent RPS would be to provide sufficient electric transmission lines to renewable resource zones and system changes to allow integration of large quantities of intermittent wind and solar generation. The project proposes a solar array with an electric power generating capacity of approximately 70 MW and 17 MW of storage capacity. Therefore, the project would be consistent with Action E-3.

Action E-4 aims to install 3,000 MW of solar energy capacity under the Million Solar Roofs Program. This measure would offset electricity from the grid, thereby reducing GHG emissions. By requiring greater energy efficiency for projects that seek solar incentives, the State would be able to reduce both electricity and natural gas needs and their associated GHG emissions. The project would result in an electric power generating capacity of approximately 70 MW. Therefore, the project would not conflict with Action E-4.

Action W-1 relates to water use efficiency. The State is currently implementing targeted water use efficiency programs as part of an integrated water management effort. Consistent with this measure, the project will utilize water panel washing, equipment washing, non-sanitary uses, and other miscellaneous uses, such as landscaping obtained on site from trucks. The water used during operation of the project would be used in an efficient manner to reduce impacts to local water resources. The project would use approximately 27.92 AFY of water per year less than the existing use.

Action CR-1 relates to energy efficiency in commercial and residential buildings. Also, Action CR-1 notes the need for more aggressive utility programs to achieve long-term energy savings. The project would result in the development of PV solar energy generating facilities that would provide renewable energy to California Investor-Owned utilities, which in turn would be used by commercial and residential buildings in the State. Therefore, the project is consistent with and would not obstruct Action CR-1.

Action H-6 relates to sulfur hexafluoride (SF_6) from leakage of gas insulated switchgear use in electricity transmission and distribution systems by setting limits on leakage rates and implement best management practices for the recovery and handling of SF_6. Consistent with this action, the project would comply with any and all applicable regulatory requirements for any SF_6 containing switchgear.

KCOG's 2022 RTP

The 2022 RTP incorporates local land use projections and circulation networks in city and county general plans. The 2022 RTP is not directly applicable to the project because the underlying purpose of the 2022 RTP is to provide direction and guidance by making the best transportation and land use choices for future development. Nevertheless, the project would not conflict with the goals and policies of the 2022 RTP. In addition, the project would not impact local transportation or land use during operation.

Other Federal/State/Local Policies

Table 4.8-5: *Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions*, evaluates project consistency with other applicable federal, State and local policies regarding GHG emissions. As shown in the table below, the project would fall below the annual emission triggers for compliance with federal regulations; therefore, federal regulations would not be applicable to the project. As a renewable energy project, the project would be exempt from State annual GHG reporting requirements and would be considered consistent with California's Emission Performance Standard and RPS requirements (described in Section 4.8.3, *Regulatory Setting*).

TABLE 4.8-5: PROJECT CONSISTENCY WITH AN APPLICABLE PLAN, POLICY, OR REGULATION FOR GHG EMISSIONS

Adopted Plan, Policy, or Regulation	Consistency Determination	Project Consistency
Federal		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.	Not applicable	The project would have direct CO_2e operating emissions that are well below the 25,000 ton/year rule trigger.
40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.	Not applicable	The project would have direct CO_2e operating emissions that are well below the 75,000 ton/year rule trigger.
State		
SB 1368. EPS Standard.	Consistent	The project, as a renewable energy generation facility, is determined by rule to comply with the GHG Emission Performance Standard requirements of SB 1368.
SB 351. 50% RPS Standard.	Indirectly consistent	This regulation is applicable to utilities, not generating facilities, but the energy from this project would help enable the utility buying the project's generation to comply with this legislation.
SB 100. 60% Standard by 2030 and 100% by 2045	Indirectly consistent	This regulation is applicable to utilities, not generating facilities, but the energy from this project would help enable the utility buying the project's generation to comply with this legislation.
AB 32. Annual GHG Emissions Reporting	Not applicable	The project, as a solar energy generation project, is exempt from the mandatory GHG emission reporting requirements for electricity generating facilities as currently required by the CARB for compliance with the California Global Warming Solutions Act of 2006 (AB 32 Núñez, Statutes of 2006, Chapter 488, Health and Safety Code Sections 38500 et seq.).
Local		
Kern County General Plan – Air Quality Element Policies Goals and Implementation Measures	Consistent	Air Quality Mitigation Measures would ensure that the project is consistent with the Kern County General Plan Air Quality Element Policies, Goals, and Implementation Measures that will indirectly reduce GHG emissions by reducing fossil fuel combustion.

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020 as required by AB 32 and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB Climate Change Scoping Plan as well as applicable federal, State, and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the 2030 and 2045 RPS, including the targets established under SB 100. Therefore, this impact would be less than significant.

Consideration of Mitigation Measures

The Office of the California Attorney General maintains a website with a list of CEQA mitigation measures for global climate change impacts. The Attorney General has listed some examples of types of mitigation measures that local agencies may consider to offset or reduce global climate change impacts from a project. The Attorney General assures that the presented lists are examples and not intended to be exhaustive, but instead provide measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General suggests that the lead agency should use its own informed judgment in deciding which measures it would analyze, and which measures it would require, for a given project.

The Attorney General suggests measures that could be undertaken or funded by a diverse range of projects, related to energy efficiency; renewable energy; water conservation and efficiency; solid waste measures; land use measures; transportation and motor vehicles; and carbon offsets. However, most of the suggested measures from the Attorney General's office would not be applicable to the project, since they are more appropriate and applicable measures to reduce long-term operational GHG emissions, and the majority of emission sources from the project are short-term in nature. Long-term operational emissions would be minimal and more than offset by the renewable energy production.

The impacts of GHG emissions on climate change are indirect, climate change is a worldwide phenomenon, and project-level emissions cannot be correlated with specific impacts based on currently available science. However, based on the analysis above, the project would be consistent with California's strategies to reduce greenhouse gas emissions to the levels required by AB 32, as well as state GHG emission reductions post-2020. As a renewable energy project, the project would contribute to achieving the mandated emission reduction targets established by AB 32. Additionally, the project would comply with any applicable forthcoming regulations or requirements adopted under AB 32 or imposed by the State or federal government. Therefore, considering the project's minimal annual emissions and anticipated reduction in overall GHG emissions, the project is not expected to significantly contribute to global warming or climate change.

Furthermore, as the project would have an electric power generating capacity of approximately 70 MW, the project would be consistent with the Attorney General's recommended measures to reduce GHG emissions. Specifically, the project complies with the Attorney General's Recommended Measure to "Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning." Therefore, the project would be compliant with the Attorney General's Recommended Measure regarding renewable energy. Because the project is below regional regulatory thresholds and would result in a reduction of GHG emissions, no mitigation measures would be required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation and power line restructuring. These improvements would not generate greenhouse gas emissions, either directly or indirectly, with the potential to significantly affect the environment. Further, as facilities used to transport renewable energy to the grid, the Lakeview Substation would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

Emissions of GHGs and their contribution to global climate change are considered a cumulative impact by definition. Therefore, the geographic extent of the project's cumulative area of impact would be worldwide.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather is it he increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The State has mandated a goal of reducing Statewide emission to 1990 level by 2020 and reducing Statewide emissions to 40% below 1990 levels by 2030, even though Statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce Statewide GHG emissions. Currently, there are no applicable CARD, SJVAPCD, or Kern County Significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative levels. However, as discussed above, while Kern County has not developed a quantified threshold of significance for GHG emissions, a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB Climate Change Scoping Plan is presumed to have a less than significant GHG impact.

Quantitative significance thresholds for this impact area have not been adopted by the State of California. In addition, Kern County has not adopted quantitative thresholds for determining significance of GHG emissions at the time of this writing.

Total GHG construction emissions of 3,662 MT CO_2e for the first years construction for the project are quantified and shown in Table 4.8-3, above. When this amortized over the 35 year project horizon it equates to approximately 70 MT CO_2e per year. The main contribution of GHG emissions from the project would be from construction equipment usage during the construction and decommissioning phases and motor vehicle trips by employees and maintenance vehicles during project operations. Transportation sources account for 40% of California's total GHG emissions. The project's emission would, therefore, contribute to the increase in emissions in the transportation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative GHG emissions in California, operation of the project would offset emissions from the electricity generation sector. Overall, the project clearly would not contribute to cumulative GHG emissions in California because operation of the project would provide electric power with negligible operational GHG emissions over the long term when compared to traditional fossil-fueled generation technologies. More specifically, the project would result in an overall lifetime reduction of approximately 1,179,360 MT CO_2e and would therefore be regionally beneficial. Thus, the project would not have a cumulatively considerable impact on global climate change, and cumulative impacts would therefore be less than significant.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may be to adopt ordinances or regulations rather than impose conditions on a project-by-project basis. Global climate change is this type of issue. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). Causes and effects are not just regional or Statewide, they are worldwide. Because the project's construction and operational GHG emissions would be offset by renewable power generation and no mitigation is proposed, any other feasible reductions would be accomplished through CARB regulations adopted pursuant to AB 32 and SB 32. Cumulative impacts of the project on global climate change would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation and power line restructuring. These improvements would not generate greenhouse gas emissions, either directly or indirectly, with the potential to significantly affect the environment. Further, as facilities used to transport renewable energy to the grid, the Lakeview Substation would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant. Cumulative impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities.

Section 4.9
Hazards and Hazardous Materials

4.9.1 Introduction

This section of EIR describes the affected environment and regulatory setting for hazards and hazardous materials in the study area. It also describes the project's potential impacts on residences and other sensitive receptors that could be exposed to these hazards (other than geologic hazards; see Section 4.7, *Geology and Soils*, of this EIR for discussion on geologic hazards) and presents mitigation measures where applicable. Information in this section is based primarily on the *Phase I Environmental Site Assessment* and the *Phase II Environmental Site Assessment*, prepared by Rincon Consultants, Inc. (May and April 2022, respectively), located in Appendix J-1 and J-2, respectively of this EIR, and publicly available databases including the Department of Toxic Substances Control's (DTSC) Envirostor and State Water Resources Control Board's Geotracker.

4.9.2 Environmental Setting

Hazardous Materials and Waste

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under Title 22 of the California Code of Regulations (CCR), the term "hazardous substance" refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity; (2) ignitability; (3) corrosiveness; and (4) reactivity (22 CCR 11, Article 3).

A hazardous material is defined as a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (22 CCR 66260.10).

Various forms of hazardous materials can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Hazards to human health and the environment can occur during production, storage, transportation, use, or disposal of hazardous materials. The Phase I Environmental Site Assessment conducted for the project site was used to determine potential risks of encountering legacy contaminants at the site.

Photovoltaic Solar Module Technologies

Photovoltaic (PV) solar panels (known within the industry as "modules") that would be installed on the project site would consist of either crystalline silicon or cadmium telluride (CdTe) thin film technology. Crystalline silicon and thin film CdTe solar modules that would be installed on the project site may include small amounts of semiconductor or electrically conducting materials encapsulated within the modules that are considered to be hazardous such as lead or cadmium compounds. Because such materials are in a solid

and non-leachable state, broken crystalline silicon and thin film CdTe solar modules would not be a source of pollution to surface water, stormwater, or groundwater. Crystalline silicon and thin film CdTe modules removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility. In addition, the energy storage systems would include industry-standard battery systems which contain chemical contents that are considered hazardous, such as lithium-ion batteries as well as lead acid, sodium sulfur, and sodium or nickel hydride batteries.

Should thin film CdTe solar modules (CdTe PV) be installed on the project site, they would consist of a thin semiconductor layer that is in the environmentally stable form of a compound rather than the leachable form of a metal. The CdTe compound is encapsulated in the PV module with the PV module containing less than 0.1 percent Cd content by weight. Due to optimal optical properties, only a three-micron thin layer of CdTe is used to absorb incident sunlight, with Cd content per 8 square feet of PV module less than that of one C–size flashlight nickel-cadmium (NiCd) battery.

CdTe PV is a mature technology with two decades of field deployment. It has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. During the PV module manufacturing process, CdTe is bound under high temperature to a sheet of glass by vapor transport deposition, coated with an industrial laminate material, insulated with solar edge tape, and covered with a second sheet of glass. The module design results in the encapsulation of the semiconductor material between two sheets of glass thereby preventing the exposure of CdTe to the environment. Experimental leaching studies, theoretical worst-case modeling and field examinations concluded that CdTe PV modules pose little to no risk under foreseeable accidents such as fire, breakage, and extreme weather events like tornadoes and hurricanes (Virginia Tech University, 2019 and Fthenakis et al., 2020).

Several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV modules. These studies have consistently concluded that during normal operations, end-of-life disposal and in the event of exceptional accidents such as fire or breakage, CdTe PV modules do not present an environmental risk. CdTe releases are unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. The PV module manufacturer provides global CdTe module recycling services. End-of-life CdTe PV modules are currently characterized as federal non-hazardous waste, and as a California-only hazardous waste. Solar equipment and infrastructure would be recycled as practical or disposed of in compliance with applicable laws. CdTe PV modules are an article of commerce and are not classified as a hazardous material for shipping purposes under either federal or State law.

Human health risk assessments looking at the environmental, health, and safety aspects of both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, concluding that CdTe PV modules do not present a health risk in the event of exceptional accidents such as fire or breakage, with regards to their use of lead and cadmium compounds, respectively (P. Sinha et al. 2018 and P. Sinha et al. 2019).

Phase I Environmental Site Assessment

Existing Setting

The project site is currently in use for agricultural purposes and as Grapevine Energy LLC "Bordeaux" facility associated with the onsite oil and gas well (Well ID 1-31 API 0403063655) located in the southern portion of the site. The project site is located in an area that is primarily composed of agricultural, residential, and commercial land uses. Properties in the vicinity of the project site include agricultural land, commercial businesses, residences, and vacant land. During the Phase I ESA site reconnaissance, the Grapevine Energy Bordeaux Facility and the onsite oil and gas well, two aboveground storage tanks (ASTs) containing corrosion inhibitor (assumed for use for water treatment), one diesel AST associated with the Grapevine Energy Bordeaux Facility, two agricultural ponds, and water pumps with associated fuel tanks (two diesel ASTs) were observed on the site. One of the ASTs associated with the water pump was observed to be leaking; however, the leak appeared to be minor. There were no indications of releases from the other tanks on the site observed during the Phase I ESA site reconnaissance. A chain-link fence was noted around the perimeter of the site.

Historical Property Use

Historical sources reviewed as part of the Phase I ESA include aerial photographs and topographic maps. The photos and maps reviewed indicate the project site was in use for agricultural purposes from as early as 1946 through present day.

Databases Searched

A regulatory database search was conducted by Environmental Data Resources (EDR) for sites that generate, store, treat, or dispose of hazardous materials or sites for which a release or incident has occurred. The search was conducted for the project site and included data from surrounding sites within a specified radius of the property. The project site was listed on the National Pollutant Discharge Elimination System (NPDES), CalEPA Regulated Site (CERS), Facility Index System (FINDS), Certified Unified Program Agency (CUPA) Listings, Hazardous Waste Tracking System (HWTS), HAZNET (Facility and Manifest Data), and Waste Management Unit Database System (WMUDS/SWAT) databases. These listings are not indicative of a release. Three adjacent properties were listed in non-release databases searched by EDR. These properties are not expected to impact the site.

According to a review of the Department of Toxic Substances Control (DTSC) Envirostor database, there are no hazardous release sites located within a mile of the project site (DTSC, 2022). Similarly, the State Water Resource Control Board's (SWRCB) GeoTracker database also showed no release sites nor reported leaking underground storage tanks (LUSTs) located within a mile of the project site.

De Minimis Conditions

A *de minimis* condition is defined pursuant to ASTM E1527-13 as, "a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* conditions are not recognized environmental conditions nor controlled recognized

environmental conditions". The following *de minimis* conditions (DMCs) were identified in the Phase I ESA for the project site:

- According to the EDR report, the site was listed on a database indicating that the facility is classified as general automotive repair. However, the historical resources reviewed do not indicate the site use as general automotive repair. Therefore, the site listing as an automotive repair facility is considered a DMC.
- According to the historical resources reviewed, the site and adjacent properties appear to have been used for agricultural purposes as early as 1946 through present day. Agriculture is typically associated with the use of pesticides, herbicides, insecticides, and arsenic. The legal and common application of such chemicals typically associated with historical agricultural uses may result in those compounds being present in soil and/or groundwater. Information regarding the possible historical use of herbicides and pesticides on the site was not available during the Phase I ESA. Therefore, if such chemicals were used and applied to land consistent with their intended use, this application is not considered a release and any residual environmental impact is exempt from Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability if the property remains used for agricultural or non-residential purposes. It is Rincon's understanding that the site will be redeveloped as a solar facility and no soil will be transported offsite. As such, the historical use of the site for agricultural purposes (row crops) is not a REC associated with the site and is therefore considered a DMC.
- According to resources reviewed, a new oil and gas well (Well ID 1-31 API 0403063655) operated by Grapevine Energy, LLC is located on the southern portion of the site. The oil and gas well was observed in the Grapevine Energy Bordeaux Facility in the southern portion of the site during the site reconnaissance. No releases have been reported regarding the oil and gas well and therefore, the onsite oil and gas well is considered a DMC.
- During the Phase I ESA site reconnaissance, three diesel fuel ASTs and two corrosion inhibitor ASTs were observed on the site. No indications of release were noted from the diesel or corrosion inhibitor tanks. One of the diesel ASTs associated with the water pump was observed to have a minor leak. However, based on the conditions of the tanks and minor nature of the release from one of the ASTs, the onsite ASTs are considered a DMC.
- According to the EDR report, the northern and eastern adjacent property at 13650 Copus Road is associated with an AST. No other information was available in the EDR report. A records request regarding the AST was requested from Kern County were requested on November 25, 2020. No releases regarding the AST have been reported. Based on the review of the aerial photographs, the AST appears to be greater than 200 feet from the property boundary. Based on the distance to the site and lack of identified releases, the AST on the northern and eastern adjacent property is considered a DMC.

Recognized Environmental Conditions

The following recognized environmental conditions (REC) were identified in the Phase I ESA for the project site:

- During the Phase I ESA site reconnaissance, two agricultural ponds were observed on the site. Agricultural ponds are typically associated with pesticides, arsenic, and selenium. Based on email correspondence from Christine Lan, Project Manager for Idemitsu Renewables, dated May 3, 2022, Ms. Lan indicated that the planned development of the site will avoid agricultural pond #1 but will fill and construct above agricultural pond #2 to expand the existing PG&E Lakeview Substation. There is potential for exposure of construction workers to the agricultural ponds, therefore, the onsite agricultural ponds are considered a REC. The Phase I ESA recommends soil sampling be conducted to assess the potential risk to construction workers from the onsite agricultural ponds.

Phase II Environmental Site Assessment

Rincon conducted a Phase II ESA for the site as a result of the recommendation in the Phase I ESA. The report indicated that all organochlorine pesticides (OCPs) and selenium were below their respective residential and construction worker environmental screening levels (ESLs), no additional assessment is recommended pertaining to those constituents. The arsenic concentrations in two soil samples collected from agricultural pond #1 slightly exceeded the typical background concentration range for arsenic in California soil; however, it is possible that arsenic detections are a result of geologic conditions at the site and are not representative of anthropogenic impacts. Furthermore, agricultural pond #1 will be avoided during construction activities and will not be disturbed. Therefore, no additional assessment pertaining to arsenic is recommended at agricultural pond #1. Additionally, because arsenic concentrations were below the DTSC upper bound arsenic concentration, and selenium and OCPs were not detected above their respective applicable screening levels in the soil samples collected from agricultural pond #2, no further assessment is recommended for agricultural pond #2.

Increase in Ambient Temperatures

All exposed surfaces (e.g., houses, cars, rocks) absorb heat produced by the sun. A “heat island” effect is generated when cities cover miles of land with structures (e.g., concrete buildings and asphalt roads), which absorb and store significantly more heat during the day than undeveloped earth. Additionally, these cities are filled with energy-consuming devices (e.g., engines, appliances, and heating, air-conditioning, and ventilation [HVAC] systems) that generate waste heat.

Solar arrays consist of solar panels mounted on aluminum and steel support structures. The support structures have little or no exposure to sunlight. The project site would not be covered entirely with solar panels. The amount of the sun’s heat absorbed by a solar panel is similar to the amount of the sun’s heat absorbed by open land. However, solar panels store less heat than the earth because they consist of a thin, lightweight glass that is surrounded by airflow. Therefore, heat dissipates quickly from a solar panel compared with solid earth, which dissipates heat slowly. The project would have energy-consuming devices (e.g., inverters). Therefore, the project would generate marginal amounts of waste heat on the project site. However, there is nothing in the record to date that would indicate that the project would significantly increase ambient air temperatures outside the project site.

Hazardous Materials Transportation

There are no major highways that run in the vicinity of the project site. The nearest highway is SR-166, located approximately 2 miles south of the project. The transportation of hazardous materials within the

State of California is subject to various federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway that is not designated for that purpose, unless the use of a highway is required to permit delivery or the loading of such materials (California Vehicle Code, Sections 31602 (b) and 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Information on CHP requirements and regulatory authority is provided in Section 4.9.3, *Regulatory Setting*, below. According to Section 2.5.4 of the Kern County General Plan Circulation Element, I-5 (approximately 4 miles east), and SR-166 (approximately 2 miles south) are designated as adopted commercial hazardous materials shipping routes.

Schools

The closest school to the project site is the Lakeside Elementary, located approximately 8 miles north of the project site.

Airports

The nearest public airport is the Bakersfield Municipal Airport, located approximately 17 miles to the northeast. The project is not located within an Airport Influence Area, per the Kern County Airport Land Use Compatibility Plan.

Fire Hazard Areas

The California Department of Forestry and Fire Prevention requires counties within the State to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, State, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services. The project site is sparsely vegetated and not within an area identified by the California Department of Forestry and Fire Protection as having high or very high fire risk, as determined by the Kern County General Plan and CAL FIRE. Impacts related to wildfire hazards are further discussed in Section 4.18, *Wildfire*, of this EIR.

4.9.3 Regulatory Setting

Federal

Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) grants authority to the U.S. Environmental Protection Agency (USEPA) 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. RCRA allows individual states to develop their own programs for the regulation of hazardous waste as long as they are at least as stringent as the RCRA. The State has developed the California Hazardous Waste Control Law (Health and Safety Code [HSC] sec. 25100 et. Seq. And 22 California Code of Regulations [CCR] sec. 66260.1 et seq.) and the USEPA has

delegated authority for RCRA enforcement to the State. Primary authority for the Statewide administration and enforcement of HWCL rests with California Environmental Protection Agency's (CalEPA) Department of Toxic Substances Control (DTSC).

RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The 1986 amendments to the RCRA enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act of 1970, which is implemented by the federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. OSHA requirements, as set forth in 29 Code of Federal Regulations (CFR) Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker's right–to-know. The U.S. Department of Labor has delegated the authority to administer OSHA regulations to the State of California. The California OSHA program (Cal/OSHA) (codified in the CCR, Title 8, or 8 CCR generally and in the Labor Code secs. 6300-6719) is administered and enforced by the Division of Occupational Safety and Health (DOSH). Cal/OSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program (IIPP) for potential workplace hazards, including those associated with hazardous materials.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (U.S. Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, CFR, Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and the National Priorities List

The USEPA also maintains the Comprehensive Environmental Response Compensation (CERCLIS) and Liability Information System list. This list contains sites that are either proposed to be or on the National Priorities List (NPL), as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The NPL is a list of the worst hazardous waste sites that have been identified by Superfund. There are no NPL sites on the project site.

Emergency Planning and Community Right-to-Know Act

The federal Emergency Planning and Community Right-To-Know Act (EPCRA) was enacted to inform communities and residents of chemical hazards in their area. Businesses are required to report the locations and quantities of chemicals stored on-site to both State and local agencies. EPCRA requires the USEPA to maintain and publish a digital database list of toxic chemical releases and other waste management activities reported by certain industry groups and federal facilities. This database, known as the Toxic Release Inventory, gives the community more power to hold companies accountable for their chemical management.

Hazardous Materials Transportation Act

The U.S. Department of Transportation (DOT) receives authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act, as amended and codified (49 USC 5101 et seq.). The DOT is the primary regulatory authority for the interstate transport of hazardous materials and establishes regulations for safe handling procedures (i.e., packaging, marking, labeling and routing).

In California, Section 31303 of the California Vehicle Code states that any hazardous material being moved from one location to another must use the route with the least travel time. This, in practice, means major roads and highways, although secondary roads are permitted to be used for local delivery. These policies are enforced by both the California Highway Patrol and the California Department of Transportation (Caltrans).

Clean Water Act/Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (CWA) (33 USC Section 1251 et seq.) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The project is within the jurisdiction of the Central Valley RWQCB (RWQCB).

Section 402 of the CWA authorizes the California State Water Resources Control Board (SWRCB) to issue NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the "General Construction Permit."

Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off-site into receiving waters
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation; and

- Perform inspections of all BMPs.

NPDES regulations are administered by the RWQCB. Projects that disturb one or more acres are required to obtain NPDES coverage under the Construction General Permits.

Other Regulations

Other federal regulations overseen by the EPA relevant to hazardous materials and environmental contamination include 40 CFR Parts 100 to 149 -- Water Programs, 40 CFR Parts 239 to 259 -- Solid Wastes, and 40 CFR Parts 260 to 279 -- Hazardous Waste. These regulations designate hazardous substances under applicable federal statutes; determine the reportable quantity for each substance that is designated as hazardous; and establish quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

State

California Building Code, Section 608

Section 608 of the California Building Code includes requirements for battery energy storage systems greater than 20 kWh, which includes the proposed energy storage facilities. Section 608 includes requirements for vehicle impact protection, location, spacing between batteries, egress, security, and fire suppression systems.

California Public Utilities Commission General Order 95: Rules for Overhead Electric Line Construction

General Order 95 (GO 95) is the key standard governing the design, construction, operation, and maintenance of overhead electric lines within the State of California. It was adopted in 1941 and updated most recently in 2012. GO 95 includes safety standards for overhead electric lines, including minimum distances for conductor spacing, minimum conductor ground clearance, and standards for calculating maximum sag, electric line inspection requirements, and vegetation clearance requirements. The latter, governed by Rule 35, and inspection requirements, governed by Rule 31.2, are summarized below:

- Rule 35, *Tree Trimming*, defines minimum vegetation clearances around power lines. Rule 35 guidelines require 10-foot radial clearances for any conductor of a line operating at 110,000 Volts or more, but at less than 300,000 Volts. This requirement would apply to the proposed 70-kV lines.
- Rule 31.2, *Inspection of Lines*, requires that lines be inspected frequently and thoroughly for the purpose of ensuring that they are in good condition, and that lines temporarily out of service be inspected and maintained in such condition so as not to create a hazard.

Power Line Hazard Reduction (PRC 4292)

Public Resources Code (PRC) 4292 requires a 10-foot clearance around any tree branches or ground vegetation at the base of power poles carrying more than 110 kV. The firebreak clearances required by PRC 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a

switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of PRC 4296. Project structures would be exempt primarily because of their design specifications.

Power Line Clearance Required (PRC 4293)

PRC 4293 provides guidelines for line clearance, including a minimum of 10 feet of vegetation clearance around any conductor operating at 110 kV or higher.

Minimum Clearance Provisions (14 CCR 1254)

With respect to minimum clearance requirements, 14 CCR 1254 presents guidelines pertaining to non-exempt utility poles. The project structures would be exempt from the clearance requirements, with the exception of cable poles and dead-end structures.

The firebreak clearances required by 14 CCR 1254 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from the minimum clearance requirements by the provisions of 14 CCR 1255 or PRC 4296. The radius of the cylindroid is 10 feet, which is measured horizontally from the outer circumference of the specified pole or tower, with the height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space would be treated as follows:

- At ground level: Remove flammable materials, including ground litter, duff, and dead or desiccated vegetation that would propagate fire.
- From 0 to 8 feet above ground level: Remove flammable trash, debris, or other materials, grass, and herbaceous and brush vegetation. Remove all limbs and foliage of living trees up to a height of eight feet.
- From 8 feet to the horizontal plane of highest point of the conductor attachment: Remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

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 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 California Department of Toxic Substances and Control (DTSC).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are as follows:

- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (i.e., Tiered Permitting);
- Aboveground Petroleum Storage Tank Program;
- Hazardous Materials Release Response Plans and Inventory Program (i.e., Hazardous Materials Disclosure or “Community-Right-To-Know”);
- California Accidental Release Prevention Program (Cal ARP);
- Underground Storage Tank (UST) Program; and
- Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses in complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another

local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA. The CUPA in Kern County is the Environmental Health Services Division of the Kern County Public Health Services Department.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) was created in 1991 and unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), State Water Resource Control Board (SWRCB), Regional Water Quality Control Board (RWQCB), CalRecycle, DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances and Control

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the Federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

USC 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks or a discharge of hazardous wastes or materials into the water or groundwater and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

California Office of Emergency Services

In order to protect public health and safety, and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans in order to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1—Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2—Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 CCR, Public Safety, Division 2, Office of Emergency Services, Chapter 4 - Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for hazardous materials business plans. These plans must include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7, (2)

emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business will prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;
- A hazardous compressed gas in any amount; or
- Hazardous waste in any quantity.

California Occupational Safety and Health Administration

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.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the California Highway Patrol (CHP), is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by State regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (14 CCR 6 [1] [1150–1152.10]). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 [2.5] [1157–1157.8]). Transportation of radioactive materials is restricted to specific safe routes.

Local

Construction and operation of the solar facility would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies pertaining to the avoidance of

hazards and adverse effects related to hazardous materials. The policies, goals, and implementation measures in the Kern County General Plan related to hazards and hazardous materials that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

Chapter 1. Land Use, Open Space and Conservation Element

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries and property damage, and minimize economic and social diseconomies resulting from natural disaster by directing development to areas that are not hazardous.

Policy

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes 2.6–2.9 and Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in an unmitigated significant impact.

Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

1.4. Public Facilities and Services

Policy

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Chapter 2. Circulation Element

2.5.4 Transportation of Hazardous Materials

Transportation-related accidents and spills of hazardous materials pose a serious threat to the traveling public and nearby sensitive land uses. Transportation of hazardous materials poses a short-term threat to public health.

Goal

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policies

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Implementation Measure

Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 4. Safety Element

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measure

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.9 Hazardous Materials

Implementation Measure

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

Chapter 5. Energy Element

5.4.5 Solar Energy Development

Policy

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Kern County Multi-Hazard Mitigation Plan

The Kern County Multi-Hazard Mitigation Plan was last updated in 2020. The Plan was developed by a Hazard Mitigation Planning Committee and identifies goals, objectives and actions pertaining to mitigating impacts from identified natural hazards. The public at large had an opportunity to comment prior to the completion of the Plan's final draft. FEMA realizes the importance of mitigation planning and offers incentives to communities that develop one. By following FEMA guidelines for approval of this plan, Kern County can be eligible for grant funding intended for mitigation projects.

Kern County Wildland Fire Management Plan

The Kern County Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the State Responsibility Areas within the County. The Kern County Fire Department Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2019 California Fire Code and the 2018 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees.

Kern County Fire Department Unit Strategic Fire Plan

The Kern County Fire Department (KCFD) 2020 Unit Strategic Fire Plan is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley.

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2021).

Kern County Public Health Services Department/Environmental Health Services Division

The County of Kern Environmental Health Services Division of the Public Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (above ground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the California Fire Code). This Department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, State Assembly Bill 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated city before September 1988 and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan was updated and incorporated by reference into the Kern County General Plan in 2004 as permitted by Health and Safety Code Section 25135.7(b) and, thus, must be consistent with all other aspects of the Kern County General Plan.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste generation in the incorporated Cities, County, and State and federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to affect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote onsite source reduction, treatment, and recycling; and to provide for the collection and treatment of hazardous waste from small-quantity

generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with federal and State hazardous waste regulations.

4.9.4 Impacts and Mitigation Measures

Methodology

The methodology for determining impacts relating to hazardous materials focuses on (1) the potentially significant impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment; and (2) proposed project components that could result in environmental contamination.

The methodology for determining impacts relating to wildland fires focuses on the fire severity at the project site and the surrounding areas based on existing state and local maps and land characteristics.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect related to hazards and hazardous materials.

A project would have a significant impact related to hazards and hazardous materials if it would:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school;

d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area;

f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires;

h. Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste?

   Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and

ii. Are associated with design, layout, and management of project operations; and

iii. Disseminate widely from the property; and

iv. Cause detrimental effects on the public health or wellbeing of the majority of the surrounding population.

The lead agency determined in the NOP/IS (see Appendix A) that the following environmental issues areas resulted in no impact and were scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following impacts:

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school;

As previously mentioned, the closest school to the project site is the Lakeside Elementary, located approximately 8 miles north of the project site. Therefore, the project site is not located within one quarter mile of a school. Additionally, the proposed project is not anticipated emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste. Therefore, there would no impact.

e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area;

The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP) (County of Kern, 2012). The nearest public airport is the Bakersfield Municipal Airport, located approximately 17 miles to the northeast. The project site is not located within any safety or noise zones for the Bakersfield Municipal Airport. Due to the nature of the proposed land use, impacts from air traffic hazards or excessive aircraft noise are not anticipated to occur for people residing or working in the project area with respect to the project's proximity to an airport. Therefore, there would be no impact.

Project Impacts

Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction

The project would develop and construction a photovoltaic solar facility and associated infrastructure. Project construction activities would involve the use and transportation of hazardous materials such as fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides. Construction equipment generally contains limited amounts of hazardous materials such as diesel fuel, hydraulic oil, lubricants, grease, solvents,

cleaners, adhesives, paints, and other petroleum-based products. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. Project construction activities would occur in accordance with all applicable local standards set forth by the County, as well as State and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as Cal/OSHA requirements, the Hazardous Waste Control Act, the California Accidental Release Protection Program, and the California HSC. For hazardous materials used during construction, contractors, in accordance with State regulations, would be required to properly use and store materials in appropriate containers with secondary containment to contain a potential release. The CFC would also require measures for the safe storage and handling of hazardous materials.

Construction contractors would be required to prepare a SWPPP for construction activities in compliance with the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols for responding immediately to spills; and describe BMPs for controlling site runoff. See Section 4.9, *Hydrology and Water Quality*, of this Draft EIR for more details. In addition, the transportation of hazardous materials from demolition and construction activities are regulated by the DOT and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release.

Finally, in the event of a substantial accidental spill or release of a hazardous material at the project site that requires agency notification, a coordinated response with federal, State, and local levels would occur. Construction staff are directed in how to handle such a situation, including containment and who to contact if such a situation occurs. Mitigation Measure MM 4.9-1, which requires the preparation of a Hazardous Materials Business Plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.

As discussed in Subsection 4.9.2, *Environmental Setting*, the project site was historically and currently used for agricultural purposes. Therefore, there is a potential that agricultural-related chemicals, such as pesticides, herbicides, and fertilizers, may have been used and stored on-site. There is also an onsite oil and gas well located in the southern portion of the site, referred to as the Grapevine Energy LLC "Bordeaux" facility. Oil field operations may have contributed to contamination on the site. The Phase I ESA concluded that if pesticides, herbicides, and fertilizers were used and applied to land consistent with their intended use, this application is not considered a release and any residual environmental impact is exempt from Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability, if the property remains used for agricultural or non-residential purposes. The Phase I ESA also concluded that there were no releases reported regarding the oil and gas well and therefore, the onsite oil and gas well has a low potential to impact the site's development as a solar facility. However, the Phase I ESA recommended soil sampling be conducted to assess the potential risk to construction workers from the onsite agricultural ponds. A Phase II ESA was conducted in April 2022 and concluded that all OCPs and selenium were below their respective residential and construction worker ESLs. Arsenic levels were found to be slightly elevated in agricultural pond #1 but below the DTSC upper bound arsenic concentration in agricultural pond #2. Agricultural pond #1 will be avoided during construction activities and will not be disturbed. Therefore, no

additional sampling is warranted for either agricultural pond. The project would not create a significant hazard to the public or the environment.

Operations

The project would consist of solar modules, transformers and battery storage; however, modules made with cadmium telluride and crystalline silicon and batteries do not result in emissions during their normal operations and accidental breakage is unlikely. In addition, all mineral oil filled transformers would be equipped with spill containment areas as required by regulation and battery storage would be in accordance with OSHA requirements such as inclusion of ventilation, acid resistant materials, and spill response supplies. All hazardous materials would be disposed of in accordance with RCRA and State Hazardous Waste Management Program requirements. Although the project would develop a renewable energy facility on the project site, resulting in an increased use of commercially available potentially hazardous materials, the use of these substances is subject to applicable federal, State, and local health and safety laws and regulations that are intended to minimize health risk to the public associated with hazardous materials. The project would not use substantial quantities of hazardous materials or generate substantial quantities of hazardous materials requiring transport during operations and is expected to be classified as a Small Quantity Generator of hazardous wastes.

The project would be expected to use limited hazardous materials and substances which would include herbicides and pesticides to control vegetation on the project site. Large quantities of these materials are not expected to be stored on-site. Storage of hazardous materials is regulated by applicable federal, State, and local regulations. It is also anticipated that water would be required for solar panel washing and equipment washing. Chemicals would not be added to the water used for O&M activities. Compliance with these requirements would serve to minimize health and safety risks to people or structures associated with routine use, transport, and disposal as well as accidental release of or exposure to hazardous materials. Project operation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant.

Decommissioning

At the end of the project's operational term, the project proponent may determine that the project should be decommissioned and deconstructed, or it may seek an extension of its conditional use permits. The proponent will work with the County to ensure decommissioning of the project after its productive lifetime complies with all applicable local, State, and federal requirements. The project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste. All decommissioning would occur within the project site and previous disturbance limits, and would involve similar, though reduced construction equipment and activities.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including fences and concrete pads that may support the inverters, transformers, and related equipment. The exterior fencing and gates would be removed, and materials would be recycled to the extent feasible. Project roads would be restored to their pre-construction condition to the extent feasible unless the landowner elects to retain the improved roads for access throughout the property. A collection and recycling program would be utilized to promote recycling of project components and minimize disposal in landfills.

Largely, project facilities can be refurbished and sold, are recyclable, or can be resold as scrap material. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems (not counting the motors and control systems) typically consist of aluminum, steel, and concrete. All these materials can be recycled. Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks/vessels would be rinsed and transferred to trucks per standard BMPs. All material that could not be salvaged would be appropriately disposed of at an authorized site in accordance with applicable laws and regulations. It is anticipated that all oils would be recycled at an appropriate facility. Batteries would be recycled per manufacturer recommendations specific to the battery technology and consistent with regulatory standards.

Site personnel involved in handling these materials would be trained with proper handling techniques. Containers used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Transportation of the removed hazardous materials would comply with regulations for transporting hazardous materials, including those set by the DOT, USEPA, DTSC, CHP, and California State Fire Marshal.

Numerous recyclers for the various materials to be used on the project site operate in Kern County. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil from equipment would be managed as used oil, which is a hazardous waste in California. Decommissioning would comply with federal, state, and local standards and all regulations that exist when the project is decommissioned. Upon removal of the project components, the site would be returned to conditions generally consistent with the existing (pre-development) conditions.

Compliance with the applicable regulations would ensure project decommissioning would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, and impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The 70 kV gen-tie line to the existing Lakeview Substation would be extended approximately 0.5 miles to the substation. The extension would occur in disturbed areas adjacent to Copus Road. The Lakeview Substation would also require modifications within the existing footprint of the substation to accommodate the proposed project gen-tie connection. Additional electrical equipment would be placed within the existing fenced area at the Lakeview Substation. All construction in this area would comply to all safety requirements and the potential for rupture or other safety impacts is minimal. Additionally, improvements associated with the PG&E Interconnection Facilities would comply with applicable PG&E standard best management practices and APMs. Thus, impacts in this regard would be less than significant.

Mitigation Measures

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan (HMBP), as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System (CERS) at http://cers.calepa.ca.gov/ for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The HMBP shall:

a. Delineate hazardous materials and hazardous waste storage areas.

b. Describe proper handling, storage, transport, and disposal techniques.

c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.

d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation.

e. Establish public and agency notification procedures for spills and other emergencies including fires.

f. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release.

g. Include procedures to avoid or minimize dust from existing residual pesticides and herbicides that may be present on the site.

The project proponent shall ensure that all contractors working on the project are familiar with the facility's HMBP as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted HMBP from CERS shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the projects permanent record prior to issuance of a building permit.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.9-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with PG&E Interconnection Facilities.

Impact 4.9-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Construction

The Phase I ESA included a review of local, State, and Federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources, a reconnaissance of the project site to review use and current conditions and to check for the storage, use, production or disposal of hazardous or potentially hazardous materials, and interviews with persons and agencies knowledgeable about current and past site use. As previously discussed in Section 4.9.2, *Environmental Setting*, the Phase I ESA did identify past and current agricultural use of the project and the oil and gas well on the project site as DMCs and the two agricultural ponds as RECs and recommended that soil sampling be conducted to assess the potential risk to construction workers from the onsite agricultural ponds. A Phase II ESA was conducted in April 2022 and concluded that all OCPs and selenium were below their respective residential and construction worker ESLs. Arsenic levels were found to be slightly elevated in agricultural pond #1 but below the DTSC upper bound arsenic concentration in agricultural pond #2. Agricultural pond #1 will be avoided during construction activities and will not be disturbed. Therefore, no additional sampling is warranted for either agricultural pond. Avoidance of agricultural pond #1 with the proposed project site plan would ensure that the risk of a release of hazardous materials into the environment during construction is less than significant.

As discussed in Impact 4.9-1 above, project construction activities would involve the use and transportation of hazardous materials such as fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides. Construction equipment generally contains limited amounts of hazardous materials such as diesel fuel, hydraulic oil, lubricants, grease, solvents, cleaners, adhesives, paints, and other petroleum-based products. Project construction activities would occur in accordance with all applicable local standards set forth by the County, as well as State and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as Cal/OSHA requirements, the Hazardous Waste Control Act, the California Accidental Release Protection Program, and the California HSC. For hazardous materials used during construction, contractors, in accordance with State regulations, would be required to properly use and store materials in appropriate containers with secondary containment to contain a potential release. Compliance with all applicable regulations would ensure that the risk of a release of hazardous materials into the environment during construction is less than significant.

Operation

Project operations would consist of limited hazardous materials on the site. As discussed in Impact 4.9-1 above, any routine transport, use, and disposal of these materials during project operations must adhere to federal, State, and local regulations for transport, handling, storage, and disposal of hazardous substances. Furthermore, hazardous materials/chemicals such as herbicides and pesticides in low quantities do not pose a significant threat related to the release of hazardous materials into the environment.

Under normal operations, photovoltaic solar facilities do not store or generate hazardous materials in quantities that would represent a risk to offsite receptors. In addition, the project would include preventative measures, such as energy management systems and building management systems to reduce the potential for accidents to occur. Nevertheless, because lithium-ion solar facilities do store energy, a battery thermal runaway can occur if a cell, or area within a cell, achieves elevated temperatures due to thermal failure, mechanical failure, internal/external short circuiting, and electrochemical abuse. In this event, state-of-the-art fire and safety systems would mitigate the thermal runaway event.

The solar storage containers would have a fire rating in conformance with NFPA and County standards and specialized fire suppression systems. The project would utilize pre-engineered battery storage systems listed under UL 9540 or Battery Energy Storage System (BESS) tested in compliance with UL 9540A. UL 9540 contains safety standards for the system's construction (e.g., frame and enclosure, including mounting, supporting materials, barriers and more); the insulation, wiring, switches, transformers, spacing and grounding; safety standards for performance of over twenty different elements, such as tests for temperature, volatility, impact, overload of switches, and an impact drop test; and standards for manufacturing, ratings, markings, and instruction manuals. In addition to the many individual standards referenced, CFC compliance requires a Failure Mode and Effects Analysis be performed and requires a test to ensure safe compatibility of the system's parts. This includes the UL 1973 standard, in which a battery manufacturer must prove that a failed cell inside will not cause a fire outside the system. The project's compliance with the CFC, UL 9540/9540A requirements, and industry standards for adequate separations, cascading protections, and suppression systems to limit failure to a single cell or module. In the unlikely event of thermal runaway, the project's preventative measures and fire and safety systems are designed to limit the event to a single battery module as well as reduce the duration and intensity of an event, if it occurs.

The project is also subject to the requirements of Chapter 12 of the CFC which requires that all BESS use an Energy Management System for monitoring and balancing cell voltages, currents and temperatures. The

system must transmit an alarm signal if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage, are detected. The CFC also requires the use of appropriate fire detection and suppression systems, which will be incorporated into each of the project's BESS enclosures.

As previously stated, an HMBP will be prepared and implemented by the project as required in Mitigation Measure 4.9-1. The HMBP would be required to also include an emergency response plan which is designed to minimize hazards to humans and the environment from a sudden release of hazardous waste, fires, or explosions. The emergency response plan requires immediate action take place if an event were to occur. As the KCFD would have undergone training prior to project operations, immediate action would be followed in accordance with the emergency response plan.

Adherence to regulations and standard protocols during project operation would minimize and reduce the potential for hazardous materials impacts from the BESS. Therefore, project operation would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

Removal and/or maintenance of vegetation may require pesticide and herbicide use during both construction and operation. If not handled properly, use of these products could create a hazard to the public (construction workers, maintenance employees, and nearby residences), resulting in a potentially significant impact. Mitigation Measure MM 4.9-2 would require licensed herbicide operators on the project site and keep a record of using herbicides during appropriate weather conditions. MM 4.9-2 would reduce impacts related to use of pesticides and herbicides to a less-than-significant level.

Overall, adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials, and implementation of Mitigation Measures MM 4.9-1 and 4.9-2 would minimize or reduce potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials, to a less-than-significant level.

Decommissioning and Disposal

As stated under Impact 4.9-1, the proponent will work with the County to ensure decommissioning of the project after its productive lifetime complies with all applicable local, State, and federal requirements. The project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste. All decommissioning would occur within the project site and previous disturbance limits, and would involve similar, though reduced construction equipment and activities. Site personnel involved in handling materials associated with decommissioning would be trained with proper handling techniques. Compliance with applicable federal, State, and local regulations would ensure that project decommissioning would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended 0.5 miles easterly to the substation. The network upgrades are expected to cover approximately 0.9 acres of land immediately adjacent to the west corner of the existing substation. Moderate site grading and fill will be required to accommodate the substation facilities and temporary construction work area. Improvements associated with the PG&E Interconnection Facilities would comply with applicable PG&E standard best management practices and

APMs. Additionally, the construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy is anticipated to generate no hazardous waste. Thus, impacts in this regard would be less than significant.

Mitigation Measures

With implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2 would be required.

MM 4.9-2: The project proponent/operator shall continuously comply with the following:

a. The construction contractor or project personnel shall use herbicides that are approved for use in California and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use.

b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions.

c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.

d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.

e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

f. A written record of all herbicide applications on the site, including dates and amounts, shall be furnished annually to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2 impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.9-3: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

As discussed above, the project site is not identified in any of the California hazardous materials databases. Searches were completed for the subject parcels in the following hazardous materials lists: Cal/EPA's Cortese List including the California Department of Toxic Substances and Control's EnviroStor database

of hazardous substances release sites; and Geotracker, the California database of leaking underground storage tanks (DTSC, 2022; SWRCB, 2022). The Phase 1 ESA for the project site identified one REC in connection with the project site (Rincon, 2022), two onsite agricultural ponds and recommended soil sampling be conducted to assess the potential risk to construction workers from these ponds. A Phase II ESA was conducted in April 2022 and concluded that all OCPs and selenium were below their respective residential and construction worker ESLs. Arsenic levels were found to be slightly elevated in agricultural pond #1 but below the DTSC upper bound arsenic concentration in agricultural pond #2. Agricultural pond #1 will be avoided during construction activities and will not be disturbed. No additional sampling is warranted for either agricultural pond. Therefore, impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly to connect to the existing PG&E facilities. The construction and operation of the Interconnection Facilities will include the expansion of the existing PG&E Lakeview Substation area. The expansion would cover approximately 0.9 acres of land immediately adjacent to the west corner of the existing substation. The construction will include moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. These areas are not within an area that is listed pursuant to Government Code Section 65962.5. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant with no mitigation for the PG&E Interconnection Facilities.

Impact 4.9-4: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The project would not interfere with any existing emergency response plans, emergency vehicle access, or personnel access to the project site. The project site is located in a remote area with several alternative access roads allowing access to the project site in the event of an emergency. Access would be maintained throughout construction, and appropriate detours would be provided in the event of potential road closures. Therefore, impacts related to impairment of the implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the existing Lakeview Substation, and improvements to the existing Lakeview Substation do not have the potential to impair implementation of, or physically interfere with an emergency response or evacuation plan. These project elements are in remote areas and are not within evacuation routes. Impacts would be less than significant in this regard.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.9-5: The project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The project site is not located within a high fire hazard severity zone (CAL FIRE, 2007); see Section 4.18, *Wildfire*. The project site is mostly covered in agricultural crops. The onsite areas not covered by agriculture contains sparse vegetation. Site preparation would involve the removal of vegetation, although natural vegetation may be maintained if it does not interfere with project construction or the health and safety of onsite personnel. The project would also include a BESS component which, while they generally burn with difficulty, can in fact burn or become damaged by fire and generate fumes and gases that are extremely corrosive. Dry chemical, carbon dioxide, and foam are the preferred methods for extinguishing a fire involving batteries as water is not useful in extinguishing battery fires. As discussed further in Section 4.14, *Public Services*, of this EIR, the project proponent would implement Mitigation Measure MM 4.14-1, which would require the preparation and submittal of a Fire Safety Plan to the KCFD for review and approval. The purpose of the Fire Safety Plan would be to eliminate causes of fire, prevent loss of life and property by fire, to comply with County and County Fire Protection District standards for solar facilities, and to comply with the OSHA standard of fire prevention, 29 CFR 1910.39. The fire safety plan would address fire hazards of the different components of the project, including the BESS, and would include BMPs to reduce the potential for fire and extinguishment techniques if a fire were to occur.

The project site is not adjacent to urbanized areas. While the project is not anticipated to significantly increase the risk of wildfire, Mitigation Measure MM 4.14-1 would be implemented to ensure a fire safety plan for construction, operation and decommissioning of the project is incorporated as part of the project. With mitigation, potential impacts from wildfire would be reduced to a less-than-significant level.

See also Section 4.18, *Wildfire*, of this EIR for additional discussion of wildfire issues.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the existing Lakeview Substation and improvements to the existing Lakeview Substation are in the same vicinity as the other project elements and not within an area subject to substantial dangers from wildfire. These areas are characterized by disturbed land with sparse vegetation similar to the site. Vegetation does not consist of thick brush or other vegetative patterns that would be particularly susceptible to uncontrollable wildfire. Thus, these project elements would not substantially increase or exacerbate the potential hazards associated with wildfire in the area. Impacts would be less than significant in this regard.

Mitigation Measures

Implement Mitigation Measure MM 4.14-1 (see Section 4.14-1, *Public Services*, for full text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PGE's standard best management practices and APMs.

Impact 4.9-6: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the proposed project exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed project is significant when the applicable enforcement agency determines that any of the vectors:

i. **Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; or**
ii. **Are associated with design, layout, and management of proposed project operations; or**
iii. **Disseminate widely from the property; or**
iv. **Cause detrimental effects on the public health or well-being of the majority of the surrounding population.**

Project-related infrastructure is not expected to result in features or conditions that could potentially provide habitat for vectors such as mosquitoes, flies, cockroaches, or rodents (such as standing water, agricultural products, or agricultural waste). The project site would produce a small amount of solid waste from construction and operational activities. This may include paper, food waste from worker meals, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. These wastes would be segregated, where practical, for recycling. Non-recyclable wastes such as food scraps would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Construction and operation of the proposed solar arrays and associated facilities would not produce excessive wastes, standing water, or other features that would attract nuisance pests or vectors. Therefore, impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the existing Lakeview Substation would be extended easterly from the project site. The construction and operation of the Interconnection Facilities will include the expansion of the existing PG&E Lakeview Substation area. The expansion would cover approximately 0.9 acres of land immediately adjacent to the west corner of the existing substation. The construction will include moderate site grading and fill. These project elements would not create or exacerbate the potential hazards associated with generation of vectors in this area. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, multiple projects, including several utility-scale solar and wind energy production facilities, are proposed throughout Kern County. As shown in **Table 3-4:** *Cumulative Project List*, other solar energy projects are either operational, in construction or proposed within the region. The geographic scope of impacts associated with hazardous materials generally encompasses the project sites and a 0.25-mile-radius area around the project sites. A 0.25-mile-radius area allows for a conservative cumulative analysis that ensures that all potential cumulative impacts will be assessed. Similar to other potential impacts, such as those related to geology and soils, risks related to hazards and hazardous materials are typically localized in nature since they tend to be related to onsite existing hazardous conditions and/or hazards caused by the project's construction or operation. A geographic scope of a 0.25-mile-radius area also coincides with the distance used to determine whether hazardous emissions or materials would have a significant impact upon an existing or proposed school, as discussed above. The project's compliance with Mitigation Measure MM 4.9-1 and MM 4.9-2 is similar to existing regulatory requirements that other projects would be required to adhere to and would avoid hazardous material-related impacts from occurring at any of the schools of the area.

Impacts regarding the handling, use, and/or storage of hazardous materials would be project specific and would not cumulatively contribute to impacts. An accident involving a hazardous material release during project construction or operation through upset or accident conditions including site grading and the use and transport of petroleum-based lubricants, solvents, fuels, batteries, herbicides, and pesticides to and from the project site would be location specific. Conformance with existing State and County regulations, as well as project safety design features and the implementation of Mitigation Measure MM 4.9-1 and MM 4.9-2 identified above would further reduce cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as other cumulative projects, would reduce the impact to a level that would not contribute to cumulative effects. Given the minimal risks of hazards at the project site, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

Hazardous materials to be used during decommissioning and removal activities are of low toxicity and would consist of fuels, oils, and lubricants. Because these materials are required for operation of construction vehicles and equipment, BMPs would be implemented to reduce the potential for or exposure to accidental spills or fires involving the use of hazardous materials. Impacts from minor spills or drips would be avoided by thoroughly cleaning up minor spills as soon as they occur. While foreseeable projects have the potential to cause similar impacts, it is assumed these projects would also implement similar BMPs. Conformance with existing State and County regulations, as well as implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.14-1, of Section 4.14, *Public Services*, (Fire Safety Plan) would further reduce the potential for cumulative impacts. In addition, implementation of appropriate safety

measures during construction of the project, as well as any other cumulative project, would reduce the impact to a level that would not contribute to cumulative effects. Therefore, impacts related to hazardous materials would not be cumulatively significant.

The project site is not located within an airport land use plan influence area and thus is not expected to result in any cumulative contribution to hazards associated with airports or airstrip land use plans or otherwise provide any cumulatively considerable air traffic hazards.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended 0.5 miles easterly to the substation. The network upgrades are expected to cover approximately 0.9 acres of land immediately adjacent to the west corner of the existing substation. Moderate site grading and fill will be required to accommodate the substation facilities and temporary construction work area. These aspects of the project include installation of poles and suspended wires to conduct electricity to the substation. Accordingly, these elements of the project would require minimal ground disturbance, use of fuels, solvents, and other construction materials. The same mitigation measures as listed throughout this chapter also would be applied, as applicable, to these project elements. Once operational, the gen-tie lines would be managed in accordance with all safety and maintenance requirements. Thus, these parts of the project would not create or exacerbate the potential for hazards or hazardous materials incidents. The construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy is anticipated to generate no hazardous waste. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to hazardous materials. Cumulative impacts in this regard would be less than significant.

Mitigation Measures

Implement of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.14-1 (see Sections 4.14-1, *Public Services* for full text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.14-1 cumulative impacts would be reduced to less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

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Section 4.10
Hydrology and Water Quality

4.10.1 Introduction

This section of the Environmental Impact Report (EIR) describes the hydrological environmental and regulatory settings, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce impacts, where applicable. The information in this section is based on multiple online sources and published documents, as well as the technical documents prepared for the project including, *Hydrology Report* (GHD, 2021), and *Water Supply Assessment* (Rincon Consultants, 2021), located in Appendix K, and Appendix L of this EIR, respectively.

4.10.2 Environmental Setting

Regional Setting

The project site is located within the Central Valley Hydrologic Units. The Central Valley Hydrologic Units are broken into smaller units including the Tulare Lake Hydrologic Region ("Tulare Lake Region"), in the southwestern portion of the San Joaquin Valley of California, in which the project site is located. The Tulare Lake Region covers approximately 10.9 million acres (17,050 square miles), and covers most of Kern County, as well as most of Fresno County and all of Kings and Tulare counties. The Kern County Subbasin (Groundwater Basin Number: 5-022.14) is located at the southern end of the San Joaquin Valley and is drained by the San Joaquin River.

This portion of the valley drains to Tulare Lake, which no longer exists due to diversions of its sources, and is known as the Tulare Lake Hydrologic Region. The Tulare Lake Hydrologic Region is approximately 16,800 square miles in size. Major rivers draining into the Tulare Lake region include the Kings, Kaweah, Tule, and Kern, which extend from the Sierra Nevada headwaters in eastern Fresno and Tulare counties, to their termination at the former Tulare Lake and Buena Vista Lake beds.

Within the Tulare Lake Hydrologic Region, the project site is located within the Kern County Subbasin (CDWR 2013, 2015). The basin is bounded on the west, southwest, and east by the bedrock formations of the coast range, San Emigdio Mountains, and Sierra Nevada, respectively. It is separated from the White Wolf Subbasin to the southeast by the White Wolf Fault. The northern boundary is generally coincident with the County line.

Tulare Lake was the largest of several similar lakes (e.g., Kern and Buena Vista Lakes) in the lower basin. Tulare Lake historically received water from the Kern, Tule, and Kaweah Rivers, as well as southern tributaries of the Kings River. Diversions for agriculture and municipal purposes has resulted in Tulare Lake drying up except for residual wetlands and occasional floods. These lakes have now been dry for many decades, and the lake bottoms are now heavily farmed.

The project site sits at a mean sea elevation (msl) ranging from approximately 385 feet in the southernmost boundary to 335 feet in the northernmost boundary and is approximately 527 acres within the area locally called the Maricopa Flats. The project site is privately-owned, irrigated farmland principally comprised of

centerpivot sprinkler systems. There are no structures or impervious surfaces. The site does contain ancillary farming improvements such as compacted dirt roads, open irrigation ditches, a centrally located 1-acre irrigation pond, and a 3-acre existing drilling operation adjacent to Copus Road.

Climate

The San Joaquin Valley has a hot, dry climate that is influenced by the surrounding Diablo and Tehachapi Mountain ranges. Approximately 90 percent of the annual precipitation normally falls between November and May. A large percentage of the precipitation typically falls in association with a small number of large winter storms. The winter season is known for producing fog in the valley, which can last for weeks and can reduce visibility to less than ¼ of a mile. During the spring, weak weather fronts often generate high winds and gusty conditions that create dust storms. The project area is typical of a desert climate. **Table 4.10-1**, *Climate Data*, provides monthly precipitation and average air temperatures. The absolute high average temperature is 97 degrees Fahrenheit (°F) and occurs in July. The lowest average temperature is 38 degrees Fahrenheit (°F) and occurs in December.

TABLE 4.10-1: CLIMATE DATA

Month	Total Precipitation (in)	Average Max Air Temp (°F)	Average Min Air Temp (°F)
January	1.18	56	39
February	1.21	64	43
March	1.41	68	46
April	0.45	76	50
May	0.24	84	57
June	0.12	92	64
July	0.0	97	69
August	0.08	95	68
September	0.15	89	64
October	0.30	80	55
November	0.59	65	44
December	0.76	56	38
Source: NOAA, 2008.			

Soils

The proposed project is situated in the San Joaquin Valley which is characterized by mostly flat terrain with minimal variations in elevation and generally rich agricultural soils. Based on the soil borings performed as part of the geotechnical report the subsurface material generally consists of mostly silty and clayey sands and sandy silt or sandy clay underlain by alternating layers of sands and clays to the maximum depths of exploration (11.5 to 51.5 feet bgs).

This is consistent with the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) websoil survey which shows the entire project site containing Califlax Loam (USDA, 2022a). Califlax Loam soil have a Hydrologic Soil Group rating of C indicating that the soils will not infiltrate most of the received moisture, especially in above average rain events. The hydrologic soil group was developed by the U.S. Department of Agriculture to describe if rainwater is likely to runoff the

soil or infiltrate, with soils likely to infiltrate at a higher rate having a classification of A, and soils that are most likely to experience little infiltration having a rating of D (GHD, 2021).

Considering the above, this soils general characteristics according to the USDA NRCS is that is generally has 0-1% slopes, is well drained, has negligible runoff, parent material is alluvium derived from mixed mineralogy rock, has a frequency of flooding from none to rare, and is not considered hydric (USDA, 2022b).

Site Hydrology

Surface Hydrology and Drainage

The project site is located approximately 1.8 miles southwest of an irrigation canal known as the New Rim Ditch and 1.9 miles northeast of the California Aqueduct. It is located within Subwatershed HUC 12-180300031202, which contains the remnants of Pleitito Creek. Pleitito Creek is mapped south of the California Aqueduct, though aerial imagery does not indicate any above-ground creek visibility. Tulucay creek, which is not located within the same subwatershed as the project site, is partially daylit and terminates approximately five miles east of the project site.

The area in the immediate vicinity has a gentle northeasterly topographic gradient which results in any runoff flowing to the north into or towards the former (dry) Kern Lakebed. In a relatively larger to above average rain event, the project site flows to open drainage ditches along the edges of each existing field and along the road frontages of Copus Drive and Old River Road.

Water supply conveyance facilities in the Tulare Lake Region include the California Aqueduct, which runs in a west-east alignment south of the project site and conveys State Water Project (SWP) water through the project area. The Kern River, which is the prominent natural surface water feature in the Kern Subbasin, runs in a southwest-northeast alignment north of the project site. The Kern River originates in the Sierra Nevada to the northeast of Kern Subbasin.

Floodplains

Flooding is a temporary condition in which land that is normally dry is partially or completely inundated. Flooding occurs when water bodies, such as streams, rivers, lakes, or reservoirs, are abnormally high and overflow into adjacent low-lying areas. These areas are known as floodplains, defined by their exposure to risk of recurring floods

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). The Federal Emergency Management Agency (FEMA) has designated the northwestern portion and the eastern half of the site as Zone A. Zone A according to FEMA are “Areas subject to inundation by the 1-percentannual- chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.” All other portions of the project site and off-site improvement areas are located in an area designated by the FEMA as Zone X, which is an area of minimal flood hazard.

Soil Types and Erosion

The U.S. Department of Agriculture developed the hydrologic soil groups to describe if rainwater is likely to runoff the soil or infiltrate. Soils that are likely to have water infiltrate at a higher rate are given a classification of A, and soils that are most likely to experience little infiltration are given a rating of D. Soils in the project site consist of Califlax Loam. Califlax Loam soil have a Hydrologic Soil Group rating of C indicating that most of the water received on the soils will not infiltrate especially in above average rain events. The characteristics of the hydrologic soils groups is shown below.

Hydrologic Soil Groups

The hydrologic soil groups rate the soils minimum infiltration rate based the soils properties that correlate to saturation levels during a flood event. The characteristics of the soils in each group are discussed below.

Hydrologic Soil Group A - Characterized by soils having high infiltration rates even when thoroughly wetted. Soils consist chiefly of deep, well to excessively drained sands of gravel. The soils have high water transmission and low runoff potential.

Hydrologic Soil Group B - Characterized by having slow infiltration rates when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well to well-drained soils with moderately coarse textures. These soils have a moderate rate of water transmission.

Hydrologic Soil Group C - Characterized by having slow infiltration rates even when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water or soils with moderately fine to fine textures. These soils have a slow rate of water transmission.

Hydrologic Soil Group D - Characterized by having a very slow infiltration rates when thoroughly wetted and consist chiefly of clay soils with high swelling potential and are in soils with a high permanent water table. These soils may have a clay pan or clay layer at or near the surface, and shallow soils over the nearly impervious materials.

Groundwater Resources

San Joaquin Valley Groundwater Basin

The project site is located within the San Joaquin Valley Groundwater Basin and the Kern County Subbasin (Groundwater Basin Number: 5-022.14) which is in the southern end of the San Joaquin Valley. The project site is located in the Tulare Lake Hydrologic Region. The Kern County Subbasin groundwater is subject to the Kern Groundwater Authority (KGA) as a groundwater sustainability plan area that is broken up into many agencies and water districts. The water district that is responsible for the project site and near vicinity groundwater is the Wheeler Ridge – Maricopa Water Storage District (WRMWSD). The WRMWSD was formed to engage with stakeholders and assist in general compliance with specific elements of the California Sustainable Management Act (SGMA), and any basin specific groundwater budget goals. A Groundwater Sustainability Plan (GSP) has been submitted to the Department of Water Resources in 2020 and is under review.

The WRMWSD used the stakeholder engagement and coordination meetings as one component of their strategy to help develop their ground water sustainability management plan (SGMP) and associated Project

and Management Actions (P/MAs), such as plans for banking water, properties to use for recharge, etc., to enhance groundwater sustainability and broaden water resource programs.

Groundwater Quality

The Water Quality Control Plan (WCCP) for the Central Valley Region is the Basin Plan that covers Kern County. This basin plan covers only the Tulare Lake Basin. The Sacramento River Basin and the San Joaquin River Basin are covered in a separate basin plan. The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River Surface water from the Tulare Lake Basin only drains north into the San Joaquin River in years of extreme rainfall.

The Tulare Lake Basin Plan for the Central Valley RWQCB includes water quality objectives for ground waters, which outlines protection measures for groundwater within the Tulare Lake Region outlines policies and regulations for groundwater basin water quality and management within the RWQCB jurisdiction. The RWQCB board has regulatory control over groundwater supply and recharge as well as other state agencies including the State Water Resources Control Board (SWRCB), Division of Water Resources (DWR), and United States Environmental Protection Agency (USEPA), and Bureau of Land Management (BLM). Under the basin plan, the Kern County Engineering and Survey Services Department requires the completion of a national pollution discharge elimination system (NPDES) applicability form for all projects that disturb one or more acres within Kern County, even though many of the waters within Kern County are not technically subject to federal regulations as they are closed systems that never contact oceans or other waters of the US.

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint – source discharges to surface water. Those discharges are the regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Board (RWQCBs). The project site is within the Central Valley RWQCB. Projects that disturb one or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 401, Water Quality Certification. Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards.

Section 402, National Pollutant Discharge Elimination System. Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue a NPDES General Construction Storm Water Permit (Water Quality Order 2009-0009-DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

NPDES regulations are administered by the Central Valley RWQCB at the project site.

Section 404, Discharge of Dredged or Fill Materials. Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material in waters of the U.S., including wetlands. For purposes of section 404 of the CWA, the limits of non-tidal waters extend to the ordinary high-water line, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. When an application for a Section 404 permit is made the applicant must show it has:

- Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
- Minimized unavoidable impacts on waters of the U.S. and wetlands; and
- Provided mitigation for unavoidable impacts.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A water quality certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for water quality certification (or waiver thereof) from the Central Valley RWQCB. Project activities would adhere to state and federal water quality standards and would be in compliance with Sections 401 and 404 of the CWA.

Section 303, Water Quality Standards and Implementation Plans. Section 303(d) of the CWA (33 U.S. Code 1250, et seq., at 1313(d)) requires states to identify "impaired" water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the U.S. Environmental Protection Agency for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of total maximum daily loads (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Flood Insurance Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management

standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed FIRMs that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The major responsibilities of the California Department of Water Resources (DWR) include preparing and updating the California Water Plan to guide development and management of the state's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations, supports watershed and river restoration programs, encourages water conservation, explores conjunctive use of ground and surface water, facilitates voluntary water transfers, and, when needed, operates a state drought water bank.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), passed in 1969, is the primary statute covering the quality of waters in California, and requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State’s surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing the Clean Water Act Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires 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, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every 3 years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the “waters of the State,” file a report of waste discharge. Absent a potential effect on the quality of “waters of the State,” no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires the formation of local-controlled groundwater sustainable agencies in high- and medium-priority groundwater basins. These groundwater sustainability agencies are responsible for developing and implementing a Groundwater Sustainability Plan (GSP). In September 2014, then Governor Brown signed legislation requiring the California's critical groundwater resources be sustainably managed by local agencies. The SGMA gives local agencies the power to sustainably manage groundwater, provides for the creation of regional GSAs, and requires GSP to be developed for medium- and high-priority groundwater basins. These basins or subbasins were required to adopt groundwater management plans by 2020 or 2022, depending upon whether the basin is in critical overdraft. GSAs will have until 2040 or 2042 to achieve groundwater sustainability.

There is currently no adopted sustainable groundwater management plan that includes the project site. The project site is located within the San Joaquin Valley Groundwater Basin, Kern County Subbasin (Groundwater Basin Number: 5-022.14), and Tulare Lake Hydrologic Region. The Kern County Subbasin groundwater is subject to the Kern Groundwater Authority (KGA) as a groundwater sustainability plan area that is broken up into many agencies and water districts. The Wheeler Ridge – Maricopa Water Storage District (WRMWSD) is responsible for the project site and near-vicinity groundwater (KGA website http://www.kerngwa.com/gsp.html). The WRMWSD was formed to engage with stakeholders and assist in general compliance with specific elements of the California Sustainable Management Act (SGMA), and any basin specific groundwater budget goals.

Streambed Alteration Agreement (California Fish and Game Code)

California Fish and Game Code Section 1602 protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream, or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a streambed alteration agreement, such an agreement would be prepared and implemented prior to construction of the project, thus maintaining compliance with Section 1602 of the California Fish and Game Code. A streambed alteration agreement is required if the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final lake or streambed alteration agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft lake or streambed alteration agreement, thereby making it final.

Senate Bill 610

SB 610 was passed on January 1, 2002, amending California law to require detailed analysis of water supply availability for large development projects. An SB 610 Water Supple Assessment (WSA) must be prepared if the following three conditions are met:

- The project is subject to CEQA under the California Water Code 10910;
- The project meets criteria to be defined as a "Project" under California Water Code Section 10912; and
- The applicable water agencies current Urban Water Management Plan does not account for the water supply demand associated with the project.

A project would meet the definition of "Project" per California Water Code Section 10912(a) if it is"

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant or industrial part planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects specifies in this subdivision; or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water require by a 500-dwelling unit project.

SB 610 was not originally clear on whether renewable energy developments are subject to SB 610 and require the preparation of a WSA. SB 267 was signed into law on October 8, 2011, amending California's Water Law to revise the definition of "project" specified in SB 610. Under SB 267, wind and photovoltaic projects that consumed less than 75 acre-feet per year (AFY) of water were not considered to be a "project" under SB 610; subsequently, a WSA would not be required for this type of project. The renewable energy exclusions provided by SB 267 expired in January 2017. Since the language of SB 610 remains unclear on whether renewable energy projects meet the definition of a "project," a WSA was prepared for the proposed project.

Local

Kern County NPDES Storm Water Program Permit

Kern County requires the project to submit an NPDES Storm Water Program Permit for projects that disturb more than 1 acre for the Kern County Public Works Department to verify the applicant's stormwater plans, even if the project is not subject to the federal NPDES program. The applicant applies for the permit under one of the four following conditions:

- All stormwater is retained onsite and no stormwater runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.
- All stormwater runoff is not retained on site but does not discharge to a Water of the United States (i.e., drain to a terminal drainage facility). Therefore, a SWPPP has been developed and Best Management Practices (BMPs) must be implemented.
- All stormwater runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent must be filed with the SWRCB prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
- Construction activity is between 1 and 5 acres and an Erosivity Waiver was granted by the SWRCB; BMPs must be implemented.

Kern County General Plan

Construction and operation of the solar facility would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to hydrology and water quality name. The policies and implementation measures in the Kern County General Plan related to hydrology and water quality that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.

Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.9 Resources

Policy

Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

1.10 General Provisions

Implementation Measures

Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site-specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

1.10.6 Surface Water and Groundwater

Policies

Policy 34: Ensure that water quality standards are met for existing users and future development.

Policy 40: Encourage utilization of community water system rather than the reliance on individual wells.

Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.

Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.

Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

Measure Y: Promote efficient water use by utilizing measures such as:

(i) Requiring water-conserving design and equipment in new construction;

(ii) Encouraging water-conserving landscaping and irrigation methods; and

(iii) Encouraging the retrofitting of existing development with water conserving devices.

Kern County Code of Building Regulations

Kern County Grading Ordinance (17.28)

Chapter 17.28 Kern County Grading Code. Requirements of the Kern County Grading Code will be implemented. A grading permit will be obtained prior to commencement of construction activities. Of particular note with respect to hydrology and water quality is Section 17.28.140, Erosion Control, which addresses the following:

Slopes. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

Other Devices. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.

Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials, or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Kern County Floodplain Management Ordinance (17.48)

Any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of this ordinance. Any required development permits will be obtained prior to commencement of construction activities. Sections 17.48.250 through 17.48.350 of the ordinance elaborates on the standards of construction in the special flood hazards area.

Kern County Development Standards

The Kern County Development Standards apply to all developments within Kern County that are outside of incorporated cities. These standards establish minimum design and construction requirements that will result in improvements that are economical to maintain and will adequately serve the general public. The requirements set forth in these standards are considered minimum design standards and will require the approval of the entity that will maintain the facilities to be constructed prior to approval by the County.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County Engineering and Survey Services Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acre within Kern County. This form requires the project proponent to provide background information on construction activities. Project proponents must apply for the permit under one of the following four conditions:

1. All storm water is retained onsite and no storm water runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.
2. All storm water runoff is not retained on site but does not discharge to a Water of the United States (i.e., drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.
3. All storm water runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
4. Construction activity is between 1 to 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

Kern County – Applicability of NPDES Program for a Project Disturbing 1 Acre or Greater

As closed systems that never contact the ocean or other waters of the U.S., many of the waters within Kern County are technically not subject to protective regulations under the federal NPDES Program. The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities disturbing one or more acres, and requires the project proponent to provide information about construction activities and to identify whether storm water runoff has the potential of discharging into waters of the United States, waters of the state, or a terminal drainage facility. The purpose of the form is to identify which water quality protection measure requirements apply to different projects (if any). Should storm water runoff be contained on site and not discharge into any waters, no special actions are required. Should storm water runoff discharge into waters of the United States, compliance with the SWRCB Construction General Permit SWPPP requirements is required. Should storm water runoff not be contained on site and drains to waters of the state or a terminal drainage facility, the project proponent would be required to develop a SWPPP and BMPs.

Kern County Zoning Ordinance

Chapter 19.70 Floodplain Combining District

Section 19.70.040 prohibits uses including the following uses in the Floodplain Combining District, as applicable to the proposed project:

Prohibited Uses

B: All uses that will likely increase the flood hazard or affect the water-carrying capacity of the floodplain beyond the limits resulting from encroachment as specified in Section 19.70.130.

C: Dumping, stockpiling, or storage of floatable substances or other materials which, in the opinion of the Kern County and Survey Services Department, will add to the debris loads of the stream or watercourse, unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with Section 19.70.130.

D: Storage of junk or salvage operations.

E: Oil storage tanks or processing equipment, unless flood-proofed or sufficiently elevated above the Base Flood Elevation, as determined by the Kern County Public Works Department.

F: Individual sewage disposal systems (e.g., septic tank systems), unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters into the systems and discharges from the systems into the floodwaters.

G: Sources of water supply (e.g., wells, springs) unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters.

4.10.4 Impacts and Mitigation Measures

Methodology

This section analyzes impacts on hydrology and water quality from the implementation of the project based on changes to the environmental setting as described above, identified drainage conditions in the project site, and the current regulatory framework. This section also considers information from a variety of resources, including multiple online sources, published documents, The Kern County General Plan, and professional judgment, impacts were analyzed according to CEQA significance criteria.

The project's potential impacts to hydrology and water quality have been evaluated using the *Hydrology Summary Report* (GHD, 2022) prepared for the project, located in Appendix K of this EIR. The Hydrology Summary Report considered potential impacts to surface water quality that could occur as a result of both construction and operational activities. The project was evaluated for its potential to violate water quality standards and waste discharge requirements from soils disturbances and the creation of new impervious areas, and whether the stormwater treatment techniques proposed as part of the project would provide adequate capacity. Flood hazards were evaluated by assessing the project's location within a FEMA flood hazard area or other potential hazard area and the extent to which additional impervious areas could result in flooding. Because the project would not alter the course of a stream or river, therefore this portion of the "standard" evaluation criteria was not discussed further in the impact analysis for the project.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on hydrology and water quality.

A project could have a have a significant impact on hydrology and water quality if it would:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would

    i. Result in substantial erosion or siltation onsite or offsite;

    ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

    iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

    iv. Impede or redirect flood flows;

d. Result in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Project Impacts

Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.

Water quality standards and waste discharge requirements could be violated if the project site releases polluted discharges into receiving waters without a permit. Polluted discharges can generate polluted stormwater runoff (i.e., water generated during storm events) or dry weather runoff (i.e., water generated during activities such as dust control). Polluted discharge can consist of sediment from erosion, pollutants from herbicides or pesticides applied to agricultural lands or vegetation, or pollutants from construction equipment, such as oil drippings or accidental spills of petroleum hydrocarbons.

Construction and Decommissioning

Project construction would include clearing, grubbing, excavating, and grading of portions of the project site. Due to the relatively flat nature of the site, it is anticipated that grading would be limited in most areas and the use of heavy equipment such as scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders would likely be used in site preparation. The proposed gen-tie line and modification to the substation, also may require minimal grading or excavation to enable placement of utility infrastructure. While grading and excavation could modify the drainage on the project site careful design of graded surfaces, utility corridors, and for access road gradients and other project features, would minimize alterations to the existing drainage patterns and minimize the potential for erosion.

These activities could affect current drainage patterns and erosion on the project site; however, the project grading plans, including grading activities associated with access roads, would be in compliance with County of Kern (County) standards to prevent substantial alterations to drainage patterns and erosion within the project site. Accordingly, the project proponent would implement measures to minimize and contain erosion and sedimentation in accordance with the Kern County Grading Ordinance and would be required to submit a grading plan to the County for approval prior to commencement of any construction activities. In addition, grading is expected to be balanced on site, with no need for the export or import of soils, which would further reduce potential for off-site erosional effects.

Although grading is not anticipated to require a substantial volume of earthwork, because the project would disturb more than 1-acre, the project would be required, per existing State regulations, to obtain coverage under State Water Resources Control Board Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. This would require conform to and implementation of a SWPPP needed BMPs as well as compliance with any regional requirements to meet State water quality objectives. The SWPPP would be applicable to all areas of the project, including solar development and the gen-tie-line alignment and substation area.

The NPDES permitting process may require development of a rain event action plan prior to permit approval. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant after implementation of an SWPPP (see Mitigation Measure MM-1). BMPs (such as the use of silt fencing, erosion control blankets or fiber mats, dust control with water or other palliatives, revegetation with native species, etc.) and/or other measures required by the Kern County Grading Ordinance would be used and minimize on-site erosion from water and wind.

Other impacts that could result during project construction could be from accidental release of pollutants, or hazardous or potentially hazardous materials that could result in water quality degradation. Materials that could contribute to this impact include, but are not limited to, diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids utilized by construction and maintenance vehicles and equipment. Motorized equipment could leak hazardous materials such as motor oil, transmission fluid, or antifreeze due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error.

The potential impacts of a spill or release of these types of materials are generally small due to the localized, short-term nature of the releases and the limited number and length of time heavy construction equipment would be needed. Fuel trucks would be used to bring gasoline and diesel to the project site and fuels would be temporarily stored in above ground tanks with secondary containment.

As noted in Section 4.9, Hazards and Hazardous Materials, of this EIR, Mitigation Measure MM 4.9-1 would require the project proponent to provide a Hazardous Materials Business Plan (HMBP) that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. Additional guidance to the safe handling and use of these materials is guided by the aforementioned NPDES Construction General Permit and SWPPP, which, would include measures regarding the handling of these types of materials and protocols for actions taken if a spill or release does occur. Therefore, with implementation of Mitigation Measures MM 4.10-1 and MM 4.9-1, impacts to water quality would be less than significant during construction.

Operation

The proposed project includes operation of a solar generating facility. The majority of the site would be occupied by solar panels mounted on fixed steel support posts. This mounting system minimizes the need for cement foundations and footings and would not substantially alter the drainage patterns of the site. Runoff from rainwater would drain off the sides of the panels and fall to the ground surface. Due to the largely flat contours and use of on-site stormwater retention basins most water would infiltrate the ground surface. While some rainfall from the margins of the site could flow off-site via sheet flow, effects would be minimal and the potential for substantial erosion that could occur under concentrated runoff condition is considered low. Nonetheless, where potential for channel erosions exists, BMPs would be implemented to prevent surface flows from becoming concentrated.

To further minimize the potential for degradation of water quality, the project would be subject to review by Kern County and be required to comply with the adopted Development Design Standards which regulate, among other things, stormwater management, erosion control, and water quality. As part of the project, approximately 10.5 acres of stormwater retention basin(s) with a 50-acre-foot volume would be constructed.

Although the specific sizing and location of the basin is not yet known, final drainage plans would be submitted to the County for review and to determine compliance with the Development Design Standards to include compliance with Division 4 of the standards that regulates the design volume and hydraulic design requirements for individual project sites.

Other plan elements would include elements to minimize runoff and erosion leading to potential degradation of downstream receiving waters or other off-site areas. Prior to the commencement of construction activities, drainage plans would be submitted to the Kern County Engineering and Survey Services Department that would include postconstruction structural and nonstructural BMPs. Structural BMPs would include filtration, protection of any exiting inlets, runoff-minimizing landscape for common areas, energy dissipaters, managing trash and waste and inlet trash racks, and water quality inlets. Non-structural BMPs would include but not be limited to leaving open areas adjacent to panels to maximize infiltration, using flat grades as feasible to minimize the volume and rate of runoff, and routine inspections of structural BMPs to ensure they are functional and compliant with regulations.

With the project's compliance with the adopted Development Design Standards, submission and approval of grading plans, the operational impacts related to the violation of a water quality standard or waste discharge requirement, would be less than significant. Conformance to these require standards would be further ensured with implementation of Mitigation Measure Mitigation Measures MM 4.9-1, requiring a HMBP and MM 4.10-1 and 4.10-2 that would minimize long-term impacts on drainage patterns across the project site that could result in substantial erosion and siltation on or off site.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Lakeview Substation and transmission interconnection for the transport of renewable energy is not anticipated to violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of water quality.

Mitigation Measure

Implement Mitigation Measure MM 4.9-1 would be required (see Section 4.9, *Hazards and Hazardous Materials*, for full mitigation measure text).

MM 4.10-1: Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts.

MM 4.10-2: Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential

increases in runoff from the project site. The study shall include, but is not limited to the following:

a. A numerical stormwater model for the project site that evaluates existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event.

b. The study shall also consider potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation.

c. Engineering recommendations to be incorporated into the project design and applied within the site boundary. Engineering recommendations will include measures to offset increases in stormwater runoff that would result from the project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding onsite or offsite.

d. A specification that the final design of the solar arrays shall include one foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Management Ordinance.

e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards, and approved by the Kern County Public Works Department prior to the issuance of grading permits.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2 impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

During construction, groundwater from the existing on-site irrigation wells, or purchased from a local provider, would be used for dust suppression, soil compaction, concrete hydration, and other miscellaneous activities requiring non-potable water during construction. The amount of water used would vary based on site conditions and local rainfall, but in general it is anticipated that up to approximately 150 acre-feet of water per construction year would be needed. This equates to approximately 12.5 acre-feet per month. It should be noted that this is substantially less than the water used for irrigation of crops under existing conditions. Given the limited amount of groundwater that would be used during construction and that it would be less than existing conditions, the project is not anticipated to substantially decrease groundwater supplies.

Regarding groundwater recharge, during construction such that the project would impede sustainable groundwater management of the basin. Construction would not prevent or inhibit any incidental groundwater recharge that currently occurs on site from precipitation. During construction the project site would generally remain pervious and would allow any current infiltration that occurs to continue. During installation of the impervious solar panels, the same as after construction, most rainfall would disperse across their panel surface and fall to the ground surface. This would facilitate infiltration and subsequent groundwater recharge.

While the project would result the conversion of portions of the site to solar energy production over time, most of the ground surface would remain permeable and enable infiltration. Thus, construction of the project would not substantially reduce groundwater volumes or impede recharge and sustainable groundwater management within the basin.

Thus, due to the minimal amount of groundwater needed for construction activities, and the temporary, short-term nature of groundwater extraction required, construction of the project would not be considered water intensive. In addition, according to the Kern Groundwater Authority GSP, it has been noted that solar facilities may be considered a preferred use in the context of groundwater sustainability due to the minimal demand for groundwater resources they require compared to other land use types, such as agricultural uses. Agricultural use is considered substantially more water-intensive by comparison. Thus, the project also would not impede sustainable groundwater management of the basin and impacts would be less than significant. Therefore, impacts would be less than significant.

Operation

New impervious surfaces would be introduced but would be limited to the BESS and other minor support facilities and the new solar equipment. As discussed above, most water falling on the new panels would runoff and fall to the ground surface and infiltrate. The interior access roads would be unpaved or use an all-weather aggregate base. Thus, most of the project site would remain permeable and would not be an impediment to groundwater recharge. Water use during operations would primarily be used for washing the panels two to three times a year and for fire suppression. Panels would be washed to minimize dust or other materials and maintain efficiency. Similar to rainfall, water from panel washing would runoff the panels land on the ground and have the opportunity to infiltrate.

The project would be required to submit Drainage Plans to the County for review and to determine compliance with the Development Design Standards. All listed project design elements related to drainage and erosion control would be subject to review by Kern County. Review of the project would include a verification that the design complies with the adopted Development Design Standards. The standards regulate, among other things, stormwater management, erosion control, and water quality. This would include a review of the proposed detention basin(s), that is anticipated to be approximately 10.5 acres of with a 50-acre-foot volume. The final location and sizing of the basin would be determined as part of final project designs. Therefore, with the project's compliance with the adopted Development Design Standards, operational impacts related to the violation of a water quality standard or waste discharge requirement, would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Lakeview Substation and Interconnection Facilities, including expansion to the existing substation, for the transport of renewable energy would not substantially decrease

water supplies or impede groundwater recharge. In addition, PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of groundwater recharge.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner than would result in substantial erosion and/or sedimentation on-site or off-site.

Construction and Decommission

Construction and decommission of the project would result in minor alterations of the existing drainage pattern of the site but there are no on-site rivers or drainages in the location of the proposed solar field. Construction would include clearing, grading, excavation, soil compaction, utility trenching, and similar activities that if not properly managed could result in off-site erosion and sedimentation. Decommissioning and removal of the facilities would require less intensive construction measures but also if not properly managed could result in on-site or off-site sedimentation. However, as discussed in Impact 4.10-1, above, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. In addition, because the site relatively flat, changes to the drainage patterns across the project site would be minimal and no physical changes to any stream or river that could carry sediment off-site or to other downstream receiving waters are proposed.

The project would be required, per existing State regulations, to obtain coverage under State Water Resources Control Board Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. Prior to the start of construction, the applicant would submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the State Water Resources Control Board. The SWPPP would address pollutant sources, non-storm water discharges, best management practices, and other requirements specified in the abovementioned Order. BMPs include, among other requirements, installation of silt fencing around the construction site, protection of storm-drain inlets, and covering of exposed soil stockpiles. In addition to the State regulations, Kern County would require the Project to submit an NPDES Storm Water Program Permit to the Kern County Public Works Department to verify the Applicant's stormwater plans.

With the Project's compliance under the existing State and County regulations, construction impacts related to the alteration of existing drainage pattern, would be less than significant

Operation

The project site is relatively flat and would remain so post-construction and the operational-related impacts from erosion or siltation would be less than significant. The project's site engineering and design plans would be required to comply with the most recent requirements of the Kern County Code of Building Regulations. The design and plan review process would ensure that the final grading would conduct site drainage to the stormwater retention basin(s) or other facilities designed to control runoff. The onsite retention basin(s) for stormwater management would capture stormwater, allow for infiltration to the groundwater, and minimize risk from offsite flows.

Lastly, and as discussed, above the project would implement MM 4.10-1 and MM 4.10-2, and BMP's, required by the Kern County Grading Ordinance, long-term impacts on drainage patterns across the project site would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The modifications to the PG&E Lakeview Substation and construction of Interconnection Facilities for the transport of renewable energy is not anticipated to violate water quality standards or waste discharge requirements related to substantial siltation or erosion from modifications to a stream or river. In addition to the listed mitigation measures, the project improvement would conform to PG&E's best management practices and APMs. These improvements also would comply with all applicable state and federal laws and regulations during construction and operation.

Mitigation Measures

Implementation Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner that would result in flooding onsite or offsite.

The rate and amount of surface runoff is determined by multiple factors, including topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed, and the amount of precipitation and water that infiltrates to the groundwater. The project would not alter the amount or intensity of precipitation, nor would it require significant amounts of additional water to be imported to the project site.

Construction and Decommission

The northwestern portion and the eastern half of the project site is designated as a Zone A by FEMA. Zone A comprises of, "Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies." All other portions of the project site and off-site improvement areas are located in an area designated by FEMA as Zone X, which is an area of minimal flood hazard (FEMA 2008).

Although grading would occur on the project site and within areas designated as Zone A, the project site is relatively flat and level and ground disturbance would not substantially alter the overall topography or flow regime of these areas or the project site overall. Accordingly, grading would not substantially alter the existing contours of the site and there are no existing streams, rivers, or drainages that would be modified by construction activities. Thus, while runoff patterns and concentrations could be altered by grading activities, for the above listed reasons, such changes would be minimal and the rate or amount of surface runoff resulting from project construction activities would be similar to the existing condition. This would not substantially increase the potential for on-site or off-site flooding.

Final project design is not yet known and it is not certain if the proposed BESS and/or O&EM building would be located within the Zone A or Zone X. If the structure would be located within Zone A, the building would need to comply with the Kern County requirements for development within a 100-year floodplain. Drainage plans would be submitted and reviewed by Kern County to verify that potential flood waters would not increase the water surface elevations more than 1 foot or in accordance with the Kern County Floodplain Ordinance. This, combined with the relatively small footprint of the structures would ensure these elements do not result in substantial changes to any potential flood flows.

Lastly, the potential effects would be further reduced through compliance with design specifications and BMPs required by the Kern County Grading Ordinance and the preparation of a SWPPP, included under MM 4.10-1 and completion of the grading plan under MM 4.10-2.

Operation

Operation of the project would slightly alter the existing drainage pattern on site. The project would install the solar panels on piers which would minimizing the need for cement foundations and footings. By raising the solar panels off the ground, the project would not substantially alter drainage patterns of the site in a manner that would increase flooding potential. Additionally, as stated above, if the BESS and O&EM structures are within the flood zone, they would be designed to conform to the Kern County requirements for development within a 100-year floodplain and verified by Kern County that they would not increase the water surface elevations more than one foot or that they are out of accordance with the Kern County Floodplain Ordinance.

Lastly, as described above, under impact the project site is relatively flat and would remain so post-construction. The project would include a drainage plan that would conduct stormwater runoff to an on-site stormwater retention basin(s) that would retain certain rain events on-site. This would further minimize the potential for increased flooding from implementation of the project.

Thus, through conformance with all requirements contained within the Kern County Grading Ordinance and implementation of Measures MM 4.10-1 and MM 4.10-2, long-term effects on drainage patterns and the potential to result in flooding on or off site, would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The modifications to the PG&E Lakeview Substation and construction of Interconnection Facilities for the transport of renewable energy is not anticipated to result in substantial changes to the existing drainage patterns such that flood flows would be affected. A small portion of the westerly area that would be used for the Gen-tie lines is located within a Zone A. The balance of the lines as well as location of the substation modifications are in a Zone X. All project improvement also would conform to PG&E's best management practices and APMs. These improvements also would comply with all applicable state and federal laws and regulations during construction and operation and would not affect on-site or off-site flooding.

Mitigation Measures

Implementation Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Construction and Decommission

The project site is located in a remote, rural region with no existing or planned stormwater infrastructure. There are no existing stormwater drainage systems on the project site, and no stormwater drainage systems are proposed as part of the project. The project site is drained by sheet flow and any existing rainfall and irrigation runoff, as well as that which would be applied during construction would percolate into the ground with minimal potential for runoff because the site is flat and has minimal slope. If water from rainfall events during construction is not properly controlled, however, it could result in runoff containing silt or soil from bare ground surfaces. Runoff also could contain potentially hazardous materials—such as engine oil, diesel fuel, or lubricant—if an accidental release of these materials were to occur during the construction phase.

As described above, the project would comply with SWRCB Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. This would include compliance with the NPDES permit through development of a compliant SWPPP with BMPs approved by the Kern County Engineering, Surveying and Permit Services Department. Implementation of the SWPPP would minimize the risk of substantial polluted runoff during construction.

In addition, the project would implement a HMBP that would be in place prior to initiation of construction activities. The HMBP would ensure all fuels, greases, solvents, or other similar materials are appropriately stored and a clean-up protocol is in place should a spill occur. Conformance with these requirements would minimize stormwater runoff from the project site during construction. Thus, with the implementation of the MM 4.10-1 and 4.10-2, and any additional requirements within the Kern County Grading Code, impacts associated with polluted runoff during construction would be less than significant.

Operation

Development of the project site would create additional impervious surfaces. These changes would not substantially increase the amount of stormwater runoff. The project site is drained by sheet flow and does not rely on constructed stormwater drainage systems. As discussed above, the pattern and concentration of runoff could be altered by project activities such as grading and installation of the solar panels. Impacts related to polluted runoff from operation of the project would be reduced through the use of an approximately 10.5-acre stormwater basin(s) that would be detailed in the drainage plans. The drainage plans would be submitted to the County for review and to determine compliance with the Development Design Standards. This would include conformance to Division 4 of the standards that specifically regulates the design volume and hydraulic design requirements for individual project sites. The project also included Mitigation Measure MM 4.10-1 and 4.10-2 2, which requires development of a SWPPP and final hydrologic study in compliance with the Kern County Grading Code. In addition, less than one percent of the site would become impervious, with much of the stormwater transmitted to the retention basin. Thus, the project would result in little to no additional flow that would enter any downstream or off-site stormwater drainage system as a result of the proposed improvements. Impacts would be less than significant and additional mitigation is not required.

Regarding the potential for hazardous materials to contribute to polluted runoff, as discussed in the *Phase I Environmental Site Assessment* (Appendix J1), the project site was identified as having past and current agricultural uses, as well as an oil and gas well on the project site. The two agricultural ponds also were noted as recognized environmental conditions. A subsequent Phase II ESA was constituents were either below required concentration levels or in the case of agricultural pond #1 will be avoided during construction activities and will not be disturbed. No other hazardous materials records related to the project site were found. As discussed in Impacts a through c (iii), the proposed project would not substantially degrade water quality during the construction or operational period because once the project is completed, additional ground disturbance would not be occurring and hazardous material use would be minimal, and the stormwater drainage system, with retention basins, would be in place to capture and control runoff. The HMPB also would be in place through the life of the project further ensuring impacts during operations are less than significant. Thus, impacts related to project operations and the potential for polluted runoff to affect off-site areas is less than significant and additional mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities, including improvements to the existing Lakeview Substation for the transport of renewable energy is not anticipated to violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality through the release of polluted runoff. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of existing drainage patterns as they relate to flooding.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.10-6: The project would place within a 100-year flood hazard area structures that would impede or redirect flood flows.

As described above, portions of the project site are designated as Zone A, which are areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. The majority of the improvements areas that would contain the solar panels would be placed on support posts above the flood elevation thus allowing floodwater to continue to move across the project site. Structures that could impede or redirect flow would be limited, and potentially include the control house building and O&M building. However, structures located within Zone A would be subject to review by Kern County to verify that potential flood waters would not increase the water surface elevations more than one foot or in accordance with the Kern County Floodplain Ordinance.

In addition, incorporation of MM 4.10-1 and MM 4.10-2, which require preparation of a SWPPP and implementation of BMPs to limit erosion, would ensure that construction, decommission, and operation of the proposed project would not result in a significant impact relative to impeding or redirecting flood flows within and area identified with a flood hazard. Impacts in this regard would be less than significant and mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities, including expansion of the existing Lakeview Substation, for the transport of renewable energy is not anticipated to violate standards related to the placement of structures within a 100-year floodplain. A small portion of the westerly end of the Gen-Tie line may occur within the Zone A, but the balance of the line and the modifications to the substation would be in a Zone X. In addition, PG&E's best management practices and APMs that include compliance with all applicable state and federal laws and regulations during construction and operation would be applied, this would include regulations that relate to the protection of existing drainage patterns and the 100-year flood hazard area or impeding flows within a flood hazard area.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.10-7: The project would result in a flood hazard, tsunami, or seiche zone, and risk release of pollutants due to project inundation.

A tsunami is a series of ocean waves generated by sudden displacements in the sea floor, landslides, or volcanic activity. A seiche is a standing wave in an oscillating body of water. The project site is located approximately 53 miles east of the Pacific Ocean (closest portion near Santa Barbara to the southwest). There also are no enclosed bodies of water within the project vicinity: therefore, the risk for tsunami or seiche in the project area is very low and there would be little or no chance for an impact involving release of pollutants during such events.

As discussed above, portions of the project site are located within a 100-year flood zone. Further, as discussed in Section 4.9, Hazards and Hazardous Materials, the proposed project would not include the use, storage, or disposal of significant quantities of hazardous materials that could introduce pollutants to the environment should the areas be inundates. Therefore, considering the limited area of the site that is in the flood hazard area, the limited amount of storage of hazardous materials at the site, and with the implementation of the drainage plan required by Mitigation Measure MM 4.10-2, which would provide flood protection measures, the potential for release of pollutants due to project inundation impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities, including improvements to the existing Lakeview Substation, for the transport of renewable energy is not anticipated to violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.

Mitigation Measures

Implement Mitigation Measure MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The project site is located within the Central Valley RWQCB jurisdiction and is subject to the applicable requirements of the Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act. However, the project site does not contain any water nor is it adjacent to a site to which a Basin Plan would apply. Thus, the project would not obstruct the implementation of a water quality control plan.

In addition, there is currently no adopted sustainable groundwater management plan that includes the project site. The project site is located within the San Joaquin Valley Groundwater Basin, Kern County Subbasin (Groundwater Basin Number: 5-022.14), and Tulare Lake Hydrologic Region. Groundwater is

reported to be between 31 and 39 feet below ground surface and flow toward the north-northeast. The Kern County Subbasin groundwater is subject to the Kern Groundwater Authority (KGA) as a groundwater sustainability plan area that is broken up into many agencies and water districts. The Wheeler Ridge – Maricopa Water Storage District (WRMWSD) is responsible for the project site and near-vicinity groundwater. The WRMWSD was formed to engage with stakeholders and assist in general compliance with specific elements of the SGMA, and any basin specific groundwater budget goals.

In a 2019 WRMWSD presentation, it was indicated that preliminary model runs of the wells monitored in the groundwater management area of the project site were not expected to have undesirable results. Given that the project would use substantially less groundwater than under existing farm irrigation conditions, implementation of the project would not be expected to change the results.

Therefore, because there is no applicable Basin Plan or Sustainable Groundwater Management Plan applicable to the site, the project could not conflict with either of these types of plans.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities, including improvements to the existing Lakeview Substation, for the transport of renewable energy is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of water quality control plans and sustainable groundwater management plans.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, of this EIR, there are multiple projects proposed throughout Kern County and the Southern San Joaquin Valley, including solar facilities, agricultural trucking facilities, telecommunications infrastructure, and commercial development. Similar to the proposed project many projects are anticipated to not be located within or adjacent to waters of the US or wetland areas and would not result in discharges. In addition, all cumulative projects would be subject to and includes similar mitigation to include Mitigation Measure MM 4.10-1, which requires the project to prepare and implement a SWPPP in accordance with County requirements. Similarly, all projects that would not retain all runoff onsite would be required to prepare a SWPPP, which would include BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. Similarly, for other projects that do not yet have a final drainage plan, one would be required prior to issuance of building or grading permits.

Furthermore, the proposed project and other projects, as applicable, would implement a HMBP as part of Mitigation Measure MM 4.9-1 that would require appropriate handling of hazardous materials onsite to ensure they do not come into contact with stormwater and affect water quality. All other projects in the vicinity that would handle hazardous materials would be required to comply with any other applicable hazardous material regulations. Therefore, cumulative scenario impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

With regard to water supply, the proposed project would obtain its water supply from the Wheeler Ridge-Maricopa Water Storage District, which is a Kern County Water Agency Member Unit and receives State Water Project (SWP) deliveries through the KCWA. The Wheeler Ridge- Maricopa WSD also manages the portion of the Kern Subbasin that underlies its jurisdiction and serves as the Groundwater Sustainability Agency (GSA) for this portion of the Kern Subbasin, referred to as the Wheeler Ridge-Maricopa Management Area (of the Kern County Subbasin).

While the basin is in a state of overdraft, the WSA concluded that sufficient water supply is available to meet the project's maximum potential water demands over a 35-year operational lifespan, and that water supply is reliable under normal-year, single-dry-year, and multiple-dry-year conditions, which are reflected in the WSD's projections of the effects of climate change. Although regional water shortages may occur during the project's lifetime, such conditions are projected to occur regardless of the proposed project and are accounted for in the KGA Umbrella GSP as well as the Wheeler Ridge-Maricopa WSD Management Area Plan. This conclusion also considers that the proposed project would reduce existing and future use on the site which is currently used for agricultural and water intensive. The project is anticipated to reduce demand to approximately 17.58 AFY, which would be a substantial reduction and also reduce the overall cumulative water demand in the basin. Therefore, the project's water use, in combination with other cumulative scenario projects requiring groundwater would be less than significant.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure 4.10-1 and 4.10-2, which would minimize direct impacts on erosion, drainage, and flooding, and require the preparation of a site-specific drainage plan. It is anticipated that other cumulative scenario projects would be required to implement similar measures, in order to minimize erosion, drainage, and flooding related impacts. Additionally, drainage related impacts from cumulative scenario projects would be primarily localized. Therefore, cumulative scenario impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable, and the project would not contribute to a cumulative impact on flooding, erosion, or drainage.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities, including improvements to the existing Lakeview Substation, for the transport of renewable energy is not anticipated to violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of existing drainage patterns as they relate to flooding.

Mitigation Measures

Implement of Mitigation Measures MM 4.9-1, MM 4.10-1 and MM 4.10-2 would be required (see 4.9, *Hazards and Hazardous Materials*, for full mitigation measure text)

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2 impacts would be less than significant. Cumulative impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Section 4.11
Land Use and Planning

4.11.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project for impacts that may affect land use and planning. It also describes the environmental and regulatory setting and discusses the need for mitigation measures where applicable. The information in this section is based primarily, but not exclusively, on a review of the project's consistency with the Kern County General Plan and the Kern County Zoning Ordinance.

4.11.2 Environmental Setting

Onsite Land Uses

The project consists of approximately 527 acres on which the proposed solar panels and associated facilities would occupy. The project site is currently privately-owned agricultural land located in the north western extent of Kern County, California. The project site is located within the boundaries of Agricultural Preserve No. 12 and most of the parcels, APNs 295-131-12 and 295-132-15 are currently subject to a Williamson Act Land Use Contract. The project site is designated as Farmland of Statewide Importance pursuant to the farmland mapping and monitoring program (FMMP). The project is in the Central California Valley Ecoregion and the United States Geological Survey (USGS) Avenal Gap 7.5-minute topographical quadrangle. Development in the area surrounding the project site is predominantly agriculture. The project site is within the San Joaquin Valley Basin of the San Joaquin Valley Air Pollution Control District.

The topography of the project site is generally flat, with elevations ranging from 340-394 feet (104- 120 meters) above mean sea level (amsl). The project site generally slopes slightly from the south along Copus Road to the north toward the northern project boundary. The project site is vacant and undeveloped and covered with sparse to moderately dense non-native vegetation currently used for grazing. The project site does contain one oil/gas facility that occupies approximately 2.5 acres adjacent to Copus Road. In recent years, the majority of the project site has been used primarily for grazing and farming dry grain crops such as wheat or barley. Habitats within the project site are dominated by land classified as agricultural with surrounding areas classified as ruderal. The oil/gas facility is categorized as developed and is largely devoid of any vegetation.

As shown in **Table 4.11-1:** *Project Site and Surrounding Land Use Designation and Zoning Classifications,* below, the project site is located within unincorporated Kern County and within the administrative boundaries of the Kern County General Plan. Within the Kern County General Plan, the project site's land use designation is Map Code 8.1 (Intensive Agriculture – Min. 20 Acre Parcel Size), 8.1/2.3 (Intensive Agriculture / Shallow Ground Water), and 8.1/2.5 (Intensive Agriculture / Flood Hazard). As shown in **Table 4.11-1**, below, the project site's zoning classification is A (Exclusive Agriculture), A-1 (Limited Agriculture), and C-2 PD (General Commercial, Precise Development Combining).

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USE DESIGNATION AND ZONING CLASSIFICATIONS

Location	Existing Land Use	Existing General Plan Map Code Designation	Existing Zoning Classification
Project Site	Agricultural	8.1 (Intensive Agriculture); 8.1/ 2.3 (Intensive Agriculture / Shallow Ground Water) 8.1/ 2.5 (Intensive Agriculture / Flood Hazard)	A (Exclusive Agriculture) A-1 (Limited Agriculture) C-2 PD (General Commercial, Precise Development Combining)
North	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/2.5 (Intensive Agriculture/Flood Hazard) 8.3 (Extensive Agriculture) 8.5/2.5 (Resource Management/Flood Hazard)	A (Exclusive Agriculture)
South	Agricultural, Vacant Land	8.4/2.3 (Mineral and Petroleum/Shallow Ground Water) 8.1 (Intensive Agriculture) 8.1/2.3 (Intensive Agriculture/Shallow Ground Water)	A (Exclusive Agriculture)
East	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/2.3 (Intensive Agriculture/Shallow Ground Water) 8.1/2.5 (Intensive Agriculture/Flood Hazard)	A (Exclusive Agriculture) A-1 (Limited Agriculture) C-2 PD (General Commercial, Precise Development Combining) A FPS (Exclusive Agriculture, Floodplain Secondary Combining)
West	Agricultural, Vacant Land	8.1 (Intensive Agriculture) 8.1/ 2.3 (Intensive Agriculture/Shallow Ground Water)	A (Exclusive Agriculture)

SOURCE: Kern County, 2019

Surrounding Land Uses

The project site is located in southern Kern County in the central valley region. As described in **Table 4.11-1**, above, surrounding land uses are composed primarily of agriculture, but other interspersed areas are developed with a mix of typically rural uses. Existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, access roadways, and the California Aqueduct. The PG&E Lakeview Substation is approximately 0.5 miles east of the proposed project facility. A few rural residential uses and commercial developments are sparsely located in the surroundings areas as well.

Surrounding land uses are classified as 8.1 (Intensive Agriculture - Min. 20 acre parcel size), 8.1/2.3 (Intensive Agriculture/Shallow Ground Water), and 8.1/2.5 (Intensive Agriculture/Flood Hazard Overlay). Surrounding land uses are located within the zoning designation of A (Exclusive Agriculture), A-1 (Limited Agriculture), and C-2 PD (General Commercial, Precise Development Combining).

4.11.3 Regulatory Setting

Federal and State

There are no applicable federal or state regulations for this issue area.

Local

Land use and planning decisions within and adjacent to the project site are guided and regulated by the Kern County General Plan and Kern County Zoning Ordinance. The Kern County General Plan contains goals, objectives, and policies and provides an overall foundation for establishing land use patterns. For this land use impact analysis, this section lists all relevant goals, objectives, policies, and implementation measures related to the proposed project. The Zoning Ordinance contains regulations through which the General Plan's provisions are implemented. The most relevant regulations pertaining to solar energy development are presented below.

Kern County General Plan

The Kern County General Plan is a policy document designed to provide long-range guidance for planning decisions that affect the growth and resources of unincorporated Kern County. Included in the Kern County General Plan is the Land Use, Open Space, and Conservation Element, which provides for a variety of land uses for future economic growth while also assuring the conservation of Kern County's agricultural, natural, and resource attributes (County of Kern, 2009). Within the Land Use, Open Space and Conservation Element, policy areas are separated by overlay designations, known as "Map Codes", which are identified on the Kern County General Plan maps for each section of the County and include the following categories: (1) non-jurisdictional land (State and federal); (2) environmental constraints overlay; (3) public facilities; (4) non-jurisdictional land (accepted county plan areas, rural communities and specific plan required); (5) residential; (6) commercial; (7) industrial; and (8) resource. Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them. The Kern County General Plan and includes the following land use designations pertaining to the project site: Map Code(s) 8.1 (Intensive Agriculture - Min. 20 acre Parcel Size), 8.1/2.3 (Intensive Agriculture/Shallow Ground Water), and 8.1/2.5 (Intensive Agriculture/Flood Hazard Overlay). Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them.

In addition to the Land Use, Open Space, and Conservation Element, the Kern County General Plan includes other elements related to circulation, noise, and energy. Each element establishes goals, policies, and implementation measures that guide planning decisions in unincorporated Kern County. The goals, policies, and implementation measures relevant to the proposed project are listed below.

1. Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained ((Map Code 2.1 (Seismic Hazard), Map Code 2.2

(Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard)) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.

Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.4 Public Facilities and Services

Goals

Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Policy 7: The County will ensure adequate police protection to all Kern County residents.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Implementation Measures

Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.

Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D: Involve utility providers in the land use and zoning review process.

Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.9 Resource

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.

Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.

Goal 5: Conserve prime agricultural lands from premature conversion.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.

Policy 5: Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.

Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.

Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

Policy 14: Emphasize conservation and development of identified mineral deposits.

Policy 16 The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Implementation Measures

Measure B: Areas designated as Resource Reserve (Map Code 8.2), Extensive Agriculture (Map Code 8.3), Resource Management (Map Code 8.5) that are under Williamson Act Contracts or Farmland Security Zone Contracts will have a minimum parcel size of 80 acres until such time as a contract is expired or is cancelled, at which time the minimum parcel size will become 20 acres.

Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

Measure G: Property placed under the Williamson Act/Farmland Security Zone Contract must be in a Resource designation.

Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.

Measure K: Protect Oilfields and extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction)

1.10 General Provisions

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1 Public Services and Facilities

Policies

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

1.10.2 Air Quality

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

(1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and

(2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts efforts to reduce PM10 and PM2.5 emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

a. Minimizing idling time.

b. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

a. Pave dirt roads within the development.

b. Pave outside storage areas.

c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.

d. Use of alternative fuel fleet vehicles or hybrid vehicles.

e. Use of emission control devices on diesel equipment.

f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.

g. Provide bicycle lockers and shower facilities on site.

h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).

i. The use and development of park and ride facilities in outlying areas.

j. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

1.10.5 Threatened and Endangered Species

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.

Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.

Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

1.10.6 Surface Water and Groundwater

Policies

Policy 34: Ensure that water quality standards are met for existing users and future development.

Policy 40: Encourage utilization of community water systems rather than reliance on individual wells.

Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.

Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.

Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

Measure Y: Promote efficient water use by utilizing measures such as:

(i) Requiring water-conserving design and equipment in new construction;

(ii) Encouraging water-conserving landscaping and irrigation methods; and

(iii) Encouraging the retrofitting of existing development with water conserving devices.

1.10.7. Light and Glare

Policies

Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.

Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Implementation Measure

Measure AA: The County shall utilize *CEQA Guidelines* and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.

Chapter 2. Circulation Element

2.1 Introduction

Goals

Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County unless the roads are part of an adopted Community Plan or Specific Plan which utilizes Smart Growth policies that encourage efficient multi-modal movements (See Section 1.10.8 of the Kern County General Plan).

2.3.3 Highway Plan

Goals

Goal 5: Maintain a minimum Level of Service (LOS) D.

Policies

Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.

Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted

County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection "grid" will comprehensively apply to the Mountain Region**.**

Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

- Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;
- Arterial [Major Highway] Minimum 110-foot right-of-way;
- Collector [Secondary Highway] Minimum 90-foot right-of-way;
- Commercial-Industrial Street Minimum 60-foot right-of-way; and
- Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

Policies

Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level Of Service (LOS) D. However, development proposed as part of a Community Plan or Specific Plan which utilizes Smart Growth Policies that encourage efficient multi-modal movements (See Section 1.10.8) is allowed the flexibility to assess traffic and safety impacts through other means than Level Of Service (LOS). Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards

unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measure

Measure A: The County should relate traffic levels to road capacity and development levels. To accomplish this, the Kern County Roads Department and the Kern County Planning and Natural Resources Department should set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.

Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.10 Congestion Management Programs

State law requires that urbanized counties (including Kern County) prepare an annual congestion management program (CMP). City and county eligibility for new gas tax subventions is contingent upon their participation in the congestion management program. To qualify for funding provided through the State Transportation Improvement Program (STIP) or the Federal Transportation Improvement Program (FTIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).

Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.

Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.

Goal 2: Reduce potential overweight trucks.

Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

2.5.4 Transportation of Hazardous Materials

Goal

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policy

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Implementation Measure

Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.

Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.

Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise

Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.

Policy 7: Employ the best available methods of noise control.

Implementation Measures

Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.

Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}.

Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:

a) Be the responsibility of the applicant.

b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.

c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.

Measure I: Noise analyses shall include recommended mitigation, if required, and shall:

a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10 – 20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.

c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.

d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.

Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Chapter 4. Safety Element

4.1 Introduction

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measures

Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measure

Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

4.6 Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

4.9 Hazardous Materials

Implementation Measure

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

4.10: Abandoned Open Shafts and Wells

Policies

Policy 1: The County should protect residents from the hazards of improperly abandoned mine shafts.

Policy 2: The County should protect residents from the hazards associated with development in areas where wells have been drilled and abandoned for exploration and/or production of oil and natural gas.

Implementation Measure

Measure B: Support the construction site review program of the Department of Oil, Gas and Geothermal Resources that ensures that wells are precisely located, properly plugged and abandoned, and tested for leakage prior to development of the area.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

Policies

Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

5.4.5 Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

5.4.7 Transmission Lines

Goal

Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.

Policy

Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.

Kern County Zoning Ordinance

Title 19 of the Kern County Ordinance provides a description of permitted uses for the various zoning classifications within the County. The Zoning Ordinance consists of two primary parts: a Zoning Map that delineates the boundaries of zoning districts; and a Zoning Code that explains the purpose of the districts, specifies permitted and conditional uses, and establishes development and performance standards. The intent of the Zoning Code is to protect public health, safety, and the general welfare of residents and visitors in the County. Together with the Zoning Map, the Zoning Code identifies the particular uses permitted on each parcel of land in the County and sets forth regulations and standards for development to ensure that the policies, goals, and objectives of the General Plan are implemented. In addition to land use regulations, the Zoning Code contains development standards that can lessen a new structure’s impacts on a location or area. These standards control the height, setbacks, parking, lot coverage, gross floor area, etc. for new structures. The Zoning Code also regulates which uses are permitted in each of the County’s zoning districts to ensure compatibility between land uses.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG), and was adopted in August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. New to the 2018 RTP, California's Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, calls for the Kern RTP to include a Sustainable Communities Strategy (SCS) that reduces greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing needs and transportation planning.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to State and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage based user fees (Kern COG, 2018).

Kern County's Solid Waste Management Plan

The Solid Waste Management Plan is a comprehensive guide for all solid waste management activities in the County. The plan identifies the existing solid waste generation and disposal facilities in Kern County, estimates future solid waste disposal demand, and identifies programs to meet this future need.

Kern County and Incorporated Cities Hazardous Waste Management Plan

The Kern County and Incorporated Cities Hazardous Waste Management Plan focuses on the siting of hazardous waste disposal facilities, the transport of hazardous waste in the County, protection of water resources from hazardous waste contamination, and public education concerning the use and disposal of hazardous waste.

4.11.4 Impacts and Mitigation Measures

Methodology

The potential impacts associated with the project are evaluated on a qualitative basis through a comparison of the existing land use and the proposed land uses, in consideration of the applicable planning goals identified above. Compliance with the aforementioned policies is illustrated in consistency tables provided in the project Impacts section below. The change in the land use on the project site is significant if the project results in the effects described in the thresholds of significance below. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on land use.

A project could have a have a significant adverse effect on land use if the project would:

a. Physically divide an established community; or

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Project Impacts

Impact 4.11-1: The project would cause a significant environmental impact due to physically dividing an established community.

The project would be developed on previously disturbed undeveloped agricultural land in an unincorporated area of Kern County. The project site is located in a rural area surrounded by undeveloped lands, agricultural lands, permitted solar facilities, a nut processing plant, and scattered rural residential uses, with the nearest residential land use (a single residential home) located 175 feet to the south of the project site. The nearest established community is Taft located approximately 17 miles to west with downtown Bakersfield being approximately 20 miles northeast of the project site. There are no communities immediately adjacent to the project site and within the project parcel there are no public roadways that would be realigned or experience service interruptions that provide connectivity between residential locations. The project would not disrupt vehicle traffic along either Copus Road or Old River Road. Thus, the project site would not create a physical barrier between any established community or disallow travel between communities. The proposed project would not physically divide or restrict access to any of the outlying communities, City of Bakersfield, or other residential areas. Therefore, impacts related to the physical division of an established community would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the interconnection facilities to the PG&E Lakeview Substation for the transport of renewable energy is not anticipated to cause a significant environmental impact due to physically dividing an established community. There are no residences on the project site while the surrounding area includes a few residences. Additionally, the nearest established community is the City of Taft which is approximately 17 miles northwest of the project site. Therefore, the PG&E Interconnection Facility expansion would not physically divide an established community.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities

Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The Kern County General Plan and the Kern County Zoning Ordinance establish land use policies and regulations that are applicable to the project. The following discussion evaluates the project's consistency with these plans, policies and regulations in the lands for which the County has jurisdiction. Implementation of the project would require approval of a Williamson Act Land Use Contract cancellation, which has been requested as part of the project. This request has been petitioned for cancellation to the County pursuant to Section 51282(a)(1), which requires that the cancellation is in the public interest. A cancellation may be granted based on statutory findings under (Government Code §51282(a)), determining that the cancellation is in the public interest and satisfy two conditions: (1) that other public concerns substantially outweigh the objectives of the Williamson Act, and (2) that there is no proximate non-contracted land that is both available and suitable for the proposed use or that development of the contracted land would provide more contiguous patterns of urban development (Government Code §51282(c)).

In addition to the Williamson Act Land Use Contract Cancellation the project includes a Conditional Use Permits (CUP). Approval of the cancellation and CUP would enable construction and operation of the proposed 70 megawatt (MW) solar facility and up to 68 MWh battery energy storage system.

The project site is designated as 8.1 (Intensive Agriculture - Min. 20 acre Parcel Size), 8.1/2.3 (Intensive Agriculture/Shallow Ground Water), and 8.1/2.5 (Intensive Agriculture/Flood Hazard Overlay) under Kern County's current General Plan (see **Figure 3-4**, *Existing General Plan Land Use Designations*, in Chapter 3). The project does not conflict with uses that would be allowed within the existing land use designations. In addition, the project would not a conflict with any applicable land use plans or policies for the purpose of avoiding or mitigating an environmental effect. Impacts in this regard would be less than significant.

As shown on Chapter 3, *Project Description*, **Figure 3-5:** *Existing Zoning Classifications*, the project site and locations in which the solar panels would be located has a zone classification of A (Exclusive Agriculture). No changes in this zone classification are proposed and the project would be consistent.

According to Kern County Zoning Ordinance Chapters 19.12.030.G, solar energy electrical facilities are permitted within the A Zone District with the approval of a CUP. The gen-tie line adjacent to the southerly alignment of Copus Road also would be located with an area zoned A (Exclusive Agriculture) as well as an A-1 (Limited Agriculture) zone (adjacent to the southeasterly side of the intersection of Copus Road and Old River Road). Transmission lines and supporting towers, poles, and underground facilities for electricity services are an allowable use in this zone. Thus, similar to the above, no conflicts would occur.

As Old River Road approaches and intersects with Copus Road it curves slightly to the west and is located within a portion of the project parcel (APN 295-131-12). This leaves a small sliver of the project site, approximately 0.43 acres, on the easterly side of Old River Road and adjacent to the neighboring parcel to the east, APN 205-132-11. APN 205-132-11 carries two zoning designations C-2 PD (General Commercial, Precise Development Combining) and A-1 (Limited Agriculture). The small sliver of project property is next to approximately 18 acres on the adjacent parcel that is zoned C-2 PD (General Commercial, Precise Development Combining). Likely due to the bend in Old River Road and to more easily defined zones, this small area of the project site also is zoned C-2 PD (General Commercial, Precise Development Combining) zone. It should be noted, however, the project does not propose any improvements within this area and no conflicts would arise.

Approval of the CUP would allow for the construction and operation of the solar facility and enable generation of approximately 70 MW of renewable energy and installation of the BESS enabling storage of up to 68 MWh of energy within the A (Exclusive Agriculture) Zone District and A-1 (Limited Agriculture) Zone District pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance. More specifically, the proposed CUP is shown below:

- Conditional Use Permit (CUP 30, Map No. 160) to allow for the construction and operation of a 70 MW utility-scale solar facility pursuant to Chapter 19.12.030.G of Kern County Zoning Ordinance.

With approval of the CUP, the proposed solar project would be an allowable use within the A Zone District. At the end of the project's operational term, the project proponent would determine whether the project site should be decommissioned and deconstructed or if it would seek an extension of its CUP. If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time.

In addition, as shown in Chapter 3, *Project Description*, **Figure 3-7:** *Williamson Act Land Use Contracts*, the project site is within an area that has historically been used for agricultural crop production and is subject to an active Williamson Act Land Use contracts. The project would result in the cancellation of open space contracts made pursuant to the California Land Conservation Act of 1965; however, petitions have been filed as part of the proposed project for notice of nonrenewal and cancellation of each contract. The Williamson Act Land Use Contract Cancellation follows:

- Cancellation of approximately 513.61 acres of Williamson Act Contract, Book 4373, page 24 to be processed for Assessor's Parcel Number (APN) 295-131-12 and approximately 14.5 acres of Williamson Act Contract, Book 4272, page 933 to be processed for APN 295-132-15.

With the cancellation of the above Williamson Act Land Use Contract, the proposed project would not conflict with any land use plan, policy or regulation, in this regard.

Kern County General Plan

Table 4.11-2: *Consistency Analysis with Kern County General Plan for Land Use*, presents an evaluation of the project's consistency with the Kern County General Plan. The table lists the goals and policies identified above in the regulatory setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in **Table 4.11-2**, the project is generally consistent with the goals and policies of the Kern County General Plan.

Kern County Zoning Ordinance

As described in Section 4.11.2, *Environmental Setting*, the project is subject to the provisions of the Kern County Zoning Ordinance and is included within Kern County Agricultural Preserve Number 12 boundary, as is the standard practice in Kern County for any land that is zoned A (Exclusive Agriculture). As shown in **Table 4.11-1**, above, and **Figure 3-5**, in Chapter 3, *Project Description*, the Kern County Zoning Ordinance designates the solar site within the project area as being within the A (Exclusive Agriculture) zone district.

Pursuant to Sections 19.12.030 of Kern County Zoning Ordinance, solar facilities are permitted on areas zoned Exclusive Agriculture (A) subject to securing a Conditional Use Permit. The project proponent is requesting a CUP to allow for the construction and operation of a 70 MW solar project and ancillary facilities and structures. Because the project's proposed zoning classifications are consistent with current Kern County Zoning Ordinance land use designations which allow solar development with a CUP, the proposed project would be consistent with the proposed Zone Districts. As such, with approval of the CUP, the proposed project would be consistent with applicable land use policies and regulations, and impacts related to consistency with the Zoning Ordinance would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the interconnection facilities to the PG&E Lakeview Substation for the transport of renewable energy is not anticipated to conflict with land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Minor improvements and connections would be made to facilitate the transfer of electricity from the solar field within the existing substation. These improvements would be required to accommodate the substation facilities and temporary construction work area. PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation. Therefore, the PG&E Interconnection Facilities would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative impact and analysis is a 6 mile buffer around the project's boundaries. This scope was selected to analyze the cumulative impact to regional land use patterns of project development in the area, and because there is some uniformity to existing land use patterns in this area. As described in more detail in Chapter 3, *Project Description*, in **Table 3-3:** *Cumulative Projects List*, of this EIR, 9 projects are located within the geographic scope, including two solar project. While the surrounding area is still relatively rural in nature, the project, along with related projects, has the potential to contribute to a cumulative influence on proposed land uses in and around the project site.

The anticipated impacts of the project in conjunction with cumulative development in the area of the project would increase the urbanization and result in the loss of agricultural space. However, potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. As described in **Table 4.11-2**, the proposed project would be consistent with the goals and policies of the Kern County General Plan. In addition, with approval of the CUP and Williamson Land Use Act Contract Cancellation development of solar facilities for the proposed project would be an allowable use that would not conflict with the land use or zoning classification for the project site. Therefore, as proposed the project would be consistent with the goals and policies of the Kern County General Plan and the Kern County Zoning Ordinance and would therefore not contribute to a cumulatively considerable impact regarding land use.

Furthermore, all related projects would be required to separate undergo environmental review on a case-by-case basis in accordance with the requirements of CEQA. Each related project would also be required to demonstrate consistency with all applicable planning documents governing the project site, including the Kern County General Plan and the Kern County Zoning Ordinance. Should potential impacts be identified, appropriate mitigation would be prescribed that would likely reduce potential impacts to a less-than-significant level.

With regard to cumulative effects of utility-sized solar power generation facilities, there is a potential that outside factors, such as the development of newer technology, change in State or national policy that encourages the construction of such facilities, or other economic factors, could result in the abandonment of such facilities. Unlike other facilities that, once constructed, can be retrofitted and utilized for another specific use, solar power generation facilities have little opportunity for other uses should the project not be in operation. The potential for the cumulative effects caused by the abandonment of multiple solar facilities in Kern County could result in impacts on surrounding land uses should it be determined that these facilities are no longer viable commercial operations. Therefore, Mitigation Measure MM 4.11-1, which would require the implementation of a decommissioning plan to be carried out by the project proponent once the life of the project has ended, has been included to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. While it is the intent of Kern County to promote the use of an alternative to fossil-fuel-generated electrical power in areas of the County that are identified to have suitable characteristics for production of commercial quantities of solar PV-generated electrical power, it is necessary to protect surrounding landowners from potential impacts associated with the abandonment of such facilities. With the implementation of Mitigation Measure MM 4.11-1, cumulative land use impacts would be considered less than significant.

Mitigation Measures

MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide a Decommission Plan for review and approval by the Kern County Public Works Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the decommissioning of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

a. An irrevocable letter of credit;

b. A surety bond;

c. A trust fund in accordance with the approved financial assurances to guarantee the decommissioning work will be completed in accordance with the approved decommission plan; or

d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 180 days' notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Public Works Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure decommissioning of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator decommission the site on their own, the County will not pursue forfeiture of the financial assurance.

Once decommissioning has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommissioning of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the

director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned..

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.11-1, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's best management practices and AMPs.

Project Consistency with the Kern County General Plan

Table 4.11-2, provides summarizes the consistency of the project with all applicable goals and policies of the Kern County General Plan and relevant planning documents that are applicable to the project site.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 1, LAND USE, OPEN SPACE AND CONSERVATION ELEMENT		
1.3 Physical and Environmental Constraints		
Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.	Consistent with implementation of Mitigation Measure MM 4.7-1 and MM 4.10-2	Consistent with this policy, the project would develop a solar PV power generation and storage facility that is not located on a hazardous site. See Section 4.9, *Hazards and Hazardous Materials*, of this EIR. As described in Section 4.7, *Geology and Soils*, of this EIR, the project site is not transected by a known active or potentially active fault and is not located within a State of California Alquist-Priolo Earthquake Fault Zone. In addition, construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08) and MM 4.7-1 which ensure structures are not built over fault traces. Adherence to all applicable regulations and mitigation would reduce potential impacts associated with fault rupture adjacent to the proposed project site. Based on the absence of any known active faults that cross, or are located in close proximity to, the project site and project compliance with applicable ordinances of the Kern County Building Code, and compliance with MM 4.7-1, the potential impact of fault rupture would be less than significant. Additionally, the proposed project would implement all other recommendations of the final design level geotechnical report. The final report's recommendations would be consistent with the Kern County Building Code (Chapter 17.08) and the most recent version of the California Building Code. As described in Section 4.10, *Hydrology and Water Quality* of this EIR, portions of the project site are located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Implementation of Mitigation Measure MM 4.10-2 would require preparation of a drainage plan that would design project facilities to have 1 foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures and grading for the project would be designed so that water surface elevations during flood events would not be increased by more than 1 foot. Further, the project would be developed in

Goals and Policies	Consistency Determination	Project Consistency
		accordance with the General Plan and Floodplain Management Ordinance. Thus, final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards. As such, with implementation of mitigation measures the project would be consistent with this goal.
Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard)) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above.
Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.	Consistent	Hazards and hazardous materials impacts are evaluated in Section 4.9, *Hazards and Hazardous Materials*, of this EIR. Consistent with this policy, the project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.
Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.	Consistent with implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2	See Section 4.10, *Hydrology and Water Quality*, of this EIR. As described therein, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-1 and 4.10-2, as described in that section. Therefore, the project would be consistent with this policy.
Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.	Consistent with implementation of Mitigation Measure MM 4.10-1 and 4.10-2	See 1.3, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above. Final design for the Solar project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially

Goals and Policies	Consistency Determination	Project Consistency
		increase flooding depths. Further, the project would be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-1 and 4.10-2. Therefore, the project would be consistent with this policy. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance. Therefore, the proposed project would be consistent with this policy.
Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.	Consistent with implementation of Mitigation Measure MM 4.10-1 and 4.10-2	See Section 4.10, Hydrology and Water Quality, of this EIR. As described therein, the project would not substantially increase the potential for flooding beyond existing conditions. Flooding in this location would not result in a safety hazard, as the project would not establish a substantial permanent population onsite. Further, the project would be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-1 and 4.10-2. Therefore, the project would be consistent with this policy.
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 9 of the Kern County General Plan, above. As discussed in Section 4.10, *Hydrology and Water Quality*, of the EIR, the project site would implement BMPs during construction to avoid impacts to water quality. As described in Section 4.9, *Hazards and Hazardous Materials*, of this EIR, the project would also implement Mitigation Measure MM 4.9-1 which would require the project proponent to provide a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.
Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.	Consistent and consistent with implementation of Mitigation Measures MM 4.10-1 and 4.10-2.	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 9 and Policy 11 of the Kern County General Plan, above The project would implement Mitigation Measure MM 4.10-1 and 4.10-2 which would require the preparation of a Storm Water Pollution Prevention Plan (SWPPP) which would require the project operator to conform to the requirements of Kern County's NPDES Program and that would include erosion

Goals and Policies	Consistency Determination	Project Consistency
		control and sediment control BMPs designed to prevent disturbed soils from moving offsite. A hydrologic study also would be prepared that would include the designs for a drainage plan that would minimize the potential for changes in the existing drainage patterns to increase erosion and sedimentation. A grading permit would be obtained from the County prior to commencement of construction activities. Compliance to Chapter 17.28 of the Kern County Grading Ordinance would ensure both structural and nonstructural BMPs such as filtration systems, energy dissipators, wash racks, etc., are included..
Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 9 and Policy 11 of the Kern County General Plan, above, and Section 4.10 *Hydrology and Water Quality*. The project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1 and 4.10-2. Therefore, the project would be consistent with this measure.
Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 9 and Policy 11 of the Kern County General Plan, above and Section 4.10 *Hydrology and Water Quality* of this EIR, a portion of the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Further, the project would be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1 4.10-2. Therefore, the project would be consistent with this measure
Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 9, Policy 11, and Measure H, of the Kern County General Plan, above.

Goals and Policies	Consistency Determination	Project Consistency
Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.	Consistent and consistent with implementation of Mitigation Measure MM 4.10-1 and 4.10-2	See 1.3, *Physical and Environmental Constraints*, Policy 11 and Measure D of the Kern County General Plan, above The project would implement BMPs in accordance with a SWPPP that would be required to comply with Kern County's National Pollutant Discharge Elimination System (NPDES). This would ensure compliance with the State Water Resources Control Board's Construction General Permit, as applicable.
1.4 Public Facilities and Services		
Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4	As discussed in Section 4.14, *Public Services*, of this EIR, the project would implement Mitigation Measure MM 4.14-2 to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services and facilities. Further, Mitigation Measures MM 4.14-3 and MM 4.14-4 would provide a tax to the Kern County Auditor/Controller for all years of operation.
Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.	Consistent	Public utility impacts are evaluated in Section 4.17, *Utilities and Service Systems*, of this EIR. As described therein, the project site is located within the Kern subbasin of the San Joaquin Valley Groundwater Basin in the Wheeler Ridge Maricopa Water Supply District. A project-specific Water Supply Assessment was prepared for this analysis. Based on estimated project construction and operational water demands per the report, there is sufficient water available to meet the future water demands of the project. The project, however would reduce overall water consumption from the transition from agriculture to solar energy production and most of the ground surface would remain permeable and facilitate groundwater recharge groundwater from rain events. Water supply is discussed in more detail in Section 4.17, *Utilities and Service Systems*, of this EIR.

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.14-2 through MM 4.14-4	The proposed project would construct and operate a 70 MW solar facility and a gen-tie line to the solar generation facility. All infrastructure improvements associated with the proposed project would be fully funded by the project proponent. No further improvements are anticipated as a part of the project. However, should improvements be made, the project proponent would coordinate with the County to ensure that the cost of the infrastructure improvement is properly funded. As discussed in Section 4.14, *Public Services*, the project would implement Mitigation Measure MM 4.14-2 to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services. The project would also implement Mitigation Measures MM 4.14-3 and MM 4.14-4 which accounts for the eventuality should the solar facility be sold to a city, county, or utility company and payment of assessed taxes and paid for all years of operation.
Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.	Consistent with implementation of Mitigation Measure MM 4.17-1	Public utility impacts are evaluated in Section 4.17, *Utilities and Service Systems*, of the EIR. As described therein, the project would have less-than-significant impacts on water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities. With the implementation of Mitigation Measure MM 4.17-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction and operation, resulting in less than significant impact to solid waste providers.

Goals and Policies	Consistency Determination	Project Consistency
Policy 6: The County will ensure adequate fire protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, *Public Services and Facilities*, Goal 1, above. The project would implement Mitigation Measure MM 4.14-2, to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.14-2.	See 1.4, *Public Services and Facilities*, Goal 1, above. The project would implement Mitigation Measure MM 4.14-2, to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, *Public Services and Facilities*, Goal 1, above. The project would implement Mitigation Measure MM 4.14-2, to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	Project effects related to utilities are discussed in Section 4.17, *Utilities and Service Systems*, of this EIR. The project would result in less-than-significant impacts to utilities. Furthermore, the proposed project would include the development of a solar PV power generating facility that would produce approximately 70 MW, which would be delivered to the grid, and available to utility providers to serve customers and meet electricity demand..
Measure D: Involve utility providers in the land use and zoning review process.	Consistent with implementation of	See 1.4, *Public Services and Facilities*, Policy 3, above. All applicable project documents have been sent to utility providers, interested agencies, citizen groups, and individual

Goals and Policies	Consistency Determination	Project Consistency
	Mitigation Measure MM 4.17-1	members of the public. The utility providers will continue to be notified of all publicly available documents. In addition, the applicant has worked with PG&E to coordinate delivery of energy to the electrical grid.
Measure J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.	Consistent with implementation of Mitigation Measure MM 4.14-2 and MM 4.14-3	The Kern County Superintendent of Schools was informed of this project during the project's Notice of Preparation of a Draft Environmental Impact Report. See 1.4, *Public Services and Facilities*, Goal 1, above; the project would be subject to CIC and SCIC fees that would contribute to future school facility improvements.
Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.	Consistent with implementation of Mitigation Measure MM 4.14-1 and MM 4.14-2	Impacts to fire protection services are evaluated in Section 4.14, *Public Services*, of this EIR. Mitigation Measure MM 4.14-1 requires implementation of a Fire Safety Plan during project construction and operation that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. The project would implement Mitigation Measure MM 4.14-2, to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities and assuring the provision of adequate public services and facilities.

Goals and Policies	Consistency Determination	Project Consistency
1.9 Resources		
Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.	Consistent	The project site is located on land that is zoned as A (Exclusive Agriculture) and implementation of the proposed project would preclude agriculture and potential for future livestock grazing on the site. Other uses besides agriculture, including solar energy generation and storage, are permitted within the A (Exclusive Agriculture) zoning with the approval of a CUP. The project would not involve additional change in the existing environment besides those described in this EIR and would not directly lead to other projects that would result in the loss of grazing land. While the project has been used for oil extraction and there is an oil/gas facility adjacent to Copus Road within the project boundaries, the project would not interfere with current oil and mineral extraction operations and the existing well (well 1-31 of the Bordeaux lease) would not be disturbed or removed as part of the project. Furthermore, the installation of photovoltaic panels and gen-tie lines would not preclude future onsite mineral resource development, should the project site be determined to contain mineral resources in the future. Therefore, the project would be consistent with this goal.
Goal 2: To protect areas of important mineral, petroleum, and agricultural resource potential for future use.	Consistent	See 1.9, *Resource*, Goal 1, above. As discussed in Section 4.12, Mineral Resources, of the EIR, the project site is designated as Mineral Resource Zone – (MRZ) 1 (areas where adequate information indicates that no significant mineral deposits are present) by the Conservation's State Mining and Geology Board. Installation of solar panels on the site would not impede access to mineral resources or potential mineral operations in adjacent areas. The project would not interfere with current oil and mineral extraction operations, and would not result in the loss of land designated for mineral resources.

Goals and Policies	Consistency Determination	Project Consistency
Goal 3: To ensure that the development of resource areas minimize effects on neighboring resource lands.	Consistent	The solar facilities are compatible with open space, wind energy, and other resource management land uses. Furthermore, the placement of solar arrays at the project site may deter other urban and suburban land uses from being developed nearby. The project would not preclude the existing nearby agricultural, mineral, and petroleum extraction uses from operating.
Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.	Consistent	The project would develop solar PV power generating facilities designated to produce approximately 70 MW of solar power and store up to 68 MWh of battery energy storage. The location of the site would ensure a safe and orderly development of the solar facilities. Additionally, the NOP of this EIR was sent to state and federal agencies requesting their input to ensure that appropriate information about the project site were being gathered. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the environmental analyses. Therefore, the County is complying with this goal for the project.
Goal 5: Conserve prime agricultural lands from premature conversion	Consistent	As discussed in Section 4.2, *Agriculture and Forestry Resources*, implementation of the proposed project would have a significant impact and would require the adoption of a Statement of Overriding Considerations. In addition, while the project site is currently under a Williamson Act contract, the land owner petitioned for cancellation of the Williamson Act contract, pursuant to California Government Code Section 51282(a)(1), which pertains to cancellation of a Williamson Act in the public interest. As described further in Section 4.2, *Agriculture and Forestry Resources*, benefits from cancellation of the Williamson Act contract would substantially outweigh the objectives of the Williamson Act. With approval of the cancellation of the Williamson Act contract, the project would not conflict with this goal.
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	Consistent with this policy, the proposed project would develop a solar PV power generating facility designed to produce approximately 70 MW of solar power. The project would

Goals and Policies	Consistency Determination	Project Consistency
		develop a clean energy source that would create fewer fossil fuel emissions; thus, protecting the environment.
Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.	Consistent	Impacts on natural resources are avoided or minimized through the design of the project and would not affect long term use of the site. The project implements the General Plan policy of maximizing utilization of available solar resources.
Policy 5: Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.	Consistent	See 1.9, *Resource*, Goal 5, of the Kern County General Plan, above. As described further in Section 4.2, *Agriculture and Forestry Resources*, benefits from cancellation of the Williamson Act. With approval of the cancellation of the Williamson Act contract, the project would not conflict with the intent of this policy.
Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.	Consistent	See 1.9, *Resource*, Goal 5, of the Kern County General Plan, above.
Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See 1.3, *Physical and Environmental Constraints*, Policy 11 and Measure D and Measure N of the Kern County General Plan, above. The project would not result in the removal of alteration of any drainages.
Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.	Consistent	See 1.9, *Resource*, Goal 5, of the Kern County General Plan, above.
Policy 14: Emphasize conservation and development of identified mineral deposits.	Consistent	As discussed in Section 4.12, *Mineral Resources*, of this EIR, and See 1.9, *Resource*, Goal 1, 3, and 5. The proposed project is consistent with this policy, no development would occur that would impact identified mineral deposits or impede continued withdrawal. The project area is located on lands classified as MRZ-1 which indicates that there is little likelihood for the presence of significant mineral resources. In addition, no land located within the project site boundaries are located within a

Goals and Policies	Consistency Determination	Project Consistency
		designated mineral recovery area per the Kern County General Plan.
Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.	Consistent	The project proposes the development of a PV power generating facility designed to produce up to 70 MW of solar power and 68 MWh of battery energy storage. Consistent with this policy, the proposed project would generate solar energy and offset an equivalent amount of fossil fuel-generated electrical power. The project is being designed to comply with all applicable design and building standards administered by the County.
Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 Mineral and Petroleum areas.	Consistent	See 1.9, *Resource*, Policy 14, of the Kern County General Plan, above.
Measure B: Areas designated as Resource Reserve (Map Code 8.2), Extensive Agriculture (Map Code 8.3), Resource Management (Map Code 8.5) that are under Williamson Act Contracts or Farmland Security Zone Contracts will have a minimum parcel size of 80 acres until such time as a contract is expired or is cancelled, at which time the minimum parcel size will become 20 acres.	Consistent	The project site is consists of two parcels which total approximately 527 acres parcel (APNs 295-131-12, 295-132-15) of privately owned land in unincorporated portions of Kern County. The project parcel is currently under a Williamson Act contract. Cancellation of the Williamson Act contract(s), pursuant to California Government Code Section 51282(a)(1), which pertains to cancellation of a Williamson Act in the public interest has been submitted.
Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions**.**	Consistent with implementation of Mitigation Measure MM 4.2-1	According to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) the majority of the site is designated as Farmland of Statewide Importance and Grazing Land. This includes the area in which the solar field would be located and the proposed route of the gen-tie line. To comply with this measure, Mitigation Measure MM 4.2-1 will be implemented.
Measure G: Property placed under the Williamson Act/Farmland Security Zone Contract must be in a Resource designation**.**	Consistent	See 1.9, *Resource*, Goal 5, of the Kern County General Plan, above.
Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.	Consistent	See 1.9, *Resource*, Goal 1, and Goal 2 and Policy 14, of the Kern County General Plan, above.

Goals and Policies	Consistency Determination	Project Consistency
Measure K: Protect oilfields and mineral extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction).	Consistent	See 1.9, *Resource*, Goal 1, and Goal 2 and Policy 14,of the Kern County General Plan, above. The Kern County Zoning Ordinance designates the project site as being within the A (Exclusive Agriculture) zone district. The project site is included within Kern County Agricultural Preserve Number 12 boundary, as is the standard practice in Kern County for any land that is zoned A (Exclusive Agriculture). Pursuant to Section 19.12.030 of Kern County Zoning Ordinance, solar facilities are permitted on areas zoned for A (Exclusive Agriculture) Exclusive Agriculture subject to a CUP. The project proponent is requesting a CUP to allow for the construction and operation of a 70 MW solar facility. Because the project's zoning classifications are consistent with current Kern County Zoning Ordinance land use designations which allow solar development with a CUP, the project would be consistent with the its zoning classification with this discretionary approval. As such, with approval of the CUP, the project would be consistent with applicable land use policies and regulations. Additionally, the project would not interfere with any active oilfield or mineral extraction area.
1.10 General Provisions		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent with implementation of Mitigation Measure MM 4.14-2	Consistent with this goal, the proposed project requires consideration and approval of a Conditional Use Permit as well as other discretionary actions that ensure compliance with all policies. The project would implement Mitigation Measure MM 4.14-2 to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.

Goals and Policies	Consistency Determination	Project Consistency
1.10.1 Public Services and Facilities		
Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, *Public Facilities and Services*, Goal 1, above. Impacts to public services are evaluated in Section 4.14, *Public Services*, of this EIR. The project would implement Mitigation Measure MM 4.14-2 to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities.
Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.	Consistent with implementation of Mitigation Measure MM 4.14-2	Public service impacts are evaluated in Section 4.14, *Public Services*, of this EIR. This EIR serves to comply with this policy. The project would implement Mitigation Measure MM 4.14-2, to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities.
Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.	Consistent	See 1.4, *Public Facilities and Services*, Goal 1, Policy 1, and Policy 15, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	See 1.4, *Public Facilities and Services*, Policy 9, above.
Measure D: Involve utility providers in the land use and zoning review process	Consistent	See 1.4, *Public Facilities and Services*, Policy 9, above.

Goals and Policies	Consistency Determination	Project Consistency
Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.	Consistent	See 1.4, *Public Facilities and Services*, Goal 5. Water and wastewater impacts are evaluated in Section 4.10, *Hydrology and Water Quality*, and Section 4.17, *Utilities and Service Systems*, of this EIR. No offsite water or sewage connections to municipal systems are proposed. During construction and operation, bottled water would be provided and portable toilets and hand washing facilities are proposed. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards.
1.10.2 Air Quality		
Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-2.	Air quality and GHG impacts are evaluated in Sections 4.3, *Air Quality*, and 4.8, *Greenhouse Gas Emissions*, of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-2, which would reduce impacts to air quality to the extent feasible. Air quality mitigation measures include diesel emission-reduction measures during construction, fugitive dust control measures, and Valley Fever exposure minimization measures.

Goals and Policies	Consistency Determination	Project Consistency
Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that: (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.	Consistent	See 1.10.2, *Air Quality*, Policy 18, above. This EIR serves to comply with this policy. The project cannot reduce impacts to less than significant even with required mitigation. Appropriate findings under CEQA would be required to be made by the decision makers in order to approve the project despite the significant and unavoidable cumulative impacts on air quality.
Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.	Consistent with implementation of Mitigation Measures MM 4.3-2	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. As discussed therein, implementation of Mitigation Measures MM 4.3-2 would further reduce fugitive dust emissions during construction and operation, in compliance with the adopted rules and regulations of the San Joaquin Valley Air Pollution Control District on ministerial permits.
Policy 21: The County shall support air districts efforts to reduce PM_{10} and $PM_{2.5}$ emissions.	Consistent with implementation of Mitigation Measures MM 4.3-1 and 4.3-3	See 1.10.2, *Air Quality*, Policy 20, above air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-1 and 4.3-3 would further reduce PM_{10} and $PM_{2.5}$ emissions during construction and operation.
Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-2	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-2, which would reduce impacts to air quality to the extent feasible. The project would be in compliance with all applicable San Joaquin Valley Air Pollution Control District, rules and regulations.

Goals and Policies	Consistency Determination	Project Consistency
Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.	Consistent	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this measure, the necessary discretionary permits shall be referred to the San Joaquin Valley Air Pollution Control District for review and comment.
Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to: a. Minimizing idling time. b. Electrical overnight plug-ins.	Consistent with implementation of Mitigation Measures MM 4.3-1	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this measure, implementation of Mitigation Measure MM 4.3-1 would require diesel exhaust reduction strategies.
Measure H: Discretionary projects may use one or more of the following to reduce air quality effects: a. Pave dirt roads within the development. b. Pave outside storage areas. c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans. d. Use of alternative fuel fleet vehicles or hybrid vehicles. e. Use of emission control devices on diesel equipment. f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces. g. Provide bicycle lockers and shower facilities on site. h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86). i. The use and development of park and ride facilities in outlying areas. j. Other strategies that may be recommended by the local Air Pollution Control Districts.	Consistent with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2	See 1.10.2, *Air Quality*, Policies 18 through 21, above. This EIR serves to comply with this policy.
Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.	Consistent with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2	See 1.10.2, *Air Quality*, Policies 18 through 21, above. This EIR serves to comply with this policy.

Goals and Policies	Consistency Determination	Project Consistency
1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation		
Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.	Consistent with implementation of Mitigation Measures MM 4.5-1, through MM 4.5-4	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. This EIR serves to comply with this policy and includes Mitigation Measures MM 4.5-1 through MM 4.5-4 to promote the preservation of cultural and historic resources where necessary.
Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.	Consistent	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. Consistent with this measure, copies of reports will be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield, per Mitigation Measure MM 4.5-3.
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.	Consistent with implementation of Mitigation Measures MM 4.5-1 through 4.5-4	See 1.10.3, *Archaeological, Paleontological, Cultural, and Historical Preservation*, Policy 25 and Measure K, above. Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. Consistent with this measure, impacts to archaeological and historical resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.	Consistent with implementation of Mitigation Measures MM 4.7-2	Paleontological resource impacts are evaluated in Section 4.7, *Geology and Soils*, of this EIR. Mitigation Measures MM 4.7-2 which would reduce potential impacts to known paleontological resources through hiring a qualified paleontologist shall be retained to monitor all ground-disturbing activity, document, and implement measures as needed.
Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.	Consistent	Tribal Cultural resource impacts are evaluated in Section 4.16, *Tribal Cultural Resources*, of this EIR. Consistent with this measure, notification regarding the proposed project were accomplished in accordance with the established procedures for discretionary projects and CEQA documents.
Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other	Consistent with implementation of Mitigation Measure MM 4.5-1 through 4.5-3	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. This EIR serves to comply with this measure and includes Mitigation Measure MM 4.5-1 through 4.5-3, which would require consultation with the monitors or

Goals and Policies	Consistency Determination	Project Consistency
construction activities on discretionary projects that are subject to a CEQA document.		Native American monitor(s) and to conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project.
1.10.5 Threatened and Endangered Species		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services**.**	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13, MM 4.9-1 through 4.9-2, MM 4.10-1, and MM 4.14-1 through 4.14-4	As discussed in Section 4.4, *Biological Resources*, of this EIR, the project would potentially impact special-status plant and wildlife species. In an effort to preserve these valuable natural resources, the project would implement Mitigation Measures MM 4.4-1 through MM 4.4-11. Jurisdictional waters would not be impacted under the proposed project, to ensure would be less than significant MM 4.4-12 through MM 4.4-13 would be implemented. Those mitigation measures would require a Jurisdictional Delineation report and a Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a streambed alteration agreement. See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 9 and Policy 11 of the Kern County General Plan, above and Section 4.10 Hydrology and Water Quality of this EIR. The project would be constructed in consideration of the floodplain and ,the Kern County General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. As discussed in Section 4.9, *Hazards and Hazardous Materials*, Mitigation Measures MM 4.9-1 through MM 4.9-2 would reduce hazards impacts and involve waste and debris management, preparation of a hazardous materials business plan, limitations on herbicide use, and contamination of subsurface materials. As discussed in Section 4.14, *Public Services*, of this EIR, implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4 would require the project to implement a Fire Safety Plan; pay a fee assigned by the Kern County Planning and Natural Resources Department over the life of the proposed facilities in order to mitigate any potential impacts to fire or police protection services, as well as other public services and

Goals and Policies	Consistency Determination	Project Consistency
		facilities, resulting from the project in the form of a Cumulative Impact Charge (CIC); allocation of sales and use taxes; and wherever feasible, hire project employees from the local workforce. With implementation of these Mitigation Measures, the project would be consistent with this measure.
Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14	Biological Resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the biological resources evaluation and habitat assessment conducted for the project, relevant state and federal agencies were contacted to ensure that appropriate information about the project site were being gathered. Specifically, an NOP of this EIR was sent to state and federal agencies requesting their input on the biological resource evaluation. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the project.
Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. The project site is located within the Valley Region and is consistent with the applicable plans and policies related to preservation, mitigations, and reduction of impacts to biological resources. Accordingly, implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11 would further increase cooperative efforts with local, State, and federal agencies to support threatened and endangered plant and wildlife.

Goals and Policies	Consistency Determination	Project Consistency
Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.	Consistent	See 1.10.5, *Threatened and Endangered Species*, Policy 27, 28 and 29, above.
Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.	Consistent	Biological resource impacts and impacts to riparian areas, are evaluated in Section 4.4, *Biological Resources*, of this EIR. The Biological Technical Resources Report found there are no perennial streams or riparian corridors that drain to the project site and there are no waters or wetlands of the United States and no riparian streams. The County will maintain open communication with all trustee and responsible agencies related to biological resources and will respond to all comments from reviewing agencies during the CEQA process.
Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. Consistent with this measure, the evaluation of impacts to biological resources was performed in accordance with CEQA.
Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.	Consistent with implementation of Mitigation Measure MM 4.4-1 through MM 4.4-14	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. Consistent with this measure, the project would implement mitigation measures that require consultation with the California Department of Fish and Wildlife. The County has and will respond to all comments from reviewing agencies during the CEQA process.
Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.	Consistent with implementation of Mitigation Measure MM 4.4-1 through MM 4.4-14	Biological resource impacts are evaluated in Section 4.4, Biological Resources, of this EIR. Consistent with this measure, the evaluation of impacts to biological resources was performed in accordance with CEQA.

Goals and Policies	Consistency Determination	Project Consistency
1.10.6 Surface Water and Groundwater		
Policy 34: Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation measures MM 4.9-1 and MM 4.10-1	Water quality impacts are evaluated in Section 4.10, *Hydrology and Water Quality*, of this EIR. Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. The project would also implement a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed. In addition, per Mitigation Measure MM 4.10-1 in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project would be required to implement a SWPPP, which would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality, and would be applicable to all areas of the project, including the solar fields and the gen-tie-line alignment and substation area. In addition, prior to the commencement of construction activities, the project proponent would be required to adhere to the requirements of the Kern County Grading Code. This includes implementation of various measures designed to prevent erosion and control drainage onsite, thereby further preventing the potential sedimentation and subsequent degradation of stormwater.
Policy 40: Encourage utilization of community water systems rather than reliance on individual wells.	Consistent	Analysis of the project's proposed groundwater use and potential conflicts with groundwater supplies and/or groundwater recharge are evaluated in Section 4.10, *Hydrology and Water Quality*, of this EIR. Water for project operation would be supplied by the existing groundwater wells, and is considered a relatively small volume needed compared to that of typical agricultural operations previously used on site and within the greater project area. No new groundwater wells would be drilled under the project.
Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.	Consistent	See 1.4, *Public Facilities and Services*, Goal 5, above.
Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent with implementation of	See 1.9, *Resources*, Policy 11, above.

Goals and Policies	Consistency Determination	Project Consistency
	Mitigation Measure MM 4.10-1	
Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.	Consistent with implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2	Water quality impacts are evaluated in Section 4.10, Hydrology and Water Quality, of this EIR. Consistent with this measure, construction-related impacts related to alteration of flow patterns and impervious surfaces would be less than significant. In addition, the project would be required to submit a drainage plan to the County for review and would implement Mitigation Measure MM 4.10-2, which requires a final hydrologic study and drainage plan designed to evaluate and minimize potential increases in runoff from the project site.
Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.	Consistent	See 1.4, *Public Facilities and Services*, Goal 5, above.
1.10.7 Light and Glare		
Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6	Aesthetic impacts are evaluated in Section 4.1, *Aesthetics*, of this EIR. This EIR serves to comply with this policy and reduce potential impacts through implementation of mitigation measures. Mitigation Measure MM 4.1-4 would require compliance with the Dark Skies Ordinance (Chapter 19.81 of the Kern County Zoning Ordinance) and would result in the minimum illumination needed to achieve safety and security objectives. Mitigation Measure MM 4.1-5 would require that the solar panels and hardware are designed to minimize glare and spectral highlighting. Finally, Mitigation Measure MM 4.1-6 would require that all onsite buildings utilize non-reflective materials.
Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6	See 1.10.7, *Light and Glare, Policy 47*, above.

Goals and Policies	Consistency Determination	Project Consistency
Measure AA: The County shall utilize *CEQA Guidelines* and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.	Consistent with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6	See 1.10.7, *Light and Glare, Policy 47*, above.
CHAPTER 2 CIRCULATION ELEMENT		
2.1 Introduction		
Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above.
Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.	Consistent	Traffic impacts are evaluated in Section 4.15, *Transportation and Traffic*, of this EIR. Consistent with this goal, the proposed project would maintain a minimum LOS D or better for all roads throughout the County during construction and operation.
2.3.3 Highways Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent	See 2.1, *Introduction, Goal 5*, above.
Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.	Consistent	County circulation consistency is evaluated in Section 4.15, *Transportation and Traffic*, of this EIR. Consistent with this policy, all road improvements would be completed per Caltrans and/or County code and regulations. If access roads need to be built along lines other than those on the circulation diagram map, the project proponent would negotiate necessary easements to allow this, in according with the County.
Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The	Consistent	See 2.3.3, *Highway Plan*, Policy 1, of the Kern County General Plan, above.

Goals and Policies	Consistency Determination	Project Consistency
only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection "grid" will comprehensively apply to the Mountain Region**.**		
Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis. • Expressway [Four Travel Lanes] Minimum 110-foot right-of-way; • Arterial [Major Highway] Minimum 110-foot right-of-way; • Collector [Secondary Highway] Minimum 90-foot right-of-way; • Commercial-Industrial Street Minimum 60-foot right-of-way; and • Local Street [Select Local Road] Minimum 60-foot right-of-way.	Consistent	Traffic impacts are evaluated in Section 4.15, *Transportation,* of this EIR. Consistent with this measure, the proposed project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirements.
Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.	Consistent	See 2.3.3, *Highway Plan*, Policy 3, of the Kern County General Plan, above.
2.3.4 Future Growth		
Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.	Consistent	See 2.3.3, *Highway Plan*, Policy 3, of the Kern County General Plan, above.

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level of Service (LOS) D. Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.	Consistent with implementation of Mitigation Measure MM 4.15-1	Traffic impacts are evaluated in Section 4.15, *Traffic and Transportation*, of this EIR. Consistent with this policy, the proposed project would maintain a minimum LOS D or better for intersections utilized to access the project. Additionally, implementation of Mitigation Measure MM 4.15-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.
Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.	Consistent	See 2.3.3, *Highway Plan*, Policy 1, above.
Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.	Consistent	Consistent with this policy, the project proponent would fund improvements to project-related driveways that provide access to County, city, or State roads.
Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.	Consistent	The proposed project would not develop a public road. However, consistent with this policy, the project proponent would be required to obtain approval from the County via an encroachment permit where any proposed private access driveways for the project would intersect public right-of-way.

Goals and Policies	Consistency Determination	Project Consistency
Measure A: The County should relate traffic levels to road capacity and development levels. To accomplish this, the Kern County Roads Department and the Kern County Planning and Natural Resources Department should set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.	Consistent	See 2.3.3, *Highway Plan*, Policy 3, of the Kern County General Plan, above
Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.	Consistent	Traffic impacts are evaluated in Section 4.15, *Traffic and Transportation,* of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.
2.3.10 Congestion Management Programs		
Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.	Consistent with Mitigation Measure MM 4.15-1	Traffic impacts are evaluated in Section 4.15, *Traffic and Transportation,* of this EIR. Consistent with this goal, the proposed project would implement Mitigation Measure 4.15-1, and comply with the requirements of the Kern Council of Government's Congestion Management Program.
Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements	Consistent	Traffic impacts are evaluated in Section 4.15, *Traffic and Transportation*, of this EIR. Consistent with this policy, the project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards and would not conflict with the Kern COG's Congestion Management Plan (CMP).
Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).	Consistent	See 2.3.10, *Congestion Management Program*, Goal 1 and 2, above.
Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional	Consistent	See 2.3.10, *Congestion Management Program*, Goal 2, above. Traffic impacts are evaluated in Section 4.15, *Traffic and Transportation*, of this EIR. Consistent with this policy, the project would not conflict with the Kern COG's CMP.

Goals and Policies	Consistency Determination	Project Consistency
transportation providers, local governments, Caltrans, and the air pollution control district.		
Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.	Consistent	See 2.3.10, *Congestion Management Program*, Goal 1 and 2, above.
Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.	Consistent	See 2.3.10, *Congestion Management Program*, Goal 1 and 2, above.
2.5.1 Trucks and Highways		
Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.	Consistent with Mitigation Measure MM 4.15-1	Traffic impacts are evaluated in Section 4.15, *Traffic Transportation,* of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measure MM 4.15-1, which would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards, which would ensure the provision of heavy truck transportation resulting from project implementation in the safest way possible.
Goal 2: Reduce potential overweight trucks.	Consistent with Mitigation Measure MM 4.15-1	See 2.5.1, *Trucks and Highways,* Goal 1, above.
Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.	Consistent with Mitigation Measure MM 4.15-1	See 2.5.1, *Trucks and Highways,* Goal 1, above.
Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.	Consistent with Mitigation Measure MM 4.15-1	Traffic impacts are evaluated in Section 4.15, *Traffic Transportation*, of this EIR. The need for and number of California Highway Patrol escorts, for oversized loads as well as the timing of transport, would be at the discretion of Caltrans and Kern County, and would be detailed in respective oversize

Goals and Policies	Consistency Determination	Project Consistency
		load permits. Coordination and consultation with Caltrans will occur as necessary, consistent with this policy.
2.5.4 Transportation of Hazardous Materials		
Goal 1: Reduce risk to public health from transportation of hazardous materials.	Consistent with implementation of Mitigation Measure MM 4.9-1	Hazardous Materials Transportation and existing regulatory requirements of the California Vehicle Code that pertain to transport of hazardous materials and wastes are discussed in Section 4.9, *Hazards and Hazardous Materials*, of this EIR. Consistent with this policy, the project would not pose a significant risk to public health from transportation of hazardous materials with implementation of Mitigation Measure MM 4.9-1, which requires the preparation of a Hazardous Materials Business Plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.
Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.	Consistent with implementation of Mitigation Measure MM 4.9-1	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.
Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.	Consistent with implementation of Mitigation Measure MM 4.9-1	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.
Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.	Consistent with implementation of Mitigation Measure MM 4.9-1	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 3, NOISE ELEMENT		
3.3 Sensitive Noise Areas		
Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent	Noise impacts, sensitive receptors and County noise thresholds are evaluated in Section 4.13, *Noise*, of this EIR. As discussed in that section, the proposed project would not cause significant impacts to sensitive receptors. Thus, the project would be consistent with this goal.
Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.	Consistent	The land uses proposed by the project are evaluated in Section 4.13, *Noise*, of this EIR. As discussed in this section, the proposed project would be consistent with existing land use designations of the project site.
Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 1, above.
Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 1, above.
Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 1, above. Consistent with this policy the project would be encouraged to provide vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise. However, as noted in Section 4.13, *Noise*, of this EIR, noise levels above 65 dBA exterior (Ldn) were not identified from stationary source on the project site.
Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 2, above. Noise-sensitive land uses are evaluated in Section 4.13, *Noise*, of this EIR.
Policy 7: Employ the best available methods of noise control.	Consistent.	See 3.3, *Sensitive Noise Areas*, Goal 1, above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent	The land uses proposed by the project are evaluated in Section 4.13, *Noise*, of this EIR.. As discussed in this section, the proposed project would be consistent with the land use and zoning designations of the project site.

Goals and Policies	Consistency Determination	Project Consistency
Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.	Consistent	Consistent with this measure, the proposed project will be reviewed for conformance with the policies outlined in this element.
Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}.	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 1 and Measure A, of the Kern County General Plan.
Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall: a) Be the responsibility of the applicant. b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics. c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.	Consistent	Consistent with this measure, the proposed project has prepared an acoustical analysis in accordance with the requirements of Chapter 3, *Noise Element*, Measure G, of the Kern County General Plan.
Measure I: Noise analyses shall include recommended mitigation, if required, and shall: a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10–20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.	Consistent	Consistent with this measure, a noise assessment was conducted for the proposed project and is referenced in Section 4.13, *Noise*, of this EIR. In accordance with this measure, the noise assessment includes representative noise measurements, recommended best management practices, estimated noise levels, in terms of CNEL, and estimates of noise exposure.

Goals and Policies	Consistency Determination	Project Consistency
c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.		
Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.	Consistent	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation.
KERN COUNTY GENERAL PLAN CHAPTER 4, SAFETY ELEMENT		
4.1 Introduction		
Goal 1: Minimize injuries and loss of life and reduce property damage.	Consistent	Consistent with this goal, the project would be required to comply with adopted safety regulations, such as the Fire Code, and related policies in the General Plan.
4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint		
Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.	Consistent	Section 4.7, *Geology and Soils*, of this EIR, discusses potential geologic hazards, Section 4.10, *Hydrology and Water Quality*, of this EIR, discusses potential flood hazards, and Section 4.18, *Wildfire*, of this EIR discusses potential fire hazards as a result of project implementation. Consistent with this measure, all hazards have been considered as part of this analysis.
Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.	Consistent	Consistent with this policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.

Goals and Policies	Consistency Determination	Project Consistency
4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure		
Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.	Consistent	Consistent with this policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.
Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	Consistent	See 1.3, *Physical and Environmental Constraints*, Measure D, of the Kern County General Plan, above.
Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.	Consistent	See 1.3, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above.
4.5 Landslides, Subsidence, Seiche, and Liquefaction		
Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.	Consistent with implementation of Mitigation Measure MM 4.7-1	Liquefaction potential is discussed in Section 4.7, *Geology and Soils*, of this EIR. The project would implement Mitigation Measure MM 4.7-1, which would require the project to submit an engineering design specific geotechnical study to the Kern County Public Works Department in order to obtain required grading permits. Mitigation Measure MM 4.7-1 would address potential soil stability impacts and prescribe specific design requirements to address these potential impacts related to unstable soils that could lead to liquefaction. Therefore, with implementation of this mitigation measure, the project would be consistent with this goal to avoid impacts related to seismically-induced liquefaction.
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent with implementation of Mitigation Measures MM 4.7-1 and 4.10-1 and MM 4.7-2.	As discussed in Section 4.7, *Geology and Soils*, of this EIR, conditions for landslides are also not present at the site which is characterized by relatively gradual inclines across the site. Grading would be subject to compliance with the NPDES General Construction Permit requirements and site specific measures would be incorporated into the SWPPP as required by Mitigation Measure MM 4.10-1 as discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR. The implementation of required BMPs would have the ability to minimize the potential for erosion or loss of topsoil. Implementation of

Goals and Policies	Consistency Determination	Project Consistency
		Mitigation Measure MM 4.7-1, which includes adherence to the requirements of applicable building codes and earthquake safe design standards,), would ensure that effects from seismic-related ground failure including liquefaction would be minimized. In addition, with regard to erosion, as discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project would implement Mitigation Measure MM 4.10-2, which requires the completion of a hydrologic study and final drainage plan for the project prior to the issuance of a grading permit. This would serve to reduce any impacts related to erosion, consistent with this policy.
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measure MM 4.14-1 and Mitigation Measure MM 4.14-2	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in Section 4.14, *Public Services*, of this EIR. The project would implement Mitigation Measure MM 4.14-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. Additionally, the project would implement Mitigation Measure MM 4.14-2 to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities.
Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent with implementation of Mitigation Measure MM 4.14-1	The project would not interfere or prohibit the County's ability to meet this policy. Mitigation Measure MM 4.14-1 requires the proponent to develop a fire safety plan for use during construction and operational activities. All onsite employees would be trained on fire safety and how to respond to onsite fires, should they occur. See Sections 4.9, *Hazards and Hazardous Materials*, 4.14, *Public Services*, and 4.18, *Wildfire*, of this EIR.
Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent with implementation of Mitigation Measure MM 4.15-1	Consistent with this policy, section 4.15, *Transportation,* of this EIR includes Mitigation Measure MM 4.15-1 which would require the approval of a Construction Traffic Control Plan, encroachments and or other necessary permits by Caltrans and/or the Kern County Roads Dept. The project proponent

Goals and Policies	Consistency Determination	Project Consistency
		would also develop and implement a fire safety plan for use during construction and operation.
Policy 6: All discretionary projects shall comply with the adopted fire code and the requirements of the fire department.	Consistent with implementation of Mitigation Measure MM 4.14-1	Consistent with this policy, Section 4.14, *Public Services*, of this EIR includes Mitigation Measure MM 4.14-1, which requires the proponent to develop a fire safety plan for use during construction and operational activities. The project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department.
Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.	Consistent with implementation of Mitigation Measure MM 4.14-1 and MM 4.14-2	Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.14-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. The project would implement Mitigation Measure MM 4.14-2 to provide a Cumulative Impact Charge (CIC) to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities.
4.9 Hazardous Materials		
Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.	Consistent with implementation of Mitigation Measure MM 4.14-1	See 4.6, *Wildland and Urban Fire*, Policy 6, above.
4.10 Abandoned Open Shafts and Wells		
Policy 1: The County should protect residents from the hazards of improperly abandoned mine shafts.	Consistent	The solar facilities are compatible with open space, wind energy, and other resource management land uses. The project site is not located within an area that has abandoned mine shafts. Furthermore, the project does not propose mining on the project site. The project would not result in hazards from improperly abandoned mine shafts.

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: The County should protect residents from the hazards associated with development in areas where wells have been drilled and abandoned for exploration and/or production of oil and natural gas.	Consistent with implementation of Mitigation Measure MM 4.9-1	See 4.10, *Abandoned Open Shafts and Wells*, Policy 1, above. Additionally, based on CalGEM, the project site is not located within a known active oil production field. The project does not propose habitable structures or fulltime employment onsite. Furthermore, implementation of Mitigation Measure MM 4.9-1, which involves the preparation of a hazardous materials business plan, would be required to ensure that potentially discovered oil wells were plugged sufficiently to prevent any leakage of harmful gases prior to permit approval.
Implementation Measures		
Measure B: Support the construction site review program of the Department of Oil, Gas and Geothermal Resources that ensures that wells are precisely located, properly plugged and abandoned, and tested for leakage prior to development of the area.	Consistent	See 4.10, *Abandoned Open Shafts and Wells*, Policy 2, above.
KERN COUNTY GENERAL PLAN CHAPTER 5, ENERGY ELEMENT		
5.2 Importance of Energy to Kern County		
Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.	Consistent	See 1.10.5, *Threatened and Endangered Species*, Policy 28, above.
Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.	Consistent.	See 3.3, *Sensitive Noise Areas*, Goal 1, above.
5.4.5 Solar Energy Development		
Goal 1: Encourage safe and orderly commercial solar development.	Consistent	Consistent with this goal, the proposed project requires consideration and approval of Conditional Use Permits as well as other discretionary actions that ensure compliance with all policies. The project would develop solar PV facilities that would generate 70 MW of solar energy and 68 MWh of battery energy storage, and would offset an equivalent amount of fossil

Goals and Policies	Consistency Determination	Project Consistency
		fuel-generated electrical power. The site is on vacant land, and is located at a distance from established communities. The location of the site would ensure a safe and orderly development of the solar facilities.
Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.	Consistent	Consistent with this goal, the proposed project requires consideration and approval of Conditional Use Permits as well as other discretionary actions that ensure compliance with all policies. The project would develop solar PV facilities that would generate 70 MW of solar energy and 68 MWh of battery energy storage, and would offset an equivalent amount of fossil fuel-generated electrical power. Operation of the proposed project would improve air quality within the County and assist the County in meeting attainment goals. See Section 4.3, *Air Quality*, of this EIR.
Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.	Consistent	Consistent with this policy, the project proposes the development of PV power generation and storage facilities in the Valley region of Kern County. Final review of the proposed project by the Kern County Planning and Natural Resources Department, requires consideration and approval of Conditional Use Permits as well as other discretionary actions that ensure compliance with all policies as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards.
Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.	Consistent	Consistent with this policy, the project proposes the development of PV power generation and storage facilities in the Valley region of Kern County. The project site was historically used for agricultural crop production and is currently disturbed. Final review of the proposed project by the Kern County Planning and Natural Resources Department, requires consideration and approval of Conditional Use Permits as well as other discretionary actions that ensure compliance with all policies as well as adherence to all applicable local, state and federal regulations.

Goals and Policies	Consistency Determination	Project Consistency
5.4.7 Transmission Lines		
Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.	Consistent	Final review of the proposed project and the proposed gen-tie line by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project's transmission lines would not pose significant environmental or public health and safety hazards.
Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent	See 5.4.7, *Transmission Lines*, Goal 1, above. Further, visual impacts are evaluated in Section 4.1, *Aesthetics*, of this EIR.

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Section 4.12
Mineral Resources

4.12.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for mineral resources. It also describes the impacts on mineral resources that would result from implementation of the proposed project, and mitigation measures that would reduce these impacts, if applicable. Information used in the preparation of this section includes: the California Department of Conservation California Geological Survey (CGS), California Geologic Energy Management Division (CalGEM) [Prior to January 1, 2020, CalGEM was known as the California Division of Oil, Gas, and Geothermal Resources (DOGGR)], and Kern County publications and maps as cited throughout this section.

4.12.2 Environmental Setting

This section discusses the existing conditions related to mineral resources within the region and project area, including the project site.

Regional Setting

Mineral and petroleum resources are basic to Kern County's economy; Kern County produces more oil than any other county in California. Borax, cement, and construction aggregates constitute major economic mineral resources. The Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to its known or inferred mineral potential. In 1999, the State Geologist analyzed 2,971 square miles of land in Kern County to determine the location of mineral resource zones throughout the County. The MRZ categories are defined as follows (CGS, 1999):

- **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.
- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves. Land included in MRZ-2a 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 inferred mineral resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration could result in upgrading areas classified MRZ-2b to MRZ-2a.
- **MRZ-3a:** Areas containing known mineral occurrences of undetermined economic significance. Further exploration could result in reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.

- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined economic significance. Further exploration could result in the reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.
- **MRZ-4:** Areas containing no known mineral occurrence.

Table 4.12-1: *Classified Mineral Resources within Kern County*, demonstrates the classified mineral resources within Kern County that are part of the MRZ-2 group and, therefore, have a demonstrated mineral significance (as opposed to the MRZ-3 group, which has an undetermined mineral significance). The project site is designated as MRZ-1 (DOC, 2023).

TABLE 4.12-1: CLASSIFIED MINERAL RESOURCES WITHIN KERN COUNTY

Mineral Resource	MRZ Classification	Number of Areas	Total Acreage
Borates	MRZ-2a and 2b	2	2,564
Limestone	MRZ-2a	4	2,008
Limestone	MRZ-2b	2	157
Silica	MRZ-2a	1	119
Pozzolan (essential cement additive)	MRZ-2b	1	72
Gold	MRZ-2a	3	849
Gold	MRZ-2b	8	6,619
Dimension Stone	MRZ-2a	2	527

SOURCE: CGS, 1999.

Petroleum Resources

As mentioned above, Kern County produces more oil than any other county in California. The valley floor area of Kern County and the surrounding lower elevations of the mountain ranges contain numerous deposits of oil and gas resources, a major economic resource for the County. The proposed project is not located within a known oil production field, nor does the site have known active or abandoned wells (DOC CalGEM, 2021). The project site is not within a designated mineral and petroleum resource site designated by the Kern County General Plan and is not located within the County's NR (Natural Resources) or PE (Petroleum Extraction) Zone Districts.

Sand and Gravel

Construction aggregates are a major economic mineral resource for Kern County (Kern County, 2009). Sand and gravel have been determined to be important resources for construction, development, and physical maintenance, from highways and bridges to swimming pools and playgrounds. The availability of sand and gravel affects construction costs, tax rates, and affordability of housing and commodities. The State of California has statutorily required the protection of sand and gravel operations. Because transportation costs are a significant portion of the cost of sand and gravel, the long-term availability of local sources of this resource is an important factor in maintaining the economic attractiveness of a community to residents, business, and industry. The major resources of sand and gravel in Kern County are in stream deposits along the eastern side of the San Joaquin Valley and in the Sierra Nevada foothills, approximately 22 miles north of the project site, and in alluvial fan deposits along the Tehachapi Mountains

at the southern end of Kern County, approximately 25 miles southeast of the project site. Most of the recent alluvium in the San Joaquin Valley floor is composed of sand used as a source of road base material (County of Kern, 2009).

Borax

Borax constitutes a major economic mineral resource for Kern County (Kern County, 2009). Borax, a borate mineral (a compound that contains Boron and oxygen), was discovered and put into production in 1872 in Nevada and later, in 1881, in Death Valley. Ironically, for five years the route traveled by Pacific Coast Borax Company's famous twenty mule team trains would pass within 15 miles of a buried deposit that would produce in about six minutes the equivalent tonnage hauled by the mule team during each trip. The discovery of borates in southeastern Kern County in the Kramer District was accidental, when a water well penetrated lakebeds containing colemanite (calcium borate) in 1913. In 1927 underground mining of the minerals kernite and borax began and continued until 1957, when underground operations ceased and open-pit mining began, eventually becoming the largest open-pit mine in California (State Mine ID #91-15-0022). This mine supplies about 40 percent of the world's supply of borates. There are several other sources of borate minerals in Kern County (CGS, 1999).

Limestone

Carbonate rocks were initially quarried in 1888 as a source of lime. By 1909 the limestone resources were used for the manufacture of Portland cement during the construction of the first Los Angeles aqueduct. Limestone has been mined continuously since 1921, just northeast of Tehachapi, for the manufacture of Portland cement. The Tehachapi Plant was joined by California Portland Cement Company's Mojave Plant in 1955 and National Cement Company's Lebec Plant in 1976, making Portland cement production second only to borates in terms of economic importance to the region. Cement production is a major economic resource in the County (CGS, 1999).

Dimension Stone

Dimension stone is natural rock materials quarried for the purpose of obtaining blocks or slabs that meet specification as to size (width, length, and thickness) and shape. Color grain texture and pattern, and surface finish, durability, strength, and polish ability are important selection criteria in determining dimension stone. Deposits of marble, sandstone, schist, and other rocks in Kern County have been sources of modest tonnages of building stone which have been utilized as dimension stone, field stone, rubble, and flagstone. Most of the dimension stone (marble and flagstone) was mined before 1904; field stone and flagstone have been mined mostly since about 1952 in the area around Randsburg (CGS, 1999).

Precious Minerals (Gold and Silver)

In terms of total dollar value and number of deposits, gold is the most important metallic mineral commodity that has been mined in Kern County. The earliest mining in Kern County was in 1851 at placer gold deposits in Greenhorn Gulch, which drains into the Kern River about midway between Democrat Springs and Miracle Hot Springs. The first lode mining was in 1852, and by 1865 gold was being mined in four districts around the Kern River. Gold was first prospected in eastern Kern in the 1860s, with the two largest mines being established in the 1890s. The Yellow Aster and Golden Queen mines located in eastern Kern have yielded almost half of the total gold output of the county. The principal sources of silver in Kern County

have been deposits in eastern Kern County. Although gold is the chief mineral in value, silver is predominant by a 5:1 ratio and is an important by-product of the gold ore (CGS, 1999).

Silica and Pozzolan

Pozzolan is defined as a porous variety of volcanic tuff or ash used in making hydraulic cement. Silica is a common material used to manufacture cement when it is combined with limestone, shells, and chalk (PCA, 2019). Regarding existing silica mineral resources, there is an existing quartzite body used by California Portland Cement Company in making cement. The quartzite has a drill indicated reserve of about eight million tons. An area on property controlled by Calaveras Cement Company (now known as the Lehigh Southwest Cement Company [Lehigh, 2002]) was under evaluation as an area containing pozzolan in 1998 (Koehler, 1999). A Surface Mining and Reclamation Plan for the extraction of pozzolan, for an area approximately 17 miles southwest of the City of Ridgecrest, was received by the Kern County Planning and Natural Resources Department (CUP 1, Map 92); an Early Consultation was circulated in accordance with CEQA in 2013 and on December 16, 2014 the Lehigh Southwest Cement Company was approved to be designated as an engineered municipal solid waste (EMSW) facility (CEQAnet, 2020).

Local Setting

The project site is currently vacant undeveloped land located in an unincorporated area of south-western Kern County, CA. The project site is generally located north-west of the intersection of Old River Road and Copus Road and is approximately four (4) miles west of Interstate 5, 2.5 miles north of State Route 166, approximately 17 miles east of Taft, and approximately 20 miles southwest of downtown Bakersfield.

Existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, rural residential uses, and other solar developments located to the south of the project site. The project site is not designated as a mineral recovery area by the Kern County General Plan, but is designated as MRZ-1 by the Department of Conservation's State Mining and Geology Board. However, as noted above, MRZ-1 is an area where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. The project site is also not located within the boundaries of a specific plan, that could have additional mineral resource designations. There is one active oil and gas well, the Bordeaux Well, operated by Grapevine Energy LLC, located on the southern portion of the project site, north of Copus Road (CalGEM, 2023). Additional active wells within the project vicinity are within the Rio Viejo gas field, located immediately to the south of the project site. The nearest active wells within the gas field include Rio Viejo oil and gas well located 0.40-mile to the south beyond Copus Road and the Chardonnay oil and gas well located 0.60-mile south east of the project site (CalGEM 2023).

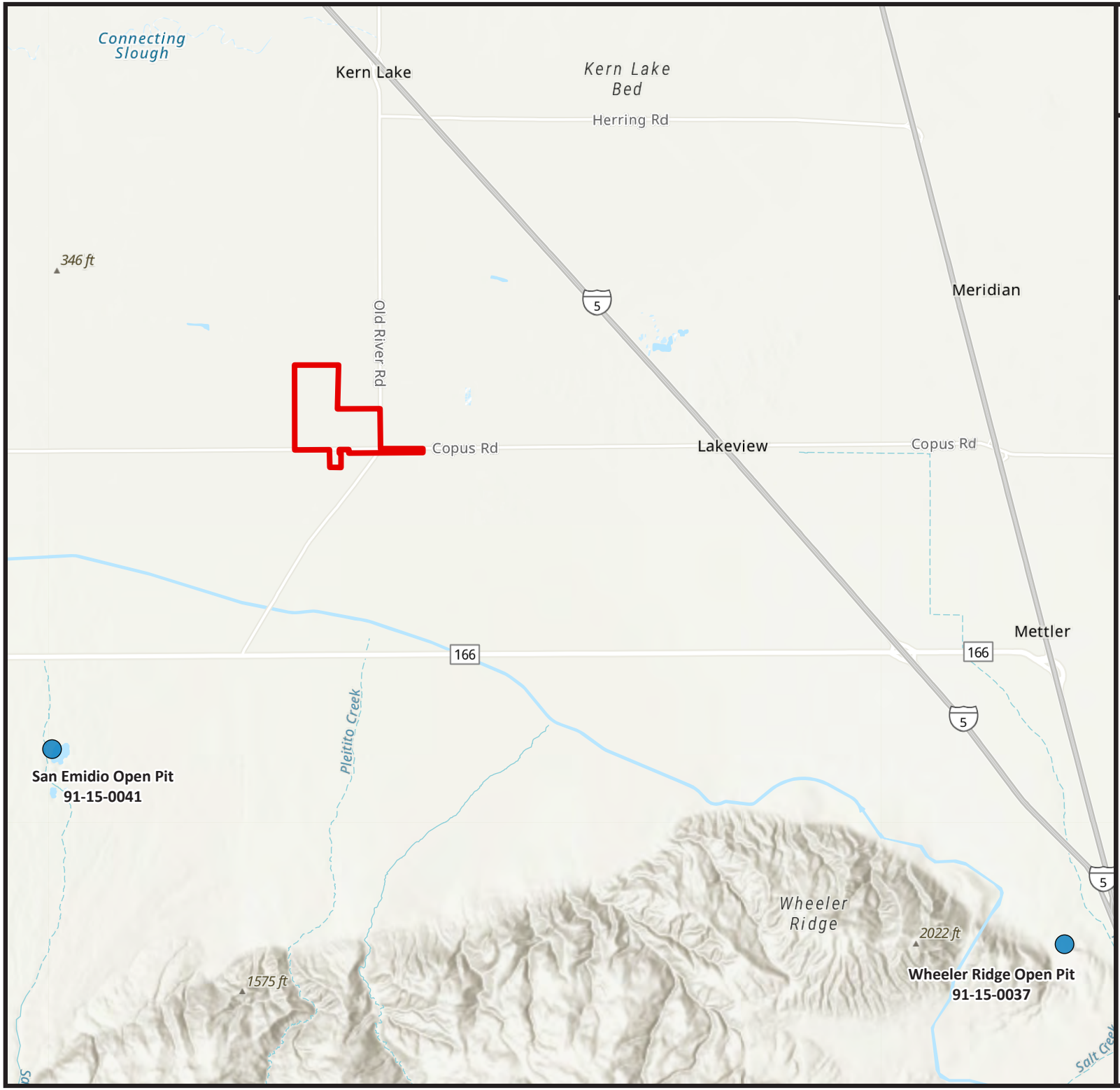
There are no active mines or petroleum extraction facilities within or immediately adjacent to the project site (DOC, 2016). The nearest mine to the project site is the San Emidio Mine, an open pit sand and gravel, approximately 4.6 miles southwest (DOC, 2016). Other mines in the area include the Wheeler Ridge Pit mine located approximately 9.5-miles southeast. **Figure 4.12-1:** *Mines within the Project Vicinity*, shows the mines within a 15-mile radius of the project area. **Table 4.12-2:** *Mines within the Project Vicinity*, lists the mines within a 15-mile radius of the project area, their distance from the project site, and the commodity being mined.

Jasmine Solar Project

CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.12-1: Mines within the Project Vicinity

Jasmine Solar Project by SF Jasmine, LLC



Project Site
Mines

APN: 295-131-12
APN: 295-132-15
Sec. 31 - T32S/R27E

Kern County
Planning & Natural
Resources Department

TABLE 4.12-2: MINES WITHIN THE PROJECT VICINITY

Mine Title	Mine ID	Commodity	Distance from Project Site
San Emidio Mine	91-15-0041	Sand and Gravel	4.6 miles southwest
Wheeler Ridge Pit	91-15-0037	Sand and Gravel	9.5 miles southeast

SOURCE: DOC, 2016.

4.12.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Geologic Energy Management Division

The California Department of Conservation/CalGEM is a State agency responsible for supervising the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells. CalGEM's regulatory program promotes the wise development of oil, natural gas, and geothermal resources in California through sound engineering practices, prevention of pollution, and implementation of public safety programs. To implement this regulatory program, CalGEM requires avoidance of building over or near plugged or abandoned oil and gas wells, or requires the remediation of wells to current CalGEM standards (DOC, 2019b).

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710-2796) regulates surface mining operation to assure that adverse environmental impacts are minimized, and that mined lands are reclaimed to a usable condition. SMARA encourages the production, conservation, and protection of the state's mineral resources, recognizes that "the state's mineral resources are vital, finite, and important natural resources and the responsible protection and development of these mineral resources is vital to a sustainable California" (Public Resources Code, Section 2711), and requires the State Geologist to classify land into MRZs according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that Local agencies use the classification information when developing land-use plans and when making land-use decisions that could preclude mining (DOC, 2021b). MRZs are defined in detail in the Regional Setting, above.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for mineral resources applicable to the project are provided below. The Kern County General Plan contains additional policies,

goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1. Land Use, Open Space and Conservation Element

1.9. Resource

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations that will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources or diminish the other amenities that exist in the County.

Goal 2: To protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 14: Emphasize conservation and development of identified mineral deposits.

Policy 25: Discourage incompatible land use adjacent to Map Code 8.4 Mineral and Petroleum areas.

Implementation Measures

Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.

Measure K: Protect oilfields and mineral extraction areas through the use of appropriate implementing zone districts: A (Exclusive Agriculture), DI (Drilling Island), NR (Natural Resource), or PE (Petroleum Extraction).

4.12.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts to mineral resources have been evaluated using a variety of sources, including a review of information from the California Department of Conservation, CGS, and Kern County publications and maps. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on mineral resources.

A project could have a significant adverse effect on mineral resources if it would:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Project Impacts

Impact 4.12-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

The project site is located on lands designated as an MRZ-1 by the State and the project site is identified as having low likelihood of containing mineral resources. The southern portion of the project site, APN 295-131-12 beyond Copus Road, is designated as Map Code 8.4 (Mineral and Petroleum – Minimum 5 Acre Parcel Size) (Kern County, 2009). However, no improvements are proposed within this area and all project elements would occur on the project site north of Copus Road. Additionally, any proposed mineral resource extraction would require a Conditional Use Permit (CUP) to be secured from Kern County and no active mines or petroleum extraction facilities are located within or immediately adjacent to the project site. As identified in **Table 4.12-2:** *Mines within the Project Vicinity*, the nearest past mine to the project site is the San Emidio Mine, approximately 7 miles southwest. Given this distance, the proposed project would not interfere with nearby mine sites and would not result in the loss of land designated for mineral resources. Furthermore, based on the absence of historical surface mining in the immediate area, the potential for surface mining at the project site is considered extremely low. Thus, the project would not result in the loss of availability of a known mineral resource and the potential impact to future mineral resources is less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The proposed improvements do not occur within a designated MRZ by the State or within land designated by Kern County as Map Code 8.4. The construction and operation of the gen-tie line to the Lakeview Substation for the transport of renewable energy is not anticipated to result in the loss of availability of a known mineral resource, or otherwise impede access to a known mineral resource. Impacts would be less than significant.

Mitigation Measures

MM 4.12-1: Prior to issuance of any grading or building permit, excluding the generation tie line, the applicant shall provide the following documentation regarding the mineral rights holders who also have right of surface access and drilling areas:

a. Written authorization, in a separate document outside any agreement, from the mineral right holder that they agree to solar panels being placed on the specific parcel with the mineral rights. The letter shall include the specific Assessor's Parcel Number of the property and name of the mineral rights holders, and any agreements for size and location of drilling areas.

b. A site plan showing the unbuildable drilling areas provided for the mineral holders with clear notation that no use of the area can be made for the life of the project except for exploration and extraction of oil and gas with permits without purchase and ownership of full mineral rights. No construction storage or laydown area may be established at any time in the drilling areas unless permitted through an individual agreement. All drilling areas shall be fenced and provided legal access across the site, and a 40-foot-long gate provided or as detailed by the individual agreement including a provision to not fence the drill island.

c. For all mineral rights holders that do not have an individual agreement and have right of surface access, a drilling area sufficient to provide access to their minerals shall be shown on the final site plan and acknowledged in all grading plans.

Level of Significance

With implementation of Mitigation Measure MM 4.12-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.12-2: The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The project site is not located on a locally important mineral resource recovery site delineated by the Kern County General Plan. While there are nearby mineral resource recovery sites, the operation of such sites would not be impeded by the development of the proposed project. Additionally, to ensure impacts would be less than significant MM 4.12-1 would be implement. Therefore, loss of availability of mineral resources impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the gen-tie line to the Lakeview Substation for the transport of renewable energy for the transport of renewable energy is not anticipated to result in the loss of availability of a known mineral resource delineated on an adopted land use plan. Impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.12-1 would be required.

Level of Significance

With implementation of Mitigation Measure MM 4.12-1, impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, there are 6 cumulative projects, as shown in **Table 3-4:** *Cumulative Projects List*. The geographic scope of impacts associated with mineral resources generally encompasses the project site and a 0.25-mile-radius area around the project site. This scope is appropriate because of the localized nature of mineral resource impacts. There are no cumulative projects located within this range. While the project site contains lands designated as MRZ-1 and lands designated as Mineral and Petroleum areas by the Kern County General Plan, MRZ-1 contains low likelihood for mineral resources and no work is proposed within the portion of the project site containing Mineral and Petroleum areas. Therefore, the proposed project, in conjunction with other related projects, would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site and would not contribute to any cumulative impacts to mineral resources.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the gen-tie line to the Lakeview Substation for the transport of renewable energy for the transport of renewable energy is not anticipated to result in the cumulative loss of availability of a known mineral resource by impeding access to that resource or by conflicting with an adopted land use plan.

Mitigation Measures

Implementation of Mitigation Measure MM 4.12-1 would be required.

Level of Significance

Cumulative impacts would be less than significant for the project with MM 4.12-1. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Section 4.13
Noise

4.13.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for the proposed project and provides an analysis of potential impacts related to noise and groundborne vibration from project implementation. Additionally, mitigation measures to reduce potential noise and vibration impacts are identified, where necessary. The information and analysis in this section is largely based on the *Noise Study* prepared for the Jasmine Solar Project by Rincon Consultants, Inc. (2021) located in Appendix M of this EIR.

Noise Fundamentals

An understanding of the physical characteristics of sound is useful for evaluating environmental noise. The methods and metrics used to quantify noise exposure, human response, and relative judgment of loudness are also discussed, and noise levels of common noise environments are presented. **Table 4.13-1:** *Common Noise Metrics* provide a list of terms and definitions on the following page.

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and interferes with or disrupts normal activities. The effects of noise on people can be grouped into four general categories:

- Subjective effects (dissatisfaction, annoyance);
- Interference effects (communication and sleep interference, learning);
- Physiological effects (startle response); and
- Physical effects (hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical (i.e., to the body itself) and physiological (i.e., to body functions) effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. The subjective responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, its appropriateness to the setting, the duration of the noise, the time of day, and the type of activity during which the noise occurs, and individual noise sensitivity.

Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (Hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic

scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

TABLE 4.13-1: COMMON NOISE METRICS

Unit of Measure		Description
dB	Decibel	Decibels, which are units for measuring the volume of sound, are measured on a logarithmic scale, representing points on a sharply rising curve. For example, 10 dB sounds are 10 times more intense than 1 dB sounds, and 20 dB sounds are 100 times more intense. A 10 dB increase in sound level is perceived by the human ear as a doubling of the loudness of the sound.
dBA	A-Weighted Decibel	A sound pressure level that has been weighted to quantitatively reduce the effect of high- and low-frequency noise. It was designed to approximate the response of the human ear to sound.
CNEL	Community Noise Equivalent Level	A metric representing the 24-hour average sound level that includes a 5 dBA penalty during relaxation hours (7:00 p.m. to 10:00 p.m.) and a 10 dBA penalty for sleeping hours (10:00 p.m. to 7:00 a.m.).
L_{dn}	Day-Night Average Noise	The 24-hour average sound level, expressed in a single decibel rating, for the period from midnight to midnight obtained after the addition of a 10 dBA penalty to sound levels for the periods between 10:00 p.m. and 7:00 a.m.
L_{eq}	Equivalent Noise Level	The average acoustic energy content of noise for a stated period of time. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.
L_{max}	Maximum Noise Level	L_{max} represents the maximum instantaneous noise level experienced during a given period of time. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.
L_{min}	Minimum Noise Level	L_{min} represents the minimum instantaneous noise level experienced during a given period of time. It reflects baseline operating conditions and is commonly referenced as the noise floor.
L_1, L_{10}, L_{50}, L_{90}	Percentile Noise Exceedance Levels	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period.

Sound levels are expressed by reference to a specified national/international standard. The sound pressure level is used to describe sound pressure (loudness) and is specified at a given distance or specific receptor location. In expressing sound pressure level on a logarithmic scale, sound pressure (dB) is referenced to a value of 20 micropascals (µPa). Sound pressure level depends not only on the power of the source but also on the distance from the source to the receiver and the acoustical characteristics of the sound propagation path (absorption, reflection, etc.).

Outdoor sound levels decrease logarithmically as the distance from the source increases. This decrease is due to wave divergence, atmospheric absorption, and ground attenuation. Sound radiating from a source in a homogeneous and undisturbed manner travels in spherical waves. As the sound waves travel away from

the source, the sound energy is dispersed over a greater area, decreasing the sound pressure of the wave. Spherical spreading of the sound wave from a point source reduces the noise level at a rate of 6 dB per doubling of distance.

Atmospheric absorption also influences the sound levels received by an observer. The greater the distance traveled, the greater the influence of the atmosphere and the resultant fluctuations. Atmospheric absorption becomes important at distances greater than 1,000 feet. The degree of absorption varies depending on the frequency of the sound as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest (i.e., sound carries farther) at high humidity and high temperatures, and lower frequencies are less readily absorbed (i.e., sound carries farther) than higher frequencies. Over long distances, lower frequencies become dominant as the higher frequencies are more rapidly attenuated. Turbulence, gradients of wind, and other atmospheric phenomena also play a significant role in determining the degree of attenuation. For example, certain conditions, such as temperature inversions, can channel or focus the sound waves, resulting in higher noise levels than would result from simple spherical spreading.

Sound from a tuning fork contains a single frequency (a pure tone), but most sounds in the environment do not consist of a single frequency. Instead, they are a broad band of many frequencies differing in sound level. Because of the broad range of audible frequencies, methods have been developed to quantify these values into a single number representative of human hearing. The most common method used to quantify environmental sounds consists of evaluating all frequencies of a sound according to a weighting system that is reflective of human hearing characteristics. Human hearing is less sensitive at low frequencies and extremely high frequencies than at the mid-range frequencies. This process is termed "A weighting," and the resulting dB level is termed the "A-weighted" decibel (dBA).

Because A-weighting is designed to emulate the frequency response characteristics of the human ear and reflect the way people perceive sounds, it is widely used in local noise ordinances and State and federal guidelines, including those of the State of California and Kern County. Unless specifically noted, the use of A-weighting is always assumed with respect to environmental sound and community noise, even if the notation does not include the "A."

In terms of human perception, a sound level of 0 dBA is the threshold of human hearing and is barely audible by a healthy ear under extremely quiet listening conditions. This threshold is the reference level against which the amplitude of other sounds is compared. Normal speech has a sound level of 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort, progressing to pain at still higher levels. Humans are much better at discerning relative sound levels than absolute sound levels. The minimum change in the sound level of individual events that an average human ear can detect is about 1 to 3 dBA. A 3 to 5 dBA change is readily perceived. An increase (or decrease) in sound level of about 10 dBA is usually perceived by the average person as a doubling (or halving) of the sound's loudness.

Because of the logarithmic nature of the decibel, sound levels cannot be added or subtracted directly. However, some simple rules are useful in dealing with sound levels. First, if a sound's acoustical energy is doubled, the sound level increases by 3 dBA, regardless of the initial sound level (e.g., 60 dBA + 60 dB = 63 dBA; 80 dBA + 80 dBA = 83 dBA). However, an increase of 10 dBA is required to double the perceived loudness of a sound, and a doubling or halving of the acoustical energy (a 3 dBA difference) is at the lower limit of readily perceived change.

Although dBA may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most ambient environmental noise includes a mixture of noise from nearby and distant sources that creates an ebb and flow of sound, including some identifiable sources plus a

relatively steady background noise in which no particular source is identifiable. A single descriptor, termed the equivalent sound level (L_{eq}), is used to describe sound that is constant or changing in level. L_{eq} is the energy-mean dBA during a measured time interval. It is the "equivalent" sound level produced by a given constant source equal to the acoustic energy contained in the fluctuating sound level measured during the interval. In addition to the energy-average level, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum instantaneous (L_{max}) and minimum instantaneous (L_{min}) noise level indicators that represent the root-mean-square maximum and minimum noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location is often called the acoustic floor for that location.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{10}, L_{50}, and L_{90} may be used, which represent the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of the measured time interval, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, L_{50} represents the median sound level during the measurement interval, and L_{90} levels are typically used to describe background noise conditions.

The Day-Night Average Sound Level (L_{dn} or DNL) represents the average sound level for a 24-hour day and is calculated by adding a 10 dBA penalty to sound levels during the night period (10:00 p.m. to 7:00 a.m.). The L_{dn} is the descriptor of choice and used by nearly all federal, State, and local agencies throughout the United States to define acceptable land use compatibility with respect to noise. Within California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is very similar to L_{dn}, except that an additional 5 dBA penalty is applied to the evening hours (7:00 p.m. to 10:00 p.m.). Because of the time-of-day penalties associated with the L_{dn} and CNEL descriptors, the L_{dn} or CNEL dBA value for a continuously operating sound source during a 24-hour period will be numerically greater than the dBA value of the 24-hour L_{eq}. Thus, for a continuously operating noise source producing a constant noise level operating for periods of 24 hours or more, the L_{dn} will be 6 dBA higher than the 24-hour L_{eq} value. To provide a frame of reference, common sound levels are presented in **Figure 4.13-1:** *Effects of Noise on People*, below.

Vibration Fundamentals

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA, 2018), groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV), measured in inches per second (in/sec), is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe structural vibration impacts to buildings. The root mean square (RMS) amplitude, measured in decibel notation (VdB), is defined as the average of the squared amplitude of the signal, which is most frequently used to describe human annoyance impacts.

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Common Environmental Noise Levels

Noise Source	dB(A)* Noise Level	Response	Times As Loud
Jet Engine	140	Harmfully loud	128
	135		
	130		64
Police Siren	125	Painfully loud	
	120		32
	115		
Rock Band	110	Regular exposer over 1 minute risks permanent hearing loss	16
	105		
Garbage Truck	100	Very loud	8
	95		
Motorcycle	90	Annoying	4
	85		
Drilling	80	Annoying - interferes with conversation	2
	75		
Vacume Cleaner	70	Moderately loud	1 (Reference Level)
	65		
Air Conditioner	60	Comfortable	1/2
	55		
	50		1/4
Refrigerator	45	Quiet	
	40		1/8
	35		
Whisper	30	Very quiet	
	25		
	20		
Rustling Leaves	15	Just audible	
	10		
Normal Breathing	5	Threshold of hearing	
	0		

* Typical A-weighted sound levels in decibels.
"A" weighting approximates the frequency response of the human ear.

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Figure 4.13-1: Effects of Noise on People

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity therefore, the decibel notation acts to compress the range of numbers required to describe vibration (FTA, 2018). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of groundborne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Human annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. However, a vibration level that causes annoyance will be well below the damage thresholds for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV, while the standard for even the most sensitive and fragile structures is 0.12 in/sec PPV (FTA, 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible for many people (FTA, 2018).

4.13.2 Environmental Setting

Project Location

The project site is located in the Valley Region in southwestern unincorporated Kern County on the northwest corner of the intersection of Old River Road and Copus Road. The site is approximately four miles west of Interstate 5 (I-5) and approximately three miles north of State Route 166 (SR-166). The project site is approximately 15 miles east of Maricopa. The surrounding area consists of actively farmed agricultural land.

The project occupies two privately owned parcels: APN 295-131-12 (513.61 acres) and APN 295-132-15 (13.76 acres) for a total project study area of approximately 527.37 acres. The photovoltaic component would occupy APN 295-131-12, while APN 295-132-15 is a linear parcel that extends easterly along Copus Road which would be used to install a generation tie line (gen-tie line). Please see **Figure 3-3**, in Chapter 3.0, *Project Description*.

The proposed project would generate up to 70 MW of renewable electrical energy. The project also includes the installation of an associated BESS with a 1-acre area of the proposed facility boundary, capable of storing approximately 68 MWh of energy. The proposed facility would be primarily accessed off Copus Road and Old River Road adjacent to the project site and gen-tie corridor. Interior access within the solar array area would be approximately 20-foot-wide access and maintenance roads and perimeter roads.

The project site consists of one relatively flat and undeveloped parcel that has been used primarily for grazing and farming dry grain crops such as wheat or barley. Existing land use in the vicinity of the project

site generally includes undeveloped lands, agricultural lands, access roadways, and the California Aqueduct. The PG&E Lakeview Substation is approximately 1.5 miles east of the proposed project facility. A few rural residential uses and commercial developments are sparsely located in the surroundings areas as well. The nearest sensitive receptor is a agriculturally zoned residence at 14017 Copus Rd, approximately 175 feet south of the project boundary.

Existing Noise Environment

Ambient Noise levels is the composite of noise from all sources near and far. The normal or existing level of environmental noise or sound at a given location, and is typically defined by the energy average equivalent noise level (Leq).

Existing ambient noise levels within the project vicinity are dominated by motor vehicles, wind, and agricultural activities (e.g., farming equipment). The greatest vehicle noise occurs from vehicles on the main thoroughfares (Copus Road and Old River Road). Additional sources of noise may include those associated with birds; high- altitude aircraft overflights; heating, ventilation, and air conditioning (HVAC) systems; and barking dogs.

To evaluate existing noise levels in the area, four 15-minute noise measurements (ST1 through ST4) were taken on and near the project site on July 23, 2021, using an Extech, Model 407780A, ANSI Type II integrating sound level meter. Depending on location and time of day, both the frequency and magnitude of environmental noise may vary. This is due to weather, seasonal changes, vegetation cover, human activities, etc.

Noise-Sensitive Receptors

Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. Many jurisdictions also consider residential uses particularly noise-sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities. Some jurisdictions may also identify other noise-sensitive uses such as churches, libraries, and parks. Furthermore, sensitive noise receptors may also include threatened or endangered biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Land uses that are generally not considered to be noise sensitive receptors include office, commercial, and retail developments. The nearest sensitive use is an agriculturally zoned residence at 14017 Copus Road, approximately 175 feet to the south of the nearest project boundary line and more than 2,000 feet to the proposed gen-tie route. Other sensitive receivers include residences located more than 4,000 feet to the north, south, and west of the Project. **Figure 4.13-2:** *Noise Measurement Locations*, shows project location, noise measurement locations, and noise sensitive receptors.

Noise Measurements

The primary sources of noise on-site and in the surrounding area include motor vehicles, wind, and agricultural activities (e.g., farming equipment). The greatest vehicle noise occurs from vehicles on the main thoroughfares (Copus Road and Old River Road). To evaluate existing noise levels in the area, four 15-minute noise measurements (ST1 through ST4) were taken on and near the Project site on July 23, 2021,

using an Extech, Model 407780A, ANSI Type II integrating sound level meter. **Figure 4.13-2** shows the locations of the noise measurements. The noise measurement locations were chosen to provide a representative range of ambient noise levels across the Project site and in the nearby area, especially near existing noise-sensitive residences and roadways. The short-term noise measurement results are shown in **Table 4.13-2:** *Noise Monitoring Results in the Project Site Vicinity*. **Table 4.13-3:** *Traffic Counts During Sound Level Monitoring* reports traffic counts taken concurrently with sound level measurements. Detailed noise meter outputs are included in Appendix M.

TABLE 4.13-2: NOISE MONITORING RESULTS IN THE PROJECT SITE VICINITY

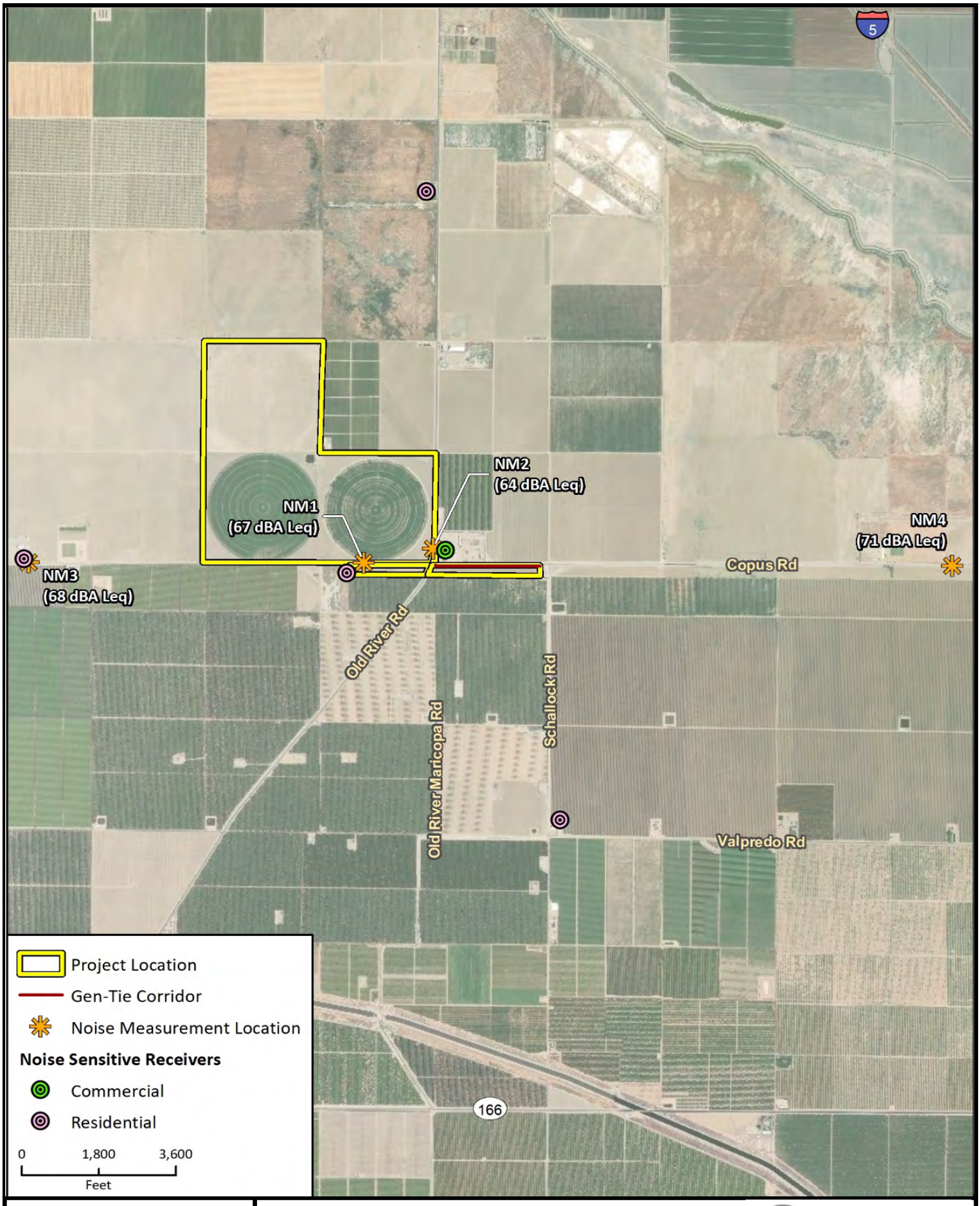
Measurement Location		Sample Times	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
NM1	North of Copus Road and West of Old River Road, north of residence	1:20 – 1:35 p.m.	Approximately 30 feet from Copus Road centerline	67	41	86
NM2	West of Old River Road and north of Copus Road	1:48 – 2:03 p.m.	Approximately 35 feet from Old River Road centerline	64	34	77
NM3	North of Copus Road and west of project site adjacent to residence	2:12 – 2:27 p.m.	Approximately 25 feet from Copus Road centerline	68	34	89
NM4	South of Copus Road and east project site adjacent to residence	11:03 – 11:18 a.m.	Approximately 25 feet from Copus Road centerline	71	29	88

L_{eq} = average noise level equivalent; dBA = A-weighted decibel (for these measurements, the L_{eq} was over a 15-minute period).; L_{min} = minimum instantaneous noise level; L_{max} = maximum instantons noise level See **Figure 4.13-1** for noise measurement locations.
Source: Rincon Consultants, See Appendix M.

TABLE 4.13-3: TRAFFIC COUNTS DURING SOUND LEVEL MONITORING

Measurement	Roadway	Traffic	Autos	Medium Trucks	Heavy Trucks
NM1	Copus Road – at Old River Road	15-minute count	32	2	3
		One-hour Equivalent	128	8	12
Percent			**86.5%**	**5.4%**	**8.1%**
NM2	Old River Road – at Copus Road	15-minute count	80	1	19
		One-hour Equivalent	320	4	76
Percent			**80%**	**1%**	**19%**
NM3	Copus Road – east of Project Site	15-minute count	40	2	4
		One-hour Equivalent	120	8	12
Percent			**85.7%**	**5.7%**	**8.6%**
NM4	Copus Road – west of project site	15-minute count	65	2	3
		One-hour Equivalent	260	8	12
Percent			**92.8%**	**2.9%**	**4.3%**

Detailed traffic count data is included in Appendix M



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Figure 4.13-2: Noise Measurement Locations

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Kern County
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Resources Department

4.13.3 Regulatory Setting

Federal

Noise Control Act of 1972

The Noise Control Act of 1972 (42 USC 4910) establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. The Act establishes a means for the coordination of federal research and activities in noise control, authorizes the establishment of federal noise emissions standards for products distributed in commerce, and provides the noise-emission and noise-reduction characteristics of such products to the public.

United States Environmental Protection Agency, Environmental Noise Levels

The United States Environmental Protection Agency (USEPA) provided guidance on environmental noise levels in Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety (USEPA, 1974), commonly referenced as the "Levels Document," that establishes an L_{dn} of 55 dBA, as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. The Levels Document does not constitute USEPA regulations or standards, but identifies safe levels of environmental noise exposure without consideration of technical or economic feasibility for achieving these levels or other potentially relevant considerations.

Federal Energy Regulatory Commission, Noise Guidelines

Federal Energy Regulatory Commission (FERC) *Noise Guidelines on Noise Emissions from Compressor Stations, Substations, and Transmission Lines* (18 CFR 157.206(d)5), require that the noise attributable to any new compressor stations, compression added to an existing station, or any modification, upgrade, or update of an existing station must not exceed a L_{dn} of 55 dBA at any pre-existing noise-sensitive area (such as schools, hospitals, or residences). This policy was adopted based on the USEPA-identified level of significance of 55 dBA L_{dn}.

Federal Highway Administration Noise Abatement Procedures (23 CFR Part 772)

The purpose of 23 CFR Part 772 is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, supply noise abatement criteria, and establish requirements for information to be given to local officials for use in the planning and design of highways. It establishes five categories of noise-sensitive receptors and prescribes the use of the hourly L_{eq} as the criterion metric for evaluating traffic noise impacts.

Department of Housing and Urban Development, Environmental Standards

The Department of Housing and Urban Development (HUD) regulations (24 CFR Part 51) set forth the following exterior noise standards for new home construction, assisted or supported by HUD:

- 65 L_{dn} or less – Acceptable
- > 65 L_{dn} and < 75 L_{dn} – Normally unacceptable, appropriate sound attenuation measures must be provided
- > 75 L_{dn} – Unacceptable

HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA L_{dn} is set forth, and attenuation requirements are geared to achieve that goal.

Occupational Safety and Health Administration, Occupational Noise Exposure

Occupational Safety and Health Administration (OHSA), *Occupational Noise Exposure; Hearing Conservation* Amendment (Federal Register 48 [46], 9738–9785, 1983) stipulates that protection against the effects of noise exposure shall be provided for employees when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA $L_{eq(8)}$. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

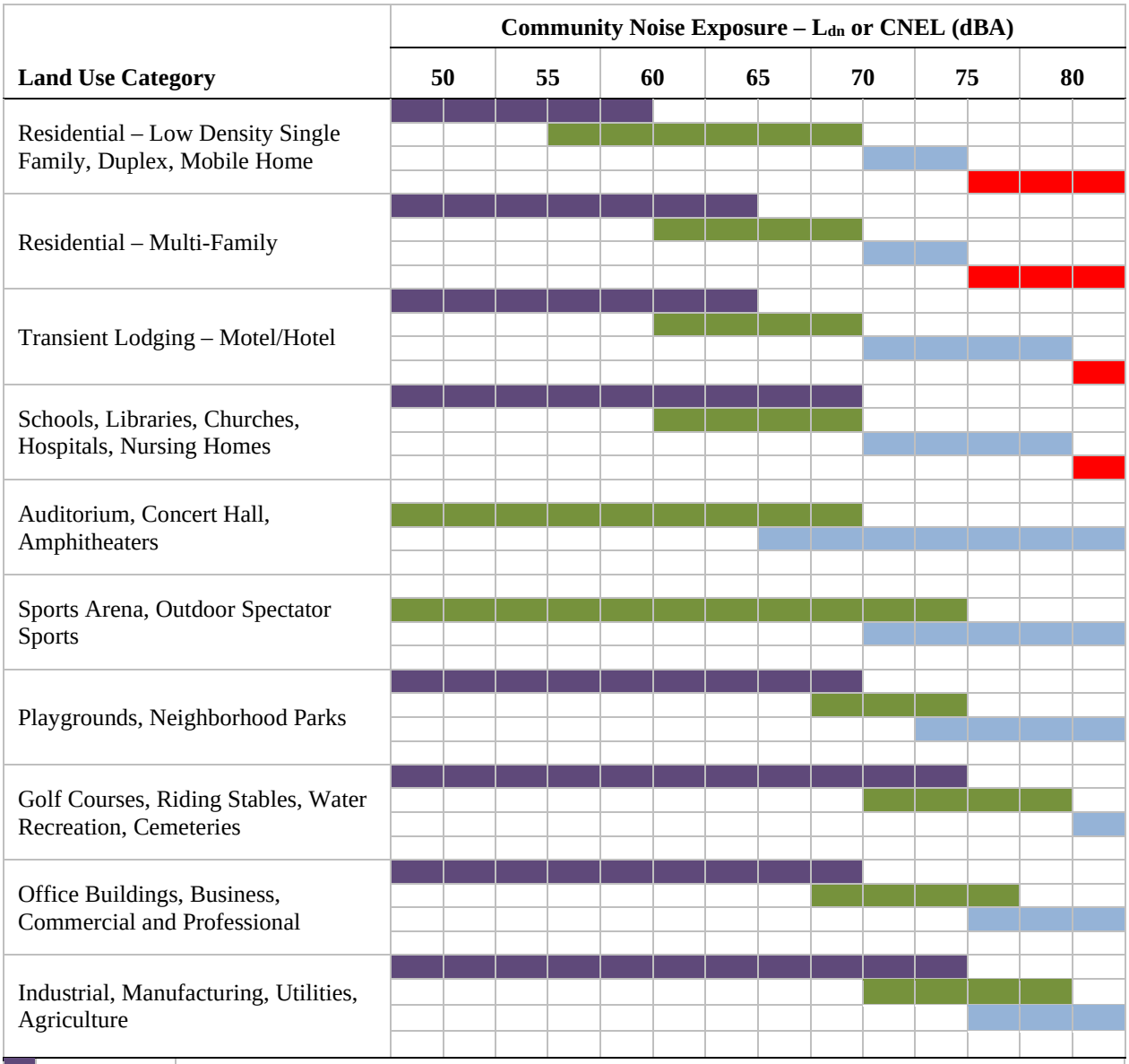
State

The State requires all municipalities to prepare and adopt a comprehensive long-range general plan. General plans must contain a noise element (California Government Code Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements for the noise element of the general plan include describing the noise environment quantitatively using a cumulative noise metric such as CNEL or DNL, establishing noise/land use compatibility criteria, and establishing programs for achieving and/or maintaining land use compatibility. Noise elements should address all major noise sources in the community, including mobile and stationary noise sources. In California, most cities and counties have also adopted noise ordinances which serve as enforcement mechanisms for controlling noise.

The California Department of Health Services has studied the correlation of noise levels and their effects on various land uses and established guidelines for evaluating the compatibility of various land uses, for the noise elements of local general plans, as a function of community noise exposure. The guidelines are the basis for most noise element land use compatibility guidelines in California.

The land use compatibility for community noise environment chart identifies the normally acceptable range for several different land uses, as shown in **Figure 4.13-3**: *Land Use Compatibility For Community Noise Environment*.

Figure 4.13-3: Land Use Compatibility For Community Noise Environment



Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: State of California, Governor's Office of Planning and Research, 2003.

Persons in low-density residential settings are most sensitive to noise intrusion, with noise levels of 60 dBA CNEL and below are considered "acceptable." For land uses such as schools, libraries, churches, hospitals, and parks, acceptable noise levels are up to 70 dBA CNEL. *CEQA Guidelines* (PRC Section 21000 et seq.) requires the identification of "significant" environmental impacts and their feasible mitigation. Section XI of *State CEQA Guidelines* Appendix G (CCR Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading "Thresholds of Significance."

The State also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dBA at 15 meters. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by State and local law enforcement officials.

Local

Kern County General Plan

The Noise Element of the Kern County General Plan (County of Kern, 2009) provides goals, policies, and implementation measures applicable to noise, which, as related to the project, are provided below. The major purpose of the County's Noise Element is to establish reasonable standards for maximum noise levels desired in Kern County, and to develop an implementation program which could effectively mitigate potential noise problems and not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn}, and interior noise levels in excess of 45 dBA L_{dn}.

In accordance with the Energy Element, Policy 10, of the General Plan, the County may also require the preparation of an acoustical analysis for energy project proposals that might impact sensitive and highly- sensitive uses. Applicable goals, policies, and implementation measures from the County's General Plan that are relevant to the proposed project are summarized below.

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses,

Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise,

Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions,

Policy 7: Employ the best available methods of noise control.

Implementation Measures

Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.

Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise-sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}.

Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:

a) Be the responsibility of the applicant.

b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.

c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.

Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Chapter 5. Energy Element

Policies

Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

Kern County Code of Ordinances

The Kern County Code of Ordinances, Chapter 8.36 (Noise Control), includes acceptable hours of construction, and limitations on construction related noise impacts on adjacent sensitive receptors.

Section 8.36.020 – Prohibited Source

It is unlawful for any person to do, or cause to be done, any of the following acts within the unincorporated areas of the county:

H. Create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling except as provided below:

1. The development services agency director or his designated representative may for good cause exempt some construction work for a limited time.
2. Emergency work is exempt from this section.

Groundborne Vibration

There are currently no federal, State, or local regulatory standards for groundborne vibration. However, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance. While the proposed project would not be subject to Caltrans oversight, guidance by the agency nonetheless provides groundborne vibration criteria that are useful in establishing thresholds of impact. Caltrans' threshold criteria pertaining to building damage and human annoyance for continuous and transient events are summarized in **Table 4.13-4:** *Vibration Criteria for Structural Damage*, and **Table 4.13-5:** *Vibration Criteria for Human Annoyance*, respectively below.

As indicated in **Table 4.13-4**, the structural damage threshold, at which there is a risk to normal structures from continuous or frequent vibration sources, is 0.3 in/sec PPV for older residential structures and 0.5 in/sec PPV for newer building construction. The 0.5 in/sec PPV threshold also represents the structural damage threshold applied to older structures for transient vibration sources. With regard to human perception (refer to **Table 4.13-5**), vibration levels would begin to become distinctly perceptible at levels of 0.04 in/sec PPV for continuous or frequent vibration sources and 0.25 in/sec PPV for transient vibration sources. Continuous vibration levels are considered annoying for people in buildings at levels of 0.2 in/sec PPV.

TABLE 4.13-4: VIBRATION CRITERIA FOR STRUCTURAL DAMAGE

	Vibration Level (in/sec PPV)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
Newer residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES: Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous. in/sec ppv = inches per second peak particle velocity

SOURCE: Caltrans, 2020.

TABLE 4.13-5: VIBRATION CRITERIA FOR HUMAN ANNOYANCE

	Vibration Level (in/sec PPV)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Annoying to people in buildings	—	0.2
Severe	2.0	0.4

NOTES: Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous. in/sec ppv = inches per second peak particle velocity

— = not available.

SOURCE: Caltrans, 2020.

4.13.4 Impacts and Mitigation Measures

Methodology

Noise impacts associated with the proposed project were assessed in this section based primarily on the *Noise Study* (Appendix M). Potential significant impacts associated with the project were evaluated on a quantitative, through noise measurements, and qualitative basis through a review of existing literature and available information, and by using professional judgment in comparing the anticipated proposed project effects on noise with existing conditions. The evaluation of proposed project impacts is based on significance criteria established by Appendix G of the *CEQA Guidelines*, which the Lead Agency has determined to be appropriate criteria for this draft EIR.

The project was evaluated for the potential to cause noise impacts based on the construction activities that would be needed to construct and operate the solar facility. Noise generated from construction is anticipated to be typical of other solar power facilities in terms of equipment (e.g. backhoe, dozer, dump trucks, grader, scraper, roller, etc.) needed for site preparation and grading, installation tracker foundations (piles), underground cabling, mechanical installation, electrical installation, and Lakeview Substation expansion, and other typical construction activities performed. Construction would not require any demolition, so noise generated from such activities were omitted. Noise from construction was based on an anticipated 12 month construction schedule beginning in 2023 at the earliest and completing in 2024. Although construction of the Jasmine Solar project is not anticipated to start until 2024, modeling data used a construction start date of 2023 as a conservative approach of potential impacts. Project construction was evaluated based on an assumed six total phases: Phases 1 through 5 occurring over 12 months and Phase 6 taking approximately 16 months. The construction phases would overlap and occur simultaneously, such that the total length of construction would be 16 months. The phases include 1) site preparation and grading; 2) tracker foundations (piles); underground cabling; 3) mechanical installation; 4) 5) electrical installation; and 6) PG&E

substation expansion. The evaluation of noise also considers transportation of materials to and from the site, and construction worker traffic during commute hours for the duration of the project phases.

Groundborne vibration levels associated with construction-related activities were evaluated utilizing typical groundborne vibration levels rates associated with construction equipment, obtained from the FTA's Transit Noise and Vibration Impact Assessment Manual (FTA, 2018). Groundborne vibration impacts related to structural damage and human annoyance were evaluated taking into account the distance from construction activities to nearby land uses and typically applied criteria for structural damage and human annoyance. The FTA criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA Leq for an 8-hour period.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant noise-related adverse effect.

A project could have a significant noise-related adverse effect if it would result in:

a. Generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;

b. Generation of excessive groundborne vibration or groundborne noise levels;

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or

d. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels.

The lead agency determined in the NOP/IS (see Appendix A) that the following environmental issue area resulted in no impact and were scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following impact:

d. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels.

   The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP) (County of Kern, 2012). The nearest public airport is the Bakersfield Municipal Airport, located approximately 17 miles to the northeast. The project site is not located within any safety or noise zones for the Bakersfield Municipal Airport. Noise from occasional aircraft flyovers would not have a significant effect on the small workforce on-site. There would be no impacts and no further analysis of this issue is warranted in the EIR.

Substantial Temporary or Permanent Ambient Noise Increase in Excess of Standards

Kern County regulates noise levels per the requirements of Chapter 8.36 (Noise Control) of the Kern County Code of Ordinances, which establishes hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors. Specifically, construction activities that are audible to a person with average hearing ability at a distance of 150 feet from the construction site, or if the construction site is within

1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends. However, as previously stipulated, the following exceptions are permitted: (1) The development services agency director or his designated representative may for good cause exempt some construction work for a limited time, and (2) Emergency work is exempt from this section. Given that a 5 dBA change in the community noise environment is considered to be readily perceptible by the human ear, construction activities occurring outside of the acceptable construction hours established by the County that increases the ambient noise levels at a noise-sensitive land use by 5 dBA or more is considered to be a violation of the County's construction noise regulations.

For operational noise, the Kern County General Plan Noise Element requires that proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise-sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB $L_{dn.}$ Operational noise impacts from stationary equipment are assessed by determining if the proposed project would result in a substantial increase in ambient noise levels that would exceed the applicable County noise standards at the outdoor activity area of the nearest noise-sensitive land use.

Generation of Excessive Groundborne Vibration

For the purposes of assessing potential groundborne vibration impacts associated with the proposed project, Caltrans's vibration criteria for potential structural damage risks and human annoyance was used in this analysis. Accordingly, groundborne vibration levels would be considered significant if predicted short-term construction or long-term operational groundborne vibration levels attributable to the proposed project would exceed the recommended criteria for structural damage or human annoyance (i.e., 0.25 and 0.1 in/sec PPV, respectively) at the nearest off-site existing structure (refer to **Table 4.13-4** and **Table 4.13-5**, above). These thresholds are considered to represent a conservative level at which construction-related activities would result in either structural damage or human annoyance. The proposed project would not result in the use of equipment or processes that would result in long-term or permanent increases in groundborne vibration.

Project Impacts

Impact 4.13-1: The project would result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.

Construction

Construction of the project would involve the use of construction equipment and machinery during various phases, including transport of personnel and materials to the site, heavy machinery used in grading and clearing the site, pneumatic post drivers to install foundation supports for solar array modules, as well as equipment used during construction of the proposed solar arrays, infrastructure improvements, and related structures. Emergency diesel generators may be used during construction activities. Project components at all project parcels and the gen-tie would be constructed over a 16-month period.

The evaluation of noise generation considered that construction equipment for each activity (e.g., gen-tie and solar array construction) would be operating simultaneously. For gen-tie construction, a crane and an

excavator operating simultaneously was modeled and for construction in other areas, an excavator, auger drill rig, loader, pneumatic tools, and a pickup truck operating simultaneously were modeled.

Table 4.13-6: *Typical Construction Equipment Noise Levels* shows the noise levels associated with heavy construction equipment at a reference distance of 50 feet from the source. As shown in this table, noise levels at this distance can range from about 74 to 85 dBA, depending upon the types of equipment in operation at any given time and phase of construction (FHWA 2006).

TABLE 4.13-6: TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Acoustical Usage Factor (%)[1]	Measured L_{eq} (dBA at 50 feet)
Augur Drill Rig	20	84
Backhoe	40	78
Compactor (ground)	20	83
Concrete Mixer Truck	40	85
Crane	16	85
Dozer	40	82
Dump Truck	40	76
Excavator	40	81
Flat Bed Truck	40	74
Front End Loader	40	79
Generator	50	81
Grader	40	83
Pickup Truck	40	75
Pneumatic Tools	50	85
Roller	20	80
Scraper	40	84
Warning Horn	5	83
Welder/Torch	40	74

[1.] The average fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.
Source: FHWA, 2006

Construction activities would be subject to Kern County policies and regulations. Heavy construction activities would normally occur on-site between the hours of 7:00 a.m. and 6:00 p.m., which is between the acceptable hours for construction listed in the Kern County Code of Ordinances (6:00 a.m. to 9:00 p.m., on weekdays) except for the 8:00 a.m. to 9:00 p.m. on weekends. Additional hours may also be necessary to make up schedule deficiencies or to complete critical construction activities. As a result, some construction activities may be required to continue 24 hours per day, seven days per week. Activities that generate relatively low amounts of noise, such as refueling equipment, staging material for the following day's construction activities, quality assurance/control, and commissioning, may potentially occur between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and the hours of 9:00 p.m. and 8:00 a.m. on weekends. If activities do occur during these hours, per Section 8.36.020 of the Kern County Code, they would require approval from the development services agency director their designated representative if the activities would be audible to a person with average hearing ability at a distance of 150 feet from a construction site or if the site is within 1,000 feet of an occupied residential dwelling.

Noise-sensitive receivers near project construction include single-family residences in the project area, the nearest of which is located south of the project site across Copus Road, approximately 225 feet from

construction activities. These land uses would experience a temporary increase in noise during construction of the project.

TABLE 4.13-7: NOISE LEVELS AT VARIOUS DISTANCES FROM CONSTRUCTION AT THE PROJECT PARCELS

Receiver	Distance from Construction (feet)[1]	Noise Level at Receptor (dBA L_{eq})
Reference Distance	50	85
Single-family residence on Copus Road	225	72
Single-family residence on Old River Road	4,135	47
Single-family residence on Copus Road	4,115	47

See Appendix M for model outputs.

[1] Distances include the distance from the project parcel boundary to the recieveers, plus 50 feet to account for construction equipment that would be mobile throughout the day and would average a further distance (of approximately 50 feet) from the property line over a typical construction day.

As shown in **Table 4.13-7:** *Noise Levels at Various Distances from Construction at the Project Parcels*, although construction noise levels from simultaneous heavy equipment operation would reach 85 dBA Leq at the reference distance of 50 feet, due to the further distance between construction at the project site and the nearest noise-sensitive receivers, construction noise levels under the conservative scenario analyzed would only reach as high as 72 dBA Leq. This would be below FTA's threshold of 80 dBA Leq for residential exposure to daytime construction noise. Most construction activities would occur in the interior of the project parcel and further from nearby noise-sensitive receivers than analyzed. This would result in lower noise levels that described and especially during the later construction phases when equipment with the loudest equipment, such as pneumatic tools and graders, would no longer be used.

Heavy construction activity involving pneumatic tools and graders also would not occur during nighttime hours. However, per Section 8.36.020 of the Kern County Code, construction activities outside of acceptable hours could be exempted, for good cause, some construction work for a limited time by the development services agency director or his designated representative. In addition, because a sensitive receiver is closer than 1,000 feet away from construction, County approval and implementation of a noise control plan that could include measures such as a noise complaint contact, notification of residents/provision of construction schedule, employee training for noise sensitivity, monitoring of noise levels at off-site areas, adjustment of back-up alarms, place stationary sources (generators) sited away from receptors, etc., would be required unless nighttime construction noise is inaudible at nearby residences. This would be included to mitigation measure MM 4.13-1 through MM 4.13-4, which would further ensure the effects of both nighttime and daytime construction noise impacts would be less than significant.

Construction Traffic Noise

Construction of the project would increase traffic noise offsite from commuting construction workers and from haul trucks bringing materials to and from the project site. Project components would be constructed simultaneously over a 16-month period. This could expose nearby residences to traffic noise increases associated with construction traffic. This analysis of cumulative effects focuses on the effects of concurrent construction traffic for the worst-case scenario (i.e., traffic generated by the peak construction period) and compares existing daily traffic volumes on nearby road segments to anticipated traffic generated by project construction. Based on these traffic volumes, **Table 4.13-8:** *Construction Traffic Noise* shows modeled traffic noise levels at the nearest receivers under existing traffic conditions and with construction traffic.

TABLE 4.13-8: CONSTRUCTION TRAFFIC NOISE

Roadway	Nearest Sensitive Receiver	Distance to nearest Sensitive Receiver (feet)	Existing Traffic Noise (dBA L_{dn})	With Construction Traffic Noise (dBA L_{dn})	Change in Traffic Noise (dBA L_{dn})	FTA Allowable Noise Exposure Increase (dBA L_{dn})
Copus Road – East of Old River Road	Single-family residence	100	58	58	<1	3
Copus Road – West of Old River Road	Single-family residence	85	56	57	1	3
Old River Road – North of Copus Road	Single-family residence	150	58	59	1	3
Old River Road – South of Copus Road	Single-family residence	400	53	53	<1	5

See Appendix M for model inputs and results
Source: GHD 2021

As shown in **Table 4.13-8**, construction traffic would increase noise levels by up to 1 dBA Ldn at the nearest sensitive receivers when accounting for project construction traffic of 512 trips distributed over Copus Road and Old River Road (see Appendix M). Project traffic noise increases would not exceed the applicable FTA criteria. Therefore, the short-term increase in traffic noise from project construction would be less than significant.

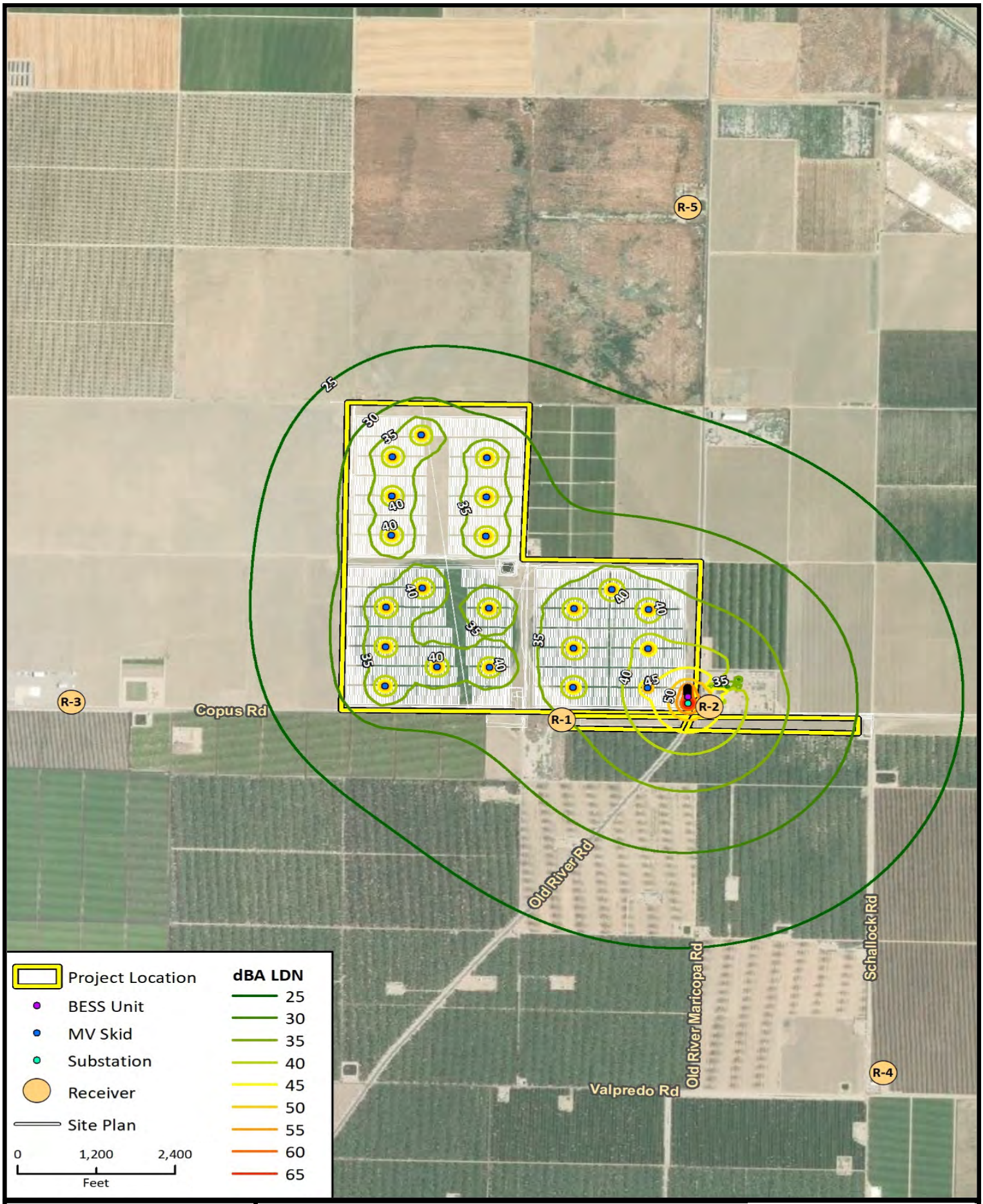
Operational

On-Site Operational Noise

Solar Array Noise

Sensitive receivers nearby the project parcels include the single-family residence across Copus Road to the south of the project site and single-family residences located further away to the north, south, and west. Noise levels from the project's solar array operations (i.e., transformers and inverters within a MV Skid, substation, BESS units) are shown in **Table 4.13-9:** *Operational Noise Levels at Nearest Sensitive Receivers*, and noise level contours and receiver locations are shown in **Figure 4.13-4:** *Receiver Locations and Operational Noise Contours*.

As shown in **Table 4.13-9**, operational noise levels from the project site would reach up to 35 dBA Ldn at noise-sensitive land uses. These noise levels would be well below Kern County's standard of 65 dBA Ldn and would not be audible over the existing ambient noise levels of the area at noise-sensitive land uses. Therefore, operational noise impacts from the project would be less than significant.



Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.13-4: Receiver Locations and Operational Noise Contours

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County
Planning & Natural
Resources Department

Solar Array Tracking Motors

PV panels would generate a small volume of noise from operation of the tracking motors. The tracking motors are used to make brief, incremental adjustments to adjust the panel direction to track the arc of the sun to maximize the solar effect. The motors would generate 44 dBA at 50 feet of noise and would operate for several minutes per hour as the sun moves west across the sky. The panels would not be operated at night but would be reset to face the eastern sky for the next morning (Dudek 2018). The hourly noise generated by panel operation would be negligible at the nearest sensitive receivers. It should be noted that the site visit revealed that the noise levels from PV panel tracking would not be detected over the existing ambient noise sources in the area (wind, vehicles, planes, and trains). Therefore, noise levels from the PV panels would be less than significant.

TABLE 4.13-9: OPERATIONAL NOISE LEVELS AT NEAREST SENSITIVE RECEIVERS

Receiver	Receiver Description	Noise Level at Receiver		Exceed Threshold?
		dBA L_{eq}	dBA L_{dn}	
R1	Residence adjacent to project site across Copus Road	28	35	No
R2	Commercial adjacent to project site across Old River Road	45	52	-
R3	Residence west of the project site along Copus Road	15	21	No
R4	Residence to the south of the project site along Valpredo Avenue	13	19	No
R5	Residence to the north of the project site along Old River Road	14	20	No

"-" indicates that Kern County standards does not apply because this use is not noise-sensitive
Note: Calculations completed in SoundPLAN; see **Figure 4.13-4** for receiver locations.

Operational Traffic Noise

Once the project is complete, vehicle trips to the project site would be needed for operations and maintenance of the solar facility. In addition, the project would require occasional nighttime activities, including deliveries, repairs, maintenance, office and administrative activities, security personnel, and emergency response.

As shown in **Table 4.13-8**, existing roadways generate noise levels of 53 to 58 dBA Leq at the nearest single-family residences. Pursuant to the FTA criteria, a significant noise impact would occur if roadway noise would increase by more than 3 dBA for Copus Road and Old River Road north of Copus Road and 5 dBA for Old River Road south of Copus Road traffic. With the relatively minor increase in traffic volumes from project operation (approximately 8 vehicle trips, the generation would be less than 1 dBA on each roadway. This increase would be imperceptible to the nearest residents and would not exceed applicable FTA criteria. Therefore, the project's noise increases from operational traffic would have a less than significant impact in this regard.

Decommissioning

At the end of the project's useful life (anticipated to be 35 years), the solar facility and associated infrastructure may be decommissioned in accordance with the then-current decommissioning practices.

Given the project's operating life cycle and distant timeframe for decommissioning activities, it is speculative to quantify the potential noise impacts that could occur during decommissioning activities. It is anticipated decommissioning would require a similar time line as project construction, approximately 12 months. Decommissioning assumes that the facility would be torn down and the majority of the materials would be recycled and remaining would be disposed at a traditional landfill.

Temporary noise associated decommissioning are assumed to be generally similar to the noise levels that would result from project construction. Decommissioning activities also would be conducted in accordance with all applicable noise reduction measures and mitigation requirements of this project in effect at the time of project termination. A final decommissioning plan, based on the then-current technology, site conditions, and regulations, would be prepared prior to actual decommissioning. Therefore, with implementation of the listed mitigation, impacts would be less than significant in this regard.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie corridor would be routed adjacent to the southerly alignment of Copus Road to the existing Lakeview Substation approximately 0.5 mile east of the project site. The gen-tie route would be located approximately 2,000 feet from the nearest single-family residence. The noise model assumed the loudest anticipated construction noise from gen-tie construction would be from the simultaneous use of an excavator and a crane. **Table 4.13-10:** *Typical Construction Noise Levels at Various Distances from Gen-Tie Construction* shows construction noise levels at the nearest noise-sensitive receiver.

TABLE 4.13-10: TYPICAL CONSTRUCTION NOISE LEVELS AT VARIOUS DISTANCES FROM GEN-TIE CONSTRUCTION

Receiver	Distance from Construction (feet)	Noise Level at Receptor (dBA L_{eq})
Reference Distance	50	78
Single-family residence on Copus Road	2,000	46

See Appendix M for model outputs.

Simultaneous heavy equipment use during gen-tie construction would generate a noise level of up to 78 dBA L_{eq} at 50 feet and a noise level at the nearest residential use (approximately 2,000 feet) of up to 46 dBA L_{eq}. This is below the FTA's construction noise threshold of 80 dBA L_{eq} (8-hour). In addition, this work would not involve heavy construction during nighttime hours and would conform to County Code Section 8.36.020. Therefore, with implementation of the listed mitigation, impacts would be less than significant in this regard.

Operational Noise

The gen-tie transmission line would generate noise, approximately 20 dBA at a distance of 50 feet from the electrical ionization of the air that occurs near the surface of the energized conductor (Rincon, Appendix M). The generated noise would be audible and is usually experienced as a random crackling or hissing sound. Because the distance to the nearest residence is more than 2,000 feet from the gen-tie route the sound is not anticipated to be audible over the ambient conditions that generate noise from wind, vehicles, etc. Thus, the gen-tie noise would not exceed County's standard of 65 dBA Ldn at the nearest residences, impacts would be less than significant, and no additional mitigation is required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The construction and operation of the PG&E Interconnection Facilities, including improvements for the existing Lakeview Substation is not anticipated to result in a substantial temporary or permanent increase in ambient noise levels or conflict with an established standard in a local general plan or noise ordinance.

Mitigation Measures

MM 4.13-1: The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:

a. Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 8:00 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols.

b. Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet of existing residential dwellings.

c. Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.

d. Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).

e. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).

f. Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.

MM 4.3-2: Prior to the issuance of grading permits, the construction contractor shall establish a Noise Disturbance Coordinator for the project during construction. The Noise Disturbance Coordinator shall be responsible for responding to any complaints about construction noise. The Noise Disturbance Coordinator shall determine the cause of the complaint and shall be required to implement reasonable measures to resolve the complaint. Contact information for the Noise Disturbance Coordinator shall be submitted to the Kern County Planning and Natural Resources Department prior to commencement of any ground disturbing activities.

MM 4.13-3: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), including decommissioning, the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include:

a. The mailing notice shall be to all residences within 1,000 feet of the project site, 15 days or less prior to construction activities. The notices shall include the construction schedule and a telephone number and email address where complaints and questions can be registered with the noise disturbance coordinator.

b. A minimum of one sign, legible at a distance of 50 feet, shall be posted at the construction site, or adjacent to the nearest public access to the main construction entrance, throughout construction activities that shall provide the construction schedule (updated as needed) and a telephone number where noise complaints can be registered with the noise disturbance coordinator.

c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.13-4: Adequate noise shielding shall be provided to the project's onsite transformers and inverters such that the existing ambient noise level at the nearest offsite residential structure would not be exceeded by more than 5 dBA. The project proponent/operator shall submit photographic evidence of this technology and clearly demonstrate on a site plan where adequate noise shielding will be located, if necessary. No shielding shall be required if the increase in ambient noise level is 5 dBA or less.

Level of Significance after Mitigation

Impacts would be less than significant for the project with MM 4.13-1 through MM 4.13-4. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.13-2: The project would generate excessive groundborne vibration or groundborne noise levels.

Construction

Construction at the project site would use typical construction equipment such as graders, excavators, dozers, compactors, generators etc., but also may require post driving, all of which have the potential to result in temporary vibration impacts. While standard use of construction machinery is not anticipated to result in substantial vibration, the effects of post driving activities could occur within 190 feet of the nearest off-site residential structure and has the potential to result in effects from vibration. It was conservatively assumed that an impact pile driver, as discussed in Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020), would be used for the project. It should be noted that an impact pile driver as considered by Caltrans is larger than the type of equipment that would be used to drill in posts for the solar panels. Although an impact pile driver on the scale analyzed by Caltrans would typically be used for large bridge concrete footings, it was used for the project to provide a conservative estimate for impacts to occur. As previously mentioned, the other construction activities are less intensive than pile driving and would have lower PPV than pile driving.

The post driver is assumed to generate approximately 2,400 ft-lb of energy, the PPV at the nearest residential structure (approximately 190 feet) would be 0.069 in./sec. PPV. Caltrans uses a threshold value 0.3 in./sec. PPV of continuous/frequent intermittent sources for damage potential to older residential structures and a threshold of 0.10 in./sec. PPV for strongly perceptible human annoyance. Thus, considering the vibration impacts associated with construction of the proposed project would be intermittent and short term, only located in proximity to the nearest residential use for a short period (while construction would occur in that area of the project), impacts would be less than significant.

Operational

Once constructed, the proposed PV facility would not have any components that would generate substantial vibration and it does not have the potential to exceed vibration thresholds. Thus, operation of the proposed project would not result in any vibration and impacts would be less than significant in this regard.

Decommissioning

At such time the project is decommissioned, equipment operation and site restoration activities would create temporary vibration in the immediate vicinity. Given the fact that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar to the project's construction activities. Decommissioning of the project would result in a less than significant vibration level at the existing off-site receptors. Therefore, groundborne vibration impacts in this regard would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Gen-tie construction would require the use of an auger drill rig that has the potential to result in temporary vibration impacts on structures and humans in the vicinity. Based on the potential site locations, auger drilling activities could occur within 2,000 feet of the nearest off-site residential structure. Other construction activities at the gen-tie corridors are less intensive include standard construction equipment and would have lower PPV.

Caltrans vibration guidelines do not provide vibration levels specifically for an auger drill rig; however, the guidelines do provide vibration levels for caisson drilling of 0.089 in./sec. PPV at 25 feet (used for activities such as drilling a much larger hole such as a bridge pier). Vibration generated by the caisson drill was used as a conservative reference for this analysis resulting in a PPV at the residential structure of approximately 0.0001 in./sec. PPV. This value is well below the Caltrans continuous/frequent intermittent sources threshold. 0.3 in./sec. PPV for damage potential to older residential structures, and 0.10 in./sec. PPV for strongly perceptible human annoyance. It is further notes that heavy construction activity involving drilling would not occur during the more sensitive nighttime hours. Thus, vibration impacts associated with construction of the project would be less than significant in this regard.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Impact 4.13-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Once constructed, the proposed project would operate continuously, seven days per week. Noise generated by project operations would be predominantly associated with the on-site operation of transformers, inverters, and power conversion stations. Corona discharge may also be potentially detectable in the immediate vicinity of the proposed transmission lines, more often during high humidity conditions. Additional operational noise sources associated with the proposed project would include on-site vehicle operations and intermittent maintenance activities.

As discussed in Impact 4.13-1, the operation and maintenance activities associated with the solar facilities would result in less than significant noise impacts to surrounding sensitive receptors. Sensitive receptors nearby the project parcels include the single-family residence across Copus Road to the south of the project site and single-family residences located further away to the north, south, and west. As discussed above, noise levels from construction, operations, and decommissioning would not be substantial and would not exceed noise thresholds or result in substantial permanent increase in ambient noise volumes. Therefore, project operation would not cause the ambient noise level measured at the property line of affected uses to increase such that impacts would occur.

Operation of the project would require up to 2 full time equivalent employees (FTE) consisting of plant operators and maintenance technicians to manage and operate the solar facility. The FTE staff would conduct routine visits for panel cleaning and repairs; panel washing which is anticipated to occur one or two times per year. Limited deliveries would be necessary for replacement PV modules and equipment during project operation. Deliveries, however are not expected to occur on a daily basis and would not generate a significant number of vehicle trips or substantially increase vehicle noise in the area and impacts from increased vehicle noise would be minimal. Thus, the project would not result in a substantial permanent increase in ambient noise levels, impacts are less than significant, and mitigation is not required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The construction and operation of the PG&E Interconnection Facilities, including improvements for the existing Lakeview Substation, for the transport of renewable energy is not anticipated to result in a substantial permanent increase in ambient noise levels.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Section 3.9, *Cumulative Projects*, and listed in **Table 3-4:** *Cumulative Projects List*, there are a total of 9 projects located within the 6-mile cumulative radius of the project site, as shown on **Figure 3-10:** *Cumulative Project*s, in Chapter 3.0, *Project Description*. Due to the localized nature of noise impacts, cumulative impacts would be largely limited to areas within the general vicinity (i.e., within approximately 1,000 feet per Chapter 8.36 of Kern County Code of Ordinances (County of Kern, 2010)) of the project site.

The project's construction activities, in combination with the construction of other reasonably foreseeable projects in the area could result in increased short-term construction noise levels in the project area (depending upon the specific timing of the construction of those other projects and proximity to the project site). Construction activities associated with other projects in proximity to the project site could occur at the same time as the project. Mitigation measures MM 4.13-1 through MM 4.13-3 would be implemented for the project and would reduce and minimize construction noise levels. If other project occur in the vicinity they would be anticipated to implement similar measures. Thus, the projects contribution to a cumulative increase in noise would be less than significant.

The Kern County Code of Ordinances (Chapter 8.36 – Noise Control) establishes hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors; noise producing construction activities that are audible to a person with average hearing ability at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends. Such noise producing construction activities occurring outside of these acceptable construction hours is considered to be a violation of the County's noise control ordinance. However, here are two exceptions: (1) The development services agency director or his designated representative may for good cause exempt some construction work for a limited time, and (2) Emergency work is exempt from this section.

In addition, implementation of mitigation measures MM 4.13-1 through MM 4.13-4 would reduce and minimize construction noise levels and ensure the project's consistency with the County's noise control ordinance; noise levels would be less than significant on a project level basis. As a result, construction of the proposed project would not result in a cumulatively considerable contribution to noise impacts, including at the nearest sensitive receptor. Therefore, when considered with other past, present, and reasonably foreseeable future projects, the proposed project would not result in a cumulatively considerable contribution to construction noise impacts.

The same receptor as identified for construction noise would be the closest to be impacted by the project and other cumulative projects with respect to vibration as well. Due to these distances, and the rapid attenuation of groundborne vibration, the project and the nearest related project are not in close enough proximity to this sensitive receptor such that any sensitive receptor would be exposed to substantial groundborne vibration levels. Construction of the gen-tie lines, substation expansion, and decommissioning

activities also would result in similar noise and vibration levels identified for the construction of the proposed project. Therefore, cumulative impact in terms of groundborne vibration would be less than significant.

With respect to operational noise, the maximum operational noise from the project at the nearest sensitive receptor would be much lower than the County's 65 dBA L_{dn} exterior noise standard for residential use. Thus, the project would not make a substantial contribution with other cumulative projects. As such, cumulative impacts associated with operational noise from the proposed project and cumulative projects would be negligible at the nearest receptor and would not exceed Kern County Ordinance noise standards. Thus, cumulative operational noise impacts would be less than significant.

Cumulative operation could also would not result in the exposure of people to the generation of excessive groundborne vibration. However, since operation of the proposed project and related projects would involve operational traffic, including O&M staff and regular maintenance truck (0.076 in/sec PPV), and panel washing activity (not measurable), project-related vibration impacts would not have any measurable effect on the adjacent off-site sensitive receivers. Therefore, cumulative vibrational impacts would be less than significant.

Overall, when considered with other past, present, and reasonably foreseeable future projects, the proposed project would not result in a cumulatively considerable contribution to noise or vibration impacts.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview substation would be extended easterly from the project site. Improvements associated with the Lakeview Substation expansion and gen-tie line would include a 0.9-acre expansion of the substation immediately adjacent to the west corner of the existing substation and power line restructuring. The construction and operation of the PG&E Interconnection Facilities, including improvements for the existing Lakeview Substation, for the transport of renewable energy is not anticipated to result in a cumulative noise impact.

Mitigation Measures

Implement Mitigation Measures MM 4.13-1 through MM 4.13-4 to reduce and minimize cumulative construction noise and vibration levels is required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and APMs.

Section 4.14
Public Services

4.14.1 Introduction

This section of the EIR describes the affected environment and regulatory setting pertaining to public services, which include fire and police protection. This section also addresses the potential impacts on public services that would result from implementation of the project and the mitigation measures to reduce these potential impacts. Information for this section was taken from numerous sources, including websites, and service agency plans.

4.14.2 Environmental Setting

Fire Protection

The Kern County Fire Department (KCFD) provides primary fire protection services, fire prevention, emergency medical, and rescue services to more than 500,000 people in unincorporated areas of Kern County and nine incorporated cities (i.e., the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco). KCFD operates 47 full-time fire stations within 7 battalions and is equipped with 58 fire engines, 6 ladder trucks, 54 patrol vehicles, 30 command vehicles, 6 dozers, 2 helicopters, 2 hazardous material response teams, and other ancillary vehicles and equipment. KCFD is staffed with 621 permanent employees, which includes 521 uniformed firefighters (KCFD, 2022).

TABLE 4.14-1: LIST OF NEARBY FIRE STATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Station No. 53	9443 Taft Hwy Bakersfield, CA 93311	11 miles north
KCFD	Station No. 52	312 Taft Hwy Bakersfield, CA	12 miles northeast

The proposed project consists of a photovoltaic solar facility with associated infrastructure and energy storage facilities. The project site is located within Battalion 4&6, which serves the central portion of Kern County. According to the CAL FIRE, California Fire Hazard Severity Zones Viewer, the project site and surrounding area is not within a SRA or LRA. (CAL FIRE, 2022) (See **Figure 4.18-1**, *Fire Hazard Severity Zones for Local Responsibility Areas* located in Section 4.18, *Wildfire*, of this EIR).

The project site would be served by Fire Station #53, located at 9443 Taft Hwy, approximately 12 miles north of the project site. In the event of a major fire or when short-staffed, other stations would be called on to respond, as necessary, including Fire Station No. 52, located at 312 Taft Hwy, Bakersfield, CA 93307. Further information on the two closest fire stations to the project site is included in **Table 4.14-1:** *List of Nearby Fire Stations*. The table identifies each type of facility, the name and address of the facility, and the approximate distance from the project site.

Kern County applies and utilizes the National Fire Code set forth by the National Fire Protection Association, the California Fire Code, the California Building Code, and the Kern County Ordinance Code to regulate fire safety.

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the County, which include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician (EMT) training programs throughout the County. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to a hospital setting. EMS covers day to day emergencies, disaster medical response planning and preparation, and preventative health care. The department also provides certification and re-certification for EMT's, paramedics, specialized nurses (MICN), and specialized dispatchers (EMD) (Kern County Public Health Services Department, 2018). The nearest hospital is the Mercy Hospital – Downtown Bakersfield, located at 2215 Truxtun Ave, in the City of Bakersfield approximately 24 miles northeast of the project site.

The Kern County Fiscal Year 2021-22 Recommended Budget (County of Kern, 2021) shows on-going deficiencies in funding for staffing and a $50 million backlog for capital equipment costs for the Fire Department. The budget report finds that the current funding status, with one time infusion of funding, is not sustainable and requires continued strategic planning for capital needs and operational staffing stability.

Law Enforcement Protection

Kern County Sheriff's Department

The Kern County Sheriff's Office (KCSO) provides basic law enforcement services in the unincorporated areas of the County, which includes the project area. The KCSO enforces local, State, and federal laws and is responsible for crime prevention, field patrol (ground and air), crime investigation, the apprehension of offenders, regulation of noncriminal activity, and related support services such as, patrolling off-highway vehicle recreation areas of the County. Traffic and parking control functions are also provided along with some investigation of property damage reports and traffic accidents. Complete investigations are conducted for injury, fatal, intoxication-related, and hit and run accidents.

The KCSO is currently employs 1,202 people, including 567 authorized deputy sheriff positions, 338 detention deputy positions, and 297 sheriff's professional support staff and serves over 890,000 people in the Kern County area (KCSO, 2022). The headquarters for the KCSO is located at 1350 Norris Road in the City of Bakersfield. The KCSO consists of 14 substations that provide patrol services (KCSO, 2022). The nearest substation that would provide service to the project site is the Lamont Substation located approximately 14 miles northeast of the project site, at 12022 Main Street, Lamont, CA 93241. This substation is assigned to the communities of Lamont and Arvin, and the rural areas in the southern portion of the County. The Lamont City Substation is currently staffed by 1 Sergeant, 3 Senior Deputies, 20 Deputies, and 2 Sheriff Support Technician (KCSO, 2021). Information on the three closest substations to the project sites are included in **Table 4.14-2:** *List of Nearby Sheriff Substations.*

TABLE4.14-2: LIST OF NEARBY SHERIFF SUBSTATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Lamont Substation	12022 Main Street Lamont, CA 93241	14 miles northeast
KCSO	Taft Substation	315 N Lincoln Street Taft, CA 93268	19 miles northwest
KCSO	East Bakersfield Substation	1700 Flower Street Bakersfield, CA 93305	20 miles northeast

The KCSO strives to respond to calls as quickly as possible. Life-threatening calls that involve a danger to someone's personal safety are given first priority. Response time is defined as the time required to respond to a call for service, measured from the time a call is received until the time a patrol car arrives at the scene. Response times naturally vary depending on the severity of the call, available staff, and location of patrol car. Average response time for the KCSO is five minutes or less for an emergency or immediate-response incident (e.g., a crime that is in progress and/or a life-or-death situation) and 8 to 10 minutes for routine calls (e.g., a crime that has already occurred and/or an incident that is not life-threatening).

Response time to an emergency at or near the project site would vary depending on the level of demand at the substation at the time of the call. If demand is high, the response time would be longer than the average times given above. The response time for a nonemergency call could be eight minutes or more, depending on staffing and the number of other calls for service. In some areas, response may not occur at all for nonemergency calls due to funding deficiencies.

The Kern County Fiscal Year 2023-24 Recommended Budget (County of Kern, 2023) shows a $10,839, 934, or 17%, decrease in the County's General Fund from Fiscal Year 2022-2023. The 2023-2024 Recommended Budget continues to make funding of the Sheriff's Department, District Attorney's Office, the Public Defender's Office, the Probation Department, and the Fire Department a top priority.

Off-Highway Vehicle (OHV) Enforcement Team

In 2000, the KCSO created the Off-Highway Vehicle (OHV) Enforcement Team that can be deployed to off road riding areas and adjacent communities in Kern County, as needed. The goal of the OHV Enforcement Team is to provide a safe and secure environment for the OHV community and nearby residents, and to help protect sensitive natural resources. Kern County attracts over 800,000 visitors a year to the local OHV riding. The OHV Enforcement Team patrols numerous off road riding areas in Kern County. The OHV Enforcement Team works closely with officers from the Bureau of Land Management (BLM), California State Parks, and other local law enforcement agencies (KCSO, 2022b).

California Highway Patrol

As a major statewide law enforcement agency, the California Highway Patrol (CHP) is responsible for managing and regulating traffic for the safe, lawful, and efficient use of California highways. The CHP patrols State highways and all County roadways, enforces traffic regulations, responds to traffic accidents, and provides service and assistance to disabled vehicles. The CHP has a mutual aid agreement with KCSO.

The CHP is divided into eight divisions that provide services in areas of California (CHP, 2009). The project site is within the jurisdiction of the Central Division, which includes two long freeway segments that run the flat length of the Division: a 244-mile stretch of State Route 99 and a 275-mile stretch of Interstate 5. (CHP, 2021). The nearest Inland Division office to the project site is located at 5179 N. Gates Avenue, Fresno, CA 93722, approximately 72 miles south of the project site.

Schools/Parks/Other Public Facilities

As described in the Initial Study prepared for the project it was determined that no impacts to schools or parks would occur as a result of project implementation, and therefore no further analysis is warranted (Appendix A). The following description of schools, parks, and other facilities in the project vicinity is provided for informational purposes; however, an impact analysis for schools and parks is not included herein.

The project site is in a rural area with minimal residential facilities in the project vicinity. The proposed site falls within the Lakeside Union Elementary School District and Kern Union High School District. The closest school to the project is Lakeside Junior High School located approximately 9 miles north of the project site.

The Kern County Parks and Recreation Department manages an extensive system of large regional parks designed to serve the entire countywide population, and small neighborhood and community parks intended primarily to meet the recreational needs of nearby residents in unincorporated communities. Kern County Parks & Recreation manages 8 regional parks, 40 neighborhood parks, and 25 public buildings, supervises three golf courses and landscapes 76 county buildings (Kern County, 2022). There are no parks or trail or within project site boundaries.

Other public facilities include library facilities, post office facilities, and courthouses. The Kern County Library has 24 branches and 2 mobile libraries, which serve 850,000 residents within the County, including incorporated municipalities (Kern County Library, 2020). Additionally, there are currently 37 post offices that serve the County (United States Postal Service [USPS], 2020). Furthermore, there are currently 12 facilities serving the Superior Court of California in Kern County (Superior Court of California, 2021).

The Kern County Fiscal Year 2023–2024 preliminary recommended budget shows an increase in funding for libraries and parks (County of Kern, 2023).

4.14.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Fire Code

The 2019 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operation. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. Features regulated include fire protection systems, fire fighter access to the site and building, means of egress, hazardous materials storage and use and temporary heating equipment and other ignition sources.

California Department of Forestry and Fire Protection (CALFIRE)

Under Title 14 of the California Code of Regulations (CCR), CALFIRE has the primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CALFIRE develops regulations and issues fire-safe clearances for land within a fire district of the SRA. More than 31 million acres of California's privately-owned wildlands are under CALFIRE's jurisdiction.

CAL FIRE adopted Fire Hazard Severity Zone maps for SRAs and LRAs in 2007. Fire Hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. The project site is not located within a SRA but it is located in an area of moderate fire hazard and within an unincorporated LRA (CAL FIRE, 2022).

In addition to wildland fires, CALFIRE's planning efforts involve responding to other types of emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CALFIRE provides emergency services in 36 of California's 58 counties (CALFIRE, 2022).

Local

Construction and operation of the project would be subject to applicable policies and regulations including those contained in the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to public services. The policies, goals, and implementation measures in the Kern County General Plan related to public services that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not

specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

Chapter 1. Land Use, Conservation and Open Space Element

1.4. Public Facilities and Services

Goal

Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Policy 7: The County will ensure adequate police protection to all Kern County residents.

Implementation Measures

Measure A: Continue to administer the Capital Improvement Program (CIP) and coordinate with public utility providers listing the necessary improvements to Kern County's public services and facilities in collaboration with key service providing agencies and the County Administrative Office as a first step toward the preparation of a long-term Public Services Plan for Kern County. This plan addresses the projected demand for public services throughout the County in comparison with projected revenues and identifies long-term financial trends for the major public service providers. The CIP and General Plan can assure compliance with the provisions of Government Code Sections 65401 and 65402 which require review of all capital facility decisions for consistency with this General Plan.

Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.

Measure J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.

Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.10. General Provisions

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving viable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1. Public Services and Facilities

Policies

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure that it generates and upon which it is dependent.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Chapter 4. Safety Element

4.6. Wildland and Urban Fire

Policies

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.

Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6: All discretionary projects shall comply with the adopted fire code and the requirements of the fire department.

Implementation Measure

Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is not located within a SRA or LRA (CAL FIRE, 2022).

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2019 California Fire Code and the 2018 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2019).

Kern County Fire Department Hazards Mitigation Plan

The purpose of the KCFD Multi-Jurisdictional Hazards Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This multi-jurisdictional plan includes Kern County, and the incorporated municipalities Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 53 special districts that include school, recreation and park, water, community service and other districts. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years (KCFD, 2020).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit

accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1,5, and 7, and the award of three SRA fuel reduction grants for a total of $500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 4&6 (KCFD, 2018).

Fire Prevention Standard No. 503–507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503–507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2021).

California State Legislature Active Solar Energy Exclusion

The State of California has provided reduced property taxes for the solar industry. No other industry has this type of property tax reduction outside a local government providing a specific incentive of a development project.

The California Franchise Tax Board's website outlines that the property tax incentive for the installation of an active solar energy system is in the form of a new construction exclusion (California State Board of Equalization, 2020). It is not an exemption. The installation of a qualifying solar energy system will not result in either an increase or a decrease in the assessment of the existing property. The site states: *"Generally, when something of value is physically added to real property, the addition is assessed at current market value and this value is added to the existing base year value of the real property. When an active solar energy system is installed, it is not assessed, meaning that the existing assessment will not increase."*

The value of the underlying land and some improvements such as operations and maintenance buildings and battery storage are assessed, but the solar panels and majority of equipment are not. Effective June 20, 2014, the sunset date for the active solar energy system new construction exclusion was extended through the 2023-24 fiscal year. The statute is now scheduled to sunset on January 1, 2025. The Kern County Assessor has calculated that the estimated lost annual revenue to the County General Fund from the existing large scale commercial scale solar projects already built is $19,924,000 that they would normally pay (Kern County Planning and Natural Resources Department, 2020). They currently pay $1,511,000.

This revenue is only the funding that would normally go to the General Fund to pay for public services and facilities that maintain quality of life for communities and residents in unincorporated Kern County. The Kern County 2021-2022 Recommended Budget details the General Fund, which funds many County operations, as totaling $776.2 million, a decrease of $106.9 million, or 12.10% from the 2020-2021 budget.

4.14.4 Impacts and Mitigation Measures

Methodology

The methodology used to evaluate potential public services impacts includes the following: (1) evaluation of existing fire and police services and personnel for the fire and law enforcement stations serving the project site; (2) determination of whether the existing fire and law enforcement services and personnel are capable of servicing the proposed project, in addition to the existing population and building stock; and (3) determining whether the proposed project's contribution to the future service population would cause fire or police station(s) to operate beyond service capacity. The determination of the significance of the proposed project on fire protection and emergency medical and police protection services considers the level of services required by the proposed project and the ability of KCFD and KCSO to provide this level of service and maintain the regular level of service provided throughout the County, which in turn could require the construction of new or expansion of existing facilities. The methodology for this analysis included a review of published information pertaining to KCFD and KCSO. The contribution of the project through established property tax revenues was reviewed to fully document the projects contribution to all government services and facilities that provide for stability in communities and prevent decline of the communities' physical neighborhoods.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on public services.

A project could have a significant adverse effect on public services if it would:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:

   i. Fire Protection

   ii. Law Enforcement Protection

   iii. Schools

   iv. Parks

   v. Other Public Facilities

The lead agency determined in the NOP/IS (see Appendix A) that the following environmental issues areas resulted in no impact and were scoped out of requiring further review in this Draft EIR. Please refer to Appendix A of this Draft EIR for a copy of the NOP/IS and additional information regarding the following impacts:

iii. Schools

During project construction, a relatively large number of construction workers would be required. It is expected that most of these workers would live in the local as well as broader regional area

and commute to the project site from the surrounding communities where their children would already be enrolled in school. In addition, employee such as these would already be making contribution through local taxes that would be used to fund schools. The proposed project would not require employees or their children to relocate to the project area. Therefore, substantial temporary increases in population that would adversely affect local school populations are not expected. Likewise, the operational workforce is small (approximately 2 full-time positions) and not anticipated to generate a permanent increase in population that would impact school populations or require construction of new school facilities. Therefore, no impact on schools is anticipated to occur.

iv. Parks

The population increase that would be experienced during the construction phase of the proposed project would be temporary and limited to construction workers at the project site. Such conditions would not result in a substantial new demand for parks or recreational facilities. The number of employees required for project operations would be minimal and they would not likely frequent any public parks during, before, or after their work shifts. The up to 2 full-time equivalent employees would not result in construction of numerous new housing units that could significantly increase the local population and related demand for public parkland with the result of requiring the construction of new park facilities. Therefore, no impact to parks is anticipated to occur.

Project Impacts

Impact 4.14 -1: The project would result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services or police protection services.

Fire Protection

Construction and Decommissioning

The proposed project includes an operation and maintenance facility that would be located within the project site boundaries. This facility would include a building and storage yard that would be constructed as a base for the ongoing operations and maintenance of the Jasmine Solar Project.

As described in Chapter 3, Project Description, a maximum of 550 workers per day would be required during construction of the proposed project. The presence of the construction workers would be temporary and anticipated to last approximately 12 months for the project construction period starting in 2024.

The project site is not located in a Very High Severity Zone or a State Responsibility Area. According to CAL FIRE's Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, the project site is classified as LRA Unzoned (CAL FIRE 2007). The proposed project would comply with all applicable wildland fire management plans and policies established by CAL FIRE and the KCFD. Accordingly, the project is not expected to expose people or structures to a significant risk of loss, injury, or death involving wildland fires (refer to Section 4.18, Wildfire).

Fire protection facilities requirements are based on the number of residents and workers in the KCFD service area. Service demand is primarily tied to population, not building size, because emergency medical calls typically make up the majority of responses provided by the fire department. As the number of residents and workers increase, so do the number of emergency medical calls. There are no residential uses proposed as part of the project. Therefore, no residents would occupy the project site, and an increase in service demands as a result of an increase in residential uses would not occur.

Although construction of the proposed project would increase the number of people on the project site, the increase would be temporary. Fire hazards from the project as a large-scale construction project would increase the need for response from the KCFD for fire protection and emergency services. Although construction would be temporary and short term, fire hazards from the project would potentially increase the need for fire response or emergency services during the construction period. However, as required by Mitigation Measure (MM) 4.14-1, the project proponent would prepare and implement a Fire Safety Plan that would contain notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code. The Fire Safety Plan would be for use during the construction period and would include emergency fire precautions for vehicles and equipment, as well as implementing fire rules and trainings so temporary employees are equipped to support handling fire threats. Given the temporary nature of the project's construction and decommissioning phases, impacts to fire protection services and facilities during project construction would be less than significant with implementation of MM 4.14-1.

Operation

Once constructed, the project would have up to 2 employees on each Solar Facility site during the operational phase of the project. Employees would monitor the site and conduct maintenance activities. Although unlikely, maintenance activities could introduce fire risks to the project site. However, all maintenance activities would be required to comply with the fire safety plan implemented per Mitigation Measure MM 4.14-1, which would help reduce fire risks onsite. In addition, all project facilities would have been designed and constructed in accordance with the 2019 California Fire Code and Kern County Fire Code such that fire hazards are reduced and/or avoided.

The project includes one energy storage facilities that would have a fire rating in conformance with County and California Building Code standards. The energy storage facilities will include specialized fire suppression systems installed for the battery rooms to minimize fire risk. In accordance with Mitigation Measure MM 4.14-1, a fire safety plan will be prepared to ensure the energy storage facilities are constructed and operated in accordance with County and California Building Code standards that will minimize potential impacts to public services and associated fire hazards.

The project operator would be required to pay a Kern County cumulative impact fee (CIC), through implementation of Mitigation Measure MM 4.14-2 to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services and facilities. In addition, if the project is sold to a city, county, or utility company with assessed taxes that total less than $3,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation, through implementation of Mitigation Measure MM 4.14-3. Through implementation of Mitigation Measure MM 4.14-4, The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can

be maximized. With implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4, any potential operational impacts on fire protection services would be reduced. The project would not result in the need for new or physically altered KCFD facilities and impacts would be less than significant.

Law Enforcement Protection

Construction and Decommissioning

As described above in Section 4.14.2, *Environmental Setting*, the KCSO provides primary law enforcement protection services for the project site and surrounding areas. The Lamont Substation located approximately 15 miles northwest of the project site, would provide primary law enforcement services to the project site. Similar to fire protection services, the need for police protection services would increase during construction of the proposed project. However due to existing budget constraints, substations may close or be modified to address fiscal limitations.

During construction, the proposed project may attract vandals or present other security risks. The project site is located in a relatively remote location surrounded by undeveloped vacant land, agricultural land, and rural residential development and is unlikely to attract attention that would make project facilities susceptible to crime. Therefore, a large increase for KCSO services is not expected. However, construction activities may temporarily increase traffic volumes along CA-166, CA-99, and I-5 during the construction period. The added traffic associated with workers commuting to the project site, haul routes, deliveries, and other project-related traffic would be temporary and, therefore, would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways.

Additionally, chain-link fencing would be installed around the perimeter of each site, substation, and other areas requiring controlled access, for safety and security purposes. All fencing shall comply with all applicable requirements of the Kern County Public Works Department/Building Inspection Division. The fencing would remain for the life of the project.

The additional volume of vehicles associated with workers commuting to the project site during construction would be temporary and is not expected to adversely affect traffic (see Section 4.15, *Traffic and Transportation*, for more details). Therefore, new or physically altered KCSO facilities would not be required to accommodate the proposed project and impacts to the CHP patrol are not anticipated. Impacts would be less than significant.

Operation

Project operation could attract vandals or present other security risks. As described above, the project site is located in a relatively remote location in a rural community and is thus unlikely to attract attention that would make project facilities susceptible to crime. The security fencing around the perimeter of each site and other areas requiring controlled access and controlled access gates would minimize the need for surveillance and response by KCSO during project operation. Furthermore, all facility personnel, contractors, agency personnel, and visitors would be logged in and out of the facility at the main office located at each of the proposed O&M building during normal business hours. Therefore, new or physically altered KCSO facilities would not be required to accommodate the proposed project. The additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic (see Section 4.15, *Transportation and Traffic*, for more details). Therefore, impacts to the CHP patrol are not anticipated.

The project would implement Mitigation Measure MM 4.14-2 to provide a CIC to provide funding for the county budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the county would otherwise receive for services and facilities and assuring the provision of adequate public services and facilities. In addition, if the project is sold to a city, county, or utility company with assessed taxes that total less than $3,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation, through implementation of Mitigation Measure MM 4.14-3. Through implementation of Mitigation Measure MM 4.14-4, The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. As a result, impacts would be less than significant.

Other Public Facilities

Construction and Decommissioning

The proposed project would require up to 550 workers during the construction period. These construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. If temporary housing should be necessary, it is expected that accommodations would be available in the nearby hotels. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Prior to the issuance of any building permits on the property, the project operator shall submit a letter detailing the hiring efforts prior to commencement of construction, through the implementation of Mitigation Measure MM 4.14-5 which encourages all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities. Therefore, project construction workers would not increase demand for local schools, parks, or public facilities such that substantial physical deterioration of such facilities would occur, nor would project construction require the construction or expansion of recreational facilities which might have an adverse effect on the environment, nor result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios. Impacts during construction would be less than significant.

Operation

During the operational phase, the project would employ up to 2 full-time equivalent (FTE) personnel (or personnel hours totaling 2 FTE positions (i.e., an average of 80 personnel hours per week) who would commute to the site. Operational employees would intermittently visit the project site for routine inspection, maintenance, and repair of solar arrays and accessory components. Up to 2 full-time equivalent employees would be on site intermittently to perform maintenance duties. These employees would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working on the project. Even if the maintenance employees were hired from out of the area and had to relocate to northwestern Kern County, the resulting addition of potential families to this area would not result in a substantial increase in the number of users at local schools as accommodations for temporary housing would be available in the nearby hotels. Therefore, staff required during operation would not increase demand for local schools, parks, or public facilities such that substantial physical deterioration of such facilities would occur, nor would project construction require the construction or expansion of recreational facilities which might have an adverse effect on the environment, nor result in substantial

adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios. Impacts during construction would be less than significant.

Unlike other businesses in California, large scale solar has an exclusion from property taxes on their equipment. This property tax exclusion results in the project not providing the revenue needed to provide services and facilities for both the project and the communities that prevent decline of the physical neighborhoods in unincorporated Kern County. This is a direct impact from the project structure and the land if built with another type of land use would produce property tax revenue to provide necessary services and facilities and prevent physical decline of homes and businesses due to vacancy and inability for response for all services, including code enforcement to law enforcement, fire, roads and health and safety issues such as elderly care and child protection services. The cumulative impacts of this active solar tax exclusion over the life of the over 36,000 acres of projects has resulted in a loss to the General Fund over the last 10 years of over $103 million and deepened the on-going fiscal emergency of the county. Public policies in the Kern County General Plan require development to address economic deficiencies in public services and facilities costs. Further, the cumulative impacts of all the projects in addition to this project on various resources including aesthetics, air and biological resources have contributed to changing the visual and community character of the unincorporated communities and caused decline due to using land for a use that does not provide normal property tax revenue.

Mitigation Measure MM 4.14-2 provides a CIC calculated on net acreage that excludes assessable structures and permanent improvements (Operation and Maintenance Building and Energy Storage) and legally unbuildable land (recorded easements). The charge factor was calculated based on the fair share under the Government Code that the project would have paid if the Tax Exclusion was not present. The amount the project should pay is calculated as $620 per net acre. This is in addition to the normal property tax revenue legally assessed on the property as the fair share that is provided to the Kern County General fund. As this project application had already been deemed complete and commenced processing when the Dec 8, 2020 report on the amount of the deficiency in the revenue from the State of California Active Solar Energy Exclusion was presented to the Kern County Board of Supervisors, an accommodation is included in the mitigation that requires a one-time charge for the General fund contribution. In addition, if the project is sold to a city, county, or utility company with assessed taxes that total less than $3,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation, through implementation of Mitigation Measure MM 4.14-3. Through implementation of Mitigation Measure MM 4.14-4, The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. With this CIC and assessed taxes if the project is sold, the project impacts on public services and facilities and contribution to decline of communities is less than significant.

The construction, operation and decommissioning of the Gen-tie would affect a much smaller land area than the solar facilities, with fewer permanent structures, spaced apart over several miles, and would not require permanent staffing for operations and maintenance. Similar to the PV solar facility, the project proponent would implement Mitigation Measure MM 4.14-1 which would require the preparation of a fire safety plan to reduce the risk of fire during construction, operation, and decommissioning of the gen-tie. While impacts to fire protection services are considered less than significant without mitigation, Mitigation Measure MM 4.14-1 would further reduce impacts by providing implementation of a fire safety plan. The gen-tie would have similar but substantially fewer effects than the PV solar facility on police protection services. The gen-tie would be similar to existing infrastructure in the area and would not be anticipated to attract or cause incidents such as the theft of equipment and/or vandalism. Additionally, the gen-tie would

not contribute to substantial population growth that could increase demand for public schools or other public services or cause the need for new or altered facilities.

PG&E Lakeview Substation Expansion and Electrical Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include an expansion of the substation and power line restructuring. Improvements associated with the construction and operation of the PG&E Interconnection Facilities would include the expansion of the PG&E Lakeview Substation area and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. These areas are characterized by undeveloped land and construction of this infrastructure would not include structures or facilities requiring permanent staffing or visitors on site. Demand on police protection services would not be greatly increased, as construction of the access road would not be anticipated to attract or cause incidents such as vandalism. Additionally, the PG&E Interconnection Facilities would not contribute to substantial population growth that could increase demand for public schools or other public services or cause the need for new or altered facilities. Impacts in this regard would be less than significant.

Mitigation Measures

MM 4.14-1: Prior to the issuance of grading or building permits the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.

The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following:

a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.

b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.

c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.

d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.

e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.

f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

MM 4.14-2: The following Cumulative Impact Charge (CIC) shall be implemented as an annual payment due every year for the life of the project, or as a lump sum payment for multiple years, until the project is decommissioned and the Conditional Use Permit if voided.

a. Submittal of Building Permit

1. Any building permit submitted shall be accompanied by a map and legal description of the entire approved Conditional Use Permit area.
2. The map shall calculate the Cumulative Impact Charge (CIC) net acreage as follows:
   A. Total gross acreage of the approved Conditional Use Permit
   B. Total acres for Operations and Maintenance building and permanent accessory improvements
   C. Total acres for Energy Storage structure and permanent accessory improvements, if full reassessed property taxes are paid
   D. Total acres of recorded easements and drill areas
3. Formula is Net Acreage = 2.A. minus the sum of [2.B. + 2.C. + 2.D.]
4. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under 2.B. or 2.C., above.
5. All areas of buildings, accessory improvements and easements used in the calculations shall be shown on the submitted Map.

b. Calculation and Payment of Cumulative Impact Charge (CIC)

1. A payment of $550 per net acre shall be paid annually for all acres in the approved Conditional Use Permit regardless of phased implementation of building permits, the total number of building permits, or type of building permit issued.
2. The first payment is due upon issuance of the first building permit. If it is not paid within 30 days after issuance of the first building permit, all such permits shall be suspended until the fee is paid in full
3. Annual payments are due every year on the date of the first building permit issuance.
4. Payments shall be made to the Planning and Natural Resources Department for transfer directly to the County Administrative Office Fiscal Division (CAO) and labeled Cumulative Impact Charge (CIC) with the project name, location and APNs.
5. Any acres denoted for an operation and maintenance building or energy storage that are not built, cannot be used for solar panels unless payment is provided for the Cumulative Impact Charge (CIC).

6. An advance payment option for a lump sum of all payment years, or a reduction in each year's payment for 5 or more years, may be requested by submittal of a written request to the Planning and Natural Resources Department with details of the offer no later than 60 days before the yearly payment is due. A 10% discount in the lump sum amount will be applied if the advance payment option is accepted by the County Administrative Office Fiscal Division (CAO) by written response.

MM 4.14-3: Written verification of ownership of the proposed project shall be submitted to the Kern County Planning and Natural Resources Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company that pays assessed taxes that total less than $3,000 per megawatt per year, then a Supplemental Cumulative Impact Charge (SCIC) shall be paid for the difference annually up to $3,000 per megawatt. The SCIC payments shall be made annually directly to the County Administrative Office (CAO) Fiscal Division and labeled "Supplemental Cumulative Impact Charge (SCIC)" with the project name and phase number. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year.

MM 4.14-4: The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. This process shall include, but is not necessarily limited to, the project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. As an alternative to the aforementioned process, the project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes.

MM 4.14-5: Prior to the issuance of any building permits on the property, the project proponent shall submit a letter detailing the hiring efforts prior to commencement of construction, which encourages all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. The project proponent shall provide the contractors a list of training programs that provide skilled workers and shall require the contractor to advertise locally for available jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.14-1 through MM 4.14-5, impacts would be less than significant. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed

in connection with the effects of past projects, and the effects of other projects located in the vicinity of the project site. The cumulative impact analysis area for public services includes the service areas for each of the fire, police and other governmental offices/facilities serving the project site. For both the KCSO and the KCFD, service areas comprise unincorporated areas of Kern County. As discussed above, police and fire service impacts related to the proposed project would be less than significant. Mitigation Measure MM 4.14-1 requires implementation of a fire safety plan during project construction, operation and decommissioning that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. Mitigation Measures MM 4.14-2 through MM 4.14-5 require the project proponent to pay a CIC to reduce significant impacts to all public services, including fire and law enforcement services, provided by the Kern County General Fund. Implementation of Mitigation Measures MM 4.14-2 through MM 4.14-5 would also prevent the decline of services in unincorporated communities that result in physical impacts on neighborhoods. Such cumulative impacts include increase in vandalism on public spaces such as parks, lack of road and park facilities maintenance, abandoned vehicles and buildings, trash abandonment on private property, and lack of funding for code enforcement of regulations for public health and safety, lack of services for homelessness prevention programs, as well as lack of services and facilities for elder, adolescent and child health and safety services and general mental health facilities. With payment of the required mitigation charge as assessed by the Kern County Planning and Natural Resources Department for transfer to the Kern County General Fund, impacts from the project's cumulative contribution to decline of services would be appropriately mitigated. Therefore, the project would not create a cumulatively considerable impact on public services even from the State of California Active Solar Energy Exclusion which creates a lack of fair share funding by the project for public services.

Therefore, because the project would not create a significant impact on public services, and the other related projects would also be expected to avoid or mitigate impacts on public services, this project would comply with the goals, policies, and implementation measures of the Kern County General Plan, and cumulatively significant impacts would be less than significant. Therefore, the project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. The project would not create a cumulatively considerable impact related to public services with the incorporation of MM 4.14-1 through MM 4.14-5, and the project would have a less than significant cumulative impact.

PG&E Lakeview Substation Expansion and Electrical Transmission Interconnection

Improvements associated with the Lakeview Substation expansion and gen-tie line would include an expansion of the substation and power line restructuring. These improvements would be required to accommodate the substation facilities and temporary construction work area. These areas are characterized by undeveloped land and construction of this infrastructure would not include structures or facilities requiring permanent staffing or visitors on site.. Demand on police protection services would not be greatly increased, as construction of the access road would not be anticipated to attract or cause incidents such as vandalism. Additionally, the PG&E Interconnection Facilities would not contribute to substantial population growth that could increase demand for public schools or other public services or cause the need for new or altered facilities. Therefore, demand on public services would be limited, and would not be cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures MM 4.14-1 through MM 4.14-5.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.14-1 through MM 4.14-5, cumulative impacts would be less than significant. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's best management practices and AMPs.

Section 4.15
Transportation

4.15.1 Introduction

This section of the EIR describes the affected environment, regulatory setting, and project impacts for transportation. It also describes mitigation measures that would reduce these impacts, where applicable. The information and analysis in this section is largely based on the *Traffic Assessment* (GHD, 2021), which is provided in Appendix N of this EIR.

4.15.2 Environmental Setting

The project site includes use of approximately 527 acres (project site) for solar power generation and associated infrastructure. The project site is located south of the Kern County/Kings County Line, in an unincorporated area of southwestern portion of Kern County, CA The circulation system in the vicinity of the project site is made up of a combination of State and County-jurisdiction facilities. Major components of the system are discussed below and shown in Chapter 3, *Project Description* of this EIR.

Regional Setting

Major Highways

Kern County encompasses a total of approximately 8,202 square miles making Kern County the third largest county in the state. Kern County is located at the southern end of the Central Valley and is bounded by Kings, Tulare, and Inyo Counties to the north; San Bernardino County to the east; Los Angeles and Ventura Counties to the south; and Santa Barbara and San Luis Obispo Counties to the west. In regard to major roadways that provide access and circulation to the project site, the surrounding areas, and surrounding region, these include Interstate 5, State Route 166, Copus Road and Old River Road, all of which are discussed in additional detail as below.

Interstate 5 (I-5) serves as a major north-south route of the Interstate Highway System. I-5 moves north to south through Kern County (from the Los Angeles County line at Fort Tejon then north to the Kings County line) and stretches from Mexico in the south then to Canada in the north. The freeway serves as the major truck route that connects to all major east-west routes.

Within the vicinity of the study area, approximately 3.5 miles to the east, I-5 is a four-lane divided freeway with a dirt median. Access to I-5 is currently provided at the interchange with Copus Road. At the State Route 166 interchange, approximately 3 miles south of Copus Road, I-5 currently carries an annual average daily traffic (AADT) of approximately 37,000 vehicles. Truck traffic on I-5 near this location represents approximately 23.66% of the daily traffic.

State Route 166 (SR 166) is an east-west corridor serving southern Kern County and has a length of approximately 25 miles. SR 166, is located approximately 2.5 miles south of the project site and parallels

Copus Road. SR-166 functions as a Minor Arterial facility that begins near Maricopa at SR 33 and terminates at SR 99 near Mettler.

Within the vicinity of the study area, State Route 166 is a two-lane undivided highway. At the I-5 interchange, State Route 166 carries a back AADT 3,150 and an ahead AADT of 2,750. Additionally, this highway segment carries a daily truck traffic of approximately 19.03% (2017 Traffic Volumes on the California State Highways, 2017).

Copus Road bounds the project site on the south and is an east-west roadway that traverses southern Kern County. This roadway, designated as a major collector in the Kern County General Plan Circulation Element, generally extends from Basic School Road east through the I-5 and State Route 99 interchanges where it terminates at Edison Road. Near the study area, Copus Road is a 2- lane undivided road with unpaved shoulders that provides access to the I-5 interchange, local businesses, agricultural uses and scattered residences along the corridor.

Old River Road bounds the easterly project boundary and provides congestion relief to southwest Kern County. Currently, Old River Road extends from State Route 166 to Stockdale Highway (Bakersfield) relieving some of the north-south traffic on I-5 and State Route 99. Near the study area, Old River Road is a two-lane undivided roadway with shoulders and currently provides access to regional commuters, renewable energy facilities, agricultural lands, schools and residences. Old River Road is designated as a major collector in the Kern County General Plan Circulation Element.

Non-Motorized Transportation

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality, reduce the number of vehicles traveling along existing roads and highways, and reduce energy consumption. There are 67 miles of existing bicycle facilities in the unincorporated portions of Kern County. There are no dedicated bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways.

Other Transportation Facilities

Public Transportation

Public transportation in Kern County is provided by Kern Transit, which offers 17 fixed routes throughout the County and a dial-a-ride general public transportation service for residents in most communities. Route 110 provides fixed route scheduled bus service between Delano and Bakersfield primarily on SR-99, with stops in the communities of Shafter, Wasco, and McFarland. Route 115 provides a fixed route scheduled bus service between Lost Hills and Bakersfield on SR-99, SR-43, and SR-46, with stops in the communities of Shafter and Wasco. No public transit routes pass or stop near the project site (Kern Transit, 2022).

Railways

The closest railway, the Sunset Railway, is operated by the San Joaquin Valley Railroad (SJVR) and is located approximately 3.0 miles north of the project site.

Airport Facilities

Skydive San Joaquin Valley is located off Copus Road approximately 1.5 miles east of the project site. The skydive facility offers skydiving instruction and experiences to the public (Skydive San Joaquin Valley 2021). The skydive facility is located on 160 acres of privately owned property and has a 3,000-foot runway.

Creekside Airport is located approximately 12 miles northeast of the project site and is a private use airport. The airport has a 2,000-foot asphalt/turf runway that serves general airport craft, receives no regularly scheduled flights, and is not publicly accessible.

Costerisan Farm Airport is located approximately 11 miles north of the project site and is a private use airport. The airport has a 2,500-foot turf runway that serves general airport craft, receives no regularly scheduled flights, and is not publicly accessible.

Bakersfield Municipal Airport is a city-owned and public use airport that covers an area of 253 acres with an asphalt surface. This airport is mostly used for general aviation and is located approximately 17 miles north of the project site (City of Bakersfield 2021).

Taft-Kern County Airport-L17 is located approximately 18 miles west of the project site and is a small local airport open to the public. The airport has a 3,283-foot asphalt runway (Runway 7) and a 1,001-foot asphalt runway (Runway 25). The County of Kern Department of Airports owns Taft-Kern County Airport- L17 (Kern County 2020).

Local Setting

Access to the project site is provided via one (1) main project driveway. This driveway is located on the north side of Copus Road, just west of Old River Road. **Figure 3-11:** *Proposed Site Plan*, see Chapter 3, *Project Description*, presents the project site plan and shows the main project driveway.

Existing Roadway System

Regional access to the project site is provided by Interstate 5 (I-5) which is a four-lane divided highway, located approximately four miles east of the site, State Route 33 (SR-33) which is a two-lane undivided highway, located approximately sixteen miles west of the site, and State Route 166 (SR-166) which is a two-lane undivided highway, located approximately 2.5 miles south of the project site.

Local access to the project site is provided by Copus Road and Old River Road. Copus Road is an east-west roadway that traverses southern Kern County and run along the southern border of the project site. This roadway, designated as a major collector in the Kern County General Plan Circulation Element, generally extends from Basic School Road east through the I-5 and State Route 99 interchanges where it terminates at Edison Road. Near the study area, Copus Road is a two-lane undivided road with unpaved shoulders that provides access to the I-5 interchange, local businesses, agricultural uses, and scattered residences along the corridor.

Old River Road is a north-south roadway that provides congestion relief to southwest Kern County and runs along the east border of the project site. Currently, Old River Road extends from State Route 166 to Stockdale Highway (Bakersfield) relieving some of the north-south traffic on I-5 and State Route 99. Near

the study area, Old River Road is a two-lane undivided roadway with shoulders and currently provides access to regional commuters, renewable energy facilities, agricultural lands, schools, and residences. Old River Road is designated as a major collector in the Kern County General Plan Circulation Element.

Existing Traffic Conditions

Existing traffic count data was collected in November 2022 (See Appendix N, *Traffic Assessment),* prepared by GHD for the traffic count data.

Existing AM and PM peak hour turning movement volumes were field measured at the study intersections in April 2018. As shown in **Table 4.15-1:** *Existing Intersection Conditions AM and PM Peak Hour Level of* Service, the intersections serving the project area currently operate at LOS D or better during the analyzed time periods based on average intersection delay and roadway volume-to-capacity (v/c) ratios.[1] As presented in **Table 4.15-1**, all study intersections for Existing conditions currently operate at acceptable LOS B conditions or better during the AM and/or PM peak hour conditions.

TABLE 4.15-1: EXISTING INTERSECTION CONDITIONS AM AND PM PEAK HOUR LEVEL OF SERVICE

Study Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?[3]
1. Copus Road/Old River Road	TWSC	D	10.0	A	No	11.9	B	No
2. Copus Road/I-5 SB On-Off Ramps	TWSC	C	10.2	B	No	9.7	A	No
3. Copus Road/I-5 NB On-Off Ramps	TWSC	C	10.0	A	No	10.2	B	No
4. State Route 166/Old River Road	TWSC	D	12.4	B	No	10.1	B	No

Notes: NB= Northbound, SB=Southbound
1. AWSC = All Way Stop Control, TWCS = Two Way Stop Control
2. LOS = Delay based on worst minor approach for TWSC intersections; average of all approaches for AWSC, signal
3. Warrant = Based on California MUTCD Peak Hour Warrant 3 (70% Factor)

Existing traffic conditions for the study roadway segments were evaluated based on the Kern County's LOS threshold volumes that represent Allowable Daily Service Volume by Roadway Segment. The roadway capacities for the target LOS D were compared to the observed traffic volumes. As shown in **Table 4.15-2**: *Existing Roadway Segment LOS Conditions* below, all the roadway segments currently operate at an acceptable LOS A. Accordingly, under existing conditions all roadway segments meet the County and Caltrans target of LOS D.

For purposes of this study, Copus Road and Old River Road are analyzed as two-lane arterial with no left turn lane. Although the Kern County General Plan Circulation Element functional classification system map identifies these two roads as major collectors, the daily capacity by facility type is more representative of a two-lane arterial with no left turn lane as a result of operational characteristics (12-foot lanes with shoulders), pavement condition and free-flow speed.

[1] The minimum LOS for conformance with the Kern County General Plan is LOS D.

TABLE 4.15-2: EXISTING ROADWAY SEGMENT LOS CONDITIONS

Roadway Segment	Location	Roadway Type	Target LOS	Average Daily Traffic (ADT)	LOS
1. Copus Road	West of Old River Road	Two-Lane Arterial (No LTL)	LOS D	2,080	LOS A
2. Copus Road	East of Old River Road	Two-Lane Arterial (No LTL)	LOS D	2,600	LOS A
3. Old River Road	North of Copus Road	Two-Lane Arterial (No LTL)	LOS D	3,560	LOS A
4. Old River	South of Copus Road	Two-Lane Arterial (No LTL)	LOS D	4,280	LOS A

Notes: No LTL arterials without left turn lanes (LTL) at most major intersections (within study area).
Daily volume to capacity on roadways does not supplant the need to perform peak-hour HCM-based analysis.

The gen-tie and PG&E infrastructure, which would consist of both existing and new gen-tie and/or connection lines, are proposed within or proximate to existing transmission infrastructure and solar facility. The environmental setting characteristics relating to transportation for the construction, operation, and decommissioning of the gen-tie and PG&E infrastructure are substantially similar to the project site.

4.15.3 Regulatory Setting

Federal

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. According to 49 Code of Federal Regulations Part 77.9, any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

- 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 which exceeds a 100:1 surface from any point on the runway where the longest airport runway exceeds 3,200 feet in actual length;
  - Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway where the longest airport runway is less than 3,200 feet in actual length; and
  - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above standards;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Failure to comply with the provisions of Federal Aviation Regulation Part 77 is subject to civil penalty under Section 902 of the Federal Aviation Act of 1958, as amended, and pursuant to 49 United States Code Section 46301(a).

State

California Department of Transportation

Caltrans has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. Central Kern County (i.e., including the project site and surrounding area) is under the jurisdiction of Caltrans District 6. The Caltrans regulations below apply to potential transportation and traffic impacts of the project.

California Vehicle Code (CVC), Division 15, Chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

California Street and Highway Code, Sections 660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

Project Development Procedures Manual, Chapter 27. Access Control Modification requires Caltrans approval of proposed connections to a public road through submittal of a proposal to Caltrans (Caltrans, 2020).

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan Circulation Element for transportation that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference. The design level-of-service (LOS) for Kern County is LOS C. The minimum LOS for conformance with the Kern County General Plan is LOS D.

Circulation Element

2.1 Introduction

Goals

Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.

2.3.3 Highway Plan

Goal

Goal 5: Maintain a minimum LOS D.

Policies

Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and midsection lines. This is because the road centerline can be determined by an existing survey.

Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection "grid" will comprehensively apply to the Mountain Region.

Policy 3: This plan's road-width standard is listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

- Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;
- Arterial [Major Highway] Minimum 110-foot right-of-way;
- Collector [Secondary Highway] Minimum 90-foot right-of-way;
- Commercial-Industrial Street Minimum 60-foot right-of-way; and
- Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

Measure A: The Planning Department shall carry out the road network policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. The Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

Policies

Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below LOS D. Utilization of the California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along state routes are necessary then roads shall be built to California Department of Transportation (Caltrans) standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the County's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measures

Measure A: The County should relate traffic levels to road capacity and development levels. To accomplish this, the Kern County Roads Department and the Kern County Planning and Natural Resources Department should set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.

Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.10 Congestion Management Programs

State law requires that urbanized counties prepare an annual congestion management program (CMP). City and county eligibility for new gas tax subventions is contingent upon their participation in the congestion management program. To qualify for funding provided through the State Transportation Improvement Program (STIP) or the Federal Transportation Improvement Program (FTIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).

Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.

Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.

Goal 2: Reduce potential overweight trucks.

Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

Policy 2: Start a program that monitors truck traffic operations.

Policy 3: Promote a monitoring program of truck lane pavement condition.

Kern Council of Governments Congestion Management Program

All urbanized areas with a population larger than 200,000 residents are required to have a Congestion Management System, program, or process. The Kern Council of Governments (Kern COG) refers to its congestion management activities as the Congestion Management Program (CMP). Kern COG was designated as the Congestion Management Agency.

The CMP provides a systematic process for managing congestion and information regarding (1) transportation system performance, and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic growth, and land use decisions to transportation system level of service (LOS) performance standards and air quality improvement. The program attempts link land use, air quality, transportation, advanced transportation technologies as integral and complementary parts of this region's plans and programs.

The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. At a minimum, all State highways and principal arterials must be designated as part of the Congestion Management System of Highways and Roadways. Kern County has 18 designated state highways.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern COG and was adopted on August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375.

The California Air Resources Board (CARB) set Kern greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low-income housing need and transportation planning. Kern COG engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the state's housing goals are met.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to improve economic vitality; improve air

quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to state and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future state bonding programs, and mileage-based user fees (Kern COG, 2018).

Kern County Airport Land Use Compatibility Plan (ALUCP)

The Kern County Airport Land Use Compatibility Plan (ALUCP) establishes procedures and criteria to assist the County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses (County of Kern 2012). As described under the subheading Regional Setting, the closest airports to the project site are Skydive San Joaquin Valley Inc., Creekside Airport, Costerisan Farm Airport, Bakersfield Municipal Airport, and Taft-Kern County Airport L17. The project site not located within a designated Airport Land Use Compatibility zone.

4.15.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to transportation have been evaluated using a variety of resources, including the *Traffic Assessment* (GHD, 2021) attached as Appendix N of this EIR. Synchro 10 software suite was used to analyze the LOS analysis for unsignalized intersections analyzed within this study. This software is based upon the latest assumptions provided in the Highway Capacity Manual (HCM), 6th Edition. The Traffic Assessment analyzed the traffic operating conditions that would occur upon project implementation by incorporating appropriate heavy vehicle adjustment factors, peak hour factors (PHF), and signal timings. These factors were used to calculate the project potential to result in intersection level of service "LOS" and delays.

LOS is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection of roadway segment representing progressively worsening traffic conditions. The following section outlines the methodology and analysis parameters used to quantify existing conditions.

Roadway segment LOS were estimated using Highway Capacity Manual (HCM 6th Edition) methodologies. The HCM categorizes roadways based on type and assigns an LOS based on traffic volumes. The Traffic Assessment evaluated Copus Road and Old River Road as two-lane arterial with no left turn lane. Although the Kern County General Plan Circulation Element functional classification system map identifies these two roads as major collectors, the daily capacity by facility type is more representative of a two-lane arterial with no left turn lane as a result of operational characteristics (12-foot lanes with

shoulders), pavement condition and free-flow speed. **Table 4.15-3:** *Daily Roadway Capacity for Two-Lane Arterial With no Left Turn Lane,* shows the LOS for given traffic volumes.

TABLE 4.15-3: DAILY ROADWAY CAPACITY FOR TWO-LANE ARTERIAL WITH NO LEFT TURN LANE

	Average Daily Traffic (ADT) – Total of Both Directions				
Roadway Type	**A**	**B**	**C**	**D**	**E**
Four Lane Freeway	42,000	64,800	92,400	111,600	120,000
Two-Lane Arterial (No LTL)	9,000	10,500	12,000	13,500	15,000

Notes:
1. No left turn lane (LTL) indicates arterials without LTL at most major intersections.

Project Trip Generation, Distribution, and Assignment

Detailed trip generation, distribution, and assignment were estimated for six phases of the proposed project. This considered the types of off-road equipment and personal vehicles that would be uses (passenger (commuters), and truck type (pickup, water, flatbed, gravel, concreted, delivery trucks, etc.), associated construction vehicle types, number of vehicles, the phase duration, daily working hours, and anticipated daily mileage per vehicle. The six project phases considered include the following:

1) Site Preparation and Grading;
2) Tracker Foundations;
3) Underground Cabling;
4) Mechanical Installation;
5) Electrical Installation; and
6) PG&E Substation.

Because the six phases would overlap the worst-case construction phases (based upon vehicle/truck trips) that could potentially occur at the same time. It was determined that the combination of Phases 2, 3 and 4 make up the most trips that could potentially overlap this was accounted for the Traffic Assessment. In addition, a passenger car equivalent (PCE) was applied to vehicle type. A PCE is essentially the impact that a mode of transport has on highway variable (e.g., headway, speed, density, etc.) compared to a single passenger car. For this analysis, a conservative PCE of 2.0 was applied to account for large trucks and is consistent with the methodology presented in the HCM. Trip generation for the construction phase is based on the types of vehicles used and the number of workers that are anticipated to report to the job site generally during the a.m. peak hour and p.m. peak hour each weekday. Although some construction workers may carpool, this is not assumed, i.e., each worker will drive alone to/from work. This resulted in a PCE of 194 construction workers that were anticipated to commute to and from the project site during phases 2 through 4 (worst-case scenario).

This results in approximately 512 daily trips (including PCE factor) that are forecasted to be generated for short-term construction purposes. This would include short-term AM and PM peak hour trips of 194 in and out, respectively, during the construction phases. Following construction, it is estimated that day to day operations and maintenance trips and trips would be minimal, i.e., approximately 8 trips per day (discussed further under Cumulative plus Project conditions). This would include one full-time employee (commute and lunch break trips) with any deliveries and/or visitors.

Build Year and Cumulative Traffic

Kern COG provided 2020 and 2042 outputs from their Regional Travel Demand Forecast Model (Model). The latest General Plans from all agencies land use and circulation elements in Kern County are included in Kern COG's future Models. GHD used the Model's 2020 (validated Base) and 2042 (Cumulative) traffic forecasts to identify the incremental change in traffic volumes by approach and applied the factor to known (existing) traffic counts to forecast 2042 traffic volumes. The count delta method forecasts adjustment is based upon the difference of recent counts from interpolation resulting from Base and Cumulative years. Following this process, GHD checked the forecasted turning movements for reasonableness considering existing and future circulation conditions.

As discussed above, in Section 4.15.2, *Environmental Setting*, existing AM and PM peak hour turning movement volumes were field measured at the study intersections in November of 2020. In order to project background traffic volumes in the build year of 2021. In order to evaluate the project considering cumulative traffic conditions, a list of projects in the vicinity of the project site was provided by the Kern County Planning Department. Based on the locations and types of projects provided in the cumulative projects list, peak hour turning movement volumes were calculated and added to the 2021 volumes. It was determined that project traffic generated by cumulative projects located further then six miles from the project site would not have a noticeable effect on traffic conditions at study intersections or roadway segments, and therefore vehicle trips that would be generated by those projects were not considered in the cumulative traffic analysis for the proposed project.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on traffic.

A project could have a significant adverse effect on transportation if it would:

a. Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows:
    i. Kern County General Plan LOS D
b. Conflict or be inconsistent with *CEQA Guidelines* section 15064.3, subdivision (b);
c. Substantially increases hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and
d. Result in inadequate emergency access.

Project Impacts

Impact 4.15-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Metropolitan Bakersfield General Plan LOS C and Kern County General Plan LOS "D."

Construction

Construction of the project does not conflict with the County of Kern General Plan, any program plan, ordinance, or policy addressing the circulation system; see Section 4.15.3 for the Kern County General Plan and Circulation Element goals. There are no pedestrian and bicycle facilities in the project area that would be affected by the construction activity or operation of the project. In addition, during construction the project would follow all applicable County and Caltrans's guidelines for work area traffic control, which includes providing accommodations for pedestrians and bicyclists when applicable. The project would ensure that traffic controls and other traffic safety measures are in place to maintain proper traffic flow during temporary construction activities. The project does not propose to amend or adjust roadway classifications, roadway network, transit routes, or bicycle network as identified in the County of Kern General Plan.

The proposed project would "generate" and "attract" construction-related trips throughout the County and from other locations throughout the region. However, the majority of trips will be from I-5. Based upon existing traffic flow patterns, geographical location of project site, location of other similar destinations and previous traffic impact studies, these considerations resulted in a distribution of project trip types throughout the study area is assumed below:

- 5% to/from Copus Road west of Old River Road
- 45% to/from Copus Road east of Old River Road
- 40% to/from Old River Road north of Copus Road
- 10% to/from Old River Road south of Copus Road

The combination of Phase 2) Tractor Foundation (120 days), 3) Underground Cabling (100) days, and 4) Mechanical Installation (120) days, and associated trips generated by passenger/vehicles, workers, water trucks, flatbeds, deliveries, concrete, etc, would account for a total of 426 average daily trips or 512 PCE. The AM and PM peak hour trips are shown in **Table 4.15-4:** *Jasmine Solar Project Construction Phase Trip Generation*, below.

TABLE 4.15-4: JASMINE SOLAR PROJECT CONSTRUCTION PHASE TRIP GENERATION

Construction Phase	Construction Vehicle	Vehicle Trip Generation							PCE Trip Generation						
		ADT	AM Peak Hour			PM Peak Hour			ADT	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
2	Workers	110	55	-	55	-	55	55	110	55	-	55	-	55	55
	Pickup Truck (On-site)	0	0	-	0	-	0	0	0	0	-	0	-	0	0
	Water, Flatbed, Gravel, Concrete, Delivery Trucks, etc.	26	4	4	8	4	4	8	52	8	8	16	8	8	16
Subtotal		***136***	***59***	***4***	***63***	***4***	***59***	***63***	***162***	***63***	***8***	***71***	***8***	***63***	***71***
3	Workers	110	55	-	55	-	55	55	110	55	-	55	-	55	55
	Pickup Truck (On-site)	0	0	-	0	-	0	0	0	0	-	0	-	0	0
	Water, Flatbed, Gravel, Concrete, Delivery Trucks, etc.	30	4	4	8	4	4	8	60	8	8	16	8	8	16
Subtotal		***140***	***59***	***4***	***63***	***4***	***59***	***63***	***170***	***63***	***8***	***71***	***8***	***63***	***71***
4	Workers	120	60	-	60	-	60	60	120	60	-	60	-	60	60
	Pickup Truck (On-site)	0	0	-	0	-	0	0	0	0	-	0	-	0	0
	Water, Flatbed, Gravel, Concrete, Delivery Trucks, etc.	30	4	4	8	4	4	8	60	8	8	16	8	8	16
Subtotal		***150***	***64***	***4***	***68***	***4***	***64***	***68***	***180***	***68***	***8***	***76***	***8***	***68***	***76***
TOTAL		**426**	**182**	**12**	**194**	**12**	**182**	**194**	**512**	**194**	**24**	**218**	**24**	**194**	**218**

Existing Plus Project Intersection Operations

Existing conditions plus project construction weekday AM and PM peak hour intersection traffic operations were quantified by superimposing traffic generated by the proposed Project onto Existing conditions. **Table 4.15-5:** *Existing Plus Project Intersection Operations*, shows the summary of the Existing plus Project roadway analysis and LOS conditions. As presented in the table, all roadway segments are forecasted to operate at acceptable LOS C conditions or better under Existing plus Project conditions scenario and would result in a less than significant impact. To ensure impacts would remain less than significant mitigation measure MM 4.15-1 and MM 4.15-2 would be implemented. MM 4.15-1 would require measures that would ensure peak hour construction worker vehicle limits are maintained during the AM and PM peak hours. MM 4.15-2 would require the preparation of a Construction Traffic Control Plan.

TABLE 4.15-5: EXISTING PLUS PROJECT INTERSECTION OPERATIONS

Study Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?
I1. Copus Road/Old River Road	TWSC	D	12.5	B	No	19.4	C	No
I2. Copus Road/I-5 SB On-Off Ramps	TWSC	C	10.9	B	No	10.3	B	No
I3. Copus Road/I-5 NB On-Off Ramps	TWSC	C	10.7	B	No	11.1	B	No
I4. State Route 166/Old River Road	TWSC	D	12.6	B	No	10.1	B	No
I5. Copus Road/Project Driveway	OWSC	D	9.5	A	No	9.7	A	No

Notes:
NB=Northbound, SB=Southbound
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; OWSC = One Way Stop Control
2. LOS = Delay based on worst minor approach for TWSC intersections; average of all approaches for AWSC, signal
3. Warrant = Based on California MUTCD Peak Hour Warrant 3 (70% Factor)

Existing Plus Project Roadway Segment Operations

Existing plus project roadway segment LOS conditions during construction also were quantified by adding traffic generated by the proposed project to the existing traffic conditions. **Table 4.15-6:** *Existing Plus Project Roadway Segment LOS Conditions*, shows the summary of the operations of the roadway segments during project construction. As presented in the table below, all intersections would operate above the acceptable LOS C conditions and therefore would result in a less than significant impact.

TABLE 4.15-6: EXISTING PLUS PROJECT ROADWAY SEGMENT LOS CONDITION

Roadway	Location	Facility Type (# of Lanes)	Target LOS	Average Daily Traffic	LOS
RS1. Copus Road	w/o Old River Road	Two-Lane Arterial (No LTL)	D	2,110	A
RS2. Copus Road	e/o Old River Road	Two-Lane Arterial (No LTL)	D	2,830	A
RS3. Old River Road	n/o Copus Road	Two-Lane Arterial (No LTL)	D	3,770	A
RS4. Old River Road	s/o Copus Road	Two-Lane Arterial (No LTL)	D	4,320	A

Notes:
1. No LTL arterials without left turn lanes (LTL) at most major intersections (within study area).
2. Daily volume to capacity on roadways does not supplant the need to perform peak-hour HCM-based analysis.

Operation and Maintenance

For the 35-year duration of the operational phase, the solar field would be maintained by up to two (2) full-time equivalent (FTE) personnel. permanent staff employees and monitored remotely via a SCADA system; PG&E improvements would be maintained by PG&E's existing O&M staff and would not require additional trips beyond existing, baseline conditions. On-site solar field maintenance staff would be responsible for security, vegetation management, permit compliance, and project repairs. There would be less than 50 additional daily trips generated by the project associated with the two permanent employees commuting to the site, visitors, and/or deliveries. Project maintenance performed at the solar field would consist of vegetation management, maintaining compliance with project permits, and inspection and replacement of project equipment. Maintenance would occur during daylight hours, when possible. The O&M phase of the project is expected to have nominal operational vehicular trips associated with routine maintenance and upkeep of facilities, and therefore the number of permanent trips (less than 50 daily trips) associated with the project is not expected to impact the study area roadway network. The County's guidelines require that analysis be conducted at intersections where a project would generate 50 or more peak hour trips. Therefore, an analysis of LOS conditions for project operation and maintenance was not conducted, and the impact is presumed to be less than significant.

Decommissioning

Decommissioning of the proposed project would result in impacts similar to those caused by the project construction traffic, but the duration would be about one-third less than project construction (approximately four months). Therefore, decommissioning of the project would result in a less than significant impact with respect to LOS.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The PG&E gen-tie connection would require construction and would be operated within the existing PG&E Lakeview Substation. The construction and operation of the PG&E Interconnection Facilities would include the Expansion of the Lakeview Substation area by approximately 0.9 acres, and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. The proposed improvements would not conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Mitigation Measures

MM 4.15-1: Prior to the issuance of construction or building permits for each Facility, the project proponent/operator shall implement measures to ensure peak hour construction worker vehicle limits are maintained during the AM and PM peak hours in order to maintain LOS D or better at the study intersections. These measures may include, but are not limited to the following:

a. The Construction Traffic Control Plan (see MM 4.15-2, below) shall outline the methods used to count worker vehicle traffic arriving and departing from the project site during peak AM and PM hours, methods used to control the number of trips during these hours, and documentation of reasonable coordination efforts with other projects in the area to avoid impacts to study intersections.

b. The project proponent/operator shall limit construction worker vehicle trips to and from the site to the extent possible during the AM and PM peak periods (i.e., 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.).

c. If monitoring indicates that either AM or PM peak hour construction trips may exceed the peak hour construction worker vehicle limits, the project proponent/operator shall implement measures to reduce peak hour passenger vehicle trips. These measures could include:

1. Scheduling construction worker shifts so that a majority of the workers arrive and depart the project site outside the AM and PM peak periods.

2. Staggering construction worker shifts so that construction worker vehicle trips are distributed over a broader period (i.e., construction workers arrive in staggered shifts starting from 6:00 a.m. and depart in staggered shifts starting from 2:00 p.m.).

3. Instituting incentives and providing options for construction workers to carpool and/or vanpool to and from the project site.

4. Should applicant be able to demonstrate LOS will not fall below LOS C, then the Traffic Control Plan will not be necessary.

MM 4.15-2: Prior to the issuance of construction or building permits, the project proponent/operator shall:

a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department-Development Review and the California Department of Transportation offices for District 6, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

1. Timing of deliveries of heavy equipment and building materials. To the extent feasible, restrict deliveries and vendor vehicle arrivals and departures during either the AM and PM peak periods;

2. Directing construction traffic with a flag person;

3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;

4. Ensuring access for emergency vehicles to the project sites;

5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;

6. Maintaining access to adjacent property;

7. Specifying both construction-related vehicle travel and oversize load haul routes and avoiding residential neighborhoods to the maximum extent feasible; and

8. Consult with the County to develop coordinated plans that would address construction-related vehicle routing and detours adjacent to the construction area

for the duration of construction overlap with neighboring projects. Key coordination meetings would be held jointly between applicants and contractors of other projects for which the County determines impacts could overlap.

b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and Caltrans.

c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.

d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county-maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.

e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

Level of Significance after Mitigation

Impacts would be less than significant for the project with implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2. Impacts would be less than significant for the PG&E Interconnection Facilities. No mitigation would be required for the PG&E Interconnection Facilities.

Impact 4.15-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?.

The new *CEQA Guidelines* section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the *CEQA Guidelines* criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. Kern

County is currently engaged in this process and have not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the County, guidance from the State of California Office of Planning and Research's (OPR) December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Guidelines), was relied upon in this EIR to determine the significance of transportation impacts (OPR, 2018).

The project would result in new vehicle trips and additional VMT from construction traffic as a result of workers and vendors travelling to and from the project site during construction activities. VMT and trip generation during this time, however, would be temporary in nature and only occur over the approximate 16-month construction timeline. As discussed, impacts due to construction activities would be temporary and would not result in any meaningful long-term or permanent change in VMT; therefore, the evaluation of VMT is focused on project operation.

As defined in CEQA Guidelines section 15064.3, subdivision (a), VMT refers to the amount and distance of automobile travel attributable to a project. The Technical Guidelines further explain that the automobile in section 15064.3 "refers to on-road passenger vehicles, specifically cars and light trucks." For this reason, this VMT analysis only considers passenger vehicle (i.e., cars and light trucks) trips generated by the project. However, this EIR also includes an analysis of GHG emissions associated with heavy truck traffic generated by the project (as well as other traffic) and addresses potential significant transportation impacts of all project vehicles, including heavy trucks, related to air quality, noise, and safety. Thus, as noted, these trips would be temporary and would not permanently affect VMT characteristics in this part of Kern County or elsewhere.

The project also would result in a long-term increase in vehicle trips and VMT as a result of the demand for personnel to operate the facility. The traffic generated from these activities, however, would be limited because the project would require only one permanent on-site employee and intermittent trips needed for maintenance and repairs. It was assumed that the employ would likely reside in the local regional area and would not generate a substantial volume of additional trips or VMT. This is consistent with technical guidance issued by the Office of Planning and Research (OPR), projects generating less than 110 or fewer daily vehicle trips may be presumed to have a less than significant impact involving VMT.

As indicated above, the project operation would generate fewer than 8 vehicle trips per day. Thus, the project is anticipated to result in "Low VMT" based the estimate of total daily trips. Therefore, daily passenger vehicle trips generated by the project would be well below OPR's recommended small-project screening criterion threshold of 110 trips per day, and the project's impact to VMT would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Lakeview Substation and Interconnection Facilities, including Expansion to the existing substation, for the transport of renewable energy would not conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and no mitigation would be required. Impacts would be less than significant for the PG&E Interconnection Facilities. No mitigation would be required for the PG&E Interconnection Facilities.

Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

During construction, the project would require the delivery of heavy construction equipment and PV solar components using area roadways, some of which may require transport by oversize vehicles. Heavy equipment associated with these components would not be hauled to/from the site daily, but rather would be hauled in and out on an as-needed basis. Nevertheless, the use of oversize vehicles during construction can create a hazard to the public by limiting motorist views on roadways and by the obstruction of space, which is considered a potentially significant impact.

The project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the project site. Additionally, the main access point to the project site would be located off Copus Road and would be designed to ensure the access point is a minimum of 300 feet west of the intersection with Old River Road. This is based on the Kern County intersection and driveway spacing requirements and would ensure adequate room in available for vehicle queuing and turning movements.

The site also would be secured by a chain-link security fencing would be installed around the perimeter of the facilities and other areas requiring controlled access, prior to commencement of construction, in order to restrict public access during construction and operations. Additionally, the project would not include the development of sharp curves, dangerous intersections or other hazardous design features. The project would be set back from the roadways as required by Kern County Zoning Ordinance. The need for and number of escorts, California Highway Patrol escorts, as well as the timing of transport, would be at the discretion of Caltrans and Kern County, and would be detailed in respective oversize load permits. Thus, potential impacts would be less than significant.

While impacts would be less than significant, Mitigation Measure 4.15-2 would require that all oversize vehicles used on public roadways during construction obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated construction delivery times and vehicle travel routes in advance to minimize construction traffic during AM and PM peak hours. This would ensure that construction-related oversize vehicle loads are in compliance with applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities would include the Expansion of the PG&E Lakeview Substation area by approximately 0.9 acres, and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. The construction and operation of the Lakeview Substation connection does not propose any

improvements that could substantially increase hazards due to geometric design. These improvements would not create any increased hazards due to geometric design.

Mitigation Measures

Implement Mitigation Measure MM 4.15-2.

Level of Significance after Mitigation

Impacts would be less than significant for the project with implementation of Mitigation Measures MM 4.15-2. Impacts would be less than significant for the PG&E Interconnection Facilities. No mitigation would be required for the PG&E Interconnection Facilities.

Impact 4.15-4: The project would result in inadequate emergency access.

The project site is located in a rural area with the primary access point off Copus Road allowing adequate egress/ingress to the site in the event of an emergency. The main project site's driveways are designed to comply with turning radius requirements for emergency vehicles and will not cause hazardous driving conditions. The roadway contains no curved segments, high landscaping, or signage; therefore project site driveways would have adequate sight distance so that trucks exiting the site would be visible to oncoming traffic and would allow for traffic to slow down or in some cases completely come to a stop.

Additionally, as part of the project, additional onsite access roadways (internal to the site) would be constructed. Therefore, the development of the proposed project would not physically interfere with emergency vehicle access or personnel evacuation from the site. All internal roads within the main project site would be up to 24 feet wide and cleared, graded, and compacted. Up to a 30-foot-wide perimeter road separating the solar arrays from the perimeter fence would be constructed within the entire perimeter of the project. The roads would be constructed to allow fire and maintenance vehicle access. The project's detailed design would be completed in compliance with California Fire Code requirements and not impair emergency vehicle access in the vicinity of the project during construction and in ongoing operation. Compliance with the California Fire and Building Codes for the solar field would be mandated through the plan check and approval process. This process would also ensure that adequate access for emergency services is provided, and the County's emergency response plan would be upheld during construction. The proposed project would not require closures of public roads, which could inhibit access by emergency vehicles. As no non-compliant features are proposed, the impact is considered to be less than significant.

Although impacts are anticipated to be less than significant, the proposed project would include Mitigation Measures MM 4.15-1 and MM 4.15-2 to ensure the potential for increased congestion to emergency access would not be substantial. Mitigation Measure MM 4.15-1 would require measures to ensure peak hour construction worker vehicle limits are maintained during the AM and PM peak hours in order to maintain LOS D or better at the study intersections. Mitigation Measure MM 4.15-2 requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site. Thus, impacts in this regard would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction, decommission, and operation of the PG&E Interconnection Facilities would include the Expansion of the PG&E Lakeview Substation area by approximately 0.9 acres, and moderate site grading

and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. These improvements would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the surrounding roadways with implementation of mitigation measures.

Mitigation Measures

Implement Mitigation Measures MM 4.15-1 and MM 4.15-2.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2 impacts would be less than significant for the project. Impacts would be less than significant for the PG&E Interconnection Facilities. No mitigation would be required for the PG&E Interconnection Facilities

Cumulative Setting, Impacts, and Mitigation Measures

The potential for cumulative transportation impacts exists where there are multiple projects proposed in an area that have an overlapping construction schedule and/or project operations that could affect similar transportation resources. Projects with overlapping construction schedules and/or operations, depending on scope and scale, could result in a substantial contribution to increased traffic throughout the surrounding roadway network, contribute to hazardous roadway conditions, and/or adversely affect emergency access or circulation. A cumulative impact related to transportation could therefore result if the project's incremental effects were combined with impacts of other past, present, or reasonably foreseeable future projects.

Cumulative effects to traffic volumes and LOS were assessed for the project based on a list of cumulative (ongoing) projects in the vicinity of the project. Cumulative traffic was determined using Kern COG's 2020 and 2042 outputs from their Regional Travel Demand Forecast Model and the latest General Plans from all agencies land use and circulation elements in Kern County which are included in Kern COG's future models.

Project trip generation under cumulative conditions are much lower than under Existing plus Project conditions that included development of the solar facility. Following completion of the construction phase scheduled for December 2023, it is estimated that one employee will be assigned to the operations plant for maintenance and oversight. Although construction of the Jasmine Solar project is anticipated to being in the year 2024, 2023 was used in the data modeling to ensure a conservative output of data. In order to calculate trip generation for post-construction activities, **Table 4.15-7:** *Cumulative Plus Project Trip Generation* was developed. It is assumed that that the sole employee will generate 4 daily trips, including arrival and departure during the peak hour periods. It is further assumed that 4 daily trips would be generated by deliveries or "other" trip types.

TABLE 4.15-7: CUMULATIVE PLUS PROJECT TRIP GENERATION

Land Use Category	Unit	Daily Trip Rate/Unit	AM Peak Hour Trip Rate/Unit			PM Peak Hour Trip Rate/Unit		
			Total	In %	Out %	Total	In %	Out %
Solar Maintenance Worker	EMP	4.0	0.25	100%	0%	0.25	0%	100%
Employee	1	4	1	1	0	1	0	1
Deliveries/Other	2	4	2	1	1	2	1	1
Project Trips		**8**	**3**	**2**	**1**	**3**	**1**	**2**

Notes:
1.Estiamted based upon data provided by project proponent
2.Deliveries are shown during peak hours
3.Erroes due to rounding may occur

As shown in the table above, cumulative plus project trip generation assumes 8 trips, with 3 trips occurring during the AM and PM peak hours, respectively. These trips were distributed north/south on Old River Road and east/west on Copus road.

Based on the locations and types of projects provided in the cumulative projects list, resultant peak-hour intersection and roadway segment volumes were added to projected project volumes to account for cumulative impacts. Using this data, the cumulative intersection operations and cumulative plus project intersection operations are shown in **Table 4.15-8:** *Cumulative Intersection Operations* and **Table 4.15-9:** *Cumulative Plus Project Intersection Operations.*

TABLE 4.15-8: CUMULATIVE INTERSECTION OPERATIONS

Study Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?[3]
I1. Copus Road/Old River Road	TWSC	D	16.0	C	No	20.3	C	No
I2. Copus Road/I-5 SB On-Off Ramps	TWSC	C	11.8	B	No	10.5	B	No
I3. Copus Road/I-5 NB On-Off Ramps	TWSC	C	11.2	B	No	11.2	B	No
I4. State Route 166/Old River Road	**TWSC**	**D**	**26.6**	**D**	Yes	11.5	B	No

Notes:
NB=Northbound, SB=Southbound
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; OWSC = One Way Stop Control
2. LOS = Delay based on worst minor approach for TWSC intersections; average of all approaches for AWSC, signal
3. Warrant = Based on California MUTCD Peak Hour Warrant 3 (70% Factor)

TABLE 4.15-9: CUMULATIVE PLUS PROJECT INTERSECTION OPERATIONS

Study Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?[3]
I1. Copus Road/Old River Road	TWSC	D	16.1	C	No	20.4	C	No
I2. Copus Road/I-5 SB On-Off Ramps	TWSC	C	11.8	B	No	10.5	B	No
I3. Copus Road/I-5 NB On-Off Ramps	TWSC	C	11.2	B	No	11.2	B	No
I4. State Route 166/Old River Road	**TWSC**	**C**	**26.6**	**D**	Yes	11.5	B	No

Study Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?[3]
I5. Copus Road/Project Driveway	OWSC	D	8.7	A	No	8.7	A	No

Notes:
NB=Northbound, SB=Southbound
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; OWSC = One Way Stop Control
2. LOS = Delay based on worst minor approach for TWSC intersections; average of all approaches for AWSC, signal
3. Warrant = Based on California MUTCD Peak Hour Warrant 3 (70% Factor)

Under both cumulative and cumulative plus project conditions, all of the study intersections are forecasted to operate at acceptable LOS. However, intersection #4 (State Route 166/Old River Road) is projected to meet the Caltrans' Peak Hour Warrant 3 (70%) under the Cumulative AM peak hour scenario. However, under future conditions during project operations, none of the project related trips are anticipated to use the intersection. Therefore, no project responsibility is assigned to improvements at the State Route 166/Old River Road intersection. Mitigation measure MM 4.15-1 and MM 4.15-2 would be implemented and reduce potential impacts project construction traffic impacts. Additionally, as shown in **Table 4.15-7**, the anticipated daily trips generated are negligible in comparison to trips that would result from cumulative projects. Therefore, cumulative impacts associated with intersection operations would result in a less than significant impact.

The traffic study also evaluated forecasted cumulative roadway segment LOS, as shown in **Table 4.15-10:** *Cumulative Plus Project Roadway Segment LOS Conditions.* As shown below, all roadway segments are forecasted to operate at acceptable LOS A under cumulative plus project conditions. Therefore, cumulative impacts associated with roadway segment operations would result in a less than significant impact.

TABLE 4.15-10: CUMULATIVE ROADWAY SEGMENT LOS CONDITIONS WITHOUT PROJECT

Roadway	Location	Facility Type (# of Lanes)	Target LOS	Average Daily Traffic	LOS
RS1. Copus Road	w/o Old River Road	Two-Lane Arterial (No LTL)	D	3,490	A
RS2. Copus Road	e/o Old River Road	Two-Lane Arterial (No LTL)	D	4,070	A
RS3. Old River Road	n/o Copus Road	Two-Lane Arterial (No LTL)	D	6,470	A
RS4. Old River Road	s/o Copus Road	Two-Lane Arterial (No LTL)	D	7,040	A

Notes:
1.No LTL arterials without left turn lanes (LTL) at most major intersections (within study area).
2. Daily volume to capacity on roadways does not supplant the need to perform peak-hour HCM-based analysis.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities, including improvements for the existing Lakeview Substation. The gen-tie line to the Lakeview Substation would be extended easterly from the project boundary to the Lakeview. Additionally, new interconnection related components including the Expansion of the PG&E Lakeview Substation area by approximately 0.9 acres, and moderate site grading and fill would not result in a cumulative transportation impact.

Mitigation Measures

Implement Mitigation Measures 4.15-1 and 4.15-2.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.15-1 and 4.15-2, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant for the PG&E Interconnection Facilities. No mitigation would be required for the PG&E Interconnection Facilities

Section 4.16
Tribal Cultural Resources

4.16.1 Introduction

This section provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. The analysis in this section is based on the results of the Native American consultation conducted by the County for purposes of compliance with Senate Bill 18 (SB 18) and CEQA requirements prompted by Assembly Bill 52 (AB 52).

This section is also primarily based on the *Cultural Resources Assessment Report* prepared for the proposed project by Rincon Consultants, Inc. (2021) Appendix F, which details the results of a cultural resources records search and field survey for the project. Due to the confidential nature of the location of tribal cultural resources, information regarding location of cultural resources has been redacted from the report and is not included in the Appendix.

4.16.2 Environmental Setting

Refer to Section 4.5, *Cultural Resources*, of this EIR for a greater discussion of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American Outreach

As noted in Appendix F, *Cultural Resources Assessment Report*, on October 20, 2020, a request was sent to the Native American Heritage Commission (NAHC) for a Sacred Lands File (SLF) search. On November 5, 2020, the NAHC provided a contact list of 19 local Native American groups. On November 6, 2020, project letters and vicinity map were prepared and emailed to the Native American contacts provided by the NAHC. See **Table 4.16-1:** *Native American Outreach* below for further details.

TABLE 4.16-1: NATIVE AMERICAN OUTREACH

Local Group/Government Contact	Outreach	Response to Outreach Efforts
Big Pine Paiute Tribe of the Owens Valley James Rambeau, Sr., Chairperson	11/06/2020 – Emailed Letter	N/A*
Big Pine Paiute Tribe of the Owens Valley Sally Manning, Environmental Director	11/06/2020 – Emailed Letter	N/A*
Big Pine Paiute Tribe of the Owens Valley Danelle Gutierrez, THPO	11/06/2020 – Emailed Letter	N/A*

Local Group/Government Contact	Outreach	Response to Outreach Efforts
Chumash Council of Bakersfield Julio Quair, Chairperson	11/06/2020 – Emailed Letter, Email returned as undeliverable, issue with recipient's address. Called listed number, no answer and not able to leave a voicemail.	N/A*
Coastal Band of the Chumash Nation Mariza Sullivan, Chairperson	11/06/2020 – Emailed Letter	N/A*
Fernandeo Tataviam Band of Mission Indians Jairo F. Avila, THPO	11/06/2020 – Emailed Letter	11/06/202: Mr. Avila responded via email stating that the FTBMI defers consultation for the project to local tribes.
Kern Valley Indian Community Julie Turner, Secretary	11/06/2002 – Emailed Letter	N/A*
Kern Valley Indian Community Robert Robinson, Chairperson	11/06/2020 – Emailed Letter	N/A*
Kern Valley Indian Community Brandy Kendricks	11/06/2020 – Emailed Letter	N/A*
Kitanemuk & Yowlumne Tejon Indians Delia Dominguez, Chairperson	11/06/2020 – Emailed Letter	N/A*
San Fernando Band of Mission Indians Donna Yocum, Chairperson	11/06/2020 – Emailed Letter	N/A*
San Manuel Band of Mission Indians Jessica Mauck, Director of Cultural Resources	11/06/2020 – Emailed Letter	11/06/2020: Ryan Nordness, Cultural Resources Analyst for the San Manuel Band of Mission Indians (SMBMI), responded via email stating that the project is located outside of Serrano ancestral territory and the SMBMI will not be requesting to comment or review the project.
Santa Rosa Rancheria Tachi Yokut Tribe Leo Sisco, Chairperson	11/06/2020 – Called number for email address, no answer. Faxed letter	N/A*
Tejon Indian Tribe Octavio Escobedo III, Chairperson	11/06/2020 – Emailed Letter	N/A*

Local Group/Government Contact	Outreach	Response to Outreach Efforts
Tejon Indian Tribe Colin Rambo, CRM Tech	11/06/2020 – Emailed Letter	N/A*
Tübatulabals of Kern Robert L. Gomez Jr., Tribal Chairperson	11/06/2020 – Emailed Letter	N/A*
Tula River Indian Tribe Neil Peyron, Chairperson	11/06/2020 – Emailed Letter	N/A*
Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson	11/06/2020 – Emailed Letter	N/A*
yak tityu tityu yak tiłhini – Northern Chumash Tribe Mona Tucker, Chairperson	11/06/2020 – Emailed Letter	N/A*
Source: Cultural Resources Assessment Report, Appendix F * N/A = no response as of August 2021		

Native American AB 52 Consultation

As indicated in the *Cultural Resources Assessment Report* for the project (Appendix F), a Sacred Lands File (SLF) search through the NAHC did not identify sacred sites or tribal cultural resources in the project vicinity.

As part of the County's government-to-government responsibilities pursuant to AB 52, on January 18, 2023, the County sent consultation notification letters via certified mail to four California Native American tribal contacts on the County's Master List for AB 52 consultation. Results of the outreach are shown in **Table 4.16-2:** *AB 52 and SB18 Native American Consultation*. To date, no responses or requests for formal consultation pursuant to AB 52 have been received.

TABLE 4.16-2: AB 52 AND SB 18 NATIVE AMERICAN CONSULTATION

Contact	Tribe	Legal Requirement	Date of Letter	Response
Ryan Nordness, Cultural Resources Analyst	San Manuel Band of Mission Indians	AB 52	January 18, 2023	No response
Michael Mirelez, Cultural Resources Coordinator	Torres Martinez Desert Cahuilla Indians	AB 52	January 18, 2023	No response
Anthony Madrigal Jr., Tribal Grants Administrator	Twenty-Nine Palms Band of Mission Indians	AB 52	January 18, 2023	No response
Darrel Mike, Tribal Chairman	Twenty-Nine Palms Band of Mission Indians	AB 52	January 18, 2023	No response

4.16.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Native American Heritage Commission

Public Resources Code (PRC) Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the *CEQA Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for

preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Senate Bill 18

Senate Bill 18 (SB 18) (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to "provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places" (Governor's Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the *Tribal Consultation Guidelines: Supplement to General Plan Guidelines* (Governor's Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.

- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Local

There are no applicable local regulations for this issue area.

4.16.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to tribal cultural resources have been evaluated using a variety of resources, including an SLF search conducted by the NAHC. SB 18 and AB 52 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on tribal cultural resources.

A project would have a significant impact on tribal cultural resources if it would:

1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

    b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Project Impacts

Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

To date, there has been no responses requesting formal consultation pursuant to AB 52. Additionally, the Sacred Lands File search conducted for the project returned with "negative" results for tribal cultural resources. Based on the records search results, field survey, and NAHC Sacred Lands File, appears to have a low sensitivity for prehistoric/Native American cultural resources. Nonetheless, the project could impact previously unknown and buried archaeological deposits that have the potential to qualify as historical resources. Buried archaeological sites may be encountered during project-related excavation. In the event that unknown archaeological resources that qualify as historical resources are discovered during project construction, significant impacts could occur. Mitigation Measures MM 4.5-1 through MM 4.5-4 would require cultural resources sensitivity training for construction workers, implementation of avoidance measures should prehistoric archaeological resources or sites be inadvertently located, archaeological monitoring during construction, and appropriate treatment of unearthed human remains. Implementation of these measures would reduce impacts to unknown resources to less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Potential impacts to tribal cultural resource within these areas would be minimal. As discussed above, there is no indication that the project study area, including the PG&E Interconnection Facility area, would have a high sensitivity for the presence of these resources. The project site has been heavily disturbed and surrounding areas and not revealed a significant number of finds. Additionally, improvements associated with the PG&E Interconnection Facilities would incorporate applicable PG&E standard best management practices and AMPs. Therefore impacts would be less than significant in the regard.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through 4.5-5, see Section 4.5, Cultural Resources.

Level of Significance

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E standard best management practices and AMPs.

Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As identified within Appendix F, the following was investigated for the project site a review of environmental, ethnographic, prehistoric, and historic period data, Native American outreach, and an intensive pedestrian survey. A request for records search and literature review was submitted through the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC). The record search revealed no prehistoric or historic period cultural resources within the project area. Additionally, the review of the Native American Heritage Commission's (NAHC) Sacred Land database was negative. Based on the results of the records search, contact with the NAHC and Native American tribal representatives, the pedestrian survey, a review of archival and environmental data, the project would not cause a substantial adverse change in the significance of a tribal resource and impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

Potential impacts to tribal cultural resources within these areas would be minimal. As discussed above, there is no indication that the expansion associated with the PG&E Interconnection Facilities would be in a sensitive location. The area has been heavily disturbed, and the surrounding areas have not revealed a high potential to contain these resources. Additionally, improvements associated with the PG&E Interconnection Facilities would incorporate applicable PG&E standard best management practices and AMPs. Therefore, impacts would be less than significant in the regard.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through 4.5-5, see Section 4.5, *Cultural Resources.*

Level of Significance

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E standard best management practices and AMPs.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the project discussed in Chapter 3, *Project Description*, of this EIR, would have on tribal cultural resources. The geographic area

of analysis for tribal cultural resources includes a 6-mile radius from the project site. This geographic scope of analysis is appropriate because the resources within this area are expected to be similar to those that occur on the project area because of their proximity, their similarities in environments and landforms, and their location within the same Native American tribal territories. This is a large enough area to encompass any effects of the project on tribal cultural resources that may combine with similar effects caused by other projects and provides a reasonable context wherein cumulative actions could affect tribal cultural resources.

Multiple projects, including solar energy production facilities, are proposed throughout the San Joaquin Valley. Cumulative impacts to tribal cultural resources could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

Potential impacts of the project to tribal cultural resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. As discussed above a there were no known or identified tribal cultural resources on the project site. With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5, no tribal cultural resources are anticipated to be impacted as a result of project implementation and the project would not have a cumulatively considerable contribution to impacts to tribal cultural resources.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy is expected to include an extension of the existing substation and minor improvements to facilitate the transfer of electricity from the solar field within the existing substation. These improvements would be required to accommodate the substation facilities and temporary construction work area and are not anticipated to result in impacts on tribal cultural resources. As discussed above, there is no indication that the improvements associated with the PG&E Interconnection Facilities would be in located in areas that are sensitive for the presence of tribal cultural resources. Additionally, the improvements would be located in an area that has previously been disturbed and does not have significant known tribal cultural resources in the vicinity. Further, PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to tribal cultural resources.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through 4.5-5, see Section 4.5, Cultural Resources.

Level of Significance

With implementation of Mitigation Measures MM 4.5-1 through 4.5-5, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's best management practices and APMs.

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Section 4.17
Utilities and Service Systems

4.17.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project pertaining to demand for operational utilities (water supply, stormwater, electricity, natural gas, telecommunications, and solid waste disposal). This section describes existing infrastructure and levels of service and evaluates whether any improvements would be necessary to accommodate the project. The information and analysis in this section is based on the project-specific *Hydrology Report* – (GHD, 2021), and *Water Supply Assessment* – (Rincon Consultants, 2021), included in Appendix K and Appendix L of this EIR, respectively.

4.17.2 Environmental Setting

Water Supply

There are typically three sources of supply water for development: (1) natural sources; (2) manmade sources; and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may again be used for certain uses, such as irrigation. However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure that there is no possibility of direct human consumption.

Groundwater Resources

Basins and Subbasins

The proposed project site is located within the Kern County Subbasin ("Kern Subbasin") of the San Joaquin Valley Groundwater Basin. **Figure 4.17-1**: *Groundwater Resource Basins*, provides an overview of the extent of the groundwater resources in the project area, and specifically the Kern Subbasin within the San Joaquin Valley Groundwater Basin. As shown, the project site is in the southern-most portion of the Kern Subbasin which, in turn, is in the southern-most portion of the San Joaquin Valley Groundwater Basin.

The Kern Subbasin is identified by California Department of Water Resources (DWR) as groundwater basin number 5-002.14. The Kern Subbasin is located within the larger Tulare Lake Hydrologic Region. The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River Surface water from the Tulare Lake Basin only drains north into the San Joaquin River in years of extreme rainfall. and is bounded to the north by the boundary between Kern County and Tulare County.

The Kern County Subbasin covers about 3,040 square miles within this larger area and is bounded on the north by the Kern County line and the Tule Groundwater subbasin, on the east and southeast by granitic

bedrock of the Sierra Nevada foothills and Tehachapi mountains, and on the southwest and west by the marine sediments of the San Emigdio Mountains and Coast Ranges. Groundwater has been and is an important resource within the subbasin given limits on the available local and imported surface water supply. Regarding surface water supply, the Kern Subbasin is primarily fed from stream seepage along the eastern subbasin and the Kern River; recharge of applied irrigation water, however, is the largest contributor. Total water storage within the Kern County subbasin is reported to be in the range of 40 million acre-feet. The Kern Subbasin is one of 21 basins and subbasins identified by the DWR as being critically overdrafted, a designation that triggers an accelerated timetable for GSP development by 2020 and achievement of sustainability by 2040 (WRMWSD, 2022)

The overall Kern County Subbasin groundwater is subject to the Kern Groundwater Authority (KGA) The KGA, is has a groundwater sustainability plan that covers a large area that is broken up into many smaller agencies and water districts. The water district that is responsible for the project site and nearby areas is the Wheeler Ridge – Maricopa Water Storage District (WRMWSD). The WRMWSD was formed to engage with stakeholders and assist in general compliance with specific elements of the California Sustainable Management Act (SGMA), and any basin specific groundwater budget goals.

The WRMWSD prepared their ground water sustainability management plan (SGMP) and covers the Wheeler Ridge-Maricopa Management Area (WRMA). The WRMA underlies the WRMWSD service area, excluding the area (approximately 2,809 acres) also overlain by the West Kern Water District (WKWD), and is located in the southern portion of the Kern County Subbasin of the San Joaquin Valley Groundwater Basin.

Groundwater Supply

Subsurface units in the Kern Subbasin are primarily continental deposits of Tertiary and Quaternary age and are the sediments that comprise the shallow to intermediate depth water-bearing deposits. Recharge to the Kern Subbasin occurs via natural recharge from stream seepage along the Kern River and the eastern portion of the subbasin and via the infiltration of applied irrigation water. Agricultural use and irrigation is currently the the largest contributor to groundwater recharge in the Kern Subbasin. Also tied to agricultural land uses, the Kern Subbasin has been historically over-pumped, and prior to 1970 this over-use resulted in approximately nine feet of land subsidence in the south-central portion of the subbasin (DWR 2006).

To help reduce the effects of ground water withdrawals, groundwater banking activities in the Kern Subbasin were initiated in the 1970s. These efforts have continued over the last few decades notably, in the 1990s, groundwater banking programs were expanded through construction of the Kern Water Bank, which encompasses 20,000 acres of recharge areas, as well as the Kern County Water Agency's 2,233-acre Thomas N. Clark Recharge and Banking Project, formerly known as the Pioneer Banking Project. Nearly all groundwater districts have banking projects within their district's boundaries, and those districts that don't overlie the defined groundwater basin participate in local programs. Groundwater banking programs now provide critical reliability of water supply availability to the project area.

Groundwater Quality

The Water Quality Control Plan (WCCP) for the Central Valley Region is the Basin Plan that covers Kern County. This basin plan covers only the Tulare Lake Basin. The Sacramento River Basin and the San Joaquin River Basin are covered in a separate basin plan.

The Tulare Lake Bain Plan for the Central Valley RWQCB includes water quality objectives for ground waters, which outlines protection measures for groundwater within the Tulare Lake Region outlines policies and regulations for groundwater basin water quality and management within the RWQCB jurisdiction. The RWQCB board has regulatory control over groundwater supply and recharge as well as other state agencies including the State Water Resources Control Board (SWRCB), Division of Water Resources (DWR), and United States Environmental Protection Agency (USEPA), and Bureau of Land Management (BLM). Under the basin plan, the Kern County Engineering and Survey Services Department requires the completion of an national pollution discharge elimination system (NPDES) applicability form for all projects that disturb one or more acres within Kern County, even though many of the waters within Kern County are not technically subject to federal regulations as they are closed systems that never contact oceans or other waters of the US.

Water Supply

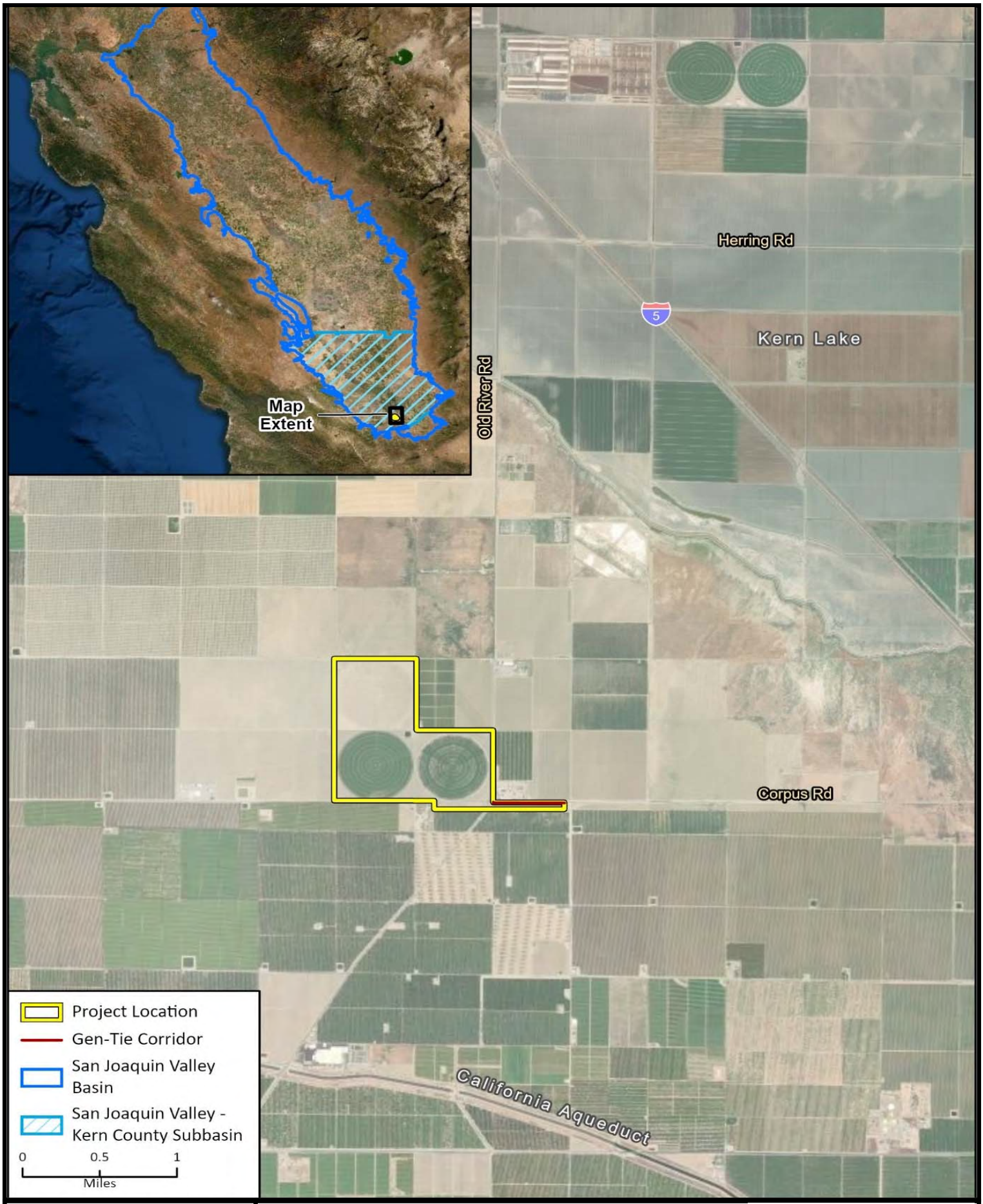
The Kern County Water Agency (KCWA) was created in 1961 by a special act of the California State Legislature, serves as the local contracting entity with the California Department of Water Resources (DWR) for State Water Project (SWP) water. The KCWA is the second largest agency contracting SWP water from the DWR. In turn, KCWA holds long-term contracts for SWP water deliveries to 13 local water districts, referred to as Member Units, as well as Improvement District No. 4 (ID4), which was formed by KCWA in 1971 to provide a supplemental drinking water supply to portions of Metropolitan Bakersfield.

The proposed project site is located within the Wheeler Ridge-Maricopa Water Storage District (WSD), which is a KCWA Member Unit and receives SWP deliveries through the KCWA. **Figure 4.17-2:** *Water Purveyors in the Project Vicinity* shows the water purveyors and their associated service areas. The Wheeler Ridge- Maricopa WSD also manages the portion of the Kern Subbasin that underlies its jurisdiction, and serves as the Groundwater Sustainability Agency (GSA) for this portion of the Kern Subbasin, referred to as the Wheeler Ridge-Maricopa Management Area (of the Kern County Subbasin).

In addition, the KCWA and the Wheeler Ridge-Maricopa WSD are both member agencies of the Kern Groundwater Authority (KGA), which was formed by a Joint Powers Agreement between 16 member agencies to function as the GSA for the overall Kern Subbasin. KGA's jurisdictional boundary is entirely within the Kern Subbasin, as defined in DWR Bulletin 118, South of the Tulare Lake Hydrologic Region of the San Joaquin Valley Groundwater Basin.

As the GSA for the overall Kern Subbasin, the KGA developed an "umbrella" GSP for the Kern Subbasin, referred to as the "KGA Umbrella GSP" (KGA 2020). The KGA Umbrella GSP provides SGMA coverage for all Kern Subbasin lands that are included in the management areas of member agencies to the KGA. Each KGA member agency has developed a Management Area Plan for its respective management area.

The Wheeler Ridge- Maricopa Management Area includes 91,430 acres and consists of the portion of the Kern Subbasin located within the Wheeler Ridge-Maricopa WSD service area, excluding an area of approximately 2,809 acres that is also within the West Kern Water District service area. The purpose of the Wheeler Ridge-Maricopa Management Area Plan is to, in conjunction with the KGA GSA and other GSAs in the Kern Subbasin, meet the regulatory requirements of SGMA by providing management of all portions of the Kern Subbasin under a GSP implemented by a designated GSA, in accordance with the timeline set forth by SGMA.

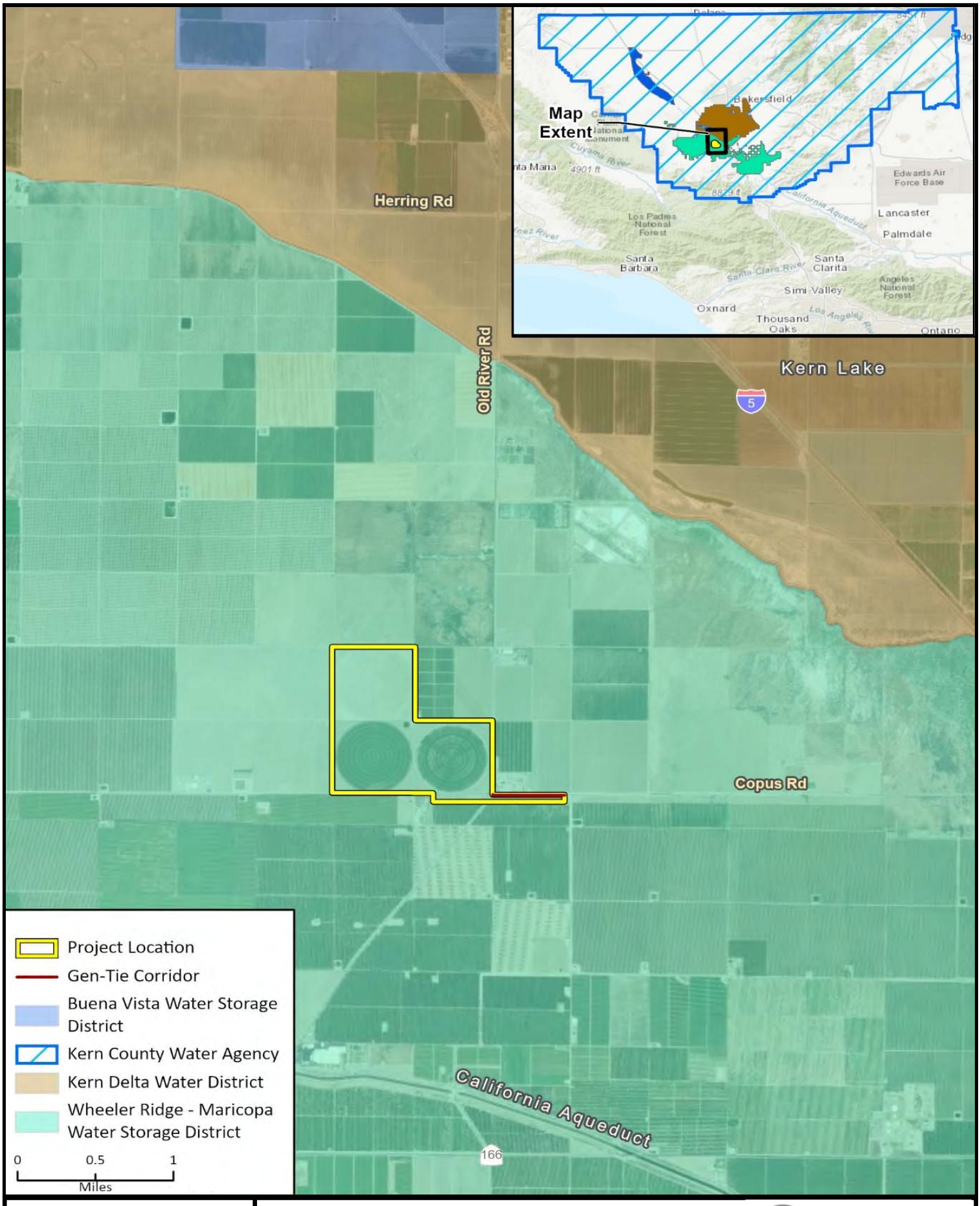


Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.17-1: Groundwater Resource Basins

By SF Jasmine, LLC APN: 295-131-12, 295-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department



Jasmine Solar Project
CUP No. 30, Map No. 160
WALUC 22-01

Figure 4.17-2: Water Purveyors in the Project Vicinity

By SF Jasmine, LLC APN: 295-131-12, 195-132-15, Sec. 31 - T32S/R27E

Kern County Planning & Natural Resources Department

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires the formation of local-controlled groundwater sustainable agencies in high- and medium-priority groundwater basins. These groundwater sustainability agencies are responsible for developing and implementing a Groundwater Sustainability Plan (GSP) to ensure the basin is operated within its sustainable yield without causing undesirable results. The project is located within the Tulare Lake Hydrologic Region, San Joaquin Valley Groundwater Basin, and the Kern County Subbasin. The Kern County Subbasin is ranked as high priority and identified as being subject to critical overdraft conditions under SGMA. The Kern Groundwater Authority Groundwater Sustainability Agency (GSA) was formed in order to comply with SGMA. The Kern Groundwater Authority GSA, which constitutes of 16 member entities made up of water districts/agencies, groundwater banking projects, and organized non-districted lands.

Wastewater

The Kern Sanitation Authority (KSA) provides maintenance and wastewater service for Kern County. As the project site is currently utilized as agricultural land, local sewer infrastructure is not currently available on-site.

Stormwater Drainage

As stated previously, the project site is agricultural land, which is either fallow or actively planted with annual row crops. The project site does not contain an existing stormwater drainage system and rainfall and other water applied to the project site follows natural drainage patterns on the land surface. The area in the immediate vicinity has a gentle northeasterly topographic gradient which results in any runoff flowing to the north into or towards the former (dry) Kern Lakebed. In a relatively larger to above average rain event, the project site flows to open drainage ditches along the edges of each existing field and along the road frontages of Copus Drive and Old River Road

Most of the rainfall that makes the biggest contribution to stormwater generally occurs between November and April when the Gulf Stream shifts southward from northern latitudes. This shift creates a quasi-permanent low-pressure zone over southern California and feeds moisture originating over the Pacific Ocean into the region. This southern shift creates the Mediterranean climate characteristic of southern California.

Solid Waste

Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials that come from residential, industrial, and commercial activities. Construction, demolition, and inert wastes are also classified as solid waste. Such wastes include nonhazardous building materials such as asphalt, concrete, brick, drywall, fencing, metal, packing materials, pallets, pipe, and wood. The general waste classifications used for California waste management units, facilities, and disposal sites are outlined below. Nonhazardous solid waste consists of organic and nonorganic solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded waste, provided that such wastes do not contain hazardous materials or

soluble pollutants in concentrations that would exceed applicable water quality objectives or cause a degradation of waters of the State.

California State law regulates the types of waste that can be disposed of at the different classes of landfills. Class I landfills may accept hazardous and nonhazardous wastes. Class II landfills may accept designated and nonhazardous wastes, and Class III landfills may accept nonhazardous wastes.

Kern County is responsible for meeting the California Integrated Waste Management Act of 1989 (AB 939). AB 939 required cities and counties to reduce the amount of solid waste being sent to landfills by 50 percent by January 1, 2000. It also required cities and counties to prepare solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Hazardous Waste Element (HHWE), and the Nondisposal Facility Element (NDFE). All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board, have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Construction and demolition (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

Approved on October 6, 2011, AB 341 intended to promote recycling and diversion of solid waste from landfills by requiring businesses to accomplish recycling activities and/or participate in recycling programs. The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;
- Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;
- Financial assistance for operation of the City of Bakersfield Green Waste Facility;
- The Kern County Special Waste Facility for the disposal of household hazardous waste. Services are provided to all Kern County residents;
- Semi-annual “bulky waste” collection events, which are held in the Bakersfield area and available to both County and city residents (co-sponsor);
- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);
- Telephone book recycling program (co-sponsors with Community Clean Sweep);
- Community Clean Sweep summer workshops called “Trash to Treasure,” which educate children about recycling and other Kern County Waste Management Department programs (sponsor);

- An innovative elementary school program called the "Clean Kids Hit the Road Puppet Show" (operates in collaboration with Community Clean Sweep); and
- Recycling trailers for churches, schools, and nonprofit organizations.

Landfills

The Kern County Public Works Department operates seven recycling and sanitary landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi. No solid waste is currently generated at the project site. The project would likely be served by the nearest landfills including the closest Class III municipal landfill is the Taft Recycling and Sanitary Landfill, which is located approximately 21.5 miles northwest of the project site. As of April 10, 2019 had a remaining capacity of 6,896,633 tons, total capacity of 11,000,0000 tons, and anticipated closure date of December 31, 2076. The landfill accepts tires, mixed municipal, metals, inert, industrial, green materials, dead animals, construction/demolition and ash (CalRecycle 2022a). The other nearby landfill is the Bakersfield Metropolitian (Bena) Sanitary Landfill, located approximately 25 miles to the northeast in. July 1, 2013 had a remaining capacity of 32,808,260 tons with a maximum permitted capacity of 53,000,000 tons, and scheduled closure date of March 1, 2046. The landfill accepts mixed municipal, industrial, dead animals, and construction/demolition waste CalRecycle, 2022b)

Electric Power, Natural Gas, and Telecommunications

Pacific Gas and Electric (PG&E) has existing electrical and transmission facilities in the project area, including the PG&E Arco Substation. PG&E is the natural gas provider in this area of Kern County. No known natural gas pipelines or telecommunication lines exist at the project site.

4.17.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the state response to energy emergencies.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Railroad Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Railroad Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

California Department of Resources Recycling and Recovery

California Department of Resources Recycling and Recovery (CalRecycle) is the state agency designated to oversee, manage, and track California's 76 million tons of waste generated each year. It is one of the six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle administers and provides oversight for all of California' State-managed non-hazardous waste handling and recycling program. CalRecycle provides training and ongoing support for local enforcement agencies that regulate and inspect California's active and closed solid waste landfills (CalRecycle, 2022c).

State Water Resources Control Board and Regional Water Quality Control Board

The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Central Valley RWQCB.

California Department of Water Resources

The California Department of Water Resources (DWR) is responsible for protecting, conserving, developing, and managing much of California's water supply. These duties include: preventing and responding to floods, droughts, and catastrophic events; informing and educating the public on water issues; developing scientific solutions; restoring habitats; planning for future water needs, climate change impacts, and flood protection; constructing and maintaining facilities; generating power; ensuring public safety; and providing recreational opportunities.

California Water Code Section 13260

California Water Code Section 13260 requires any person who discharges waste, other than into a community sewer system, or proposes to discharge waste that could affect the quality of waters of the State to submit a report of waste discharge to the applicable Regional Water Quality Control Board (RWQCB). Any actions of the projects that would be applicable under California Water Code Section 13260 would be reported to the Central Valley RWQCB.

Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221, passed in 2001, are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessment occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during normal, single and multiple dry years, presented in five-year increments for a 20-year projection. In accordance with these measures, a WSA is required for a proposed industrial, manufacturing, or processing plant that would house more than 1,000 persons; occupy more than 40 acres of land; or have more than 650,000 square feet of floor area (California Water Code, Section 10912).

California Integrated Solid Waste Management Act of 1989 or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989 (Public Resources Code [PRC] Section 40050, et seq.) or Assembly Bill (AB) 939, all cities in California are required to reduce the amount of solid waste disposed in landfills. AB 939 required a reduction of 25 percent by 1995 and 50 percent by 2000. Contracts that include work that will generate solid waste, including construction and demolition debris, have been targeted for participation in source-reduction, reuse, and recycling programs. The contractor is urged to manage solid waste generated by the work to divert waste from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of C&D debris.

Assembly Bill 341

Since the passage of AB 939, diversion rates in California have been reduced to approximately 65 percent, the statewide recycling rate is approximately 50 percent, and the beverage container recycling rate is approximately 80 percent. In 2011, the State passed AB 341, which established a policy goal that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. The State provided the following strategies to achieve that 75 percent goal:

1. Moving organics out of the landfill;
2. Expanding the recycling/manufacturing infrastructure;
3. Exploring new approaches for state and local funding of sustainable waste management programs;
4. Promoting state procurement of post-consumer recycled content products; and
5. Promoting extended producer responsibility.

To achieve these strategies, the State recommended legislative and regulatory changes including mandatory organics recycling, solid waste facility inspections, and revising packaging. With regard to construction and demolition, the State recommended an expansion of California Green Building Code standards that incentivize green building practices and increase diversion of recoverable construction and demolition

materials. Current standards require 50 percent waste diversion on construction and some renovation projects, although this may be raised to 65 percent for nonresidential construction in upcoming changes to the standards. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost or anaerobic digestion before residual wastes are considered for energy recovery.

California Solid Waste Reuse and Recycling Access Act of 1991 or Senate Bill 1327

The California Solid Waste Reuse and Recycling Access Act of 1991 (PRC Chapter 18) identified a lack of adequate areas for collecting and loading recyclable materials, resulting in a significant impediment to diverting solid waste. This act requires state and local agencies to address access to solid waste for source reduction, recycling, and composting activities. Each local agency must adopt an ordinance related to adequate areas for collecting and loading recyclable materials for development projects.

Local

Kern County Integrated Waste Management Plan

The Kern County Public Works Department (KCPWD) is required by the State to plan and implement waste management activities and programs in the County unincorporated area to assure compliance with AB 939 and subsequent State mandates. The Kern County Integrated Waste Management Plan (IWMP) includes a Reduction and Recycling Element, Household Hazardous Waste Element, and Non-disposal Facility Element. The Plan was approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle). The Kern County IWMP is the long-range planning document for landfill facilities.

Kern Groundwater Authority Groundwater Sustainability Plan

As discussed above, the project is located within the Wheeler Ridge-Maricopa Water Storage District (WSD of the Kern County Subbasin, which is ranked as high priority and identified as being subject to critical overdraft conditions under SGMA. The Kern Groundwater Authority GSA was formed in order to comply with SGMA. The Kern Groundwater Authority GSA prepared a Groundwater Sustainability Plan in January 2020 in order to comply with SGMA and serve as a comprehensive foundation for the groundwater management within areas of the Kern County Subbasin covered by the Kern Groundwater Authority. The Groundwater Sustainability Plan provides information on the current groundwater conditions; establishes sustainability goals, to be achieved through the implementation of management actions and projects; and demonstrating how sustainability would be achieved through the 20-year implementation period.

Kern County Construction Waste Diversion Requirements per the California Green Building Code

As part of compliance with the State of California Green Building Code Requirements (known as CALGreen) that took effect beginning January 2011, Kern County implemented the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department;
- Recycling and/or reuse of a minimum 65 percent of construction & demolition waste; and
- Recycling or reuse of 100 percent of tree stumps, rocks and associated vegetation and soils resulting from land clearing.

Kern County Public Works Department Recycling Programs

The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals to achieve 75 percent recycling, composting, or source reduction of solid waste by 2020:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;
- Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;
- Financial assistance for operation of the City of Bakersfield Green Waste Facility;
- The Kern County Special Waste Facility for the disposal of household hazardous waste. Services are provided to all Kern County residents;
- Semi-annual "bulky waste" collection events, which are held in the Bakersfield area and available to both County and city residents (co-sponsor);
- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);
- Telephone book recycling program (co-sponsors with Community Clean Sweep);
- Community Clean Sweep summer workshops called "Trash to Treasure," which educate children about recycling and other Kern County Waste Management Department programs (sponsor);
- An innovative elementary school program called the "Clean Kids Hit the Road Puppet Show" (operates in collaboration with Community Clean Sweep); and
- Recycling trailers for churches, schools, and nonprofit organizations.

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for utilities and service systems applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and

implementation measures in the Kern County General Plan are incorporated by reference (Kern County, 2009).

1.4 Public Facilities and Services

Goals

Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Implementation Measures

Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D: Involve utility providers in the land use and zoning review process.

1.9 Resources

Goal

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

1.10 General Provisions

1.10.1 Public Services and Facilities

Policies

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D: Involve utility providers in the land use and zoning review process.

Chapter 5. Energy Element

5.4.5 Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

4.17.4 Impacts and Mitigation Measures

Methodology

Potential impacts to utilities and service systems associated with construction and operation of the project have been evaluated using a variety of resources, including multiple online sources and published documents, as well as the project-specific The information and analysis in this section is based on the project-specific *Hydrology Report* – (GHD, 2021) and *Water Supply Assessment* – (Rincon Consultants, 2021), included in Appendix K and Appendix L of this EIR, respectively. In addition, current data obtained from the County and State of California about the capacity of landfills was used to identify potential

impacts. Using these resources and professional judgment, impacts were analyzed according to significance criteria established in Appendix G of the *CEQA Guidelines*, described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on utilities and service systems.

A project could have a significant adverse effect on utilities and service systems if it would:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

b. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;

c. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition the provider's existing commitments;

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals; or

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Project Impacts

Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Construction

Water

The solar panels and other project infrastructure and facilities would be located on approximately 493 acres of the overall approximately 527 acre project site. The project is located on privately owned land located in southern Kern County adjacent to the northwest of the intersection of Copus Road and Old River Road. unincorporated Kern County. Minimal potable water supply would be required during construction, which would include water for drinking and for sanitation facilities. Potable water for drinking and similar needs during construction would be trucked in from off-site (e.g., bottled water).

Construction activities would require non-potable for site preparation, grading, and other ground-disturbing activities primarily for dust suppression and soil compaction. Active construction areas would be watered at a frequency to be determined by the type of activity, site-specific soil conditions, and wind conditions. Water demand during the construction phase is anticipated to last approximately 12-months and is

anticipated to require a total of approximately 150 acre-feet of water, which equates to approximately 12.5 acre feet per month. The final 4 months of upgrades to the PG&E Substation would have a negligible water demand which is assumed to be available from the operational water demand. See **Table 4.17-1:** *Project Water Demands*, for the amortized demand for all project phases.

The water supply during construction would be obtained from existing groundwater well(s) on the project site, or it would be purchased for a local water purveyor and trucked to the project site, where it would be stored on-site for use as needed.

TABLE 4.17-1: PROJECT WATER DEMANDS

Project Phase (Duration of Phase)		Annual Demand (acre-feet/year)	Total Demand (acre-feet)
Construction (1 year)[1]			
	Dust and Fire Suppression, Compaction, and Other Construction Activities	150	150
Total Construction		**150**	**150**
Operation and Maintenance (35 years)[2]			
	Panel Washing[3]	3.5	122.5
	Water Treatment Brine[4]	3.5	122.5
	Fire Suppression[4]	2.95	103.25
	O&M Building[6]	0.11	3.85
Total O&M		**10.01**	**350.35**
Decommissioning (1 year)[5]			
	Dust and Fire Suppression, and other Decommissioning Activities	150	150
Total Decommissioning		**150**	**150**
TOTAL DEMAND		**--**	**650.35**
AMORTIZED DEMAND		**17.58**	**--**

NOTES:

1. The construction period is assumed to be 12 months, during which time the project's full construction water demand of 150 acre-feet would occur; the total construction-period water demand is assumed to be 150 acre-feet regardless of the duration of construction, such that a longer construction period would result in a lower monthly construction demand. Water demand during the additional four months necessary to finish upgrades to the substation is assumed to be negligible and, if needed, is assumed to be available from the estimated operational supply.

2. The O&M period is assumed to be 35 years, which is 15 years longer than the 20-year projection required by California Water Code (as amended by SB 610) to be considered in a WSA. However, for the purposes of full disclosure and to provide a conservative analysis, this table presents all anticipated water demands of the project over the entirety of its anticipated operational lifespan of 35 years. During the O&M period, the activities requiring water supply would include washing the solar panels (including accounting for the water in the brine waste stream produced from water treatment), for emergency fire suppression water, and for uses in the O&M building..

3. This analysis assumes that solar PV panel washing requires approximately 0.05 AFY of water per MW of the project (SNL 2013). The project is designed to produce up to 70 MW; therefore, water demands for solar panel washing would be approximately 3.5 AFY. Please see Section 1.4.2.

4. Water treatment brine consists of the waste product from the project's assumed water treatment system. This analysis conservatively assumes the recovery rate of the water treatment system will be approximately 50 percent, meaning that for every gallon of clean water produced, one gallon of waste product (concentrated brine) would be produced, such that two

gallons of raw water are required to produce one gallon of treated water (and one gallon of water treatment brine). This is likely an over-estimation; please see Section 1.4.2.

[5]. This analysis assumes that approximately 2.95 acre-feet of water would be stored on-site and designated for emergency fire suppression use only. In addition, this analysis conservatively assumes that the fire suppression water would be entirely replenished each year; this is likely an over-estimation, as emergency fire suppression activities are unlikely to occur on an annual basis.

[6]. This analysis assumes the project would include one O&M building encompassing approximately 2,000 square feet, and further assumes that an adjusted water demand factor for commercial land uses of approximately 2,000 gallons per day per acre, or 0.046 gallons per day per square foot (Hesperia 2008) is appropriate for the project's O&M building. Please see Section 1.4.2.

[7]. Decommissioning activities for the proposed project are not specifically known at this time; therefore, in order to provide a conservative analysis that accounts for all project phases, this analysis assumes that the project's decommissioning period would be the same as the project's primary construction period, in terms of duration (12 months, not counting substation upgrades) and water demand for dust suppression (150 acre-feet).

[8]. The amortized demand of 17.58 AFY is the project's total estimated water demand (650.35 acre-feet) averaged over the cumulative duration of all project phases (37 years, accounting for one year each of construction and decommissioning, and 35 years of operation and maintenance).

AFY = acre-feet per year

As shown in **Table 4.17-1:** *Project Water Demands*, the proposed project's total water demand for the life of the project, 37 years, would be a total of approximately 650.35 AF. This volume accounts for construction, (150 acre feet for dust suppression, compaction, etc.), operation and maintenance (350.35 acre-feet for panel washing and fire suppression), and decommissioning (150 acre-feet). Amortized annually this equates to a yearly water demand of 17.58 AF.

Long-term water supply availability projections assumed that water for the project would be purchased sourced from the WSD from within the local Kern Subbasin. What would come either directly through pumping the water, or indirectly through a banking or exchange program. As shown above the proposed project's amortized annual water demand is 17.58 AFY, which accounts for all phases of the project, for the 37 years project horizon including construction and decommissioning and the 35 years for operation and maintenance.

Because a portion of the project site will be converted to a solar energy development the project would result in a short term increased demand for water during the construction and decommissioning. Total water demand during this anticipated two year period out of the overall 37 year project horizon, would equate to approximately 300 AF of water. However, when amortized over the life of the project ((including operational water use) demand would be approximately 17.58 acres. It is conservatively estimated that the projects agricultural uses require approximately 45.5 AFY of water. Compared to the existing water use, the proposed project's operational water demands result in an overall reduction in water use. Therefore, the proposed project would reduce existing on-site water usage, promote infiltration from rainfall events, and project implementation could help facilitate achievement of sustainable groundwater conditions.

Thus, based on the information and analysis provided herein, although the proposed project would occur while overdraft conditions are present in the Kern Subbasin, the project would not impede existing management efforts towards reaching a sustainable balance in the basin. Moreover, the proposed project could facilitate achievement of the KCWA and the Wheeler Ridge-Maricopa Water Storage District (WSD), sustainability goal by reducing overall water use. Therefore, sufficient water is available to meet the project's maximum potential water demands over a 35-year operational lifespan.

Wastewater Treatment

Construction of the project would generate a minimal volume of wastewater. Wastewater contained within portable toilet facilities and portable hand washing facilities would be disposed of at an approved offsite disposal site. The Kern County Public Health Services Department/Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and the project proponent would be required to provide documentation of a portable toilet pumping contract. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, construction of the project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

As designed the project would not require connection to any septic systems or sewer infrastructure. Instead temporary, portable restroom facilities will be provided during construction, decommissioning and operations. Such restroom facilities would be onsite during the construction phase, and would accommodate the limited number of employees with access to the facility. All employees would have access to the portable toilets and portable hand washing facilities, which would be serviced by truck rather than utilizing septic system(s).

Stormwater Drainage

As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located in a remote, rural region with no existing or planned stormwater infrastructure. The project would be required to adhere to Kern County Public Works Department storm water requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion and protection of water quality of stormwater runoff. Rainwater that falls onto the proposed

PV panels would drain freely into the ground, which would remain impervious Panels would slope and rainwater would runoff the lower edge. Although the project would result in a slighting increase in impervious surfaces from the O&M building, meteorological station, substation, and communication tower pads this would not substantially increase impervious area and runoff from these pads is anticipated to percolate to the surrounding pervious areas and follow its natural flow. To help ensure that flows that do not immediately infiltrate, as part of the project, approximately 10.5 acres of stormwater retention basin(s) with a 50 acre-foot volume would be constructed to help retain stormwater flows.

Additionally, in compliance with National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction and a Water Quality Management Plan (WQMP) that include best management practices (BMPs) for runoff control. Further, the hydrologic study and final drainage plan required by Mitigation Measure MM 4.10-1 and MM 4.10-2 would detail any necessary design features required to properly control stormwater runoff, both onsite and offsite. Thus, construction and operation of the project would not exceed the capacity of existing or planned storm water drainage systems such that it would cause significant environmental effects. Impacts would be less than significant and additional mitigation is not required.

Electric Power

Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (but rather diesel- or gasoline-powered). However, minimal electricity would be needed from water pumping and for temporary construction offices (commercial coaches) during construction. Electricity for construction use would either be provided by diesel generators and/or a temporary PG&E distribution line hookup would be installed on the project site. Because construction of the project would not displace existing electrical facilities, and would tie into existing off-site facilities, relocation of electrical facilities would not be required. Therefore, as construction of the project would not require or result in the relocation or construction of new or expanded electric power facilities, the construction or relocation of which could cause significant environmental effects, impacts would be less than significant.

Natural Gas

The project will not use natural gas during the construction phase. Therefore, construction of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. Operation of the project would consume electricity, and gasoline and diesel fuels but would not require the use of natural gas. In addition, the project would use no process gas for the power generation process and would have no impact on natural gas supplies.

Telecommunications

Telecommunication equipment including underground and/or overhead copper telecommunication line and/or fiber optic cable are proposed to be installed on the project site. During operations, on-site telecommunication facilities may be installed to facilitate collection and transmission of meteorological data and data regarding solar arrays. Telecommunication facilities may extend off-site for connection purposes and such improvements are anticipated to occur within existing rights-of-way(s) such as roads and other utility easements that have been previously disturbed. If improvements are needed in these areas impacts would occur over a relatively short duration and all disturbance would cease to occur when installation is complete. In addition, any work that may affect services to the existing telecommunications lines would be coordinated with service providers. Therefore, construction of the project would not require a substantial expansion of telecommunication facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the PG&E Lakeview Substation would be extended easterly from the project boundary to the Lakeview Substation through a previously disturbed areas adjacent to Copus Road. Lakeview Substation improvements would occur in an 0.9 acre area adjacent to the easterly side of the existing substation and would require minor site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. As noted above, below ground installations are typically installed 24 to 48 inches below grade. Above ground lines are typically placed below existing distribution lines or on new, adjacent wooden poles. Lines would be placed within utility franchise easements to the extent feasible and all infrastructure would be built to the latest regulatory and

industry standards. Accordingly, the improvements associated with the PG&E Interconnection Facilities would result in less than significant impact.

Operation

Water

As discussed above, operations water demand would be approximately 350.35 AFY or 10.01 AFY. Considering the existing water use for agricultural operations and assuming that 325 acres of the site are currently irrigated, this equates to approximately 136.5 AFY of water if water is consistently applied. Water for irrigation could be less if for example only one crop of corn is irrigated on the site each year, the associated water demand would be approximately one third of 136.5 acre-feet, or approximately 45.5 AFY. Considering the projects amortized water use including construction and decommissioning of approximately 17.58 AFY, the project is anticipated to reduce on-site water usage by approximately 27.92 AFY. Thus, project implementation could help facilitate achievement of sustainable groundwater conditions. Impacts in this regard would be less than significant.

Wastewater

As previously discussed, wastewater would be generated through facilities inside of commercial coaches, facilities inside of O&M building, portable toilets, and portable handwashing facilities. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Portable facilities would be required to serve the full-time equivalent (FTE) personnel. Portable toilets and hand washing facilities would be serviced by truck and any wastewater would be disposed of at an approved off-site disposal facility. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Stormwater Drainage

As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located in a remote, rural region with no existing or planned stormwater infrastructure. There are no existing stormwater drainage systems on the project site, but the project does include approximately 10.5 acres of stormwater retention basin(s) with a 50 acre-foot volume capacity. The basin would help ensure that uncontrolled stormwater is not expelled from the project site. Because the project is relatively flat, it is not anticipated to require substantial grading and the existing contours and vegetation under the panels would be allowed to grow with minimal trimming and mowing. This would help encourage water infiltration to the ground a minimize potential for substantial stormwater runoff. Thus, stormwater would continue to flow off-site through the site in a similar manner as it does currently.

In addition, the project would be required to adhere to Kern County Public Works Department storm water requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion and protection of water quality of stormwater runoff. This would include conformance with County requirements to retain increases in surface runoff is within the project site. Further, as discussed in **Section 4.10**, *Hydrology and Water Quality* the project includes mitigation measures MM 4.10-1 through MM 4.10-2) that would be implemented and relate to implementation of a drainage plan to reduce potential increases in stormwater runoff onsite. The drainage

plan would detail any necessary physical structures, such as the detention basin(s), required to control stormwater. These structures would be developed onsite along with the rest of project construction.

Because there are no offsite disposal connections to a municipal stormwater facility that exist or are that are proposed, the project would not require or result in the relocation or construction of new or expanded storm water drainage outside of stormwater drainage constructed on-site to serve the project and impacts would be less than significant.

Electric Power

Project operation would generate a combined total of approximately 70 MW of renewable electrical energy including associated energy storage systems, that would help to reduce or offset electricity on the state- wide utility grid. The project includes the installation of medium voltage overhead gen-tie lines to transmit generated power to the existing PG&E Lakeview Substation. Operational energy consumption in the form of electricity would occur as a result of solar panel maintenance and the O&M facilities, electrical enclosures, tracker motors, associated structures, and for plant lighting and security. However, electricity use would be offset by the power, approximately 156,621,500 kWh per year, that would be produced by the solar panels. In addition, the use of transportation fuel would be minimal and would be predominately associated with worker commute trips and occasional panel washing activities. Thus, with the total anticipated annual electricity generation of approximately 70 MW, any energy use required by project construction or operation is more than offset by that which is generated. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded electric power facilities outside the footprint of the project as proposed. Impacts would be less than significant and mitigation is not required.

Natural Gas

The project will not use natural gas during the operation phase. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Telecommunications

The proposed project would require redundant telecommunication connections. The primary telecommunication line would consist of fiber optic cable and/or copper telecommunication line installed above and/or below ground. The line would be attached to either existing utility lines located outside of the project site or the proposed gen-tie. The proposed telecommunication route would use a combination of existing poles, new poles, and/or below ground installations between the existing telecommunications infrastructure and the Lakeview Substation. Below ground installations are typically installed 24 to 48 inches below grade. Above ground lines are typically placed below existing distribution lines or on new, adjacent wooden poles. Lines would be placed within utility franchise easements to the extent feasible.

The point of interconnection to the existing telecommunication infrastructure would be located within a small telecommunications shelter. The interconnection utility service would consist of fiber stranded cables (Dielectric Self Supporting and Optical Ground Wire). A secondary internet connection would be provided using a point-to-point microwave wireless link. Telecommunications facilities would be constructed in

compliance with all relevant requirements and would be maintained throughout the lifetime of the project. Impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly adjacent to the southerly right-of-way of Copus Road. Minor expansions to the Lakeview substantiation and improvements occupying an approximate 0.9 acre areas adjacent to the easter side of the substation would require minimal site grading and fill. These improvements are required to accommodate the substation facilities and temporary construction work area. As noted above, below ground installations are typically installed 24 to 48 inches below grade. Above ground lines are typically placed below existing distribution lines or on new, adjacent wooden poles. Lines would be placed within utility franchise easements to the extent feasible and all infrastructure would be built to the latest regulatory and industry standards. Once installed, the transmission interconnection facilities would be stationary and not require relocation that could result impacts. Accordingly, the construction and continued operation of the PG&E Interconnection Facilities would result in less-than-significant impacts.

Mitigation Measures

Implement Mitigation Measure MM 4.10-1 through MM 4.10-2.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.17-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Water requirements for the project during construction and operation were determined in the *Water Supply Assessment* prepared for the project (Appendix L). The project's construction water demand is estimated to be 150 af for a 12 month construction period and approximately 10.1 AFY for the operational life of the project (approximately 35 years). The water quantity required during decommissioning is unknown at present but is anticipated to be similar to construction water demands and hence was modeled at 150 AFY. Both construction and decommissioning are considered temporary uses/demands. There are currently no sources of piped potable water at or near the project site.

The primary water source that would be used by the project during construction and operations would be obtained from existing groundwater well(s) on the project site, or it would be purchased from a local water purveyor and trucked to the project site. Water would be sourced from wells within the Kern Subbasin including areas within the Wheeler Ridge-Maricopa WSD, which could include SWP water. As discussed in the WSA, groundwater quality for the wells located on the project site would be adequate for project construction and operational use, including panel cleaning.

The Wheeler Ridge-Maricopa WSD prepared a water budget on its management area to reflect observed water level and storage changes. The historical change in groundwater stored in the Wheeler Ridge-

Maricopa WSD area was calculated to be an increase of 3,286 acre-feet over the historic period from 1995 through 2014, which equates to an additional 173 acre-feet of groundwater added to this management area each year. A similar approach, accounting for climate change as well as implementation of groundwater supply management projects (P/Mas) was used to determine the future water budget projections to address the 50 years between 2021 and 2070. The Wheeler Ridge-Maricopa WSD's sustainability goal for its management area of the Kern Subbasin is to eliminate the supply deficit currently projected to occur in 2070 by 2040.

P/MAs include water management strategies that focus on in both in district and out of district banking and recharge, minimizing use of private groundwater, desalination and use or poorer quality water for agriculture, and setting policies to increase efficiency, secure supplies, minimize unnecessary uses and water demand. In addition to the overall P/MAs that are anticipated to be introduced district wide, the project includes also includes management actions that are designed to improve groundwater sustainability by increasing the amount of groundwater in storage and expanding existing conjunctive use programs.

Water Budget Modeling

The water supply assessment prepared for the proposed project, identified and characterized known water in comparison to the water supplies available to the project over a 35-year horizon to account for the project lifecycle instead of the typical 20-year projection of water supply availability. The evaluation considered the varying drought conditions and ongoing long-term supply management activities. The water needed during construction would be obtained from existing groundwater well(s) on the project site, or it would be purchased for a local water purveyor and trucked to the project site. Any of the water used would be from the Kern Subbasin of the San Joaquin Valley Groundwater Basin which includes the Wheeler Ridge-Maricopa WSD, or from water imported from the SWP.

The modeled water budget scenarios reflected in the WSA included current and future "baseline" conditions, or conditions without any P/MA implementation, as well as scenarios that included consideration to the effects of climate change, and the supply benefits associated with implementation of the P/MAs. The model results that show conditions with no P/MAs implemented for the Wheeler Ridge-Maricopa WSD Management Area would result in a deficit of 14,665 acre-feet by 2070. This deficit increases to 21,429 acre-feet when accounting for the adverse effects of climate change. The corollary if P/MAs are implemented is that this 2070 supply deficit would be addressed by the WSD's sustainability goal of eliminating the projected deficit by 2040 through the implementation of P/MAs (this is the P/MAs implementation glide path as the strategies are implementation over time). Thus, implementation of P/MAs in this management area would result in a positive water balance of 53 acre-feet in 2030, and 47 acre-feet in 2070.

It also is important to note that because the project would convert the site to solar energy development, it would also reduce the amount of water currently applied to the project site, furthering the achievement of sustainable groundwater conditions. It is further noted that the project itself is consistent with some of the P/MAs including setting a policy to implement an acreage assessment to fund purchase of land for fallowing; conversion to solar development would fallow the site of irrigated uses also consistent with the Land Retirement P/MA

Based on the information and analysis provided herein, although the proposed project would occur while overdraft conditions are present in the Kern Subbasin, the project would not impede existing management efforts towards reaching a sustainable balance in the basin and would actually facilitate achievement of the

WSD's sustainability goal by providing some of the same effects on groundwater supply as would be achieved through implementation of P/MAs. In addition, once the 2070 supply deficit is eliminated, which is anticipated to occur by 2040, the Kern Subbasin would be maintained in sustainable conditions through the continued implementation of P/MAs. Historic water budgets modeled for the Kern Subbasin indicate that there has previously been a net positive gain in supply of approximately 173 AFY (see Figure 5), which suggests that once the basin is in balance, it may experience an increasingly positive balance. Therefore, this WSA concludes that sufficient water supply is available to meet the project's maximum potential water demands over a 35-year operational lifespan, and that water supply is reliable under normal-year, single-dry-year, and multiple-dry-year conditions, which are reflected in the WSD's projections of the effects of climate change. Although regional water shortages may occur during the project's lifetime, such conditions are projected to occur regardless of the proposed project and are accounted for in the KGA Umbrella GSP as well as the Wheeler Ridge-Maricopa WSD Management Area Plan. Thus impacts in this regard would be less than significant and no additional mitigation is required.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project boundary to the Lakeview Substation adjacent to the southerly right-of-way of Copus Road. Minor expansions to the Lakeview substantiation and improvements occupying an approximate 0.9 acre areas adjacent to the eastern side of the substation would require minimal site grading and fill. These improvements are required to accommodate the substation facilities and temporary construction work area. These improvements would not result increased demand for water beyond the minimal volume that would be needed during construction. Impacts would be less than significant and mitigation is not required.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.17-3: The project would result in a determination by the waste water treatment provider which may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The project is not expected to generate a significant amount of wastewater from the FTE employees and others who may visit the site. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed to be constructed or needed for operations. Wastewater would be generated through portable restroom and handwashing facilities. Portable toilets would be serviced as needed by a licensed provider. Portable toilets and portable hand washing facilities would be serviced by truck (not served by septic system) and any wastewater would be disposed of at an approved off-site disposal facility. Thus, because wastewater generated would be negligible, would not exceed wastewater treatment capacity of any treatment providers, or the proposed OWTS, impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project boundary to the Lakeview Substation and adjacent to the southerly right-of-way of Copus Road. The expansions to the Lakeview Substation do not include any habitable structures or uses that would increase demand for wastewater disposal. These improvements would not result increased demand for waste water treatment and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.17-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Construction

The project would not generate substantial amounts of non-recyclable waste during construction. The project site is currently undeveloped and would not require demolition of any structures and the waste generated during construction of the project. In addition, materials brought to the project site would be used to construct facilities, and few residual materials are expected. Solar modules would be delivered to the site via shipping containers packaged via use of wood and cardboard materials. The shipping container materials for module deliveries would be recycled and are not anticipated to generate non-recyclable waste. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. All such materials would be recycled to the extent feasible which would minimize the waste stream to existing landfills. Any and all hazardous waste generated during construction would be disposed of at an approved facility.

Non-hazardous construction refuse and solid waste would either be collected and recycled, or disposed of at a local landfill. Taft Recycling and Sanitary Landfill, which is located approximately 21.5 miles northwest of the project site. As of April 10, 2019 had a remaining capacity of 6,896,633 tons, total capacity of 11,000,0000 tons, and anticipated closure date of December 31, 2076. (CalRecycle 2022a). The other nearby landfill is the Bakersfield Metropolitian (Bena) Sanitary Landfill, located approximately 25 miles to the northeast in. July 1, 2013 had a remaining capacity of 32,808,260 tons with a maximum permitted capacity of 53,000,000 tons, and scheduled closure date of March 1, 2046. (CalRecycle, 2022b). In addition, the project would implement Mitigation Measure MM 4.17-1 which includes appointment of a recycling coordinator who would ensure the separation and proper disposal of recyclable materials and solid waste during construction. Therefore, construction impacts of the project on existing landfills are anticipated to be less than significant.

Operation

During operation, little to no solid waste would be generated. The O&M building would include one FTE personnel, and the only waste generated onsite would result from office and maintenance activities and would generate a modicum of waste that would be disposed of at the Taft Landfill or BENA. In addition, with the implementation of Mitigation Measure MM 4.17-1, as discussed below, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste generated during project operation, thereby further reducing solid waste generated during operation. Therefore, impacts related to landfill capacity would be less than significant with the implementation of Mitigation Measure MM 4.17-1.

Decommissioning

Solar PV panels have a lifespan of over 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time. Solar PV panels contain valuable materials that would likely be recycled at the end of their useful life. Solar panel manufacturers have identified that approximately ninety percent of materials in solar panel modules can be recycled, where feasible. In the case of both crystalline silicon and thin film CdTe PV technology, a national PV module recycling network has been established by the U.S. Solar Energy Industry Association (SEIA) for providing module collection and recycling services (see https://www.seia.org/initiatives/seia-national-pv-recycling-program). Decommissioning of the collection lines would not generate substantial amounts of solid waste. As stated above, the BENA Landfill is expected to be in operation through 2076. Based on the closure date and remaining capacity, the landfill would have adequate capacity to serve as a solid waste disposal location during project decommissioning.

In addition, per Mitigation Measure MM 4.17-1, a collection and recycling program would be implemented during decommissioning to recycle project components and minimize disposal of project components in landfills. Following decommissioning, the project site would be returned to predevelopment conditions or converted to other uses in accordance with applicable land use regulations in effect at the time, and would not generate waste. Therefore, impacts related to landfill capacity would be less than significant during decommissioning with the implementation of Mitigation Measure MM 4.17-1.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities would include the expansion of the PG&E Lakeview Substation area by approximately 0.9 acres immediately adjacent to the easterly side of the existing substation. The improvements would not include any habitable structures and would not generate substantial additional solid waste. Therefore, impacts would be less than significant.

Mitigation Measures

MM 4.17-1: During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. The provisions listed below shall apply to the project.

a. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance and Decommissioning, Trash Abatement and Pest Management Program.

b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

c. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal

d. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

e. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.17-1, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.17-5: The project would comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.

The project would generate solid waste during construction and operation. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 341 requires Kern County to attain a waste diversion goals of 75 percent by 2020 through reduction, recycling, or composting. In addition, as part of compliance with CALGreen requirements, Kern County implements the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan;
- Recycle and/or reuse a minimum 65 percent C&D waste; and
- Recycle or reuse 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing.

Furthermore, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. Implementation of Mitigation Measure MM 4.17-1 would ensure compliance with waste diversion and recycling requirements by requiring recycling during construction, operation, and decommissioning of the project. The project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the project would result in less-than-significant impacts regarding compliance with management and reduction statutes and regulations related to solid waste.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly from the project boundary to the Lakeview Substation adjacent to the southerly right-of-way of Copus Road. The Lakeview Substation

improvements are expected to include the expansion of the existing substation and add an approximately 0.9 acres adjacent to the easterly side of the station. Construction of these improvements would be in compliance with AB341 and CalGreen requirements, as required by Kern County. Additionally, the improvements associated with the PG&E Interconnection Facilities do not include any habitable structures and are not anticipate to generate significant solid waste. Further, the improvements would comply with applicable PG&E's standard best management practices and APMs. Therefore, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measure MM 4.17-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.17-1, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative analysis of impacts on water supply and wastewater are the related projects that would impact the Kern County Subbasin. The geographic scope of analysis for water, stormwater drainage, electricity, telecommunications, and solid waste disposal, includes the projects that would be relying on the same facilities and infrastructure. Impacts of the project would be cumulatively considerable if the incremental effects of the project when combined with other past, present, or reasonably foreseeable projects (listed in **Table 3-4:** *Cumulative Projects List*, in Chapter 3, *Project Description*) would result in a significant cumulative effect. Physical impacts to public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. There is little to no growth associated with the project and nearby other solar and wind energy projects, thereby limiting the potential to contribute to demand for a particular service.

As described above, the project would place few demands on water, wastewater, stormwater drainage, electricity telecommunications, and solid waste disposal (during construction and operation). As described above, the project would place no demands on natural gas.

Water

Several utility-scale renewable energy projects are operating and proposed in the Central Valley that would impact the existing water supply. Water for much of these areas is derived KGA. The most water-intensive uses for renewable energy projects are typically during the construction phase to minimize dust during grading operations, and during decommissioning which also results in ground disturbances. Given the limited water supply in the area, other projects are expected to either rely on new or existing wells or truck in their water supply (similar to the project). All projects relying on water from the basin would be required to obtain water from suppliers that have existing water rights or would be required to apply for new water rights. Any projects that cannot secure a water supply would not move forward to construction or operation. It is further noted that water use of solar production projects is generally less than other uses that are

existing, typically agricultural areas in which they would be located. In these instances, the proposed project and other such projects, would have less water demand than the existing uses on those sites. Therefore, cumulative impacts related to water supply and facilities would be less than significant.

Wastewater

The project is located in an area with no wastewater treatment provider or infrastructure and is not expected to generate a significant amount of wastewater. Wastewater produced during construction (which is not disposed of via septic system) would be collected in portable toilet facilities and portable hand washing facilities, and disposed of at an approved facility. Therefore, the project would not have the potential, when combined with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact to a regional wastewater treatment facility or the capacity of said facilities.

Stormwater Drainage

As described above, the project site is located in a remote, rural region with no existing or planned stormwater infrastructure. The project would be required to adhere to Kern County Public Works Department storm water requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion. In addition, the majority of the ground surface under the panels would remain pervious and would continue to absorb runoff thus allowing infiltration of the runoff produced by the new minor impervious surfaces. Cumulative projects would also be required to prepare a hydrologic study and final drainage plan that would help avoid substantial increases of stormwater generated onsite by their respective ground disturbance. Depending on the findings of their respective hydrologic studies and final drainage plans, these projects may need to construct stormwater control structures onsite to reduce the potential for increased stormwater runoff. Other projects in the vicinity would be required to offset substantial increases in stormwater as well per County requirements and would also be required to implement best management practices (BMPs), as well as comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit and their respective Storm Water Pollution Prevention Plan (SWPPP) as applicable. Therefore, the project would not substantially contribute to a cumulative impact on stormwater drainage facilities.

Electric Power

Electricity would not be consumed in large quantity during project construction. The project would have a collection system connecting PV modules to the applicable existing substation which includes a combination of underground, aboveground cable trays and overhead (poles or H-Frame structures) DC and AC electrical communication cables. As described in Section 4.6, *Energy*, of this DEIR, operation of the project would consume a minimal amount of electricity compared to the total annual electricity generation estimated to be approximately 70 MW, which more than offsets the energy consumed annually to operate the project. This project in combination with other cumulative solar projects would help to reduce or offset electricity on the state-wide utility grid and therefore provide a beneficial cumulative impact on electrical demand and facilities.

Natural Gas

The project would not use natural gas during the construction, operational, and/or decommissioning phase. Therefore, the project would not contribute to a cumulatively considerable impact related to natural gas demand and facilities.

Telecommunications

The project in combination with cumulative projects would increase demand on telecommunication facilities. However, demand associated with energy projects and other cumulative development would be minimal and is expected to be within the planning forecasts of the affected telecommunications provider. Therefore, cumulative impacts related to telecommunications facilities would be less than significant.

Solid Waste

Construction materials from the project would be recycled where feasible, with remaining disposal in landfills in compliance with all applicable regulations. Materials brought to the project site would be used to construct facilities and few residual materials requiring disposal are expected. Non-hazardous construction refuse and solid waste would either be collected and recycled or disposed of at a local landfill. In addition, the project would generate a minimal amount of solid waste during operation and is not expected to significantly impact Kern County landfills. BENA Landfill is anticipated to operate until 2076 and could accommodate solid waste generated during construction, operation and decommissioning of the proposed project. However, generation of waste from cumulative projects, including other solar and wind projects, could result in a cumulative impact. To ensure that the project reduces the amount of waste sent to landfills, implementation of Mitigation Measure MM 4.17-1 requires that debris and waste generated shall be recycled to the extent feasible, and an onsite recycling coordinator be designated by the project proponent to facilitate recycling efforts. With implementation of MM 4.17-1, the project's incremental contribution would be less than cumulatively considerable. Furthermore, other cumulative projects would also be required to comply with State and local waste reduction policies.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended easterly to the Lakeview Substation and the adjacent to the southerly right-of-way adjacent to Copus Road. The Lakeview Substation improvements would increase the area of the substation by approximately 0.9 acres. These improvements would be required to accommodate the substation facilities and temporary construction work area. Construction of the gen-tie line from the solar site to the Substation would use a combination of existing poles, new poles, and/or below ground installations between the existing telecommunications infrastructure and the Lakeview Substation. Accordingly, construction and decommission of this infrastructure would not have the potential to impact existing utility infrastructure. Additionally, its development would not increase demand for utility services in the project area. Further, the improvements would comply with applicable PG&E's standard best management practices and APMs. Therefore, cumulative effects on utilities and service systems would be less than significant.

Conclusion

In conclusion, the project would not have a significant impact on public utilities. The incremental effects of the project would also not be substantial enough to result in a cumulatively considerable impact on

utilities and service systems with implementation of Mitigation Measures MM 4.10-1 through MM 4.10-2 and MM 4.17-1. Furthermore, the project would result in a beneficial impact on utility services and offset future stress on energy service providers as energy demand grows in Kern County and Southern California.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 through MM 4.10-2 and MM 4.17-1.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 through 4.10-2 and MM 4.17-1, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

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Section 4.18
Wildfire

4.18.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for wildland wildfire. The section includes the physical and regulatory setting for the project, the methods used in evaluating these potential impacts, the criteria used to evaluate the significance of potential impacts, and an analysis of potential impacts from wildfire. The analysis in this section is based on review of the project plans, information from the California Department of Forestry and Fire Protection (CAL FIRE), Kern County Fire Hazards Severity Zone (FHSZ) Maps, information from the *Biological Resources Assessment* (Rincon Consultants, 2021) provided in Appendix E of this EIR, the project's *Geological Engineering Investigation Report* provided in Appendix H (BSK Associates 2021), and project location maps.

4.18.2 Environmental Setting

Site Characteristics and Fire Environment

The project site consists of two vacant and undeveloped parcels of land covered with sparse to moderately dense non-native vegetation currently used for grazing. Habitats within the project site include agricultural field and patches of ruderal habitat along the fenced boundaries of the project site. The project site and surrounding lands are mostly flat and exhibit little topographic variation. Existing land use in the vicinity of the project site generally includes undeveloped lands, agricultural lands, access roadways, oil and gas wells and leases, and a series of canals, ponds, and aqueducts. Rural residential uses are located to the south of the project site.

Fire Hazard Areas/State Responsibility Area

The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for mapping fire hazard areas throughout the state and provides these maps through the Fire and Resource Assessment Program (FRAP) database. As depicted in these maps, wildfire suppression and prevention responsibility is geographically divided by Federal, State, and Local Responsibility Areas and further categorized into Fire Hazard Severity Zones (FHSZs). CAL FIRE maps FHSZs based on factors such as fuel, slope, and fire weather to identify the degree of fire hazard throughout California, which are ranked as Moderate, High, and Very High.. While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. This information is provided to the public and local agencies to incorporate the fire hazard mapping into local planning efforts. While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. According to the California Department of Forestry and Fire Protection (CalFire) and Kern County Fire Hazards Severity Zone Maps, the project site is located within an unzoned Fire Hazard Severity Zone in a Local Responsibility Area. Further, the project site is not within a Federal Responsibility Area (FRA) or State Responsibility Area (SRA). The

project site is also outside of areas identified by CAL FIRE as having substantial or very high risk (CAL FIRE, 2022). The nearest Very High Severity Zone is approximately 11 miles south.

Slope/Terrain

Terrain influences fire hazard by affecting fire spread rates. Typically, steep terrain results in faster fire spread up slope and slower spread down slope. Terrain features that form a funneling effect—such as chimneys, chutes, or saddles—on the landscape can result in especially intense fire behavior, including faster spread and higher intensity. Conversely, flat terrain tends to have little effect on fire spread, resulting in fires that are driven by vegetation and wind. The project site is flat and nearly level, exhibiting little topographic relief except for gently rolling slopes. The site consists of two vacant and undeveloped parcels of land primarily used for grazing. Habitats within the project site include agricultural field, patches of ruderal habitat along the fenced boundaries of the project site, and a small developed area.

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. Fire history represented in this section uses CAL FIRE's California Statewide Fire Map that shows fires back through 2013 (CAL FIRE, 2021) and CAL FIRE's Fire and Resource Assessment Program (FRAP) Fire Perimeters: Wildfires 1950-2021 mapper (CAL FIRE & FRAP, 2022). Based on a review of these maps, no fires in the recorded history have burned across the project site. The nearest fire was the Poe fire in 1995 caused by equipment use, which burned approximately 427.5 acres 2.5 miles south of the project site (CAL FIRE & FRAP, 2022).

Fire Protection Facilities and Services

The Kern County Fire Department provides fire suppression and emergency medical services to the project area. The project site would be served by Fire Station #53, located at 9443 Taft Hwy, approximately 12 miles north of the project site., Adherence to all applicable regulations would reduce wildfire ignitions and prevent the spread of wildfires. A detailed discussion of fire protection facilities and services related to the proposed project is included in Section 4.14, *Public Services*.

Vegetation (Fuels)

Vegetation communities on the proposed project site are further detailed in Section 4.4, *Biological Resources*, and habitats within the project site include the agricultural fields, non-native annual grassland habitat, and patches of ruderal habitat largely along the fenced boundaries of the site. The site itself primarily consists of dry-farmed agriculture that has been intermittently irrigated, where crops such as alfalfa (*Medicago sativa*) are grown. The balance of the project site consists of ruderal habitats with vegetation, primarily along roadsides and between agricultural fields, and developed land cover including paved areas. The plant species observed within these areas during the field survey consist primarily of weedy non-native species, including: Bermuda grass (*Cynodon dactylon)*, Russian thistle (*Salsola tragus*), field bindweed (*Convolvulus arvensis*), and tamarisk (*Tamarix ramosissima*). Several disturbance-tolerant native plant species were observed in this land cover type, including: prostrate pigweed (*Amaranthus blitoides*), horseweed (*Erigeron canadensis*) and seaside heliotrope (*Heliotropium curassavicum*). Plant communities within the project site and immediately surrounding area are heavily influenced by disturbances from

anthropogenic sources, specifically these agricultural uses. Overall the vegetation is sparse to moderately dense, generally consisting of non-native vegetation that is currently being grazed.

4.18.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

2019 California Fire Code

The 2019 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed and include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems (for inhabited structures), fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

2019 California Building Code, Chapter 7A

Chapter 7 of the 2019 California Building Code details the materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface Area is defined in Section 702A as a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. The building code details the materials, systems and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

Public Resources Code 4291–4299

California Public Resources Code Section 4291-4299 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from

the building, less than 18 inches high, and important for soil stability, may be maintained; as may single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. Additionally, the Public Resources Code outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Local

Kern County General Plan

Chapter 4: Safety Element

4.1 Introduction

Goal 1 Minimize injuries and loss of life and reduce property damage.

4.6 Wildland and Urban Fire

Policies

Policy 1 Require discretionary projects to assess impacts on emergency services and facilities.

Policy 4 Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6 All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measure

Measure A Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2019 California Fire Code and the 2018 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2019).

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is located within a moderate fire hazard severity zone under the KCFD Wildland Fire Management Plan (KCFD, 2009).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local area. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, the hosting of three wildfire safety expos in battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of $500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 2 (Western Kern) which is within a moderate fire hazard severity zone (KCFD, 2018).

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2021).

4.18.4 Impacts and Mitigation Measures

Methodology

Wildfire impacts are considered on the basis of: 1) offsite wildland fires that could result due to the proposed project, and 2) onsite generated combustion that could affect surrounding areas. The project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE maps showing FHSZs, FRAP, and fire history, information from the *Biological Resources Assessment* (Rincon Consultants, 2021), and project location maps.. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant impact with respect to Wildfires.

A project would have a significant impact with respect to wildfires if it would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if the project would:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan;

b. Due to slope, prevailing winds, or other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Project Impacts

Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.

The project site is not classified as being within a high fire hazard severity zone and is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site. The project site is located in a rural, sparsely developed area with limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Also in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the project would not conflict with the implementation of, or physically interfere with,

an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended from the project boundary to the Lakeview Substation. Conditions within these areas are similar to the overall project area. The construction and operation of the Interconnection Facilities are expected to include the expansion of the PG&E Lakeview Substation area and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. The PG&E Interconnection Facilities would be constructed in a way to allow adequate emergency vehicle access and would not result in conflict with any emergency response plan or emergency evacuation plan, impacts in this regard would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities.

Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

The project site is within an unzoned LRA and is approximately 11 miles north of the nearest High or Very High FHSZ identified by CAL FIRE (CAL FIRE, 2022). Elevations across the project site range from approximately 346 feet above mean sea level (amsl) at the northeastern portion of the site to approximately 393 feet above msl in the southwest portion. The land generally slopes gently from the northeast to the southwest. The project site is in an area that is characterized by agricultural operations. The project site is currently used for cattle grazing. The site is bordered by vacant agricultural land as well.

The proposed project does not include permanent occupancy, though during construction the project site would be temporarily occupied by construction personnel. Construction activities would temporarily introduce ignition sources due to the use of vehicles, heavy machinery. Machinery and tools could result in sparks and heat-generating. To further minimize the risk of fire during construction, the project would adhere to the Kern County Fire Code, the 2019 California Fire Code (CFC), and would adhere to Chapter 33 of the CFC, which outlines standards for fire safety during construction activities.

Operation of the proposed project would require up to 2 full-time equivalent (FTE) personnel [or personnel hours totaling 2 FTE positions (i.e., an average of 200 personnel hours per week)] during operation and maintenance of the project. Due to existing vegetative patterns and use of the site and surrounding areas for grazing and agriculture, the site has a moderate potential to experience wildfire. Nonetheless, if a wildfire occurs in the area either onsite or offsite pollutants may be released. However, it is anticipated that any employees occupying the site would be rapidly evacuated at the time of the event, and/or evacuated well in advance of an approaching wildfire in conformance with applicable

County evacuation directives put in place. Such measures would ensure that the exposure of project occupants, and nearest residents, are not exposed to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire to the extent feasible,

Thus, because of the existing and proposed condition, the potential for wildfire on the project site is considered moderate. Construction and operation of the project on the project site and would not exacerbate the risk of wildfire. Additionally, project construction and decommission would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Given the moderate potential for fire and the lack of permanent occupants, the project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The gen-tie line to the Lakeview Substation would be extended from the project boundary to the Lakeview Substation. The construction and operation of the PG&E Interconnection Facilities would include the expansion of the PG&E Lakeview Substation area. Conditions within these areas are similar to the overall project area, they are within an unzoned LRA with no permanent occupants. Additionally, applicable PG&E standard best management practices and AMPs relating to wildfire would be implemented. Therefore, implementation of the PG&E Interconnection Facilities would not create an extubated risk of wildfire to project occupants and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

The proposed project would install new photovoltaic (PV) panels or modules, a BESS, power conditioning stations (PCS), inverter and transformers, and transmission lines to connect to a proposed and existing substation. All new infrastructure would be installed and operated in accordance with safety standards that would reduce the risk of potential fires. The lithium ion batteries in the BESS would be housed in enclosures that conform to U.S. national safety standards and would comply with the UL 9450 standard for outdoor energy storage enclosures and modules would contain a safety system as required by NFPA 855 and would be tested under the UL 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems. The system also would be required to have a fire rating in conformance with Kern County standards. The proposed onsite substation would be connected to the existing PG&E Lakeview Substation via up to 70 kV overhead line(s) with a gen-tie right-of way of up to 95 feet. Minor

expansions to the interior of the existing Lakeview Substation would be needed. This work would be performed by PG&E.

The project site would be accessed via Copus Road and Old River Road and interior access roads would be constructed between the rows of PV panels within the project site that would be approximately 20 feet wide. The access points and interior driveways would be constructed in accordance with Kern County and California Department of Forestry and Fire Protection (CalFire) requirements and maintained to ensure on-site circulation for emergency vehicles during all weather conditions should it be needed. Lastly, telecommunications lines would be installed above and/or below ground along the path of existing utility lines or the proposed gen-tie route to connect at the Lakeview Substation

The proposed improvements, including the new gen-tie in route and interior roads, would be installed in an area that has a moderate potential to experience wild fire. In addition, as part of the project, these areas would undergo maintenance to ensure there is no fuel buildup that would exacerbate a risk of fire either on-site or off-site. It should be noted that the project site also is not adjacent to any area with a substantial risk of wildfire and the listed improvements would not exacerbate the risk of wildfire or result in impacts to the environment. Construction, operation, and maintenance associated with the above mentioned infrastructure would adhere with all federal, state, and local laws, regulations, codes, and safety standards.

Lastly, as discussed in Section 4.14, *Public Services,* the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.14-1. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure is reduced and, thus, impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities would include the expansion of the PG&E Lakeview Substation area and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. Accordingly, these elements would require minimal ground disturbance, use of fuels, solvents, and other construction materials. Once operational, the PG&E Interconnection Facilities would be managed in accordance with all safety and maintenance requirements. Additionally, the improvements would comply with applicable PG&E standard best management practices and AMPs. Therefore impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Public Services*, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

As previously discussed the proposed project site is not located in or near a High or Very High FHSZ or within a SRA and there have been no previously recorded fires on the proposed project site (CAL FIRE, 2021). The proposed project site is relatively flat, consists of vacant undeveloped land, and surrounded by primarily undeveloped vacant lands that are used for agriculture and grazing. Implementation of the project would not involve substantive grading operations and would not result in the creation of slopes or be adjacent to areas with steep slopes that would contribute to drainage changes or dangers from erosion should a fire occur.

Development of the proposed project could cause minor alterations to existing on-site drainage patterns and flowpaths compared to existing conditions and include the introduction of new impervious surfaces. The project would require implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion and sediment control BMPs during construction, thereby reducing the potential of erosion and siltation during construction and would control potential flooding events that could occur during construction. Additionally, the proposed new impervious surfaces would generate additional stormwater runoff onsite, albeit in minor quantities compared to existing conditions. As discussed in Section 4.10, *Hydrology and Water Quality*, Kern County requires development of a drainage plan with the site development grading permit, which will manage stormwater and reduce the risk for offsite impacts due to erosion and impacts on water quality, as implemented by Mitigation Measure MM 4.10-1. Design measures are intended to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on or off site. One element of the drainage plan is potential retention basin(s) and/or detention ponds(s) to manage facility stormwater.

Thus, while the project would introduce new structures to the project site, the structures would not be placed in a highly flammable landscape and due to the topography of the site and surrounding area, general lack of thick vegetation, and lack of history of wildfire, there is a moderate potential for the project site or off- site areas to be at risk of post-fire slope instability or drainage changes. Furthermore, with the implementation of Mitigation Measure 4.10-1, any potential impacts from runoff and erosion would be further minimized and impacts would be less than significant.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy would include installation of poles and suspended wires to conduct electricity to the substation and would include the expansion of the PG&E Lakeview Substation area and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. These improvements would not result in impacts from runoff and erosion to be significant. Additionally, PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 would be required (see Section 4.10, *Hydrology and Water Quality*, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant for the project. Impacts would be less than significant without mitigation for the connection with the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative impact and analysis is a 6-mile buffer around the project's boundaries. The project site is approximately 17 miles east of Taft, with most of the surrounding area consisting of actively farmed agricultural land. Additional surrounding features include undeveloped lands, access roadways, oil and gas wells and leases, and a series of canals, ponds, and aqueducts. A few rural residential uses and commercial developments are sparsely located to the south of the project site. The project site and 6-mile buffer generally fall between the Tehachapi foothills to the south, Hwy-99 to the east, Milux Road to the north, and undeveloped and agricultural land to the west. As shown in Chapter 3, *Project Description*, **Table 3-4:** *Cumulative Projects List*, there are 6 cumulative projects in the same geographic area as the project, and no cumulative projects located within the 6 mile buffer considered in the cumulative analysis.

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. As previously mentioned, the project site is not classified as being within a High or Very High FHSZ or State Responsibility Area, is surrounded by similar uses, and is located in a rural, sparsely developed area with limited population. As concluded in the discussion of project impacts above, the project would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan. Similar to the project, related projects would be required to determine whether they are classified as being within a high fire hazard severity zone, identified within an emergency evacuation route or within an adopted emergency evacuation plan, and whether they meet the requirements of applicable Fire Code and Building Code. Given the rural project location, vacant or agriculture land use, little development, and low population the project and related projects would not likely have the potential to result in a cumulative impact to an adopted emergency response plan or emergency evacuation plan and, thus, would result in a less than significant cumulative impact.

With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, the proposed project and projects considered in the cumulative analysis are not within a High or Very High FHSZ or within a State Responsibility Area. Similar to the proposed project, all related projects would be required to implement building and landscape design features in accordance with the Fire Code and Building Code to reduce wildfire risk and exposure of occupants to pollutant concentrations from a wildfire. Adherence to the Fire Code and Building Code requirements would minimize potential impacts related to exposure to and the uncontrolled spread of a wildfire. As concluded in the discussion of project impacts above, the project would have a less-than-significant impact related to exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. As the project

is in an area sparsely developed with no permanent occupants on-site, and only few residential uses within proximity to the project, cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire and, thus, would result in a less than significant cumulative impact.

Related projects may require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. These projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and analyzed for environmental impacts. The placement of infrastructure would adhere to all fire codes to minimize the potential fire risk such as siting and design. The proposed project would involve the installation and maintenance of a collector line and access roads to support project construction and ongoing maintenance and operation. While the potential for fire is considered moderate, Mitigation Measure 4.14-1 would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions, and submitted to the Kern County Fire Department for review and approval. Given the little development in the area and with compliance to all federal, state, and local laws, regulations, and codes, the project and related projects would have a less than significant cumulative impact related to the installation or maintenance of associated infrastructure.

It is unlikely related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire slope instability, as the general topography in the area is flat and there are very few permanent occupants or residential land uses. Based on the recent fire events in California, all projects would be required to adhere to Kern County's zoning and land use designations and codes, State and local fire codes, and regulations associated with drainage and site stability. These regulations, policies, and codes would reduce the potential for exposing people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire slope instability. Each project would require site-specific hydrology and drainage studies for effective drainage design. As concluded in the discussion of project impacts above, with the implementation of Mitigation Measure MM 4.10-1, the project would not expose people or structures to significant risks due to post-fire slope instability or drainage changes and would have a less-than-significant impact. Nevertheless, given the location is subject to high wind speeds, and is a rural area with limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

PG&E Lakeview Substation Expansion and Electric Transmission Interconnection

The construction and operation of the PG&E Interconnection Facilities for the transport of renewable energy would include installation of poles and suspended wires to conduct electricity to the substation and would include the expansion of the PG&E Lakeview Substation area and moderate site grading and fill. These improvements would be required to accommodate the substation facilities and temporary construction work area. Additionally, PG&E's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to potential impacts from wildfire. Therefore, cumulative impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1 would be required (see Sections 4.10, *Hydrology and Water Quality*, and 4.14, *Public Services*, for full mitigation measure text).

Level of Significance after Mitigation

Even with implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1, cumulative impacts would remain significant and unavoidable. Impacts would be less than significant without mitigation for the PG&E Interconnection Facilities with PG&E's standard best management practices and AMPs.

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Chapter 5
Consequences of Project Implementation

5.1 Environmental Effects Found to Be Less than Significant

Section 15128 of the *CEQA Guidelines* requires that an EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."

Kern County has engaged the public in the scoping of the environmental document. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the EIR. The EIR's contents were established based on the Notice of Preparation/Initial Study (NOP/IS) located in Appendix A of this EIR that was prepared in accordance with the *CEQA Guidelines* and in consideration of public and agency input received during the scoping process.

The County circulated the Initial Study/Notice of Preparation (IS/NOP) for the project between June 9, 2022 and July 11, 2022. A public scoping meeting was held on Wednesday, July 6, 2022 to give an overview of the proposed project and to address initial comments from the public. Based on the available information at the time, results of the scoping meeting, the IS/NOP determined that the project would have no impact or less than significant impact with regard to the following impact thresholds and were not anticipated to be discussed in the EIR.

- Population and Housing
- Recreation

Regarding the findings related to Population and Housing the IS/NOP made the following determination. Although the proposed project would provide new employment consistent with the adopted Kern County General Plan goals, plans, and policies, long-term employment opportunities would be minimal. The proposed project would require an operational staff of up to two (2) full-time employees.

During construction, it is estimated during non-peak periods approximately 60 workers would be on-site daily. During peak construction it is estimated that up to 550 workers could be on-site per day. The entire construction process is anticipated to take 12 months and initiate in 2024. Therefore, the majority of project-generated jobs would be from the local and regional area and would occur on a temporary and short-term basis. Construction workers are expected to travel to the site from various local communities and locations throughout Southern California, and few, if any workers expected to relocate to the surrounding area because of these temporary jobs. If temporary housing should be necessary, it is expected that accommodations (i.e., extended stay hotels, apartments, RV parks, homes for rent or sale) would be available in the nearby communities. Therefore, the project is not anticipated to directly or indirectly induce the development of any new housing or businesses within the local communities.

During the operational phase, the project would require up to two full-time equivalent (FTE) personnel (or personnel hours totaling 2 FTE positions), who would commute to the site. Due to the small number of full-time employees, it is anticipated that the local housing stock would be adequate to accommodate operations personnel should they relocate to the area, without requiring the need for the construction of new housing.

The proposed project would not directly or indirectly induce substantial unplanned population growth and further analysis and therefore would have a less than significant impact. Additionally the IS/NOP found that the project site is currently undeveloped and does not contain any existing housing units. The proposed project would therefore not displace any existing people or housing, necessitating the construction of replacement housing elsewhere. In summation, the IS/NOP found no impact to Population and Housing and determined no further discussion would be required in the EIR

Regarding the findings related Recreation the IS/NOP made the following determination. It is estimated that up to 550 workers per day during peak construction periods would be required on-site during construction of the proposed project. These workers would not have time to visit any local parks or recreation facilities during the workday. Further, few workers are expected to relocate to this area temporarily while the construction is underway and there would be little or no impact on local recreational resources after work hours. Operation of the proposed project would require employees for maintenance and monitoring activities, but they would likely be drawn from the local labor force and would commute from their existing permanent residences to the project site. However, even if the maintenance/monitoring employees were hired from out of the area and relocated to central Kern County, the addition of any such families to the project area would not result in a substantial increase in the number of users at local parks or recreational facilities. As a result, the IS/NOP found there would not be a detectable increase in the use of existing neighborhood or regional parks or other recreational facilities, and therefore, no deterioration of any such facilities would occur or require the construction of new facilities as a result of project implementation. Additionally, the IS/NOP found the proposed project does not include or require the construction of new or expansion of existing recreational facilities, and there are no recreational facilities on the project site that would be affected. Therefore, the IS/NOP found no impact to Recreation and determined no further discussion would be required in the EIR.

For all other resource areas, this EIR contains a comprehensive analysis of potential environmental impacts.

After further study and environmental review, as provided in this EIR, it was determined that project-level impacts in the following areas would be less than significant or could be reduced to less-than-significant levels with mitigation measures; however, these resource areas are evaluated in this EIR for their potential significance:

- Aesthetics;
- Agriculture and Forestry Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Noise;
- Public Services;
- Transportation and Traffic;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfires.

5.2 Significant Environmental Effects that Cannot Be Avoided

Section 15126.2(b) of the *CEQA Guidelines* requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. Potential environmental effects of the project and proposed mitigation measures are discussed in detail in Chapter 4 of this EIR.

After further study and environmental review, as provided in this EIR, it was determined that project-level and cumulative impacts in the following areas would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would attempt to reduce impacts to the greatest extent feasible.

As shown in **Table 5-1:** *Summary of Significant and Unavoidable Impacts of the Project*, impacts in the following areas would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Aesthetics	There would be less than significant project impacts.	The project would have cumulatively significant and unavoidable aesthetic impacts related to visual character after implementation of mitigation. While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the cumulative conversion of thousands of acres of largely undeveloped land in the valley region in a predominantly rural area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the San Joaquin Valley would be cumulatively **significant and unavoidable**.
Agriculture Resources	Kern County has adopted a threshold of significance regarding cancellation of an open space contract specifically for property within County managed land. The project would result in the loss of 527.37 acres of Williamson Act Land which would exceed the 100 acre County criteria. These impacts would be **significant and unavoidable** as it relates to loss of agricultural land within the County.	Notwithstanding the beneficial factors of the proposed project, and Mitigation Measure MM 4.2-1, the cancellation of approximately 527.37 acres of Williamson Act contracted lands, combined with other projects projected in the Kern County General Plan over the 35-year life of the project, would result in a cumulatively **significant and unavoidable** impact.
Air Quality	There would be less than significant project impacts.	Despite implementation of Mitigation Measures MM 4.3-1 through MM 4.3-10, construction emissions generated by the project and related projects could cumulatively combine and result in a temporary significant and unavoidable cumulative impact. Cumulative operational impacts would be less than significant. Cumulative temporary construction impacts are considered **significant and unavoidable**.

Resources	Project Impacts	Cumulative Impacts
Biological Resources	There would be less than significant project impacts.	As development increases within the undeveloped areas of Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered in combination with other existing and reasonably foreseeable projects in the surrounding flat, open portions of Valley Region, the proposed project has the potential to further reduce local wildlife movement. Even with the implementation of project-specific Mitigation Measures MM 4.4-1 through MM 4.4-12 and MM 4.1-4 through 4.1-6 the cumulative impacts to transient wildlife species would be **significant and unavoidable**.
Wildfire	There would be less than significant project impacts.	Despite Mitigation Measure MM 4.10-1 and MM 4.14-1, given the location is subject to high wind speeds, and is a rural area with limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a cumulative **significant and unavoidable** impact.

5.3 Irreversible Impacts

Section 15126.2(c) of the *CEQA Guidelines* defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the project. Irreversible impacts can also result from damage caused by environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that such consumption is justified.

Build-out of the project would commit nonrenewable resources during project construction. During project operations, oil, gas, and other fossil fuels and nonrenewable resources would be consumed, primarily in the form of transportation fuel for project employees. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of long-term project operations. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized.

5.4 Growth Inducement

The Kern County General Plan recognizes that certain forms of growth are beneficial, both economically and socially. Section 15126.2(d) of the *CEQA Guidelines* provides the following guidance on growth-inducing impacts:

> *"A project is identified as growth-inducing if it "would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."*

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. Construction staff not drawn from the local labor pool would stay in any of the local hotels in local communities. During the operational phase, the project would have up to 2 FTE personnel (or personnel hours totaling 2 FTE positions), who would commute to the site for operational and maintenance activities. It is anticipated that the construction and operational workforce would commute to the sites each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed.

Although the project would contribute to the energy supply, which supports growth, the development of power infrastructure is a response to increased market demand. It does not induce new growth. Kern County planning documents already permit and anticipate a certain level of growth in the area of the project and in the State as a whole, along with attendant growth in energy demand. It is this anticipated growth that drives energy-production projects, not vice versa. The project would supply energy to accommodate and support existing demand and projected growth, but it would not foster any new growth. Therefore, any link between the project and growth in Kern County would be speculative.

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the project would produce was intended to meet the current forecast of growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth has been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis provided in this EIR is adequate to inform the public and decision makers of the growth-inducing impacts of the project.

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Chapter 6
Alternatives

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an EIR describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination), and compares the environmental impacts of several alternatives retained with those of the project.

The following are key provisions of the *CEQA Guidelines* (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the project or its site that 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.
- The No Project Alternative shall be evaluated, along with its impacts. The no-project analysis shall discuss the existing conditions at the time the notice of preparation (NOP) was published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in *CEQA Guidelines* Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, General Plan consistency, specific plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, and if it would not achieve the basic project objectives, it need not be considered in the EIR.

6.1.1 Significant Impacts of the Project after Mitigation

Implementation of the proposed project has the potential to have significant adverse effects on:

- Aesthetics (cumulative only)
- Agriculture and Forest (project and cumulative)
- Air quality (cumulative – temporary construction and decommissioning only)
- Biological resources (cumulative only)
- Wildfire (cumulative only)

Even with the mitigation measures described in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the *CEQA Guidelines*, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources. The significant and unavoidable impacts of the proposed project are discussed below.

Aesthetics

As shown in Chapter 3, *Project Description*, **Table 3-3:** *Cumulative Projects List*, there are ten projects within six mile of the project site including three solar energy storage facility. Additional solar projects in both the valley in Kern County comprise more than 60,000 acres of land. As with the other listed projects, solar facilities have and /or will modify the open valley character of the project region and result in the reduction of visual quality. Although limited in the surrounding area, when combined with existing and/or proposed solar facilities, the project would increase the footprint of solar development such that cumulative impacts to views and visual quality would occur. For example, previously unobstructed (or minorly obstructed) views of hillsides and mountains, or uninterrupted views of agricultural lands along the I-5 corridor, would be interrupted and modified as solar developments, including dark solar panels and vertical substation, switchyard, and electrical transmission facilities, are constructed and come online. View impacts associated with these existing and proposed developments would persist throughout the operational lifespan of projects. The size and scope of already existing development of more than 60,000 acres of solar projects would be increased by the proposed project, and there would be cumulative impacts to aesthetics when considered together with the project.

The project would result in a less than significant related to visual character with implementation of mitigation. However, in consideration with other projects in the region that would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in an presently occupied by agricultural fields and ruderal vegetation to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the San Joaquin Valley would be cumulatively significant and unavoidable.

Agriculture and Forest

The project site is zoned A (in the Kern County Zoning Ordinance but none of the project site is subject to an active Williamson Act Land Use Contract. The project site is located within the boundaries of Agricultural Preserve No. 12 designated by Kern County. The project site is also designated Farmland of

Statewide Importance and Grazing Land by the California Important Farmland Finder on the Farmland Mapping & Monitoring Program (FMMP) (CDOC, 2016). Construction of the project would result in the conversion of approximately 493 acres of farmland for use as a solar facility. Because the project site has a history of farming (10-years or greater), the County considers the site to be productive farmland. Further, the project site has a LESA Score of 77.75. Because of this and the that the project site is considered productive farmland, mitigation would be required. However, no feasible mitigation is available to reduce the impacts related to the loss of prime farmland, therefore, impacts related to the conversion of prime farmland would be significant and unavoidable.

Further, the project would pay the Williamson Act contract cancellation fee as determined by the Kern County Assessor's Office, which would be required as a Condition of Approval of the proposed Conditional Use Permits by the lead agency. With the payment of the cancellation fee, the contract cancellation process would be completed. However, payment of fees does not fully mitigate for conversion of farmland that would be a result of the cancellations of the contracts. Williamson Act contract cancellations would constitute a significant impact. Therefore, as no feasible mitigation is able to reduce the impacts related to the loss of prime farmland, cumulative loss of farmland would be significant and unavoidable.

Air Quality

With project implementation, long-term increases in operational emissions of primary concern within the region (i.e., ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$) would be minimal and would not exceed applicable significance thresholds. Construction and decommissioning of the project would result in temporary increases of emissions, including NO_x and PM_{10}, however, project-level impacts to air quality during construction would be less than significant with mitigation.. The project would implement Mitigation Measure MM 4.3-1, which would require adherence to diesel emission-reduction measures during construction which would serve to reduce NO_X and PM_{10} emissions, as well as Mitigation Measure MM 4.3-2, which would require implementation of a fugitive dust control plan which would serve to reduce fugitive PM_{10} emissions during construction.

Construction- and decommissioning-generated emissions for the project, when considered cumulatively along with other past, present and reasonably foreseeable future projects located within the project area, may exceed SJVAPCD's significance thresholds. Of particular concern with regard to regional air quality impacts are emissions of ozone-precursors (ROG and NO_X) and PM_{10}, for which the region is currently designated nonattainment. Even though it has been determined that the project does not exceed applicable thresholds on an individual basis, temporary cumulative regional air quality impacts associated with short-term construction and decommissioning activities would be considered significant and unavoidable.

Biological Resources

There are a number of special-status species that currently utilize the project site and surrounding vicinity. Based on the results of the CNDDB, CNPS Online Inventory of Rare and Endangered Plants of California, and USFWS IPaC queries, as well as the literature review and reconnaissance survey, 18 special-status plant species and 32 special-status wildlife species were evaluated for their potential to occur within the project site. Implementation of the project in addition to other projects under way or proposed within Kern County would impact habitat for transient wildlife species, including burrowing owls, loggerhead shrike, other raptors, migratory birds, and desert kit fox. The project site contains habitat that support insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. Given the number of

present and reasonably foreseeable future development projects in the Central California Valley Ecoregion, the proposed project, when combined with other projects, would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species. While the project would have less-than-significant impacts with the implementation of Mitigation Measures MM 4.1-5 through MM 4.1-7, MM 4.4-1 through MM 4.4-14, MM 4.9-2, and 4.10-2 when combined with other past, present and reasonably foreseeable future projects, the cumulative impact would be significant and unavoidable.

Wildfire

The project would not result in individual impacts related to wildfire, because it would not result in the impairment of an adopted emergency response plan; the exposure of project occupants to pollutant concentrations from a wildfire; require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or the exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. However, given the project's location in a high wind rural area with limited infrastructure in the vicinity of the project site, the project, when considered cumulatively with past, present and reasonably foreseeable future projects in the vicinity would have a significant and unavoidable cumulative impact related to wildfire.

6.2 Applicant Submitted Project Objectives

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (*CEQA Guidelines* Section 15126.6(c)). As described in Chapter 3, *Project Description*, of this EIR the following objectives have been established for the project and will aid decision makers in the review of the proposed project and associated environmental impacts:

- Support the generation of renewable energy in the State of California per the recent objectives outlined in Senate Bill 100 to implement carbon neutral and eligible renewable energy resources to supply 100% of the state's retail electricity sales by the year 2045.
- Establish a large-scale solar PV and battery energy storage facility in a manner that maximizes the production of reliable electricity in an economically feasible manner.
- Use a proven and established solar and energy storage technology to optimize efficiency and minimize operational risks and maintenance requirements.
- Develop a solar generation project of a sufficient size and configuration to maximize energy production [approximately 70 megawatts (MW)] respective of project constraints
- Develop a solar generation project that helps to meet the increasing demand of the State of California for clean, renewable electrical power at a competitive cost.
- Develop a project that would result in green job creation.
- Support the local community and provide increased business for local contractors and vendors.
- Provide revenues that help support public services within Kern County.

- Develop a project sensitive to environmental effects by using existing disturbed areas, maximizing use of existing infrastructure, and minimizing water use:
- Assist the state in achieving the Renewable Portfolio Standard (RPS) for 2030 consistent with Assembly Bill [AB] 32, Senate Bill [SB] 1078, SB 107, SB 350, and SB 2).
- Assist Kern County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County.
- Help Southern California Community Choice Aggregators in fulfilling their local renewable energy procurement goals.

6.3 Overview of the Proposed Project

The proposed project would include the development of an approximately 527-acre solar facility and associated infrastructure with the capacity to generate up to 70 megawatts (MW) of renewable electrical energy supported by a Battery Energy Storage System (BESS) capable of storing approximately 68 MWh of energy. The project occupies two privately owned parcels APN 295-131-12 (513.61 acres) and (APN 295-132-15 (13.76 acres) for a total project area of approximately 527.37-acres. The photovoltaic component would occupy approximately 493 acres of APN 295-131-12, with the balance of this area being used for roads and other ancillary equipment/buildings. APN 295-132-15 is a linear parcel that extends easterly from 295-131-12 along Copus Road and this parcel would be used to install a generation tie line (gen-tie line) to connect to the existing PG&E Lakeview substation on APN 295-132-16 (1.12 acres) approximately 0.5-mile east.

The solar facility would utilize PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facility would operate year-round and would generate electricity during the daylight hours when electricity demand is at its peak. The project would include the following permanent components: solar PV generating facilities and solar modules; off-site substations; O&M facilities; an electrical collector system and inverters; shared generation-tie lines and an interconnection to the Statewide grid; telecommunication facilities; and site access and security measures.

Construction and testing of the proposed project would take approximately 12 months to complete and is anticipated to begin in 2024. The project elements would be completed either in phases or concurrently over the construction period. See Chapter 3, *Project Description*, of this EIR for a detailed project description.

6.4 Overview of Alternatives to the Project

Under CEQA, and as indicated in California Public Resources Code (PRC) Section 21002.1(a), the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process and is required to ensure the consideration of ways to mitigate or avoid the significant environmental effects of a project. Based on the significant environmental impacts of the proposed project, the aforementioned objectives established for the proposed project, and the feasibility of the alternatives considered, four alternatives, including the No Project Alternative as required by CEQA, are considered in this chapter and summarized in **Table 6-1**, *Summary of Development Alternatives*. The Environmentally Superior Alternative, as required by CEQA, is described in Section 6.8, *Environmentally Superior Alternative*, below.

6.4.1 Alternative 1: No Project Alternative

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the 70 MW PV solar facility and associated facilities on the 527-acre site would not occur. No collection lines would be constructed. The No Project Alternative would not require a Conditional Use Permit (CUP) for construction and operation of a 70 MW solar project and associated facilities. Cancellation of existing Williamson Act Contract for APN 295-131-12 and APN 295-131-15 would not be required. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped agricultural fields and patches of ruderal vegetation. No physical changes would be made to the project site.

6.4.2 Alternative 2: Specific Plan and Zoning Build-Out Alternative

Alternative 2, the Specific Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing land use and zoning classifications, with the proposed project not permitted or constructed. The project site is currently designated as Map Code(s) 8.1 (Intensive Agriculture), 8.1/ 2.3 (Intensive Agriculture / Shallow Ground Water), and 8.1/ 2.5 (Intensive Agriculture / Flood Hazard). The project site has various zone classifications which consist of: A (Exclusive Agriculture), A-1 (Limited Agriculture), and C-2 PD (General Commercial, Precise Development Combining).

Implementation of Alternative 2 would consist of developing the project site under the current land use and zoning classifications. The portions of the project site zoned as A encompass approximately 527 acres and the portions of the project site zoned as C-2 PD encompass approximately 0.20-acre. No solar facilities would be developed under this alternative.

6.4.3 Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the photovoltaic component would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The balance of the site would still be developed with roads and ancillary equipment/buildings. This alternative would reduce the project's footprint from 527 acres to 280 acres. Solar panels and associated infrastructure would be located in the reduced project site. The reduced project acreage under this alternative is expected to contain enough land to construct a solar array field and related infrastructure capable of generating approximately 35 MW of renewable energy and storing 34 MWh of energy due to the proportional reduction in project size. This would result in the corresponding reduction in renewable energy output and storage capacity from the project by 50 percent. Similar to the proposed project, this alternative would still require the approval of a CUP applications(to allow for the construction and operation of 35 MW photovoltaic electrical generating facility (Section 19.12.030.G) with associated facilities (substation, O&M facility) in an A district and approval of a Williamson Act Contract Cancellation.

6.4.4 Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 527 acres of total rooftop area) may be required to attain project's capacity of 70 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. Alternative 4 would generate 70 MW of electricity, but it would be for onsite use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities.

Table 6-1: *Summary of Development Alternatives*, provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is also provided below.'

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 527 acres would generate up to 70 MW of electricity with the capacity to store up to 68 MWh or energy. Approval of a Conditional Use Permits (CUPs) (for construction and operation of a commercial solar electrical generating facilities) and a Williamson Act Contract Cancellation.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	• Required by CEQA • Avoids need for CUPs and Williamson Act Contract Cancellation • Avoids all significant and unavoidable impacts • Greater impacts to GHGs • Less impact in all remaining environmental issue areas

Alternative	Description	Basis for Selection and Summary of Analysis
		• Does not meet any of the project objectives
Alternative 2: Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions. The project site would be developed with agricultural uses (approximately 527 acres) and commercial uses (approximately 0.20 acre).	• Avoids need for CUP and Williamson Act Contract Cancellation • Less impact to aesthetics, agricultural and forestry resources, air quality, and land use and planning • Greater overall impacts to Greenhouse Gas Emissions and Energy • Does not meet any of the project objectives
Alternative 3: Reduced Acreage Alternative	Construction and operation of a solar facility on approximately 280 acres. This alternative would construct a solar array field capable of generating approximately 35 MW of electricity and storing 34 MWh of electricity, thereby reducing the project's renewable energy output by 50 percent. The project site would require approval of a CUP and a Williamson Act Contract Cancellation.	• Similar impacts to greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, transportation and traffic, and utilities and service systems • Decreased GHG offset benefits to meet project objectives • Less impact in all remaining environmental issue areas • Does not meet all the project objectives
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 70 MW of PV solar distributed on rooftops throughout the Central California Valley Ecoregion. Electricity generated would be for onsite use only.	• Avoids need for solar facility CUP and Williamson Act Contract Cancellation, but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, agriculture and forestry resources, air quality, and biological resources • Greater impacts to GHG emissions land use and planning, and noise • Similar impacts energy • Less impact in all remaining issue areas • Does not meet all the project objectives

6.5 Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (*CEQA Guidelines* Section 15126.6(c)). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (*CEQA Guidelines* Section 15126(f)(2)). Kern County considered several alternatives to reduce impacts to aesthetics (cumulative), agriculture (project and cumulative), air quality (cumulative), biological resources (cumulative), and wildfire (cumulative). Per

CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible:

- Wind Energy Project Alternative
- Industrial Power Plant Alternative
- Alternative Site Alternative

6.5.1 Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of a solar site. Similar to solar power, energy production from wind is an alternative to energy production from coal, oil, or nuclear sources. Wind energy provides the following benefits:

- It is a renewable and infinite resource.
- It is free of any emissions, after installation, including carbon dioxide (GHG).
- It is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources. Turbines used in wind farms for commercial production of electric power are usually three-bladed units that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where electrical power is produced. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area. In addition, in order for wind turbines to produce an equivalent 250 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates and, consequently, the project site would need to be expanded.

As noted above, some of the project objectives are to develop a solar project that will help meet the increasing demand for clean, renewable electrical power, as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects by using proven and established PV technology that is efficient, requires low maintenance and is recyclable. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels, require FAA lighting and are more visible from many viewpoints.
- It may result in additional/greater biological resources impacts to avian species than the project.
- It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades.

- It may result in increased land use and planning impacts associated with the project due to the need for an increased project site.

6.5.2 Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 250 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (3) land use and planning conflicts with the rural development of the surrounding area; (4) noise from the plant operations; (5) traffic from increased employment at the facility; and (6) demand on public utilities, including water and waste disposal.

As noted above, some of the objectives for the proposed project are to develop a solar project that would help meet the increasing demand for clean, renewable electrical power as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would result in additional/greater impacts than the proposed project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation and traffic, and public utilities, including water use and disposal.
- Depending on siting, it may also result in greater biological resources impacts than the project.
- It would not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

6.5.3 Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Central California Valley Ecoregion of the County. This alternative is assumed to involve construction of a 70 MW PV solar facility and 68 MWh BESS on a site totaling 527 acres. *CEQA Guidelines* Section 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the proposed project.

The Central California Valley Ecoregion within Kern County has attracted renewable energy development applications that are being proposed for vacant land or land with a history of agricultural uses. The availability of alternative sites is constrained by the renewable energy market itself. While other sites with similar size, configuration, and use history may exist in the Central California Valley Ecoregion within Kern County, alternative project sites in the area are likely to have similar project and cumulatively significant impacts after mitigation, including cumulatively significant impacts to aesthetics, air quality, wildfire, and biological resources. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the project are not considered to be "potentially feasible," as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. As noted above, alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

6.6 Analysis Format

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description,* of this EIR would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts which represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below.

a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.

b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:

   - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be "less."
   - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be "greater."
   - Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be "similar."

c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project's basic objectives would be substantially attained by the alternative.

Table 6-2, *Comparison of Alternatives,* provides a summary and side-by-side comparison of the proposed project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 4 in **Table 6-2**, *Comparison of Alternatives,* the references to "less, similar, or greater," refer to the impact of the

alternative compared to the proposed project, and the impacts "no impact (NI), less than significant (LTS), or significant and unavoidable (SU)," in the parentheses refer to the significant impact of the specific alternative.

TABLE 6-2: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Zoning Build-Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Aesthetics	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Less (LTS)	Less (SU)	Less (LTS)
Agricultural and Forestry Resources	Significant and Unavoidable (project and cumulative)	Less (NI)	Less (NI)	Less (LTS)	Less (NI)
Air Quality	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative construction)	Less (NI)	Greater (SU)	Less (SU)	Less (LTS)
Biological Resources	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Similar (SU)	Less (SU)	Less (LTS)
Cultural Resources	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Energy	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Geology and Soils	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than Significant	Greater (LTS)	Greater (LTS)	Greater (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Hydrology and Water Quality	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Land Use and Planning	Less than Significant with Mitigation	Less (NI)	Less (NI)	Similar (LTS)	Greater (LTS)
Mineral Resources	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (NI)
Noise	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Similar (LTS)
Public Services	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Transportation and Traffic	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Tribal Cultural Resources	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Less (LTS)	Less (NI)

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Zoning Build-Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Utilities and Service Systems	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Wildfires	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (SU)	Similar (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	None	All

NI = No Impact
LTS = Less than Significant
SU = Significant and Unavoidable

6.7 Impact Analysis

6.7.1 Alternative 1: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project Alternative, no development would take place on the project site. The project site would remain in its current state as undeveloped land and no change to the scenic vistas or existing visual character of the site would occur. Impacts to scenic resource and daytime and nighttime views in the area would not occur. Therefore, there would be no impact and the No Project Alternative would result in less impact to aesthetics compared to the proposed project.

Agricultural and Forestry Resources

Under the No Project Alternative, the project site would remain undeveloped and solar panels would not be installed. The project site would remain in its current state, as undeveloped land containing agricultural fields and patches ruderal vegetation. As such, the No Project Alternative would not involve changes to the existing environment which could result in the conversion of Farmland or forest land to non-agricultural or non-forest uses. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to agricultural and forestry resources compared to the proposed project.

Air Quality

Under the No Project Alternative, the project site would remain undeveloped and there would be no construction activities or operational activities that would generate air emissions. The No Project Alternative would not contribute to a cumulative net increase of criteria pollutant in the projects' region. Therefore, there would be no impact to air quality and the No Project Alternative would result in less impacts related to air quality compared to the proposed project.

Biological Resources

Under the No Project Alternative, the project site would remain undeveloped and existing biological resources on the project site, including special-status plant and wildlife species, would remain undisturbed since no construction or operation would occur. The project site would remain in its current state, as undeveloped land containing agricultural fields and patches of ruderal vegetation, and would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, loggerhead shrike, other raptors, desert kit fox, and migratory bird species that may utilize habitat on the project site. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. Therefore, disturbance to potential historical resources, archeological resources, or

human remains located on site would not occur and this alternative would not require mitigation. There would be no impact and the No Project Alternative would result in less impacts related to cultural resource compared to the proposed project.

Energy

Under the No Project Alternative, the project site would remain undeveloped and no energy consumption activities would occur. As such, the No Project Alternative would not result in wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to energy compared to the proposed project.

Geology and Soils

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbance would occur. As such, the No Project Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking; result in substantial soil erosion or loss of topsoil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. Therefore, there would be no impact and the No Project Alternative would result in fewer impacts related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with construction and operation of a solar energy facility would not occur. Therefore, those emissions that contribute to GHGs would be eliminated and no impacts would occur related to generating emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, the potential offset of GHG emissions resulting from operation of the solar power generating facility would not be realized. Impacts would be less than significant under this alternative; however, impacts from implementation of this alternative would be greater than those of the project as it would not offset GHG emissions.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would remain undeveloped, and no construction or operational activities would occur. The project site would remain in its current condition. As such, this alternative would not involve use, transport, and disposal of hazardous materials associated with the project site; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or expose people or structures to significant risk of loss, injury, or death involving wildland fires. Therefore, there would no impact and the No Project Alternative would result in less impacts related to hazards and hazardous materials compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, the project site's existing hydrology and water quality would remain unchanged as no development or ground disturbance would occur on the project site. As such, this alternative would not violate water quality standards or waste discharge requirements; substantially alter

the existing drainage patter of the site or area in a manner that would substantially increase the rate or amount of surface runoff which would result in flooding on site or off site; create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage system; contribute to inundation by a flood hazards, tsunami, or seiche; or conflict with or obstruct implementation of a water quality control plan or groundwater management plan. Therefore, there would be no impact and the No Project Alternative would result in less impact related to hydrology and water quality compared to the proposed project.

Land Use and Planning

The No Project Alternative would not develop any new uses at the project site, and would thus not require any of the submitted land use applications (CUP and Williamson Act Contract Cancellation). Current land uses on the site are consistent with the zoning and General Plan land use classifications. As such, the No Project Alternative would not cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact and the No Project Alternative would result in less impact related to land use and planning compared to the proposed project.

Mineral Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbance would occur. There are no mineral resources on the project site or in the project area. As such, the No Project Alternative would not result in the loss of availability of locally important mineral resource recovery site delineated on a local General Plan, Specific Plan, or other land use plan. Therefore, there would be no impact and the No Project Alternative would result in less impact related to mineral resources compared to the project.

Noise

Under the No Project Alternative, the project site would remain undeveloped. Noise sources from construction and operation would not be present on site, and existing noise conditions would remain the same. As such, the No Project Alternative would not result in generation of a substantial temporary or permanent increase in ambient noise levels or generate excessive ground-borne vibration. Therefore, there would be no impact and the No Project Alternative would result in less impact related to noise compared to the proposed project.

Public Services

Under the No Project Alternative, the project site would remain undeveloped and no new demand for fire or police protection services would occur. Furthermore, no new demand for schools, parks, or other government facilities would occur. As such, the No Project Alternative would not result in the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other government facilities. Therefore, there would be no impact and the No Project Alternative would result in less impact related to public services compared to the proposed project.

Transportation and Traffic

Under the No Project Alternative, the solar facilities would not be constructed and this alternative would not introduce construction and operational-related trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. As such, the No Project Alternative would not conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and not conflict or be inconsistent with *CEQA Guidelines* Section 15064.3(b). In addition, the No Project Alternative would not substantially increase hazards due to a geometric design feature or result in inadequate emergency access. Therefore, there would be no impact and the No Project Alternative would result in less impact related to transportation and traffic than the project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. Sacred Lands File search conducted for the project returned with "negative" results for tribal cultural resources. Based on the records search results, field survey, and NAHC Sacred Lands File, appears to have a low sensitivity for prehistoric/Native American cultural resources. The No Project Alternative would not cause a substantial adverse change in the significance of a tribal cultural resources with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) or as a resource determined by the lead agency. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to tribal cultural resource compared to the proposed project.

Utilities and Service Systems

Under the No Project Alternative, the solar facilities would not be constructed and there would be no new demand for utilities and service systems on the project site. As such, the No Project Alternative would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; impact water supplies; generate solid waste in excess of State or local standards; or conflict with federal, state, and local management and reduction statues and regulations related to solid waste. Therefore, there would be no impact and the No Project Alternative would result in less impact related to utilities and service systems compared to the proposed project.

Wildfires

Under the No Project Alternative, the solar facilities would not be constructed. As such, the No Project Alternative would not expose occupants to pollutant concentrations from a wildfire; require the installation or maintenance of associated infrastructure; or expose people or structures to significant risks, in each case related to the project. However, under the No Project Alternative, the development of other past, present or reasonably foreseeable future projects in the vicinity would result in a cumulatively significant and unavoidable impact to the risks associated with wildfires. Therefore, there would be no impact for the No Project Alternative on an individual basis, but on a cumulative basis with other past, present or reasonably foreseeable projects, the No Project Alternative (as well as the proposed project) would result in significant and unavoidable impact to risks associated with wildfires.

Comparison of Impacts

The No Project Alternative would avoid creating nearly all of the significant and unavoidable impacts associated with the proposed project. This alternative would result in less impact to all remaining environmental issue areas with the exception of Wildfire and GHGs; since this alternative would not offset GHGs through the operation of a solar energy facility, impacts to GHGs would be greater under this alternative.

Relationship to Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above in Section 6.2, *Project Objectives*, including assisting California in reducing GHG emissions. Although this alternative would create less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

6.7.2 Alternative 2: Specific Plan and Zoning Build-Out Alternative

Environmental Impact Analysis

Aesthetics

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A and A-1 (Exclusive Agriculture and Limited Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site. Development of the project site with agricultural uses and residential uses at the density permitted by the Zoning Districts would be visually similar to the types of uses that are within the project area and, thus, potential impacts to visual character would be reduced under this alternative. Development of commercial uses on the southeast portion of the site would alter existing views of the project area; however, these uses would represent a nominal portion of the project site. The development of commercial uses on a small portion of the site and agricultural uses on the remainder of the site would generally cause less visual quality impacts than the development of uniform, large-scale solar facilities, which would remove large areas of natural vegetation. As such, significant and unavoidable impacts related to visual resources would be eliminated under this alternative. Therefore, impacts would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative and, thus, this alternative would result in less aesthetic impacts compared to the project.

Agriculture and Forestry Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site. Under this alternative, there would be no zoning change, and

approximately 526.80 acres of land would be developed for agricultural uses, therefore increasing the total amount of active agricultural land in Kern County. Development of a portion of the project site with commercial uses would not result in impacts related to the conversion of designated Farmland to non-agricultural uses, as this development would be consistent with the existing zoning. As noted in Section 4.2, *Agricultural Resources*, the project site is under a Williamson Contract and, therefore, agricultural uses implemented under this alternative would not conflict with a Williamson Act contract. Furthermore, development under Alternative 2 would be consistent with the existing zoning and the portions of the project site designated as A and A-1 (Exclusive Agriculture and Limited Agriculture) would remain. Therefore, there would be no impact under the Specific Plan and Zoning Build-Out Alternative and, thus, this alternative would result in less agricultural resource impacts as the proposed project.

Air Quality

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site. Both the proposed project and the General Plan and Zoning Build-Out Alternative would result in short-term construction emissions, and would require implementation of mitigation measures in order to reduce the severity of construction-related emissions. The conversion of the project site to agricultural uses would require similar heavy equipment to the proposed project. Thus, similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions. However, Similar to the proposed project, impacts would remain significant and unavoidable for cumulative construction impacts. Operational emissions associated with the proposed agricultural uses under the Specific Plan and Zoning Build-Out Alternative would be greater due to routine emissions associated with agricultural vehicles, livestock emissions, etc. Given this increase, this alternative would result in greater air quality impacts in the air basin than the proposed project.

As it relates to impacts on implementation of the applicable air quality plan, project cumulative construction impacts would be significant and unavoidable. Similarly, the Specific Plan and Zoning Build-Out Alternative would result in construction emissions of a magnitude that would obstruct the air quality planning goals set forth by SJVAPCD. Therefore, similar to the project, cumulative impacts would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that onsite workers could be exposed to *Coccidioides immitis, the fungal spore that has potential to cause Valley Fever*, as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-3, would reduce these impacts to less than significant. As with the proposed project, the Specific Plan and Zoning Build-Out Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos.

Overall, even with implementation of similar mitigation proposed for the project, impacts to air quality under the Specific Plan and Zoning Build-Out Alternative would likely remain significant and unavoidable with regard to cumulative construction impacts and result in greater overall impacts to air quality than the proposed project due to the greater operational emissions associated with the agricultural uses.

Biological Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

Due to the commercial component of the Specific Plan and Zoning Build-Out Alternative, similar to the proposed project, development would occur under this alternative and, as such, there is the potential to impact biological resources. Like the proposed project, Alternative 2 would be required to implement mitigation measures to avoid such impacts. However, development under this alternative would be notably less given that a majority of the project site would remain zoned as A and A-1 (Exclusive Agriculture and Limited Agriculture). Conversion of the undeveloped site to agricultural uses would affect biological resources on the project site as this alternative would replace all native vegetation with agricultural crops or grazing areas for these areas of the project site. Agricultural uses would also result in increased human presence as opposed to the unmanned solar facility that is only visited occasionally for maintenance and panel washing.

Given the limited development that would occur under this Alternative, it is likely that impacts to biological resources, would be less than the proposed project. In particular, as it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. As with the proposed project, the Specific Plan and Zoning Build-Out Alternative would have an impact to hispid bird's-beak as well as the California glossy snake, San Joaquin coachwhip, tricolored blackbird, San Joaquin kit fox, and Swainson's hawk, ferruginous hawk, loggerhead shrike, and nesting/migratory birds. With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11, impacts would be reduced to less than significant.

With regard to impacts on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS, construction activities could result in significant impacts related to potential jurisdictional features to ephemeral drainages within the project site. However, as with the project, implementation of Mitigation Measures MM 4.4-12 and MM 4.4-13, would reduce impacts to less than significant under the Specific Plan and Zoning Build-Out Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state or federally protected wetlands, the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The Specific Plan and Zoning Build-Out Alternative, as with the proposed project, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

Based on the above, project-level impacts under the Specific Plan and Zoning Build-Out Alternative would be less than significant with implementation of mitigation and similar to those of the proposed project. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources are being impacted throughout the Central California Valley Ecoregion. Therefore, the Specific Plan and Zoning Build-Out

Alternative would result in similar impacts related to biological resources when compared to the proposed project.

Cultural Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

To convert a majority of the project site to agricultural uses, this alternative would involve greater ground disturbance as opposed to the proposed project that would have some no build areas. Ground-disturbing activities associated with the project have the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-4. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, implementation of Mitigation Measure MM 4.5-5 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, although both the project and this alternative would result in less-than-significant impacts with mitigation as it relates to historical resources, archaeological resources, and human remains, the Specific Plan and Zoning Build-Out Alternative would result in greater cultural resource impacts compared to the proposed project as greater ground disturbance required under this alternative could affect undocumented subsurface cultural resources.

Energy

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

The portions of the project site that would be developed with agricultural uses would require less-intensive construction activities related to the consumption transportation-related energy (petroleum-based fuels). However, greater operational electricity usage associated with the greater consumption of water associated with the proposed agricultural uses would occur. The portion of the project site that would be developed with commercial uses, would require similar construction activities, and similar operational activities, related to the consumption of electricity, natural gas and transportation-related energy. Considering the limited portion of the project site that would be developed with commercial uses, energy consumption would be comparable to the O&M Building included in the proposed project.

Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.3-1, which would require the use of energy-efficient and alternatively fueled equipment and ensure compliance with Title 13, California Code of Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be similar to the proposed project. In addition, similar to the

proposed project, the Specific Plan and Zoning Build-Out Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Based on the above, impacts under the Specific Plan and Zoning Build-Out Alternative related to energy would be less than significant, but greater than those of the proposed project as the project site would not generate renewable energy, and would therefore, not assist the state in meeting its renewable energy generation goals to the fullest extent as compared to the proposed project.

Geology and Soils

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

Compared to the project, the Specific Plan and Zoning Build–Out Alternative would have a similar potential to expose people to seismic hazards because this alternative would result in workers present on the site.

Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault. With regard to seismic ground shaking, similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2019 Edition (CCR Title 24). Adherence to all applicable regulations, as well as implementation of Mitigation Measure MM 4.7-1 would ensure that effects from strong seismic ground shaking would be minimized. As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, under the Specific Plan and Zoning Build-Out Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.7-2 through MM 4.7-4 to reduce impacts to paleontological resources.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would likely be less than significant. However, impacts to geology and soils would be slightly greater under this alternative compared to the proposed project as the Specific Plan and Zoning Build-Out Alternative would result in greater initial soil disturbance for agricultural activities.

Greenhouse Gas Emissions

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

As portions of the Specific Plan and Zoning Build-Out Alternative would develop land uses that would emit GHG emissions throughout the life of the project (from increased water usage, traffic, operation of agricultural equipment, and livestock emissions), this would result in a net gain of GHG emissions within California. Unlike the proposed project, the Specific Plan and Zoning Build-Out Alternative would not

assist an offtaker[1] in reducing its GHG emissions as consistent with the California Global Warming Solutions Act. Impacts from the Specific Plan and Zoning Build-Out Alternative would be greater when compared to the proposed project since the beneficial reduction in GHG emissions would not occur as with the proposed project.

Hazards and Hazardous Materials

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

The Project Site was historically and currently used for agricultural purposes. Therefore, there is a potential that agricultural-related chemicals, such as pesticides, herbicides, and fertilizers, may have been used and stored on-site. There is also an onsite oil and gas well located in the southern portion of the site, referred to as the Grapevine Energy LLC "Bordeaux" facility. Based on the recommendations of the Phase I ESA for the project site, a Phase II ESA was conducted that concluded all OCPs and selenium were below their respective residential and construction worker ESLs.

Agricultural uses on the project site could require the use of hazardous materials during operation including herbicides and pesticides. In addition, because the Specific Plan and Zoning Build-Out Alternative has the potential for development of commercial uses on a portion of the site, there is an increased potential for the use of household chemicals as well as chemical use similar to the proposed project, including fuels, solvents, paint, lubricants, and other potentially hazardous materials. However, similar to the project, standard BMPs would ensure that exposure to potentially hazardous materials used or found on site would be reduced or minimized. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation, including the use of pesticides and herbicides; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. However, similar to the project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which includes the development and implementation of a Fire Safety Plan for construction and operation of the project in the event of a fire on the project site.

Impacts under the Specific Plan and Zoning Build-Out Alternative and the project would result in less-than-significant impacts after implementation of mitigation measures and the potential impacts from hazards and hazardous materials would be similar to those of the proposed project.

[1] An "offtaker" is a purchaser of renewable energy in a solar power purchase agreement.

Hydrology and Water Quality

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

Similar to the proposed project, the agricultural development would not substantially increase impervious surfaces. Conversion of the project site to agricultural uses and installation of the proposed solar panels would likely result in similar ground disturbance and erosion potential. However, operation of the agricultural uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing, whereas the proposed project's operation would not; thereby, posing a greater threat to water quality. Operation of agricultural uses could also affect groundwater quality through the application of pesticides or herbicides.

The commercial component of the Specific Plan and Zoning Build-Out Alternative would result in limited change to the landscape and drainage patterns of the project site due to the limited area zoned for such uses. Construction of the Specific Plan and Zoning Build-Out Alternative would also result in an increase wastewater and urban runoff generated from development of commercial uses. However, due to the limited footprint, such development would result in similar impact to water quality as development of ancillary structure proposed by the project.

The agricultural component of the Specific Plan and Zoning Build-Out Alternative would likely require a greater amount of operational water than the proposed project for irrigation of approximately 526.80 acres of crops or livestock operations. With regard to operation, this alternative would substantially increase water demand compared to the proposed project.

Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would include completion of a NPDES completion form as well as implementation of Mitigation Measure MM 4.10-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the Specific Plan and Zoning Build-Out Alternative. As it relates to groundwater supplies, water requirements under the Specific Plan and Zoning Build-Out Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. As such, impacts would be less than significant.

With regard to existing drainage patterns, installation of the facilities required under the Specific Plan and Zoning Build-Out Alternative would alter existing onsite drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would: (1) ensure that the retention basins and other stormwater management features are consistent with existing regulatory requirements and can minimize any erosion or sedimentation to less-than-significant levels; (2) ensure that flooding on site or off site is reduced to less-than-significant levels; and (3) minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less-than-significant levels.

The project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards and impacts would be less than significant. In addition, water for construction and operation phases under the Specific Plan and Zoning Build-

Out Alternative would be obtained from a nearby well or trucked onto the site from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, although both the project and this alternative would result in less-than-significant impacts with the implementation of mitigation, the Specific Plan and Zoning Build-Out Alternative would result in greater impacts to hydrology and water quality compared with the proposed project, as operation of the agricultural uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing, and agricultural activities would require greater operational water use.

Land Use and Planning

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

Unlike the proposed project, the Specific Plan and Zoning Build-Out Alternative would not conflict with the existing land use at the project site, because the site would be developed with the current Specific Plan land uses and zoning designations. This alternative would be consistent with current zoning as well as existing land use plans, policies, and regulations and no CUP or Williamson Act Contract Cancellation would be required. Therefore, there would be no impact and the Specific Plan and Zoning Build-Out Alternative would result in less impact related to land use and planning compared to the proposed project.

Mineral Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

The establishment of agricultural uses on site would have a similar potential as the project to impact the future extraction of mineral resources on adjacent lands. There are no identified mineral resources on the project site and the project would result in less-than-significant impacts to mineral resources; therefore, the Specific Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts to mineral resources compared to the project.

Noise

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

During construction, impacts under this alternative would be similar to the impacts of the proposed project, as the conversion of the project site to agricultural and commercial uses would require similar heavy

equipment as required for the construction of the proposed project. During operation, with regard to the proposed agricultural and commercial uses, this alternative would generate greater noise than the proposed project associated with the daily operation of agricultural equipment, worker vehicles, and commercial activities.

Under this alternative, similar to the proposed project, construction activities have the potential to result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards. However, implementation of Mitigation Measures MM 4.13-2 and MM 4.13-3 are designed to reduce impacts to the extent feasible during construction activities and, thus, impacts would be less than significant. During operation, there would be an increase in daily traffic to the project site due to agricultural uses. However, the operation of solar trackers, new electrical collection lines, inverters, medium voltage transformers, substation, and ESS would not generate permanent noise levels in excess of noise standards or create a substantial increase in ambient noise levels within the project site. In addition, operational maintenance activities would generate minimal noise.

The nearest offsite structure to the Jasmine Solar Facility construction area include single-family residences located south of the project site across Copus Road, approximately 225 feet from construction activities. At this distance, vibration velocities would range from approximately 0.00 to 0.069 in./sec. PPV. Therefore, as each of these values are below the threshold value 0.3 in./sec. PPV of continuous/frequent intermittent sources for damage potential to older residential structures and a threshold of 0.10 in./sec. PPV for strongly perceptible human annoyance, no sources of groundborne vibration would be expected to affect receptors outside of the work areas, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels during project construction. Operation of the Specific Plan and Zoning Build-Out Alternative would involve mostly regular maintenance trucks accessing the project site, residential traffic, and agricultural equipment use that would be a sufficient distance from structures (i.e., over 100 feet away from structures). As such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers.

Both the project and this alternative would result in less–than-significant construction impacts with mitigation. However, the Specific Plan and Zoning Build-Out Alternative would result in greater permanent noise impacts during operation than the proposed project due to the development of agricultural and commercial uses, which involve the use of agricultural equipment and employee traffic.

Public Services

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

In particular, similar to the proposed project, construction of the Specific Plan and Zoning Build-Out Alternative would result in a similar number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, similar to the project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which would require the implementation of a Fire Safety Plan. During operation, agricultural and commercial uses that would occur on the project site would not result in a change in population, as employees would likely come from the surrounding area. Similar to the project, the Specific Plan and Zoning Build-Out Alternative

would implement Mitigation Measures MM 4.14-2 through MM 4.14-5, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative, require payment assessed taxes if the project is sold to a city, county, or utility company, and encourage the project operator to hire at least 50 percent of their workers from local Kern County communities. Implementation of Mitigation Measure MM 4.14-1 would also reduce fire risks on site during operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, while the project site is located in an area that is unlikely to attract attention, construction activities related to installation of new structures would increase traffic volumes along I-5 and SR 166 similar to the proposed project. The increase in traffic related to development of agricultural and commercial uses during construction would be temporary and, thus, would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. During operation of this alternative, agricultural uses would increase operational traffic due to the increase employees travelling to the project site. However, the increase is not likely to have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

With regard to schools, parks, and other government facilities, similar to the proposed project, under the Specific Plan and Zoning Build-Out Alternative, construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities. During operations under the Specific Plan and Zoning Build-Out Alternative, similar to the proposed project, agricultural staff would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the increase of onsite staff at the project site would not result in a notable increase in the residential population of the area surrounding the project site under the Specific Plan and Zoning Build-Out Alternative. Similarly, the development of commercial uses on a portion of the project site would not be of the scale to result in an increased demand for or use of the local schools, parks, or public facilities.

Both the Specific Plan and Zoning Build-Out Alternative and the project would result in less-than-significant impacts with implementation of mitigation. This alternative would result in similar impacts to public services compared to the proposed project and would not result in a notable increase in long-term population.

Transportation and Traffic

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

With regard to the agricultural uses, construction-related traffic for the conversion of the project site to agricultural uses would be similar to the proposed project. Once operational, the Specific Plan and Zoning Build Out Alternative for the portion of the project site zoned as A would involve more routine vehicle trips

associated with agricultural uses. The commercial component of this alternative, located on 0.20-acre of the project site, would not be of the scale to result in a notable increase in construction-related traffic and would be less than the proposed project. However, like the proposed project, construction of these uses could occur within the same time frame as other projects in the area, thereby contributing to cumulative traffic increases. However, once operational, vehicle trips associated with agricultural uses would be limited to the employees that would work on the site. Conversely, with the Specific Plan and Zoning Build Out Alternative, operational vehicle trips associated with the commercial uses could be greater than the proposed project due to the nature of such uses.

Similar to the proposed project, during construction of the Specific Plan and Zoning Build-Out Alternative, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS D conditions or better. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with *CEQA Guidelines* Section 15064.3(b) as regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a transportation impact. Therefore, impacts related to *CEQA Guidelines* Section 15064.3(b) would be less than significant under the Specific Plan and Zoning Build-Out Alternative, as with the proposed project.

Therefore, although both this alternative and the project would result in less-than-significant impacts, impacts to transportation and traffic from the Specific Plan Build-Out Alternative would be greater when compared to those of the project as operational agricultural uses and commercial uses would increase the amount of trips to the project site as compared to the project.

Tribal Cultural Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site. The Sacred Lands File search conducted for the project returned with “negative” results for tribal cultural resources. Based on the records search results, field survey, and NAHC Sacred Lands File, appears to have a low sensitivity for prehistoric/Native American cultural resources. Nonetheless, the Specific Plan and Zoning Build-Out Alternative could still impact previously unknown and buried archaeological deposits that have the potential to qualify as historical resources and MM 4.5-1 through MM 4.5-4 would still be applicable. Therefore, the Specific Plan and Zoning Build-Out Alternative is expected to result in similar tribal cultural resource impacts as compared to the project.

Utilities and Service Systems

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

As with the proposed project, conversion of the project site to agricultural and commercial uses would require water usage for dust suppression as well as generation of wastewater, usage of electrical power, and telecommunications. The proposed project would not use natural gas, however conversion of the project site to agricultural uses would require natural gas. In addition, construction of the Specific Plan and Zoning Build-Out Alternative would not substantially alter stormwater drainage. With regard to operation, the agricultural and commercial uses would substantially increase water demand compared to the proposed project. Wastewater and solid waste generation associated with this alternative would also increase compared to the proposed project due to the increase in the number of employees associated with the agricultural uses. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation MM 4.10-1, which includes measures to offset increases in stormwater runoff caused by the project and would further reduce impacts.

Although both the project and this alternative would result in less-than-significant impacts, the Specific Plan and Zoning Build-Out Alternative would result in greater impacts to utilities and service systems compared to the proposed project as this alternative would have an increased demand on the water supply and local landfills compared to the proposed project due to the proposed agricultural and residential uses.

Wildfires

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 526.80 acres), and portions of the project site zoned as C-2 PD (General Commercial/Precise Development Combining), would be developed with commercial uses (approximately 0.20 acre). Solar panels would not be installed and solar energy would not be generated on the site.

The proposed agricultural uses may introduce additional sources of vegetation, which may serve as fuel and exacerbate wildfire risks. Additionally, the use of the project site for agricultural and commercial uses would result in an increase of employees on the project site, which would further increase potential impacts from wildfire risks. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on site. With regard to the installation or maintenance of associated infrastructure, agricultural uses would not require any installation of associated infrastructure. However, commercial uses would require installation of electrical infrastructure, similar to the proposed project. The installation of electrical infrastructure would not be placed within a high fire hazard zone and the vegetation would be cleared and, thus, would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Based on the above, with implementation of similar mitigation as proposed for the project, impacts would remain less than significant under this alternative as it relates to wildfire impacts. However, the Specific Plan and Zoning Build-Out Alternative would have greater impacts from risks associated with wildfires than the proposed project due to the agricultural and residential uses proposed under this alternative.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Specific Plan and Zoning Build-Out Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation

plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The Specific Plan and Zoning Build-Out Alternative would result in less impacts to aesthetics, agricultural and forestry resources, and land use and planning. The alternative would result in similar impacts to biological resources, hazards and hazardous materials, mineral resources, public services, tribal cultural resources, and utilities and service systems. This alternative would result in greater impacts in all remaining environmental issue areas. Greater impacts to air quality would result from emissions from the proposed agricultural uses on site, such as agricultural vehicles and livestock emissions. Given the ground disturbance required, greater impacts would occur to potentially undiscovered cultural resources. This alternative would result in greater energy impacts as the project site would not generate renewable energy as compared to the proposed project, and would therefore, not assist the state in meeting its renewable energy generation goals. Greater impacts to geology and soils would result from greater initial soil disturbance during construction and greater potential to expose people to seismic hazards resulting from permanent human presence on site from the proposed agricultural uses. This alternative would result in greater GHG emission impacts than the project because the potential offset or displacement of GHG emissions from operation of the solar power generating facility, compared with traditional gas- or coal-fired power plants, would not be realized. Greater impacts to hydrology and water quality would result from continued ground disturbance from activities such as grazing and plowing and the application of pesticides or herbicides from the proposed agricultural uses. Greater impacts to noise would occur under this alternative during operation, through the noise associated with the daily operation of agricultural equipment and worker vehicles, as well as residential traffic. The increase in human population on site is also responsible for greater impacts to transportation and traffic, utilities and service systems, and wildfires. This alternative would not eliminate significant and unavoidable impacts associated with air quality (cumulative only), biological resources (cumulative only), or Wildfire (cumulative only).

Relationship to Project Objectives

The Specific Plan and Zoning Build-Out Alternative would not achieve any of the project objectives listed above in Section 6.2, including the project's objective related to developing solar facilities to produce clean electricity to help achieve California's renewable energy goals.

6.7.3 Alternative 3: Reduced Acreage Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

With regard to impacts related to scenic vistas, there are no local areas that are designated as scenic vistas within the vicinity of the project. The project site is approximately 10.0 miles southeast of the Buena Vista Aquatic Recreation Area. The project site is also approximately 15.5 miles southeast of the Kern River which has been described as the single most valuable visual resource in the southern San Joaquin Valley. At this distance, views of the project site are likely non-existent and if there is a view, the project site would not be a predominant subject of views. Impacts would be less than significant.

With regard to scenic resources, the closest Eligible Scenic Highway is where SR 166 meets SR 33, located approximately 25 miles southwest of the project site. The project would not be visible from any Officially Designated State or County Scenic Highway and impacts would remain less than significant under the Reduced Acreage Alternative.

While this alternative would avoid development of a portion of the project section, this alternative would also include the installation of solar panels and other facilities. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.1-1 through MM 4.1-4, which would reduce impacts to visual character and quality to the maximum extent feasible by requiring the preparation of a Maintenance, Trash Abatement, and Pest Management Program, requiring color-treating all the solar facilities, including gen-tie poles, array facilities, etc. to blend in with the colors found in the natural landscape to reduce color disharmony, and requiring preparation of a revegetation plan during construction and decommissioning. Nevertheless, similar to the proposed project, impacts would be significant and unavoidable. In addition, in combination with other projects, particularly the wind turbines and other solar development that exist near the project site, the Reduced Acreage Alternative would contribute to added cultural modifications in the project area. While Mitigation Measures MM 4.1-1 through MM 4.1-4 would be implemented to reduce aesthetics impacts, and other projects in the region would be required to implement similar mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. As such, similar to the project, cumulative impacts from the change to the visual character of the site would remain significant and unavoidable for the Reduced Acreage Alternative.

With regard to project impacts due to new sources of light or glare, this alternative would result in relatively less impact than the proposed project due to the reduced project footprint. Furthermore, per Mitigation Measure MM 4.1-5, any nighttime construction would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby residents. Mitigation Measure MM 4.1-5 would also require the project to comply with the Dark Skies Ordinance for all lighting to be directed downward and shielded. Regarding glare, this alternative would also have to implement Mitigation Measures MM 4.1-6 and MM 4.1-7, which require the use of non-reflective and non-glare materials when feasible. Impacts related to light and glare on the Reduced Acreage Alternative site would still be less than significant. However, due to the reduction in project site size, the Reduced Acreage Alternative would have less impact to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

The proposed project and the Reduced Acreage Alternative would both develop the project site with photovoltaic panels and associated infrastructure and, thus, would create changes in the existing

environment and convert land zoned for agriculture to non-agricultural use. Similar to the project, the project would not directly or indirectly impact farmland, as the site has no agricultural production, past or present and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project area. As noted in Section 4.2, *Agricultural Resources*, the project site is under a Williamson Contract and, therefore, implementation of the Reduced Acreage Alternative would still require approval of a Williamson Act contract cancellation. Similar to the proposed project, the Reduced Acreage Alternative would result in a significant impact due to the loss of prime farmland, and no feasible mitigation exists to reduce potential impacts. However, as the Reduced Acreage Alternative would include a smaller footprint, impacts related to agriculture and forestry resources would be less than those of the proposed project.

Air Quality

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12, thereby reducing the overall extent of construction-related impacts to air quality. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

The use of construction vehicles, heavy equipment operation, and worker carpool trips would be less compared to the proposed project. Similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions. Similar to the proposed project, impacts would remain significant and unavoidable for cumulative temporary construction impacts as the daily emissions under this alternative, as the construction schedule for cumulative projects could still overlap with the Reduced Acreage Alternative. Operational emissions would likely be reduced under this alternative as fewer maintenance trips would be required with the reduced project scale. As such, similar to the proposed project, operational impacts would be less than significant.

As it relates to impacts on implementation of the applicable air quality plan, since temporary cumulative construction impacts would be significant and unavoidable, the Reduced Acreage Alternative would result in temporary construction emissions of a magnitude that would obstruct the air quality planning goals set forth by SJVAPCD. Therefore, similar to the proposed project, impacts would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that onsite workers could be exposed to *Coccidioides immitis, the fungal spore that has potential to cause* Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-3, would reduce these impacts to less than significant. As with the proposed project, the Reduced Acreage Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos.

Overall, even with implementation of similar mitigation proposed for the project, impacts to air quality under this alternative would likely remain significant and unavoidable, despite resulting in a reduction in emissions due to reduced grading footprint under this alternative. The Reduced Acreage Alternative would result in less overall impacts related to air quality than the proposed project.

Biological Resources

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), as with the proposed project, the Reduced Acreage Alternative would have the potential to impact wildlife species including hispid bird's-beak as well as the California glossy snake, San Joaquin coachwhip, tricolored blackbird, San Joaquin kit fox, and Swainson's hawk, ferruginous hawk, loggerhead shrike, and nesting/migratory birds. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species, most of which are expected to utilize the project site on at least a transient basis. With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11, impacts would be reduced to less than significant. However, as this alternative would reduce the photovoltaic component of the project and avoid disturbing 246 acres of land, the Reduced Acreage Alternative would directly reduce the project's impact to biological resources.

With regard to impacts on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by CDFW or USFWS, construction activities could result in significant impacts related to jurisdictional features to ephemeral drainages within the project site. However, as with the project, implementation of Mitigation Measures MM 4.4-12 and MM 4.4-13 would reduce impacts to less than significant under the Reduced Acreage Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state or federally protected wetlands, the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The Reduced Acreage Alternative, as with the proposed project, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

Based on the above, project-level impacts under the Reduced Acreage Alternative would be less than significant with implementation of mitigation and less to those of the proposed project. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources are being impacted throughout the Central California Valley Ecoregion. However, as this alternative would avoid disturbing 246 acres of land within the Chaparral portion of the project site, the Reduced Acreage Alternative would result in less impacts related species identified as candidate, sensitive, or special-status species, as well as impacts related to riparian habitat or other sensitive natural community when compared to the proposed project. All other impacts related to biological resources would remain the same as the proposed project.

Cultural Resources

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Ground-disturbing activities associated with the project have the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the

Reduced Acreage Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-4. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, implementation of Mitigation Measure MM 4.5-5 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, implementing mitigation similar to the mitigation proposed for the project, impacts to cultural resources under this alternative would be less than significant. However, the Reduced Acreage Alternative would result in less impacts related to cultural resources compared to the proposed project due to the reduction in ground disturbance required under this alternative.

Energy

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Eliminating 246 acres from project development would result in reduced energy use, as the Reduced Acreage Alternative would generate approximately 35 MW, due to the proportional reduction in project size. Therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced as compared with the proposed project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.3-1, which would require the use of energy-efficient and alternatively fueled equipment and ensure compliance with Title 13, California Code of Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be reduced in comparison with the proposed project. Similar to the proposed project, this alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be less than significant. The Reduced Acreage Alternative would result in fewer energy impacts compared to the proposed project.

Geology and Soils

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Similar to the proposed project, the Reduced Acreage Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, seismic-related ground failure including liquefaction, unstable or expansive soils. Adherence to all applicable regulations, as well as implementation of Mitigation Measures MM 4.7-1 would ensure that effects from rupture of a known earthquake fault, seismic-related ground failure including liquefaction, unstable or expansive soils, would be minimized.

With regard to soils incapable of adequately supporting the use of septic tanks or alternative wastewater systems, similar to the proposed project, the Reduced Acreage Alternative would not require the construction of a septic wastewater treatment system. As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, under the Reduced Acreage Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.7-2

through MM 4.7-4 to reduce impacts to paleontological resources. Therefore, impacts would be less than significant.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would likely be less than significant. However, impacts to geology and soils would result in less impact to geology and soils compared to the proposed project due to the reduction in ground disturbance required under this alternative.

Greenhouse Gas Emissions

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Given a smaller project footprint than the proposed project, the construction and operational impacts from the Reduced Alternative would remain less than the proposed project. Therefore, the Reduced Acreage Alternative would result in fewer GHG emissions during construction and operations when compared with the proposed project. Eliminating 246 acres from project development would result in reduced energy generation by a factor of 50 percent, as the Reduced Acreage Alternative would generate approximately 35 MW due to the proportional reduction in project size. While project-related GHG impacts would remain less than significant, the 50 percent reduction in the production of renewable energy from this alternative would result in greater GHG impacts in comparison to the project due to the corresponding loss in GHG offsets.

Hazards and Hazardous Materials

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation, including the use of pesticides and herbicides; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With regard to hazardous emissions within 0.25 miles of a school, the nearest school to the project site is Lakeside Elementary, located approximately 8 miles north of the project site. Therefore, the project would result in no impact related to hazardous emissions within 0.25 miles of a school.

As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. However, similar to the project, the Reduced Acreage Alternative would include an ESS component which, while they generally burn with difficulty, can in fact burn or become damaged by fire and generate fumes and gases that are extremely corrosive. Mitigation Measure MM 4.14-1 would be implemented which includes the development and implementation of a Fire Safety Plan for construction and operation of the project in the event of a fire on the project site.

Impacts under the Reduced Acreage Alternative and the proposed project would result in less-than-significant impacts after implementation of mitigation measures and the potential impacts from hazards and hazardous materials under the Reduced Acreage Alternative would be similar to those of the proposed project.

Hydrology and Water Quality

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. The reduced footprint would result in slightly reduced grading activities and would reduce the amount of impervious surfaces compared to the proposed project.

Similar to the proposed project, the Reduced Acreage Alternative would include completion of a NPDES completion form as well as implementation of Mitigation Measure MM 4.9-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the Reduced Acreage Alternative. As it relates to groundwater supplies, water requirements under the Reduced Acreage Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. As such, impacts would be less than significant.

With regard to existing drainage patterns, installation of the facilities required under the Reduced Acreage Alternative would alter existing onsite drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-2, which requires the project to: (1) ensure that the retention basins and other stormwater management features are consistent with existing regulatory requirements and can minimize any erosion or sedimentation to less-than-significant levels; (2) ensure that flooding on site or off site is reduced to less-than-significant levels; and (3) minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less-than-significant levels.

The project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards and impacts would be less than significant. In addition, water for construction and operation phases under the Reduced Acreage Alternative would be obtained from a nearby well or trucked onto the site from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, impacts related to hydrology and water quality would be less than significant. However, the Reduced Acreage Alternative would have less impact related to hydrology and water quality compared to the proposed project due to the reduced footprint, which would result in reduced grading activities and would reduce the amount of impervious surfaces compared to the proposed project.

Land Use and Planning

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. Nevertheless, development of the Reduced Acreage

Alternative would still require a CUPs for the solar facility and approval of a Williamson Act Contract cancellation. Impacts would be less than significant under this alternative. Land use and planning impacts would similar under the Reduced Acreage Alternative when compared to the proposed project.

Mineral Resources

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. There are no identified mineral resources on the project site and this alternative would result in less-than-significant impacts to mineral resources; therefore, the Reduced Acreage Alternative would result in similar impacts to mineral resources compared to the proposed project.

Noise

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

Under this alternative, similar to the proposed project, construction activities have the potential to result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards. However, Mitigation Measures MM 4.13-1 through MM 4.13-3 are designed to reduce impacts to the extent feasible during construction activities and, thus, impacts would be less than significant. The operation of solar trackers, new electrical collection lines, inverters, medium voltage transformers, substation, and ESS would not generate permanent noise levels in excess of noise standards or create a substantial increase in ambient noise levels within the project site. In addition, operational maintenance activities would generate minimal noise. Thus, operational impacts would be less than significant. In addition, the nearest offsite structure to the Chaparral Solar Facility construction area include single-family residences located south of the project site across Copus Road, approximately 225 feet from construction activities. At this distance, vibration velocities would range from approximately 0.00 to 0.069 in/sec PPV. Therefore, as each of these values are below threshold value 0.3 in./sec. PPV of continuous/frequent intermittent sources for damage potential to older residential structures and a threshold of 0.10 in./sec , no sources of groundborne vibration would be expected to affect receptors outside of the work areas, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels. As such, the vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures. Operation of the Reduced Acreage Alternative would involve mostly regular maintenance trucks accessing the project site and panel washing activities, similar to the propose project, that would be a sufficient distance from structures (i.e., over 100 feet away from structures). A such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers.

This alternative is expected to result in less-than-significant noise impacts during construction and decommissioning activities and impacts related to noise would be similar to those of the proposed project. This alternative is expected to result in less than significant with mitigation noise impacts during operational activities and impacts related to noise would be less than those of the proposed project given the reduced footprint and similar time period of temporary noise impacts.

Public Services

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Similar to the proposed project, construction of the Reduced Acreage Alternative would result in a number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1, which would require the implementation of a Fire Safety Plan. During operation, the reduced acreage alternative project site would require one full-time equivalent (FTE) personnel. Implementation of Mitigation Measure MM 4.14-1 would also reduce fire risks on site during operation of this alternative. Similar to the project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.14-2 through MM 4.14-5, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative, require payment assessed taxes if the project is sold to a city, county, or utility company, and encourage the project operator to hire at least 50 percent of their workers from local Kern County communities. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, while the project site is located in an area that is unlikely to attract attention, construction activities would increase traffic volumes along CA-166, CA-99, and I-5 , similar to the proposed project. The increase in traffic would be temporary and, thus, would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. In addition, chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access during construction. During operation of this alternative, the additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic. Therefore, the increase is not likely to have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

With regard to schools, parks, and other government facilities, similar to the proposed project, under the Reduced Acreage Alternative, construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities. During operations under the Reduced Acreage Alternative, fewer staff would be required to operate the O&M facility than under the proposed project. However, similar to the proposed project, this staff would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the increase of onsite staff at the project site would not result in a notable increase in the residential population of the area surrounding the project site under the Reduced Acreage Alternative. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities, and, similar to the proposed project, there would be no impact.

Based on the above, impacts would be less than significant under this alternative following implementation of similar mitigation measures proposed for the project and impacts related to public services would be similar to those of the proposed project.

Transportation and Traffic

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings.

Similar to the proposed project, during construction of the Reduced Acreage Alternative, which would require similar construction trips for installation of the solar panels, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS D conditions or better. During operation of this alternative, day to day operations and maintenance trips would be reduced in comparison with those of the propose project. Similar to the proposed project, the total number of daily trips for maintenance of the solar panels are estimated to be less than the number of trips generated during construction. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with *CEQA Guidelines* Section 15064.3(b), as regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a transportation impact. Therefore, impacts related to *CEQA Guidelines* Section 15064.3(b) would be less than significant under the Reduced Acreage Alternative, as with the proposed project.

Based on the above, impacts would be less than significant. Given the similarity between this alternative's and the proposed project's construction and operational vehicle and truck trips, the Reduced Acreage Alternative would result in similar impacts related to transportation and traffic as the proposed project.

Tribal Cultural Resources

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. The Sacred Lands File search conducted for the project returned with "negative" results for tribal cultural resources. Based on the records search results, field survey, and NAHC Sacred Lands File, the project site appears to have a low sensitivity for prehistoric/Native American cultural resources. Under the Reduced Acreage Alternative MM 4.5-1 through MM 4.5-5 would be implemented to reduce impacts associated with inadvertent discovery. Due to the reduced acreage, in can be assumed the Reduced Acreage Alternative would result in a less than significant impact.

Utilities and Service Systems

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. Eliminating 246 acres from project development would result in reduced demand for utilities and service systems, as the Reduced Acreage Alternative would generate approximately 35 MW due to the proportional reduction in project size, and therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project.

As with the proposed project, project construction and operations under the Reduced Acreage Alternative would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, and telecommunications. In addition, construction of the Reduced Acreage Alternative

would not substantially alter stormwater drainage. With regard to operation, the solar panels installed under the Reduced Acreage Alternative would require a reduced water demand in comparison with the proposed project. Wastewater and solid waste generation associated with this alternative would also be reduced compared to the proposed project due to the reduced number of employees required for maintenance of the solar panels. As the Reduced Acreage Alternative would develop the project site, impervious surfaces would be minimized as much as possible, as with the proposed project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-1, would include measures to offset increases in stormwater runoff caused by the project and would further reduce impacts.

This alternative is expected to result in less-than-significant impacts to utilities and service systems and impacts would be similar to those of the proposed project.

Wildfires

Under the Reduced Acreage Alternative, the photovoltaic component of the project would be reduced from 493 acres to only include 247-acres of APN 295-131-12. The remaining 34 acres would still be developed with roads and ancillary equipment/buildings. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on site. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and the vegetation would be cleared to the extent necessary, and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the Reduced Acreage Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation proposed for the project, this alternative is expected to result in less-than-significant impacts to wildfires. The Reduced Acreage Alternative would likely result in slightly less impact than the proposed project due to the reduced footprint compared with the proposed project.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Reduced Acreage Alternative and past, present and reasonably foreseeable future projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The Reduced Acreage Alternative would be reduced in size compared to the proposed project, and would generate approximately 35 MW due to the proportional reduction in project size and therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project. Due to the reduced footprint, the Reduced Acreage Alternative would result in less or similar impacts for all of the environmental issue areas. However, this alternative would not eliminate significant and unavoidable impacts associated with aesthetics (project and

cumulative), agriculture and forestry (project and cumulative), air quality (cumulative construction only), biological resources (cumulative only), and wildfires (cumulative only).

Relationship to Project Objectives

The Reduced Acreage Alternative would meet most of the project objectives listed above in Section 6.2. The Reduced Acreage Alternative would reduce the project's footprint from 527 to 280 acres. Therefore, this alternative would create fewer environmental impacts; however, it would not reduce any identified significant and unavoidable impact to less than significant.

6.7.4 Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Environmental Impact Analysis

Aesthetics

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion.

With regard to impacts related to scenic vistas, the quality of the existing scenic vista several KOPs are considered moderate to low given the existing visible solar facilities and wind turbines. Under the No Ground-Mounted Utility-Solar Development Alternative solar installation would occur on the roofs of the existing buildings. Thus, given the moderate to low visual quality and existing visual obstructions, the No Ground-Mounted Utility-Solar Development Alternative would not have a substantial adverse effect on a scenic vista. Impacts would be less than significant.

The installation of small to medium solar PV systems on large commercial and industrial rooftops would be visually unobtrusive or unnoticeable from receptors at ground level. However, from other vantage points, the installation of rooftop small to medium solar PV systems may be visible, but would not likely affect the visual character or quality of an area, because the character or quality of an area has already been altered as a result of the existing building's construction. The exceptions may be if rooftop solar were proposed on historic buildings, which could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and either avoidance of such buildings, or incorporation of design measures to minimize impacts on historic integrity of historically significant structures.

Based on the above, this alternative would avoid significant and unavoidable aesthetic impacts that would occur under the proposed project. With implementation of mitigation measures to address impacts related to historic buildings, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to aesthetics compared to the proposed project.

Agriculture and Forest Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Since the solar PV systems proposed for this alternative would be constructed on existing structures, this alternative would not create any changes in the existing environment that would convert land that is designated Farmland to non-agricultural use. As such, no impacts to agriculture or forestry resources would occur. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to agricultural resource compared to the proposed project.

Air Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Under this alternative, no construction activities associated with ground disturbance would occur. Thus, this alternative would eliminate the significant and unavoidable cumulative construction impacts related to regional air quality emissions and implementation of applicable air quality plans. Emissions would be limited to trucks transporting the solar panels. The reduction in construction activities would also reduce the exposure of sensitive receptors to substantial pollutant concentrations, including exposure to *Coccidioides immitis,* the fungal spore that has potential to cause valley fever. Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-5 would not be required. During operation, this alternative would have similar impacts on air quality as the proposed project related to occasional vehicular visits for maintenance. As such, operational impacts would be less than significant. Overall, air quality impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to air quality compared to the proposed project.

Biological Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. The project site would remain undeveloped and only developed areas, typically on the rooftops of commercial and industrial facilities, in the Central California Valley Ecoregion would be modified. Given that rooftops of existing commercial and industrial facilities would be used for solar PV system installation, these areas would be unlikely to provide habitat for special-status species. Development of this alternative would not disturb any land or remove habitat for special-status plants and wildlife or have a substantial adverse effect on any riparian habitat. As such, Mitigation Measures MM 4.4-1 through MM 4.4-11 would not be required. Operation of the small to medium solar PV systems would continue to require implementation of Mitigation Measures MM 4.4-12 and MM 4.4-13. Therefore, this alternative would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, other raptors, desert kit fox, and migratory bird species. As such, significant and unavoidable cumulative impacts would be eliminated as well. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Given that development would occur on the rooftops of existing structures, there would be no potential for disturbance or damage to buried archaeological resources and human remains. If rooftop solar systems were proposed on historic buildings, this alternative could affect the historic character and integrity of these buildings, as well as the character and views of adjacent historical resources. However, historic surveys and investigations would be conducted prior to project construction to identify known eligible historical resources and to evaluate the eligibility of potentially historic structures that are 50-years or older; historic structures would be either avoided or the alternative would be required to incorporate mitigation and design measures to minimize the impact on these structures. In the case of eligible historical resources, design measures must be in accordance with the Secretary of the Interior standards and the impact must not affect the eligibility of such resources or adjacent resources. Therefore, unanticipated impacts to unknown or known cultural resources would not occur under this alternative. Impacts would be less than significant. With the appropriate mitigation measures in place to reduce impacts to historical resources, the potential to disturb or discover unknown cultural resources within the project area would be less than significant. However, given the inability to impact archaeological resources under this alternative, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to cultural resources compared to the proposed project.

Energy

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. As such, construction would be limited to trucks transporting the solar panels and installation of the solar panels on the rooftops of existing buildings. Implementation of Mitigation Measure MM 4.3-1 would still be required during construction as it requires implementation of energy-efficient and alternatively-fueled equipment during construction. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would have a less-than-significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources and this alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As similar energy generation capabilities would be provided, impacts would be similar to those of the proposed project.

Geology and Soils

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Given that only developed areas would be modified, there would be no potential for this alternative to directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking; result in substantial soil erosion or loss of topsoil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. This alternative would not require implementation of Mitigation Measures MM 4.7-1 through MM 4.7-4. Development of rooftop solar would require adherence to all requirements of the Kern County Building Ordinance. Therefore, impacts would be less than

significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. This alternative would not generate GHG emissions from heavy equipment required for ground disturbing activities, but distributed systems on rooftops would lack tracking systems and be less efficient. As such, this alternative's overall GHG emission offset potential would be smaller to the proposed project. Therefore, this alternative would have less-than-significant impacts related to generating GHG emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology.

Hazards and Hazardous Materials

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion. The installation of rooftop solar equipment on existing structures would involve fewer hazardous materials (such as chemicals and fuels) than the proposed project construction on the undeveloped project site. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As it relates to wildland fires, as the small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion, it is expected that these areas where the solar PV systems would be installed would be in more urbanized areas that would not require a ESS component. However, due to the numerous power lines on each individual rooftop that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.14-1 would be implemented to reduce wildfire risks under this alternative.

Based on the above, impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to hazards and hazardous materials than the proposed project as this alternative would require usage of fewer hazardous materials.

Hydrology and Water Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing

commercial and industrial facilities situated throughout the Central California Valley Ecoregion. No ground disturbance related to construction would be required under this alternative.

While completion of NPDES completion forms would not be required under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, this alternative would require implementation of Mitigation Measure MM 4.9-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the No Ground-Mounted Utility-Solar Development Alternative.

As it relates to groundwater supplies, water requirements under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. This alternative would also likely require minimal water as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent given the location of panels on top of buildings throughout the Central California Valley Ecoregion (rather than directly on sediment). As such, impacts would be less than significant.

With regard to existing drainage patterns, as small to medium solar PV systems would be developed on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion , drainage patterns and flow paths would not be altered. As such, impacts related to drainage patterns would be less than significant.

The Central California Valley Ecoregion is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards and impacts would be less than significant. In addition, water for construction and operation phases under the No Ground-Mounted Utility-Solar Development Alternative would be obtained from a nearby well or trucked to the solar panels from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, impacts related to hydrology and water quality would be less than significant. However, the No Ground-Mounted Utility-Solar Development Alternative would result in less overall impacts related to hydrology and water quality materials compared to the proposed project as this alternative would not require ground disturbance, which could potentially introduce more pollutants to stormwater, and water requirements during construction and operation of the this alternative would be reduced as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent.

Land Use and Planning

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Under this alternative, there would be no CUP or Williamson Act Contract cancellation required. Installation of rooftop solar would be consistent with current zoning as well as existing land use plans, policies, and regulations. The No Ground-Mounted Utility-Solar Development Alternative would also achieve the County's goals and policies relative to accommodating renewable energy facilities. However, the placement

of solar panels on other structures throughout the region would result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Nonetheless, to allow such development, the project proponent would be required to comply with the specific entitlements needed to construct solar PV systems consistent with this alternative. Impacts to land use and planning under the No Ground-Mounted Utility-Solar Development Alternative would be less than significant, but would be greater than the proposed project.

Mineral Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Since this alternative would not disturb any ground surfaces, there would be no impact to mineral resources. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts to mineral resource compared to the proposed project as no ground disturbance would occur.

Noise

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Rooftops of existing commercial and industrial buildings that would be developed under this alternative would be in developed areas. As a result, noise related to construction activities would likely impact sensitive receptors during construction. The operational noise generated from these solar PV systems would be similar to that of the proposed project and would result in less-than-significant impacts. With regard to vibration, construction of the No Ground-Mounted Utility-Solar Development Alternative would not require the use of vibratory rollers or other construction equipment with high groundborne vibration levels. Therefore, it is likely that construction vibration would have a less than significant construction vibration impact. Similar to the proposed project, operation of the No Ground-Mounted Utility-Solar Development Alternative would require regular maintenance trucks (0.076 in/sec PPV) and panel washing activities. Whether rooftop solar systems are proposed on historic buildings, which are more susceptible to vibration damage, or other types of newer buildings, this level of vibration would not exceed vibration thresholds and, as such, would result in less-than-significant impacts.

As discussed above, construction and operational vibration and noise impacts for the No Ground-Mounted Utility-Solar Development Alternative would be less than significant. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts related to construction noise as the proposed project.

Public Services

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion and the project site would remain undeveloped. Unlike the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not introduce structures into a currently undeveloped area and is not expected to significantly increase the concentration of persons in an area, either temporarily or permanently.

With regard to fire protection, it is expected that the areas where the solar PV systems would be installed in more urbanized areas. In addition, this alternative would not require a ESS component. However, due to the numerous power lines on each individual rooftop that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.14-1 would be implemented to reduce wildfire risks under this alternative. In addition, similar to the proposed project, in the event that a fire occurs during operation of the No Ground-Mounted Utility-Solar Development Alternative, this alternative would implement Mitigation Measure MM 4.14-2, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, as the proposed small to medium solar PV systems would be installed in more urbanized areas on existing buildings, it is unlikely that construction and operation of the No Ground-Mounted Utility-Solar Development Alternative would attract attention. Similar to the proposed project, this alternative would increase traffic with truck trips during construction and routine maintenance during operation of this alternative. However, the additional volume of trips during construction and operation would be minimal and would not likely have a significant and adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

Based on the above, impacts are expected to be less than significant with mitigation. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to public services compared to the proposed project because the proposed small to medium solar PV systems would be developed in urbanized areas that are in closer proximity to existing fire and police protection services.

Transportation and Traffic

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion.

Similar to the proposed project, this alternative would require vehicular trips during construction to transport and install the solar panels. However, the trips would be more dispersed than the proposed project given the location of the existing facilities, thereby reducing impacts on the roadways surrounding the project site. As such, roadway segments within the Central California Valley Ecoregion are not expected to operate at levels that would trigger a significant transportation impact during construction of this alternative. During operation of this alternative, day to day operations and maintenance trips would be similar to those of those of the propose project. However, as with construction, these maintenance trips would be more dispersed than the proposed project given the location of the existing facilities. It is also estimated that the total number of daily trips for maintenance of the solar panels are less than the number of trips generated during construction. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with *CEQA Guidelines* Section 15064.3(b), as regulations of SB 743 have not been finalized or adopted by the County, automobile delay remains the measure used to determine the significance of a traffic impact. Therefore, impacts related to *CEQA Guidelines* Section 15064.3(b) would be less than significant under the No Ground-Mounted Utility-Solar Development Alternative, as with the proposed project.

Based on the above, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to transportation and traffic compared to the proposed project.

Tribal Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Central California Valley Ecoregion. It is unlikely that the proposed rooftop solar systems would have an impact on tribal cultural resources. However, prior to construction of this alternative, the Native American Heritage Commission will be contacted for a search of the Sacred Land File for the No Ground-Mounted Utility-Solar Development Alternative construction area. In addition, the County will conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project description. Due to the nature of the No Ground-Mounted Utility-Solar Development Alternative, it is highly unlikely to have an impact on tribal cultural resources. It is anticipated that the Sacred Land File and consultation would not result in the identification of any tribal cultural resources that could be impacted by the No Ground-Mounted Utility-Solar Development Alternative directly or indirectly, however should it be determined the potential exists, this alternative will avoid impacting any such resources through avoidance and re-design. As such, The No Ground-Mounted Utility-Solar Development Alternative would have no impact to tribal cultural resources and no mitigation would be required. Furthermore, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to tribal cultural resources compared to the proposed project.

Utilities and Service Systems

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Central California Valley Ecoregion.

With regard to water demand, this alternative would likely require minimal water as no dust suppression would be required during construction. This alternative would also require minimal generation of wastewater, usage of electrical power, and telecommunications. In addition, construction of the No Ground-Mounted Utility-Solar Development Alternative would not substantially alter stormwater drainage. With regard to operation, solar panel washing is expected to be less frequent, as compared to the proposed project, given the location of panels on top of buildings throughout the Central California Valley Ecoregion (rather than directly on sediment). Wastewater and solid waste generation associated with this alternative would be similar to the proposed project due to the similar number of employees required for maintenance of the solar panels. As the No Ground-Mounted Utility-Solar Development Alternative would not develop the project site, this alternative would not result in impervious surfaces and implementation of Mitigation Measures MM 4.10-1 would not be required.

Based on the above, impacts to utilities and service systems would be less than significant. This alternative would result in less overall impacts related to utilities and service systems than the proposed project.

Wildfires

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing

commercial and industrial facilities situated throughout the Central California Valley Ecoregion. Due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks above that of the proposed project. As such, similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation, this alternative is expected to result in less-than-significant impacts to wildfires. The No Ground-Mounted Utility-Solar Development Alternative would likely result in slightly less impact than the proposed project as solar panels would be located in more urbanized areas.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the No Ground-Mounted Utility-Solar Development Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation and traffic, tribal cultural resources, and utilities and service systems. Further, this alternative would avoid the significant and unavoidable impacts to aesthetics (cumulative), air quality (cumulative only), and biological resources (cumulative only) that would occur under the proposed project.

Relationship to Project Objectives

This alternative would satisfy some of the project objective of assisting California in reducing GHG emissions. However, the ESS (a component of the proposed project) would not be constructed under this alternative. The alternative would not achieve other project objectives including utilizing existing transmission infrastructure to minimize costs. It is also unlikely the alternative would have an average insolation value similar to or greater than that of the project site given the lack of efficiency of rooftop solar compared to solar tracking technology. Additionally, there are some drawbacks to this alternative that include, but not limited to those listed below.

- The ESS is not included.
- The system would not likely be built out within a timeframe that would be similar to that of the proposed project.

- Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.
- The project proponent does not have immediate control or access to potential urban sites that could accommodate facilities to generate 70 MW of solar power.
- A distributed system of the scale of the project would be cost-prohibitive.

This alternative theoretically has the potential to generate of up to 70 MW of electricity but it would be used on the sites generating the power, and would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Additionally, this alternative does not include an ESS component. Given the size of the proposed project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe.

6.8 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 6-2**, *Comparison of Alternatives*, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, *CEQA Guidelines* Section 15126.6(e)(2) states:

> *The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.*

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality, and biological resources. Impacts related to GHG emissions would be greater under this alternative due to the assumed lower efficiency of the distributed systems, which would not include solar tracking technology and it would not include ESS. This alternative could potentially result in greater impacts to land use and wildfire risks due to the numerous power lines that would be required to harness the distributed solar panel energy. However, the No Ground-Mounted Utility-Solar Development Alternative would result in less impact to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, public services, transportation and traffic, and utilities and service systems. Thus, for most environmental issue areas, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to

develop 70 MW of distributed solar generated electricity; additionally, doing so would be economically infeasible. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the Specific Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

Chapter 7
Response to Comments

This chapter is being reserved for, and will be included with, the Final EIR.

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Chapter 8
Organizations and Persons Consulted

8.1 Federal

China Lake Naval Weapons Center

Edwards Air Force Base, Mission Sustainability Liaison

Natural Resource Conservation Service

U.S. Air Force

U.S. Army

U.S. Army Corp of Engineers, Regulatory Division

U.S. Bureau of Land Management

U.S. Department of Agriculture

U.S. Environmental Protection Agency Region IX Office

U.S. Fish and Wildlife Service

U.S. Marine Corps

U.S. Navy

U.S. Postal Service, Address Management Systems

8.2 State of California

California Air Resources Board

California Department of Fish & Wildlife, Fresno Region

California Department of Water Resources, San Joaquin District

California Department of Water Resources, Division of Land & Right-of-Way

California Energy Commission

California Native American Heritage Commission

California Public Utilities Commission, Energy Division

California Regional Water Quality Control Board, Lahontan Region

California State Clearinghouse

California State University Bakersfield - Library

Caltrans District 6

Caltrans District 9

State Department of Conservation, Director's Office

State Department of Conservation, Geologic Energy Management Division

State Department of Conservation, Office of Land Conservation

State Water Resources Control Board Division of Drinking Water

8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo

AES Midwest Wind Generation

Antelope Valley-East Kern Water Agency

Antelope Valley Resource Conservation District

AT&T California OSP Engineering/Right-of-Way

Bakersfield City Planning Department

Bakersfield City Public Works Department

Iberdrola Renewables

Inyo County Planning Department

Kern County Fire Department, David Witt, Fire Chief

Kern County Fire Department, Cary Wright, Fire Marshall

Kern County Library Beale Branch, Andie Sullivan

Kern County Library Beale Branch, Local History Room

Kern County Parks and Recreation

Los Angeles County Regional Planning Department

Lozeau Drury LLP

Mojave Chamber of Commerce Mojave Town Council

Native American Heritage Council of Kern County

Pacific Crest Trail Association

Pacific Gas & Electric Company

Renewal Resources Group Holding Company

Beth Boyst, Pacific Crest Trail Program Manager

Beyond Coal Campaign/Sierra Club

California City Planning Department

California Highway Patrol Planning & Analysis Division

Center on Race, Poverty & the Environment

Center on Race, Poverty and the Environmental/CA Rural Legal Assistance Foundation

City of Arvin

City of Maricopa

City of McFarland

City of Ridgecrest

City of Shafter

City of Taft

City of Tehachapi

City of Wasco

Congentrix Sunshine, LLC

David Walsh

Defenders of Wildlife/Kim Delfino, California Director

Delano City Planning Department

East Kern Air Pollution Control District

EDP Renewables Company

Eight Bar Ranch

Fairmont Town Council

Fotowatio Renewable Ventures

Kern County Library Rosamond Branch

Kelly Group

Kern Audubon Society

Kern County Administrative Officer

Kern County Council of Governments

Kern County Agriculture Department

Kern County Environmental Health Services Department

Kern County Public Works Department/Building and Development/Floodplain

Kern County Public Works Department/Building and Development/Survey

Kern County Public Works Department/Building and Development/Development Review

Kern County Public Works Department/Operations and

Maintenance/Regulatory Monitoring and Reporting

Kern County Public Works Department/Building & Development/Code Compliance

Kern County Sheriff's Department

Kern County Superintendent of Schools

Kern County Water Agency

Kings County Planning Agency

Laborers' International Union of North America (LIUNA)

Los Angeles Audubon

Recurrent Energy

Robert Burgett

Rosamond Municipal Advisory Council

San Bernardino County Planning Department

San Luis Obispo County Planning Department

Santa Barbara County Resource Management Department

Sierra Club/Kern Kaweah Chapter

Southern Kern Unified School District

South San Joaquin Valley Archaeological Information Center

Southern California Edison

Southern California Edison Planning Department

Southern California Gas Company

Southern California Gas Company, Transportation Department

Structure Cast

Tehachapi Area Association of Realtors

Terra-Gen Power, LLC

The Gorman Law Firm

Tulare County Planning and Development Department

Ventura County Resource Management Agency, Planning Division

Wind Stream, LLC

8.4 Other

Chumash Council of Bakersfield

David Laughing Horse Robinson

Kern Valley Indian Council

Kern Valley Indian Council Historic Preservation Office

Kitanemuk & Yowlumne Tejon Indians

Santa Rosa Rancheria

Tejon Indian Tribe

Tubatulabals of Kern County

Tule River Indian Tribe

Chapter 9
List of Preparers

9.1 Lead Agency

Kern County Planning and Natural Resources Department

Lorelei H. Oviatt, AICP – Director

Craig M. Murphy – Assistant Director

Katrina A. Slayton – Advanced Planning Division Chief

Terrance Smalls – Supervising Planner

9.2 Technical Assistance

Kimley-Horn

Alex Jewell – AICP - Project Manager

Randall Kopff – Landscape Architect

Achilles Malisos – Technical Study Manager

Rich Lucera, P.E. – Hydrology and Water Quality Engineer

Addie Sedoff – Environmental Planning Analyst

Prathna Maharaj – AICP - Environmental Planning Analyst

Taylor Blanford – Environmental Planning Analyst

Gracielle Garin – Environmental Planning Analyst

Rincon Consultants

Agricultural Conversion

Air Quality and Greenhouse Gas Study

Biological Resources

Cultural Resources

Energy Utilization Study

Noise Study

Paleontological Resources Assessment

Phase I Environmental Site Assessment

Phase II Environmental Site Assessment

Water Supply Assessment

BSK Associates

Corrine Goodwin, PE – Project Engineer

On Man Lau, PE, GE – South Valley Regional Manager

GHD

Hydrology Report

Traffic Assessment

Chapter 10
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Chapter 11
Acronyms and Abbreviations

AAQA	ambient air quality analysis
AB	Assembly Bill
AC	alternating current
ACHP	Advisory Council on Historic Preservation
ACOE	Army Corps of Engineers
AFB	Air Force Base
AF	acre-feet
AFY	acre-feet per year
ALUCP	Airport Land Use Compatibility Plan
ANSI	American National Standard Institute
APCD	Air Pollution Control District
APE	Area of Potential Effect
APLIC	Avian Power Line Interaction Committee's
APN	Assessor Parcel Number
AQAP	Air Quality Attainment Plan
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ARP	accidental release prevention
ARPA	Archeological Resources Protection Act
ASCE	American Society of Civil Engineers
ASF	age sensitivity factor
AVAQMD	Antelope Valley Air Quality Management District
AVEK	Antelope Valley-East Kern
BLM	Bureau of Land Management
BMCM	bulk material control measures
BMPs	best management practices
BRTR	Biological Resources Technical Report
C&D	Construction and Demolition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CaCO3	calcium carbonate

CAFE	corporate average fuel economy
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	Clean Air Act of 1988
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CDC	Center for Disease Control
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CDOC	California Department of Conservation
CEC	California Energy Commission
CERS	California Environmental Reporting System
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH4	methane
CHL	California Historical Landmarks
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDB	Fish and Game Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO2	carbon dioxide
COG	Council of Governments
CPUC	California Public Utility Commission
CREC	controlled recognized environmental conditions

CRHR	California Register of Historical Resources
CRPC	California Rare Plant Rank
CSLC	California State Lands Commission
CSP	concentrated solar power
CUP	conditional use permit
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
DAT	dual access tracker
dBA	decibel
DC	direct current
DEIR	draft environmental impact report
DI	drilling island
DOC	Department of Conservation
DOGGR	Division of Oil, Gas, and Geothermal Resources
DNL	Day-Night Average Sound Level
DPM	diesel particulate matter
DRECP	Desert Renewable Energy Conservation Plan
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
ECCMP	Environmental and Construction Compliance Monitoring Plan
EIR	Environmental Impact Report
EKAPCD	Eastern Kern Air Pollution Control District
EMF	electromagnetic field
EMT	emergency medical technician
EO	Executive Order
EPA	Environmental Protection Agency
EPS	Emissions Performance Standard
ESA	Endangered Species Act
ESS	Energy Storage System
FAA	Federal Aviation Administration
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone

FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FR	Federal Register
FRA	Federal Responsibility Area
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
FTE	full-time equivalent
FTIP	Federal Transportation Improvement Program
GDP	Gross Domestic Product
GHG	greenhouse gas
GIS	geographic information system
GO	general order
GPS	global positioning system
GSP	groundwater sustainability plan
GWP	Global Warming Potential
H2O	water
HAPs	total hazardous air pollutants
HCP	habitat conservation plan
HFC	hydrofluorocarbons
HHWE	Hazardous Waste Element
HM	habitat management
HMBP	Hazardous Materials Business Plan
HMMP	Hazardous Materials Management Plan
HRA	Health Risk Assessment
HREC	historical recognized environmental conditions
HSAT	horizontal single axis tracker
HSWA	Hazardous Solid Waste Act
HUD	Department of Housing and Urban Development
HVAC	heating/ventilation/air conditioning
HWMP	Hazardous Waste Management Plan
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan

IPCC	Intergovernmental Panel on Climate Change
IS/NOP	Initial Study/Notice of Preparation
IVIRWMP	Antelope Valley Integrated Regional Water Management Plan
KEDC	Kern Economic Development Cooperation
KCFD	Kern County Fire Department
KCGP	Kern County General Plan
KCOG	Kern Council of Governments
KCPD	Kern County Planning Department
KCSO	Kern County Sheriff's Department
KOP	Key Observation Point
LACM	Museum of Los Angeles County
LADWP	Los Angeles Department of Water and Power
LCFS	Low Carbon Fuel Standard
LID	low impact design
LLC	Limited Liability Corporation
LOS	Level of Service
LRA	local responsibility area
LUPA	Land Use Plan Amendment
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MDAB	Mojave Desert Air Basin
MM	mitigation measure
MMRCP	Monitoring, Reporting, and Compliance Program
MOUs	Memoranda of Understanding
MRZs	Mineral Resource Zones
MT	metric tons
MV	medium voltage
MW	megawatts
NO_x	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCP	National Contingency Act
NCCP	Natural Communities Conservation Plan
NDFE	Nondisposal Facility Element

NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NF3	nitrogen trifluoride
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NOx	nitric oxide
NO2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NOP/IS	Notice of Preparation and Initial Study
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NR	natural resources
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OHV	off-highway vehicle
OSHA	Occupational Safety and Health Administrations
OPR	California Governor’s Office of Planning and Research
PCE	passenger car equivalent
PCS	power conversion station
PCT	Pacific Crest Trail
PE	petroleum extraction
PFC	perfluorocarbons
PHI	points of historic interest
PL	platted lands
PM	particulate matter
PM10	Respirable Particulate Matter
PM2.5	Fine Particulate Matter

PPA	Power Purchase Agreement
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PV	solar photovoltaic
PVC	polyvinyl chloride
PVSC	PV combining switchgear
R-2	Medium-density Residential
RACM	reasonably available control measures
RCRA	Resource Conservation and Recovery Act
RCSD	Rosamond Community Services District
RE	Recurrent Energy
REC	recognized environmental condition
RHNA	Regional Housing Needs Allocation
RMS	root mean square
ROGs	reactive organic gases
ROWs	Rights-of-Way
RPS	Renewable Portfolio Standard
RS	Residential Suburban
RTP	Regional Transportation Plan
RV	recreational vehicle
RWMG	Regional Water Management Group
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBBM	San Bernardino Base and Meridian
SBCM	San Bernardino County Museum
SC	sectionalizing cabinets
SCC	site control centers
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCC	site control center
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SDC	seismic design category
SDNHM	San Diego Natural History Museum

SF6	sulfur hexafluoride
SGHAT	Solar Glare Hazard Analysis Tool
SGMA	Sustainable Groundwater Management Agency
SHPO	State Historic Preservation Officer
SIPs	State Implementation Plans
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SKUSD	Southern Kern Unified School District
SLAMS	State and Local Air Monitoring Stations
SLF	sacred lands file
SMARA	Surface Mining and Reclamation Act of 1975
SO_x	sulfur oxides
SO2	sulfur dioxide
SPA	specific plan amendment
SPCC	Prevention, Control, and Countermeasure
SR	State Route
SRAs	State Responsibility Areas
SRRE	Source Reduction and Recycling Element
SSC	Species of Special Concern
SSJVIC	San Joaquin Valley Archaeological Information Center
STIP	State Transportation Improvement Program
SVP	Society of Vertebrate Paleontology
SWANCC	Solid Waste Agency of Northern Cook County
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TAZ	Traffic Analysis Zones
UBC	Uniform Building Code
UL	Underwriters Laboratory
USC	United States Code
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USPS	United States Postal Service

UST	underground storage tank
UV	ultraviolet
VMT	vehicle miles traveled
VOCs	volatile organic compounds
VRM	Visual Resource Management
WEMO	West Mojave Plan
WRCC	Western Regional Climate Center
WSA	water supply assessment
WSSP	Willow Springs Specific Plan
ZCC	zone change
ZEV	zero-emissions vehicle

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