

# **Draft Environmental Impact Report**

**SCH# 2021010168**

**Volume 1**  
**Chapters 1 through 10**

**BELLEFIELD SOLAR PROJECT**  
**by 50LW 8ME LLC (8Minute Energy) (PP20403)**

General Plan Amendment No. 2, Map No. 195;  
Zone Classification Change No. 2, Map No. 195;  
Zone Classification Change No. 57, Map No. 196;  
Conditional Use Permit No. 1, Map No. 195;  
Conditional Use Permit No. 57, Map No. 196;  
General Plan Amendment No. 3, Map No. 195 (Circulation);  
Mojave Specific Plan Amendment No. 31, Map No. 196 (Circulation);  
Non-summary Vacations of Public Access Easements



Kern County  
Planning and Natural Resources Department  
Bakersfield, California

July 2021

**Lorelei H. Oviatt, AICP, Director**  
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**PLANNING AND NATURAL  
RESOURCES DEPARTMENT**

Planning  
Community Development  
Administrative Operations

July 2, 2021

**File:** GPA#2, Map#195; ZCC#2, Map#195; ZCC #57, Map #196; CUP#1, Map#195; CUP#57, Map#196; GPA#3, Map#195 (Circulation); SPA#31, Map #196 (Circulation); Non-summary Vacations

S.D.: #2 - Scrivner

ADDRESSEE LIST (See Distribution List)

**Re: Draft Environmental Impact Report for the Bellefield Solar Project by 50LW 8ME LLC (8Minute Energy) (SCH #2021010168)**

Dear Interested Party:

Kern County has prepared a Draft Environmental Impact Report (Draft EIR) for the above-noted land use applications to allow for the construction and operation of a solar photovoltaic power generating facility and associated facilities that would produce up to 1,500 megawatt (MW) alternating current (AC) utility-scale solar power with an up to 1,500 MW-hour (MWh) energy storage capacity on approximately 8,371 acres of privately-owned land in portions of unincorporated Kern County and the City of California City.

The project site is located east of the community of Mojave and the Mojave Air and Space Port Airport, straddling State Route (SR) 58, and is just west and south of the Hyundai Proving Ground. SR-58, a four-lane divided highway, provides regional access to the project site. Primary access to the site would be from Altus Avenue. The site is located within Township 11N, Range 11W, in all or portions of Sections 5, 6, 7, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 and within Township 11N, Range 12W in portions of Sections 1 and 2, San Bernardino Base and Meridian, County of Kern, State of California.

The project proponent is requesting the following:

**Kern County (Lead Agency):**

- a. General Plan Amendment #2, Map 195:
  - From 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres.
- b. Zone Change Case # 2, Map 195:
  - From A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres; and
  - From A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.



- c. Zone Change Case #57, Map 196
  - From M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres; and
  - From M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres.
- d. Issuance of Conditional Use Permit #1, Map 195
  - To allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- e. Issuance of Conditional Use Permit #57, Map 196
  - To allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G, and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance.
- f. General Plan Amendment #3, Map 195:
  - Amendment to the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- g. Specific Plan Amendment #31, Map 196
  - Amendment to the Circulation Element of the Mojave Specific Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- h. Non-Summary Vacations of Public Access Easements within the Project Boundaries

**California City (Responsible Agency):**

- a. The City of California City is a Responsible Agency under CEQA. For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) zone (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity. The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

The project would be supported by a 230-kV gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at the Southern California Edison (SCE) Windhub Substation. The project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance facilities.

The Kern County Planning and Natural Resources 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.

If we have not received a reply from you by **August 16, 2021, at 5:00 P.M.**, 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 (661) 862-8997 or via email at [CandiaR@kerncounty.com](mailto:CandiaR@kerncounty.com).**

Sincerely,



Ronelle Candia, Supervising Planner  
Advanced Planning Division

GPA #2; ZC #2; CUP #1, Map #195  
WO #PP20403 (EIR 08-19 - Bellefield)  
I:\Planning\WORKGRPS\WP\LABELS\eir08-19jj(Bellfield).ec.doc  
Sc 08/05/20 (sc 06/17/21)

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  
Ridgecrest Field Office  
300 South Richmond Road  
Ridgecrest, CA 93555

China Lake Naval Weapons Center  
Tim Fox, RLA - Comm Plans & Liaison  
429 E Bowen, Building 981  
Mail Stop 4001  
China Lake, CA 93555

Edwards AFB, Mission Sustainability  
Liaison  
412 TW, Bldg 2750, Ste 117-14  
195 East Popson Avenue  
Edwards AFB, CA 93524

Federal Aviation Administration  
Western Reg Office/  
777 South Aviation Boulevard  
Suite 150  
El Segundo, CA 90245

Federal Communications Comm  
18000 Studebaker Road, #660  
Cerritos, CA 90701

U.S. Fish & Wildlife Service  
777 East Tahquitz Canyon Way, Suite 208  
Palm Springs, CA 92262

Eastern Kern Resource Cons Dist  
300 South Richmond Road  
Ridgecrest, CA 93555-4436

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

U.S. Army Corps of Engineers  
P.O. Box 997  
Lake Isabella, CA 93240

U.S. Army Corps of Engineers  
Regulatory Division  
1325 "J" Street, #1350  
Sacramento, CA 95814-2920

U.S. Postal Service  
Address Management Systems  
28201 Franklin Parkway  
Santa Clarita, CA 91383-9321

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

Caltrans/Dist 9  
Planning Department  
500 South Main Street  
Bishop, CA 93514

Caltrans/  
Division of Aeronautics, MS #40  
P.O. Box 942873  
Sacramento, CA 94273-0001

State Clearinghouse  
Office of Planning and Research  
1400 - 10th Street, Room 222  
Sacramento, CA 95814

State Dept of Conservation  
Director's Office  
801 "K" Street, MS 24-01  
Sacramento, CA 95814-3528

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  
Attn: Steven Kerr  
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

Integrated Waste Management  
P.O. Box 4025, MS #15  
Sacramento, CA 95812-4025

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

California Regional Water Quality  
Control Board/Lahontan Region  
15095 Amargosa Road - Bld 2, Suite 210  
Victorville, CA 92392

State Lands Commission  
100 Howe Avenue, Ste 100-South  
Sacramento, CA 95825-8202

State Dept of Toxic Substance Control  
Environmental Protection Agency  
1515 Tollhouse Road  
Clovis, CA 93612

Cal Environmental Protection Agency/  
Dept of Toxic Substances Control, Reg 1  
Attn: Dave Kereazis, Permit Div - CEQA  
8800 Cal Center Drive, 2nd Floor  
Sacramento, CA 95826

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

Kern County  
Agriculture Department

Kern County Airports Department

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  
David Witt, Fire Chief

Kern County Fire Dept  
Captain Michael Nicholas,  
Assistant Fire Marshal

Kern County Library/Beale  
Local History Room

Kern County Library/Beale  
Andie Sullivan

Kern County Library  
California City Branch

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

Mojave Town Council  
Bill Deaver, President  
P.O. Box 1113  
Mojave, CA 93502-1113

Mojave Unified School Dist  
3500 Douglas  
Mojave, CA 93501

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

Local Agency Formation Comm/LAFCO  
5300 Lennox Avenue, Suite 303  
Bakersfield, CA 93309

Mojave Public Utility Dist  
15844 "K" Street  
Mojave, CA 93501

Antelope Valley-East Kern  
Water Agency  
6500 West Avenue N  
Palmdale, CA 93551

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

East Kern Air Pollution  
Control District

California City Airport  
22636 Airport Way, #8  
California City, CA 93505

Mojave Airport  
1434 Flightline  
Mojave, CA 93501

East Kern Airport Dist  
Attention Stuart Witt  
1434 Flightline  
Mojave, CA 93501

East Kern Airport Dist Engineer  
3900 Ridgemoor Avenue  
Bakersfield, CA 93306

Northcutt and Associates  
4220 Poplar Street  
Lake Isabella, CA 93240-9536

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

Desert Tortoise Preserve Committee  
PO Box 940  
Ridgecrest, CA 93556

Native American Heritage Council  
of Kern County  
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 Edison  
Planning Dept.  
421 West "J" Street  
Tehachapi, CA 93561

Southern California Edison  
Planning Dept.  
510 S. China Lake Blvd.  
Ridgecrest, CA 93555

Southern California Edison  
Planning Dept.  
25625 West Rye Canyon  
Valencia, CA 91355

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

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

Verizon California, Inc.  
Attention Engineering Department  
520 South China Lake Boulevard  
Ridgecrest, CA 93555

Chumash Council of Bakersfield  
Attn: Juilo Quair  
729 Texas Street  
Bakersfield, CA 93307

David Laughing Horse Robinson  
P.O. Box 20849  
Bakersfield, CA 93390

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

Santa Rosa Rancheria Tachi Yoikut Tribe  
Chairperson  
P.O. Box 8  
Lemoore, CA 93245

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

Kitanemuk & Yowlumne Tejon Indians  
Chairperson  
115 Radio Street  
Bakersfield, CA 93305

Tubatulabals of Kern County  
Attn: Robert Gomez, Chairperson  
P.O. Box 226  
Lake Isabella, CA 93240

Tule River Indian Tribe  
Neal Peyron, Chairperson  
P.O. Box 589  
Porterville, CA 93258

San Fernando Band of Mission Indians  
Attn: John Valenzuela, Chairperson  
P.O. Box 221838  
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Mojave Foundation  
Attn: Todd Quelet  
16922 Airport Boulevard  
Mojave, CA 93501

Lozeau Drury LLP  
1939 Harrison Street, Suite 150  
Oakland, CA 94612

Southern California Edison  
2244 Walnut Grove, Ave, GO-1 Quad 2C  
Rosemead, CA 91770

U.S. Army  
Attn: Tim Kilgannon, Region 9  
Coordinator  
Office of Strategic Integration  
721 - 19th Street, Room 427  
Denver, CO 80202

U.S. Air Force  
Attn: David Bell/AFCEC CZPW  
Western Regional/Leg Branch  
510 Hickman Ave., Bld 250-A  
Travis AFB, CA 94535-2729

U.S. Army  
Attn: Philip Crosbie, Chief  
Strategic Plans, S3, NTC  
P.O. Box 10172  
Fort Irwin, CA 92310

Congentrix Sunshine, LLC  
Rick Neff  
9405 Arrowpoint Blvd  
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U.S. Navy  
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1220 Pacific Highway  
San Diego, CA 92132-5190

U.S. Marine Corps  
Attn: Patrick Christman  
Western Regional Environmental Officer  
Building 1164/Box 555246  
Camp Pendleton, CA 92055-5246

Wind Stream, LLC  
Albert Davies  
1275 - 4th Street, No. 107  
Santa Rosa, CA 95404

Terra-Gen  
Randy Hoyle, Sr. Vice Pres  
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San Diego, CA 92130

Renewal Resources Group  
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Rupal Patel  
113 South La Brea Avenue, 3rd Floor  
Los Angeles, CA 90036

PG&E  
Steven Ng, Manager  
Renewal Dev, T&D Intercon  
77 Beal Street, Room 5361  
San Francisco, CA 94105

Fotowatio Renewable Ventures  
Sean Kiernan  
44 Montgomery Street, Suite 2200  
San Francisco, CA 94104

EDP Renewables Company  
53 SW Yamhill Street  
Portland, OR 97204

Recurrent Energy  
Seth Israel  
300 California Street, 8th Floor  
San Francisco, CA 92109

Darren Kelly, Sr. Business Mgr  
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1095 Avenue of the Americas, 25th Floor,  
Ste A  
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Bill Barnes, Dir of Asset Mgt  
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P.O. Box 2190  
Palm Springs, CA 92263-2190

Beyond Coal Campaign/Sierra Club  
Sarah K. Friedman  
1417 Calumet Avenue  
Los Angeles, CA 90026

Wayne Mayes, Dir Tech Serv  
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1125 NW Couch St, Ste 700, 7th Fl  
Portland, OR 97209

Michael Strickler, Sr Project Mgr  
Iberdrola Renewables  
1125 NW Couch St, Ste 700, 7th Fl  
Portland, OR 97209

David Walsh  
22941 Banducci Road  
Tehachapi, CA 93561

Tehachapi Area Assoc of Realtors  
Carol Lawhon, Assoc Exe, IOM  
803 Tucker Road  
Tehachapi, CA 93561

Kelly Group  
Kate Kelly  
P.O. Box 868  
Winters, CA 95694

Jeff Modrzejewski  
Creed LA  
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Robert Burgett  
9261 - 60th Street, West  
Mojave, CA 93501

Structure Cast  
Larry Turpin, Sales Mgr  
8261 McCutchen Road  
Bakersfield, CA 93311

Big Pine Paiute Tribe of the Owens  
Valley  
Attn: Sally Manning, Env Director  
P.O. Box 700  
Big Pine, CA 93513

Big Pine Paiute Tribe of the Owens  
Valley  
Attn: Danelle Gutierrez, THPO  
P.O. Box 700  
Big Pine, CA 93513

Big Pine Paiute Tribe of the Owens  
Valley  
Attn: James Rambeau, Sr., Chairperson  
P.O. Box 700  
Big Pine, CA 93513

Wuksache Indian Tribe/Eshom Valley  
Band  
Attn: Kenneth Woodrow, Chairperson  
1179 Rock Haven Court  
Salinas, CA 93906

Kern Valley Indian Community  
Attn: Julie Turner, Secretary  
P.O. Box 1010  
Lake Isabella, CA 93240

San Manuel Band of Mission Indians  
Attn: Jessica Mauck, Director-CRM Dept  
26569 Community Center Drive  
Highland, CA 92346

California Native Plant Society  
Attn: Isabella Langone  
2707 "K" Street, Suite 1  
Sacramento, CA 95816

Slickforce Studio  
Attn: Nick Saglimbeni  
530 South Lake Avenue, #601  
Pasadena, CA 91101

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Chino, CA 91710

Chie Huei and Yu-Chen Wu  
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Villa Park, CA 92667

Joseph Fulco  
6129 West Ave J15  
Lancaster, CA 93536

Debra Secord  
9330 El Camino Avenue  
Fountain Valley, CA 92708

Mary-Anne Hernandez  
33E Cambridge Court  
Lakewood, NJ 08701

Ranajit Sahu  
311 North Story Place  
Alhambra, CA 91801

Torres Martinez Desert Cahuilla Indians  
Attn: Michael Mirelez  
P.O. Box 1160  
Thermal, CA 92274

Twenty-Nine Palms Band of Mission  
Indians  
Attn: Anthony Madrigal  
46-200 Harrison Place  
Coachella, CA 92236

Twenty-Nine Palms Band of Mission  
Indians  
Attn: Darrell Mike  
46-200 Harrison Place  
Coachella, CA 92236

Kern Valley Indian Community  
Attn: Brandy Kendricks  
30741 Foxridge Court  
Tehachapi, CA 93561

Tejon Indian Tribe  
Attn: Colin Rambo, CRM Tech  
4941 David Road  
Bakersfield, CA 93307

Vak titvu titvu vak tilhini - North Chumash  
Tribe Chairperson  
660 Camino Del Revocable Living Trust  
Arroyo Grande, CA 93420

Desert Tortoise Council  
Attn: Edward L. LaRue, Jr., Chairperson  
4654 East Avenue S #257B  
Palmdale, California 93552

California Native Plant Society  
Attn: Nick Jensen  
6221 4th Ave  
Sacramento, CA 95817

Los Angeles Department of Water and  
Power  
Environmental Planning and Assessment  
PO Box 51111  
Los Angeles, CA 90051-5700

Defenders of Wildlife  
Jeff Aardahl, California Representative  
46600 Old State Hwy, Unit 13  
Gualala, CA 95545



**NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON  
THE DRAFT ENVIRONMENTAL IMPACT REPORT  
FOR THE PROPOSED BELLEFIELD 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:** EIR08-19: Bellefield Solar Project by 50LW 8ME LLC (8Minute Energy); General Plan Amendment No. 2, Map No. 195; Zone Change Case No. 2, Map No. 195; Zone Change Case No. 57, Map No. 196; Conditional Use Permit No. 1, Map No. 195; Conditional Use Permit No. 57, Map No. 196; General Plan Amendment No. 3, Map No. 195 (Circulation); Mojave Specific Plan Amendment No. 31, Map No. 196 (Circulation); and Nonsummary Vacations of Public Access Easements (State Clearinghouse No. 2021010168)

**PROJECT LOCATION:** The project site is located east of the community of Mojave and the Mojave Air and Space Port Airport, straddling State Route (SR) 58, and is just west and south of the Hyundai Proving Ground. SR-58, a four-lane divided highway, provides regional access to the project site. Primary access to the site would be from Altus Avenue. The site is located within Township 11N, Range 11W, in all or portions of Sections 5, 6, 7, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 and within Township 11N, Range 12W in portions of Sections 1 and 2, San Bernardino Base and Meridian, County of Kern, State of California.

**DOCUMENT AVAILABILITY:** The document and documents referenced in the Draft EIR are available for review at the Planning 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:** Kern County is soliciting 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:** September 23, 2021  
**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 August 16, 2021, at 5:00 p.m.

Testimony at future public hearings may be limited to those issues raised during the public review period either orally or submitted in writing.

**HOW TO COMMENT:** You may provide testimony at the public hearing on the date and time specified above or provide written comments prior to the close of public comment period on August 16, 2021, at 5:00 p.m. to:

**Kern County Planning and Natural Resources Department  
ATTN: Ronelle Candia, Supervising Planner  
2700 "M" Street, Suite 100, Bakersfield, CA 93301  
Phone: (661) 862-8997  
E-mail: [candiar@kerncounty.com](mailto:candiar@kerncounty.com)**

**PROJECT DESCRIPTION:** The project includes a request for land use entitlements necessary to facilitate the construction and operation of a solar photovoltaic power generating facility and associated infrastructure necessary to generate up to 1,500 megawatts of renewable energy and 1,500 megawatt hours of energy storage capacity on approximately 8,371 acres of privately-owned land. The project would be supported by a 230-kV gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at the Southern California Edison (SCE) Windhub Substation. The project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance facilities.

The project proponent is requesting the following:

**Kern County (Lead Agency):**

- a. General Plan Amendment No. 2, Map 195:
  - From 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres.
- b. Zone Change Case No. 2, Map 195:
  - From A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres; and
  - From A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.
- c. Zone Change Case No. 57, Map 196:
  - From M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres; and

From M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres.
- d. Issuance of Conditional Use Permit No. 1, Map 195:
  - To allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- e. Issuance of Conditional Use Permit No. 57, Map 196:
  - To allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G,

and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance.

- f. General Plan Amendment No. 3, Map 195:
  - o Amendment to the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- g. Specific Plan Amendment No. 31, Map 196:
  - o Amendment to the Circulation Element of the Mojave Specific Plan to remove road reservations on section and midsection lines within the Kern County project boundaries.
- h. Nonsummary Vacations of Public Access Easements within the Project Boundaries.

**California City (Responsible Agency):**

- a. The City of California City is a Responsible Agency under CEQA. For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) District (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity. The project proponent has requested to remove the future section and midsection lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

**ENVIRONMENTAL REVIEW FINDINGS:** Anticipated significant and unavoidable impacts on Aesthetics (Project and Cumulative); Air Quality (Project and Cumulative); Biological Resources (Cumulative); Hazards and Hazardous Materials (Cumulative); and Wildfire (Cumulative).

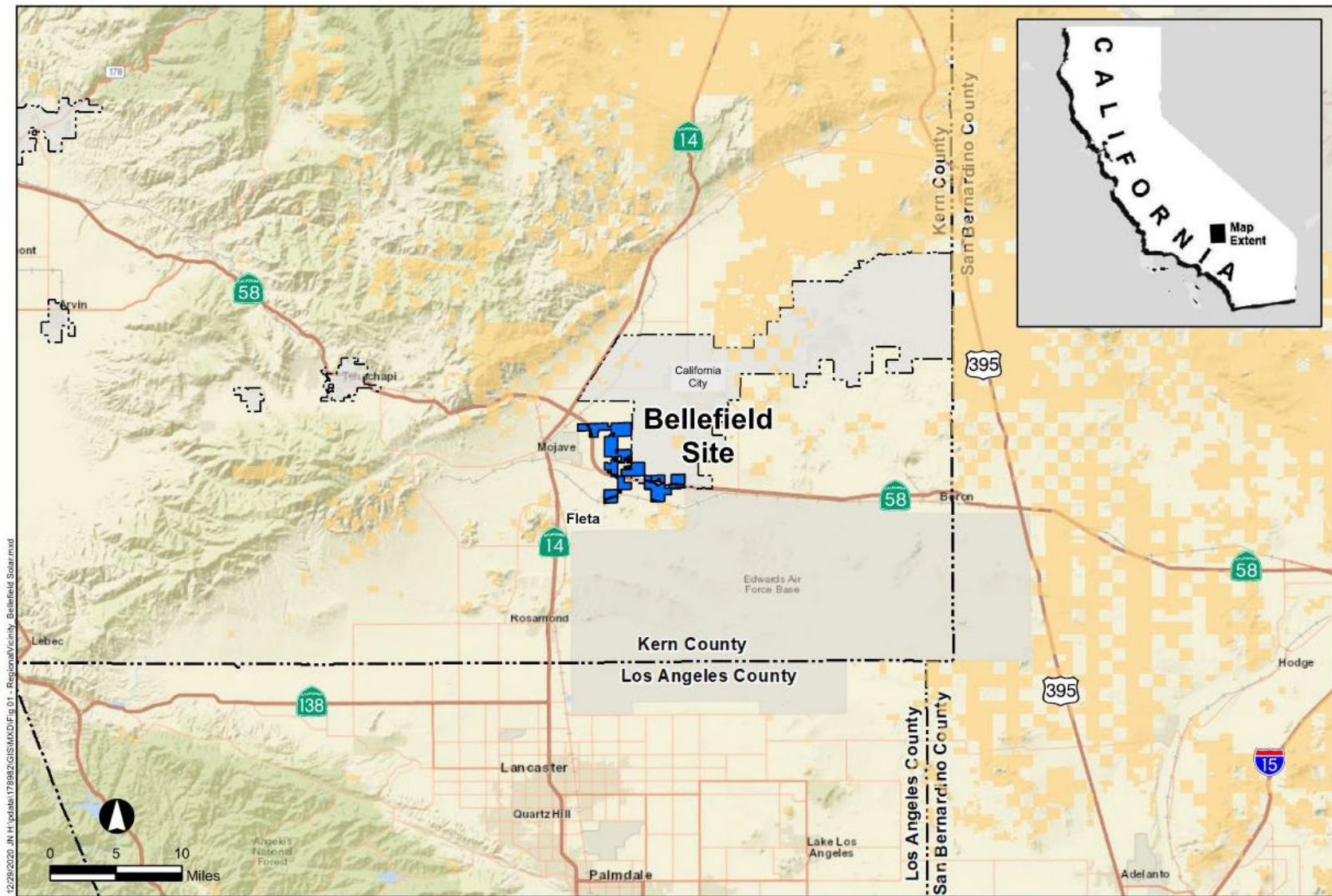
LORELEI H. OVIATT, AICP, Director  
Planning and Natural Resources Department

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

**THE BAKERSFIELD CALIFORNIAN**  
**MOJAVE DESERT NEWS**

RRC:sc (07/02/21)

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

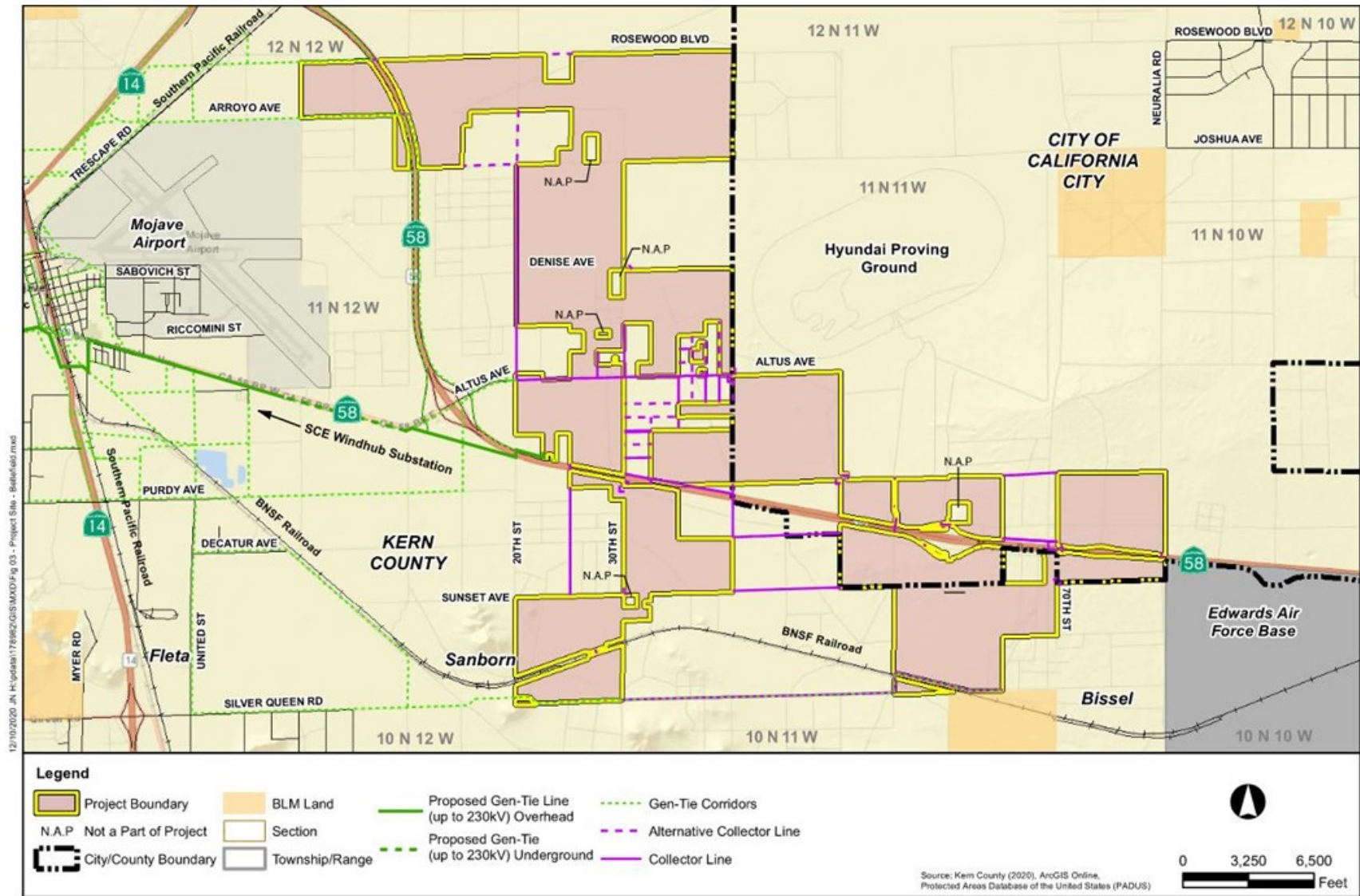


ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California)

KERN COUNTY, CALIFORNIA ■ BELLEFIELD SOLAR PROJECT ■ BY: 64NM 8ME LLC

Site Vicinity Map





ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California)

KERN COUNTY, CALIFORNIA ■ BELLEFIELD SOLAR PROJECT ■ BY: 64NM 8ME LLC

**Project Site Boundaries**

GPA #2; ZC #2; CUP #1, Map #195  
WO #PP20403 (EIR 08-19 - Bellefield)  
I:\Planning\WORKGRPS\WP\LABELS\eir  
08-19jj(Bellefield).noa.docx  
Sc (12/23/20) sc (06/17/21)

235 310 14 00 3  
2318844 ONTARIO INC  
ADDRESS UNKNOWN

**DUP**

428 231 06 00 0  
300T LISA A  
4013 DAVENPORT CT  
ROSEVILLE CA 95747

235 132 50 00 9  
A T S F RAILWAY CO  
ADDRESS UNKNOWN

**DUP**

428 053 05 00 9  
ADAIR JOHN A & MARILYN V  
3216 NE CLASSIC AV  
BREMERTON WA 98310

235 024 03 00 5  
AEK GLOBAL INVS LLC  
4603 HURFORD TR  
ENCINO CA 91436-3345

235 082 16 00 7  
AFFONSO JANET  
226 DERECHO WY  
TRACY CA 95376-1945

235 101 10 00 7  
AGDEPPA JOSEPH & HELEN LIVING  
TRUST  
928 CALLE DEL PACIFICO  
GLENDALE CA 91208-3019

428 053 04 00 6  
AGRAWAL GYANESH & RAUSHNI  
4232 W AVENUE N  
PALMDALE CA 93551-1293

428 062 27 00 9  
ALAMILLO MARIA CABRERA  
2751 MARENGO ST  
LOS ANGELES CA 90033-2026

235 410 09 00 8  
ALBERTS LARRY & SANDRA  
3860 MISSION HILLS RD  
NORTHBROOK IL 60062-5742

428 093 24 00 6  
ALEXANDER FAMILY TRUST  
112 CANYON VIEW RD  
GEORGETOWN TX 78628-2145

428 093 11 00 8  
ALEXANDER GARY & GIGI  
112 CANYON VIEW RD  
GEORGETOWN TX 78628-2145

235 282 08 00 2  
ALGAZALI SAMIR  
20651 HIGHWAY 202  
TEHACHAPI CA 93561

235 102 35 00 7  
ALLEN FAMILY TRUST A  
5900 LANDFAIR DR  
BAKERSFIELD CA 93309-3677

428 041 11 00 9  
ALMEIDA J & J TRUST  
15625 N 105TH DR  
SUN CITY AZ 85351-1823

235 330 42 00 0  
ALMONTE ROSSANA  
25134 VIA VERACRUZ #3  
LAGUNA NIGUEL CA 92677

235 352 03 00 7  
ALVA FAMILY TRUST  
901 FONTES PL  
WALNUT CA 91789-4313

235 024 06 00 4  
AMADOR FRANCISCO LIV TR  
12000 SLAUSON AV # 14  
SANTA FE SPGS CA 90670

235 380 01 00 6  
AMBERLAND CORP  
6037 N LICHFIELD AV  
MERIDIAN ID 83686

428 042 06 00 2  
AMORUSO FMLY TR  
27178 STARK ST  
SUN CITY CA 92586-2045

428 092 08 00 3  
AMSTERDAM JOSEPH F & ESTHER  
3 PLEASANT LN  
BAY SHORE NY 11706

235 140 33 00 9  
ANA PROPERTIES LLC  
P O BOX 1510  
LA MIRADA CA 90637

235 401 21 00 6  
ANCHETA EDISON O & JANE F  
12038 S RENTON AV  
SEATTLE WA 98178

235 320 17 00 5  
ANDERSON JEFFREY C & PATRICIAL  
5145 VIA DANIEL  
YORBA LINDA CA 92886

235 102 29 00 0  
ANTELOPE VALLEY E KERN WTR AG  
P O BOX 3176  
QUARTZ HILL CA 93534

235 132 56 00 7  
ANTELOPE VALLEY E KERN WTR AG  
ADDRESS UNKNOWN

**DUP**

235 031 32 00 1  
ANTONIO CORAZON G  
6239 GARLAND CT  
NEW PORT RICHEY FL 34652

235 064 16 00 5  
ANZURES FRANK F & GUADALUPE  
FAMILY TR  
5011 LA LUNA DR  
LA PALMA CA 90623-2002

235 282 12 00 3  
AOKI RONALD T & MIDORI  
18566 CORK ST  
FOUNTAIN VLY CA 92708

235 410 27 00 0  
APPELL MICHAEL  
3188 WILLOW CANYON ST  
THOUSAND OAKS CA 91362

235 204 20 00 6  
APPLE VALLEY LAND OWNERS  
3787 E 11TH ST  
LONG BEACH CA 90804

235 282 10 00 7  
ARABI REZA & RAFI SHAHIN  
5330 E HONEYWOOD LN  
ANAHEIM CA 92807-3705

235 300 06 00 7  
ARAUZ DENIS  
940 SW 143 CT  
MIAMI FL 33184

428 202 37 00 8  
ARCA LILIA F  
187 CHERRYWOOD LN  
BATTLE CREEK MI 49015-7605

235 202 14 00 5  
ARCHER FAM TR  
31044 RD 400  
COARSEGOLD CA 93614

235 260 14 00 9  
ARCHER HUTCHISON KAREN  
2421 VICTORIA AV  
OXNARD CA 93035-2969

235 330 38 00 9  
ARELLANO ISIDRO & GABRIEL  
284 FLOWER ST  
PASADENA CA 91104-1016

235 290 06 00 5  
ARMSEY KENNETH K & MARGARET  
H  
21100 STATE ST # 226  
SAN JACINTO CA 92583

235 282 06 00 6  
ASSET RECOVERY INTERNAT LLC  
620 CAMINO DE LOS MARES # E501  
SAN CLEMENTE CA 92673

235 101 02 00 4  
AT & T COMMUNICATIONS CA INC  
340 MT KEMBLE AV  
MORRISTOWN NJ 07960

235 101 40 00 4  
AUYON MIROSLABA  
616 S. PEPPER ST  
ANAHEIM CA 92802

235 340 33 00 7  
AVILES ROGELIO D & TERESA N  
11049 BRIGANTINE ST  
CERRITOS CA 90703-1676

235 282 17 00 8  
AYVAZIAN GEORGE & JULIETTA  
13960 THUNDERBIRD DR # 5G  
SEAL BEACH CA 90740-5364

428 010 03 00 0  
BABBITT ROBERT J  
1709 W AVENUE L12  
LANCASTER CA 93534-6934

235 360 02 00 3  
BABTIWALE SUHAS GOVIND TRUST  
13121 ROBIN CT  
CHINO CA 91710-3893

235 290 12 00 2  
BADKOUBEI SURVIVORS TRUST  
1560 COLINA DR  
GLENDALE CA 91208-2413

428 102 23 00 8  
BAGHGERAGIAN BERGE  
1905 N VALLEY ST  
BURBANK CA 91505

428 041 33 00 3  
BAHMAN NOSRATOLAH  
23116 BIGLER ST  
WOODLAND HILLS CA 91364

235 064 31 00 8  
BARAJAS JAVIER & MARTHA  
6275 W CROW CT  
SUN VALLEY NV 89433-6623

428 041 20 00 5  
BARBER AUDREY M TRUST  
5954 NEWBURY CI  
MELBOURNE FL 32940-1880

235 300 11 00 1  
BARBER GROVER TR  
1514 W ALEXIS AV  
ANAHEIM CA 92802

428 052 03 00 6  
BARNARD KEVIN  
2708 COUNTRY CLUB DR  
ESCONDIDO CA 92029

235 353 15 00 9  
BARNETT L C & KAILIWAI BARNETT  
F Y TR  
5604 W AVENUE L1  
QUARTZ HILL CA 93536-4419

235 370 09 00 7  
BARNHART CHARLES & EVELYN TR  
325 KEMPTON ST 203  
SPRING VALLEY CA 91977-5899

428 212 11 00 5  
BASTIDA ROGELIO & VICTORIA  
2848 AUGUSTA WY  
SANTA ANA CA 92706-1121

235 134 17 00 8  
BAUER DENNIS JAMES  
14420 CARLSBAD ST  
SYLMAR CA 91342-5112

235 134 05 00 3  
BEDOLLA TERESA  
3713 WILLIAM DEHAES DR APT 2103  
IRVING TX 75038-8918

235 410 04 00 3  
BELL LAWRENCE W & VERA G  
701 W RIVERSIDE DR  
CARLSBAD NM 88220-5221

235 192 07 00 3  
BELTRAN TR & BERG N & M TR  
25175 LUNA BONITA DR  
LAGUNA HILLS CA 92653-5650

234 520 22 00 0  
BEMENT PAULINE E TR  
1800 DRUMMOND AV  
RIDGECREST CA 93555-8970

428 232 28 00 1  
BERGMANS ELBERT H  
1661 KAISER ST  
FALLON NV 89406-3145

428 202 28 00 2  
BERNALES CHERRY B CUSTDN  
1977 8TH ST  
LOS OSOS CA 93402

235 140 01 00 6  
BEVERLY ARNOLD  
PO BOX 43512  
LAS VEGAS NV 89116-1512

235 140 30 00 0  
BICKEL LEE & CATHY  
2411 HILL ST  
HUNTINGTON PARK CA 90255

428 051 13 00 8  
BIDINOST LIDIA  
2305 6TH ST  
CONCORD CA 94519

235 340 32 00 4  
BILLUPS JOHN R 111 & BARBARA  
FAMILY TR  
134 RAINIER CT  
CHULA VISTA CA 91911-5423

428 093 08 00 0  
BIMBI ANNA  
1015 9TH ST APT 202  
SANTA MONICA CA 90403-4130

235 064 18 00 1  
BISNETT MICHAEL J  
2411 GRAPEVINE DR  
OXNARD CA 93036-1576

235 270 14 00 2  
BITTON JANELL  
25202 FAIRGREEN  
MISSION VIEJO CA 92692-2882

235 191 10 00 4  
BIVEN EARL U  
6352 SIERRA ELENA RD.  
IRVINE CA 92715-3927

235 290 03 00 6  
BLANKE CHAD & TAYLOR LINDA  
895 7TH ST  
OGDEN UT 84404-5159

235 024 36 00 1  
BLANKE CHAD A  
865 7TH ST  
OGDEN UT 84404-5159

235 134 15 00 2  
BLANKE CHAD A  
895 7TH ST  
OGDEN UT 84404-5159

235 204 22 00 2  
BLAUSTEIN MARK MORRIS  
1557 TIMBERLINE  
BEAUMONT CA 92223-3438

235 310 21 00 3  
BLEHM BROS 2014 TRUST  
14613 W BELMONT AV  
KERMAN CA 93630-9602

235 270 16 00 8  
BLUME BERNARD E & MARY E  
P O BOX 158  
LA MIRADA CA 90637

428 200 02 00 2  
BNSF RAILWAY CO  
PO BOX 961039  
FORT WORTH TX 76161

428 171 03 00 4  
BOBBITT JANET J  
9000 5TH AV  
INGLEWOOD CA 90305

235 065 16 00 2  
BOBIAS SIMPLICIO B & VALENTINA  
2201 FRANCIS AV  
SANTA CLARA CA 95051

235 064 09 00 5  
BOEHM HERBERT & MARIE  
2255 W AVE M8  
PALMDALE CA 93551-1394

234 520 24 00 6  
BOLANOS JAIME & JUANA  
37631 CHERRY DR  
PALMDALE CA 93550

428 093 26 00 2  
BOQUILLA ARTURO & CELEDONIA  
1215 S WESTLAKE AV  
LOS ANGELES CA 90006

235 300 05 00 4  
BOWDEN DOREEN FAMILY TRUST  
3235 COBBLESTONE DR  
SANTA ROSA CA 95404

235 191 09 00 2  
BRACAMONTES FRANCISCA  
4889 INGLEWOOD BL  
CULVER CITY CA 90230-5861

428 093 10 00 5  
BRADER ANITA M  
3689 S STATE HIGHWAY J  
SPRINGFIELD MO 65809-4350

235 330 28 00 0  
BREMNER ROCHELLE  
22356 WEST PARAGON DR  
SAUGUS CA 91350

235 290 01 00 0  
BROCKMANN JOYCE A  
24359 LAWTON AV  
LOMA LINDA CA 92354-3317

428 052 10 00 6  
BROCKMANN JOYCE ANN  
24359 LAWTON AV  
LOMA LINDA CA 92354-3317

235 330 12 00 3  
BRODER RONALD S & LISA ANN REV  
TR  
12021 FOSTER RD  
LOS ALAMITOS CA 90720



428 093 20 00 4  
BROWNSON RONALD L & ANNA M  
FAMILY TRUST  
2946 S MICHAEL ST  
VISALIA CA 93292-1117

235 204 32 00 1  
BUCHAN DOUGLAS JR  
4317 W SPARROW SPRINGS LP 304  
BARTLETT TN 38135

235 202 04 00 6  
BULL JACK W  
15514 CALLE HERMOSA  
SANTA CLARITA CA 91390-1014

428 171 04 00 7  
BURNS YVONNE  
830 RIESSEN RD  
GRANTS PASS OR 97526-9374

235 353 07 00 6  
BURSIK GEORGE REV TR  
113 W MINARETS  
PINEDALE CA 93650

235 340 40 00 7  
BURTON STANLEY C & LARAINA B  
718 SYCAMORE AV STE 150  
VISTA CA 92083-7901

235 134 18 00 1  
BUSH DAVID ALAN  
15577 ROCKWELL AV  
FONTANA CA 92336-4177

235 181 13 00 0  
BUSH FAMILY TRUST  
4095 FRUIT ST SP 212  
LA VERNE CA 91750-2919

235 134 19 00 4  
BUSH KAREN L  
737 PEPPERMINT WY  
PRESCOTT AZ 86305

428 042 11 00 6  
BXI TRADE EXCHANGE INC  
4616 W SAHARA AV # 317  
LAS VEGAS NV 89102-3654

235 101 45 00 9  
CA KERN LP  
22160 VENTURA BL  
WOODLAND HILLS CA 91364

235 202 02 00 0  
CACHOLA ROSARIO L & ARLENE B  
19000 VISTA GRANDE WY  
NORTHRIDGE CA 91326

235 031 37 00 6  
CAL CITY 118 VENTURES LLC  
12671 HIGH BLUFF DR  
SAN DIEGO CA 92130

235 182 01 00 2  
CAL R E SAVINGS  
P O BOX 3694  
VICTORVILLE CA 92393

235 101 50 00 3  
CALIF CITY CITY OF  
21000 HACIENDA BL  
CALIFORNIA CITY CA 93505

235 031 36 00 3  
CALIF CITY SUCCESSOR AGENCY  
21000 HACIENDA BL  
CALIFORNIA CITY CA 93505-2293

235 101 37 00 6  
CAMARA MARGARET ELDRED  
TRUST  
PO BOX 1024  
PISMO BEACH CA 93448-1024

235 172 07 00 7  
CAMENETI MICHAEL ALAN  
30634 PERSIMMON LN  
VALLEY CENTER CA 92082-5265

235 310 15 00 6  
CAMPBELL BRADLEY C TRUST  
22394 MONTERA CT  
SALINAS CA 93908-1024

235 380 11 00 5  
CAMPBELL MARGARET J  
17481 US ROUTE 11 # 11I  
WATERTOWN NY 13601-5356

235 191 07 00 6  
CAMPBELL SHANNON M  
12885 OAK TREE LN  
POWAY CA 92064-6048

428 093 14 00 7  
CANU ANTHONY J TRUST  
PO BOX 1440  
TUSTIN CA 92781-1440

235 202 09 00 1  
CARDENAS IGNACIO M & ADELAIDA  
25713 MESA EDGE CT  
MENIFEE CA 92585-8970

235 134 02 00 4  
CARDER ALDEN BRENT & NAN REV  
TR  
6120 EAST AVENUE G  
LANCASTER CA 93534

235 290 11 00 9  
CARLSON CHILDRENS TR  
25612 GOLDENSPRING DR  
DANA POINT CA 92629-1537

235 310 16 00 9  
CARLSON HERB TR  
25612 GOLDENSPRING DR  
DANA POINT CA 92629-1537

428 092 16 00 6  
CARLSON RAYMOND L & LIVIA  
2271 E VAN OKER ST  
MERIDIAN ID 83642

235 282 23 00 5  
CARRILLO JESUS  
7900 HERMOSILLO DR  
EL PASO TX 79915

428 231 25 00 5  
CARTEE DAVID R & JANICE E  
14795 GROVE ST  
HEALDSBURG CA 95448-4819

235 282 14 00 9  
CASANO WILLIAM A  
797 GUADALUPE RD  
ARROYO GRANDE CA 93420-5815

235 352 12 00 3  
CASAS TRUST  
7532 TROOST AV  
NORTH HOLLYWOOD CA 91605-3305

235 102 09 00 2  
CASE FAMILY TRUST  
155 W 226TH PL  
CARSON CA 90745-3714

235 191 04 00 7  
CATBAGAN POMPEYO & ADELAIDA  
2354 PERU ST  
LOS ANGELES CA 90039

235 192 06 00 0  
CEDERLIND LEON E LIV REV TR  
807 W 15 RD  
PHILLIPS NE 68865-3704

235 101 35 00 0  
CHAN FAMILY TRUST B  
11584 MURPHY ST  
LOMA LINDA CA 92354-3620

235 353 09 00 2  
CHANDLER HAROLD D  
3825 DIAMOND RIDGE ST  
LAS VEGAS NV 89129

235 282 29 00 3  
CHANG BARBARA  
2320 RIM RD  
DUARTE CA 91010-1239

235 102 27 00 4  
CHANG IK HOON & SOON HEE  
1722 CHANTILLY LN  
FULLERTON CA 92833-1288

235 370 06 00 8  
CHANG JERRY K  
6920 LACEY ST  
CHINO CA 91710-8300

428 082 12 00 1  
CHAPMAN ROBERT & CANDACE  
10651 SOMMA WY  
LOS ANGELES CA 90077

235 330 01 00 1  
CHASE WILLIAM P & AMELIA  
5637 VIRGINIA AV  
LOS ANGELES CA 90038

428 053 09 00 1  
CHAU FAMILY TRUST  
917 LEXINGTON AV  
MONTEBELLO CA 90640-2528

235 082 26 00 6  
CHAVEZ RODOLFO M & DOLORES TR  
1631 E FRUIT ST  
SANTA ANA CA 92701

235 024 20 00 4 **DUP**  
CHELL ERIK & STADIN VERA TR  
ADDRESS UNKNOWN

428 010 11 00 3  
CHENG SUE HOA  
1942 SAMARA DR  
ROWLAND HEIGHTS CA 91748

428 240 66 00 0  
CHENG TR  
1917 ERNEST AV  
REDONDO BEACH CA 90278

235 352 11 00 0  
CHIU STEVE H-K  
2360 TERRAZA PL  
FULLERTON CA 92835

235 064 33 00 4  
CHOI MABEL  
605 OAK ST  
BOONTON NJ 07005-1253

302 242 01 00 8  
CHOKSI NISHITH & MINAXI  
12903 MOORESHIRE DR  
CERRITOS CA 90703

428 041 18 00 0 **DUP**  
CHUA CARLOS C & VIRGINIA S  
ADDRESS UNKNOWN

235 270 28 00 3  
CLOVIS WAYNE H & SANDRA A  
1101 N THORNBUSH CI  
ARLINGTON TX 76013

235 134 06 00 6  
COLTON RONALD & JOAN SUR  
3600 DRAGONFLY DR APT 204  
THOUSAND OAKS CA 91360-8455

428 051 02 00 6  
COMPTON FAM TR  
38214 SUNNY DAYS DR  
PALM DESERT CA 92211-1204

235 300 07 00 0  
COOK LORAIN TODD  
4984 BOWIE CT  
SIMI VALLEY CA 93063-1402

235 380 05 00 8  
COONS ARTHUR L & MARILYN J  
8446 ROAD 224  
TERRA BELLA CA 93270-9310

235 024 28 00 8  
CORBET MARY S  
23951 DECORO DR APT 220  
VALENCIA CA 91354-4957

235 310 07 00 3  
COUGHRAN FAMILY TR  
5081 SAUSALITO CI  
LA PALMA CA 90623-2222

235 320 11 00 7  
CRUZ MARIA ROWENA D  
100 MOUNTAIN VIEW RD  
HOT SPRINGS NC 28743-7182

428 231 29 00 7  
CURTIS ADRIANA  
22583 FLAMINGO ST  
WOODLAND HILLS CA 91364-4917

234 520 09 00 3  
DAMASO ROMULO F & DOLORES  
TRUST  
1013 ATTICUS AV  
HENDERSON NV 89015-5962

235 024 11 00 8  
DANEBROCK SHARON M TR  
14403 ADDISON ST APT 14  
SHERMAN OAKS CA 91423

235 401 11 00 7  
DANG HIEU NGOC  
614 W JUANITA AV  
GILBERT AZ 85233-2672

235 310 25 00 5  
DANIELS FRED JR  
17701 S AVALON BL # 262  
CARSON CA 90746

428 093 12 00 1  
DAREJEH MELISSA  
4208 ALHAMA DR  
WOODLAND HILLS CA 91364

235 353 23 00 2  
DARRINGTON RITA B  
6728 SHERBOURNE DR  
LOS ANGELES CA 90056

428 231 02 00 8  
DATWYLER REV TR  
1190 FLYING FISH ST  
FOSTER CITY CA 94404

428 202 35 00 2  
DAVIS RANDOLPH S & MELINDA  
24 SYDNEY CI  
HARPERS FERRY WV 25425

428 053 07 00 5  
DE LA PENA PATRICIA A  
410 HUMPHREY DR  
BUDA TX 78610-3133

235 024 07 00 7  
DE LOS SANTOS WILLIAM A  
960 CARRIAGE LN  
WALNUT CA 91789

428 052 14 00 8  
DE MONTE FAMILY TRUST A  
2545 OCOTILLO AV  
SANTA MARIA CA 93455-1613

428 053 16 00 1  
DE MONTE FAMILY TRUST A  
2423 NICKLAUS DR  
SANTA MARIA CA 93455-1524

428 231 26 00 8  
DE MONTE RALPH E  
2446 DUNSTAN ST  
OCEANSIDE CA 92054-5727

235 282 18 00 1  
DE MOSS ROBERT G TR  
3706 WOODROFF  
LONG BEACH CA 90808

235 111 16 01 7  
DE VILLA AMADO MAGNATE &  
LEONILA VERGARA  
1134 HYATT AV  
WILMINGTON CA 90744-3622

235 112 03 00 7  
DEAN LESLIE I  
5528 N 50TH AV  
OMAHA NE 68104-1838

235 410 16 00 8  
DEDOMENICO FAM TR  
16 VIA MONTANERO  
SANTA MARGARITA CA 92688

235 402 02 00 8  
DEGUZMAN ROSALINO B & ROSA D  
915 WEST LAS FLORES  
SANTA MARIA CA 93454

244 234 15 00 7  
DEL SOL PROPERTIES  
12121 WILSHIRE BL STE 600  
LOS ANGELES CA 90025

235 064 17 00 8  
DEL SOL PROPERTIES INC  
12121 WILSHIRE BL STE 600  
LOS ANGELES CA 90025

235 370 10 00 9  
DELA CRUZ VICENTE & MA CECILIA  
2527 ARF AV  
HAYWARD CA 94545-4108

235 121 06 00 2  
DELACRUZ EDGARDO L  
22720 NICOLLE AV  
CARSON CA 90745

235 111 27 00 0  
DELACRUZ EDGARDO L ET AL  
22720 NICOLLE AV  
CARSON CA 90745

235 290 08 00 1  
DELGADO RICARDO  
11766 PEARWOOD AV  
SAN FERNANDO CA 91340

235 353 19 00 1  
DENNIS WAYNE D  
32606 OAK PARK DR  
LEESBURG FL 34748-8726

428 232 25 00 2  
DINH LONG T & NGUYEN VIVIEN U  
4105 SERGIO CT  
BAKERSFIELD CA 93311

235 360 08 00 1  
DISCOUNTLAND INC  
2261 MONACO DR  
OXNARD CA 93035-2915

428 093 15 00 0  
DO HIEU VAN  
3021 BOWEN ST  
GARDEN GROVE CA 92843

235 082 03 00 9  
DO HUAN X & NGUYEN N YEN  
5414 W FLIGHT AV  
SANTA ANA CA 92704

235 082 02 00 6 **DUP**  
DO HUAN X & NGUYEN YEN N  
5414 W FLIGHT AV  
SANTA ANA CA 92704

235 132 13 00 2  
DORSETT DANA P  
87 HICKS ST # 2B  
BROOKLYN NY 11201

235 340 29 00 6  
DRAHOS CHET J & RITA MAY  
1200 S CATALINA AV APT 106  
REDONDO BEACH CA 90277-4934

235 353 05 00 0 **DUP**  
DUNATTE ALFRED & CATHERINE  
ADDRESS UNKNOWN

235 101 38 00 9  
DUNCAN KAY ANN  
38721 ROMA CT  
PALMDALE CA 93550-8137

235 082 22 00 4  
DUNNE WILBUR P  
1256 N PALO VERDE LN  
COOLIDGE AZ 85228

235 310 18 00 5  
DUNWOODY KENT & COLLEEN TR  
20142 HAYFIELD LN  
TEHACHAPI CA 93561-7819

428 053 03 00 3  
DUONG SANG VAN  
2302 SAHARAH DR  
GARLAND TX 75044

235 204 35 00 0  
DUTRA GERALD O TR  
2845 CARRADALE DR  
ROSEVILLE CA 95661-4047

235 310 22 00 6  
EAGLE DESERT VISTA CORP  
PO BOX 2470  
VICTORVILLE CA 92393-2470

428 010 04 00 3  
EAST KERN AIRPORT DIST  
MOJAVE AIRPORT  
MOJAVE CA 93501

235 360 01 00 0  
EDDINS ERVIN R & SHIRLEY TR  
8368 ORA BELLE LN  
EL CAJON CA 92021

428 102 24 00 1  
EDEJER SHIRLEY BARRERA  
10913 HOBACK ST  
NORWALK CA 90650-3553

235 112 09 00 5  
EDGE APRIL  
300 DOCKSIDE DR  
JACKSONVILLE NC 28546

235 310 04 00 4  
EGLASH STEVEN M  
5580 BILL CODY RD  
HIDDEN HILLS CA 91302-1101

235 300 01 00 2  
EISIKOWITZ JEFFREY L & LINDA V  
10341 MONOGRAM AV  
GRANADA HILLS CA 91344-6763

235 320 09 00 2  
EL PASO NATURAL GAS CO  
PO BOX 4372  
HOUSTON TX 77210-4372

235 260 21 00 9  
EL ZANJ K AVERY  
5522 S GARTH AV  
LOS ANGELES CA 90056

235 340 13 00 9  
ELLI NATIVEDAD M  
16413 TAYLOR CT  
TORRANCE CA 90504-1917

428 041 17 00 7  
ELLIS CHARLES L & EMMA J TR  
4432 PACIFIC COAST HW  
TORRANCE CA 90505-5666

235 370 02 00 6  
ENRIQUEZ ERIC J  
13917 NORDHOFF ST  
ARLETA CA 91331

235 260 15 00 2  
ENRIQUEZ MICHAEL JASON  
13917 NORDHOFF ST  
ARLETA CA 91331

235 353 26 00 1  
EPPERLY ELGIN SHONNE E & ELGIN  
STEPHEN H  
5559 IVYWOOD CT  
FORESTHILL CA 95631-9754

235 310 09 00 9  
ERIN NICOLE LLC  
1801 W AVENUE K  
LANCASTER CA 93534

235 022 05 00 7  
EVANGELICAL MISSION &  
SEMINARY INTERNAT INC  
36 ALPINE RD  
TOWACO NJ 07082

235 320 13 00 3  
EWASKEY LEONARD L & MARY R  
EWASKEY TRUST  
3431 MARBER AV  
LONG BEACH CA 90808

235 401 10 00 4  
FABELA MANUEL & EUFEMIA ET AL  
3436 GREENACRE DR  
SANTA MARIA CA 93455-2454

235 024 16 00 3  
FAIR GREGORY & NATALIE FAM TR  
7235 KUAHONO ST  
HONOLULU HI 96825-2703

235 111 01 00 4  
FAMILY NURSERY CO INC  
PO BOX 389  
VICTORVILLE CA 92393-0389

235 112 02 00 4  
FANE ELOIS J REV LIV TR  
2466 S LAUREEN AV  
FRESNO CA 93725

235 102 17 00 5  
FELLOWS MARY G TR  
12200 SIERRA VIEW  
BORON CA 93516

235 310 30 00 9  
FERGUSON OPAL M  
75 GOLF ESTATES RD  
EASTSOUND WA 98245

235 064 10 00 7  
FIRST EQUITABLE REAL EST INC  
6720 SUNSET BL  
LOS ANGELES CA 90028

235 101 05 00 3  
FISCHIETTO FREDERICK C  
1604 VALLEY VIEW CT  
ROSEVILLE CA 95661

**DUP**

235 101 04 00 0  
FISCHIETTO FREDRICK C & ROBERT  
1604 VALLEY VIEW CT  
ROSEVILLE CA 95661

235 204 34 00 7  
FLOWERS SHARRON M TR  
4093 HILLSIDE AV  
NORCO CA 91761

428 231 03 00 1  
FOGLI FAMILY ENTERPRISES LLC  
260 PORTOLA DR  
SAN MATEO CA 94403-2327

428 042 24 00 4  
FOLGARELLI GENEVIEVE  
29950 LARRABEE ST  
HAYWARD CA 94544-6808

428 041 31 00 7  
FORECAST LAND CORP  
PO BOX 36  
WOODLAND HILLS CA 91365-0036

235 282 16 00 5  
FOREMAN ALBERTA F TR  
1637 NORWOOD HILLS DR  
O FALLON MO 63366

428 102 07 00 2  
FOWLER RHUDOLPH W & NANCY H  
REV TR  
8 STEVENS CREEK CI  
DURANGO CO 81301

428 102 28 00 3  
FOWLER RHUDOLPH W & NANCY H  
REV TR  
2622 BAYSIDE WALK  
SAN DIEGO CA 92109-8265

428 052 05 00 2  
FREY KURT & MARTHA  
630 BROOKSIDE AV  
REDLANDS CA 92373

235 352 08 00 2  
FRIEDMAN ESTHER  
23427 BLYTHE ST  
CANOGA PARK CA 91304-4496

428 062 29 00 5  
FRISINGER FMLY TR  
6281 TURNBERRY CI  
HUNTINGTON BCH CA 92648

235 353 13 00 3  
FULCO JESSE  
6129 W AVENUE J15  
LANCASTER CA 93536

428 231 17 00 2  
FUNG RONALD & MARIE TR  
128 CREEDON CIRCLE  
ALAMEDA CA 94502

235 330 35 00 0  
FUTURE ESTS LAND HOLDINGS LLC  
P O BOX 304  
HERMOSA BEACH CA 90254

235 102 38 00 6  
GAETZ MICHAEL P  
10816 SHELLABARGER RD  
BAKERSFIELD CA 93312

235 031 22 00 2  
GANDINGCO GUADALUPE R TRS  
341 THIRD AV  
DALY CITY CA 94014

235 320 18 00 8  
GANNON FAMILY TRUST  
8467 LOWER SCARBOROUGH CT  
SAN DIEGO CA 92127-6119

428 202 50 00 5  
GAOIRAN LUIS G & TERESITA T  
440 KEA ST  
KAHULUI HI 96732-1424

235 204 33 00 4  
GAPUZ CHRISTOPHER A  
1834 ARROYO DE PLATINA  
SAN JOSE CA 95116-1328

428 202 24 00 0  
GARCES ART  
1313 N GRAND AV  
WALNUT CA 91789-1374

428 092 15 00 3  
GARCIA BENEDICTO F & SIMPLICIA  
D TRUST  
536 N ST ANDREWS PL  
LOS ANGELES CA 90004

235 082 09 00 7  
GARRETT MURRAY  
4430 ATOLL  
SHERMAN OAKS CA 91403

235 202 08 00 8  
GARRIDO MARLIS JO ANN  
809 BUNDY DR # 309  
W LOS ANGELES CA 90049

235 410 15 00 5  
GATES MAUREEN E  
25301 PIZARIO  
EL TORO CA 92630

429 030 02 00 0  
GENUS L P  
2006 HIGHWAY 395  
FALLBROOK CA 92028

428 232 27 00 8  
GERGIS NASR N & LAURICE R  
1544 LEANNE TL  
WALNUT CA 91789

235 111 04 00 3  
GERSTNER DAN & SILVIA FAM TR  
P O BOX 545  
SAN GABRIEL CA 91776

235 111 10 00 0  
GERSTNER SILVIA SEPARATE TRUST  
P O BOX 545  
SAN GABRIEL CA 91778

235 340 15 00 5  
GIBSON PAULINE C LIVING TRUST  
1008 VALLEY RD  
EVERGREEN CO 80439

235 410 05 00 6  
GILES BRUCE I  
601 WEST GILES RD  
MUSKEGON MI 49445

235 191 06 00 3  
GILL NANCY G  
11572 MORNING SPRING CT  
CUPERTINO CA 95014-5121

235 204 21 00 9  
GILSDORF E G SR & B A & S  
248 PARK LAKE DR  
BULLHEAD CITY AZ 86429-7252

235 065 05 00 0 **DUP**  
GIRARD JASON CLINTON  
ADDRESS UNKNOWN

235 121 07 00 5  
GIVENS WALTER  
2158 WEST 82ND ST  
LOS ANGELES CA 90047

235 192 08 00 6  
GOMES DANIEL  
3630 W BOUQUET AV  
ANAHEIM CA 92804-4611

235 340 24 00 1  
GOMEZ M G & MARTIN A ET UX  
12315 VAN WICKLIN AV  
SYLMAR CA 91342

428 042 22 00 8  
GONZALES DOLORES  
2748 STOCKTON AV  
ANAHEIM CA 92801

235 101 16 00 5  
GONZALEZ JOSE  
4804 PASSONS BL  
PICO RIVERA CA 90660

235 401 23 00 2  
GONZALEZ JOSE CASTRO  
PO BOX 20027  
OXNARD CA 93034-0027

235 401 01 00 8  
GONZALEZ RAYMOND LARA  
PO BOX 20027  
OXNARD CA 93034-0027

235 024 04 00 8  
GOTO BEN T SURVIVORS TRUST  
1631 WEST CRAIG PL  
SAN PEDRO CA 90732

428 082 13 00 4  
GRACE ONE HOLDINGS LLC  
17012 ROPER ST  
MOJAVE CA 93501-1689

428 093 23 00 3  
GREEN KEVIN A TR  
42450 NORTH 12TH ST WEST  
LANCASTER CA 93534

235 310 02 00 8 **DUP**  
GREEN WILMA J TRUST  
ADDRESS UNKNOWN

235 310 11 00 4  
GRIZZELL DALE & ELEDA TR ET AL  
4168 MISTY HOLLOW CT  
MOORPARK CA 93021-3327

235 111 06 00 9  
GROSS KENNETH J & KAREN J  
9391 PIONEER LN  
GLEN IVY CA 92883

235 402 01 00 5  
GUERVARA ALMA N SANTELIZ  
P O BOX 564  
MARINA CA 93933

428 042 07 00 5  
HA JUNE GI & KYUNG SOON  
23010 PASEO DE TERRADO U 3  
DIAMOND BAR CA 91765-2239

235 102 40 00 1  
HAI FRANCIS & BETTINA  
4732 BULOVA ST  
TORRANCE CA 90503-1468

235 024 29 00 1  
HALEY LAURIE J  
15818 N 60TH AV  
GLENDALE AZ 85306-2323

428 202 19 00 6  
HALL JON BERNARD & JANET  
12830 QUAKER HILL CROSS RD  
NEVADA CITY CA 95959-9514

428 051 10 00 9  
HALL TR  
6735 W GOLDEN LN APT 29  
PEORIA AZ 85345-4373

235 370 04 00 2  
HALLETT JAMES A & PATRICIA P  
5075 WILLOW HILLS LN  
CINCINNATI OH 45243-4219

235 082 28 00 2  
HALYARD DANIEL & BETTY REV TR  
1461 GATEWAY DR  
VALLEJO CA 94589

235 082 11 00 2  
HAMER ERNESTINE  
1 SAGE CANYON RD  
POMONA CA 91766-4868

235 102 14 00 6  
HAMMER CHRISTOPHER DAVID  
21702 FLAMENCO  
MISSION VIEJO CA 92692-1016

235 380 07 00 4  
HANSEN DENNIS V  
PO BOX 773  
BIG BEAR LAKE CA 92315-0773

235 171 03 00 8  
HARA MINA TR  
537 E PROCTOR ST  
WILMINGTON CA 90744-1530

428 212 10 00 2  
HARDIN ROBERT L & PHYLLIS M  
TREMBLE  
4316 W HOPI TR  
LAVEEN AZ 85339-2063

235 310 32 00 5  
HARFORD AARON  
15952 K ST APT 4  
MOJAVE CA 93501-1753

428 052 06 00 5  
HARING ISOBEL S REV TR  
2294 MORGAN RD  
CARLSBAD CA 92008-7114

235 352 09 00 5  
HARKAY NICOLAS O & GABRIELLE C  
6430 LONGRIDGE AV  
VAN NUYS CA 91401

235 082 07 00 1  
HARKIRAT & GURMAIL FAMILY  
TRUST  
636 AZURE HILLS DR  
SIMI VALLEY CA 93065-5517

235 111 15 00 5  
HARMON WILLIAM F  
12124 MONROVIA  
OVERLAND PARK KS 66213

234 520 10 00 5  
HARO FERNANDO L & NELLY D  
16303 RIDGE VIEW DR  
APPLE VALLEY CA 92307-1243

235 024 18 00 9  
HAYES DORIS  
PO BOX 4074  
INGELWOOD CA 90309

428 232 09 00 6  
HELGESEN ROBERT MAURICE JR  
8 BILTMORE ESTATE U 318  
PHOENIX AZ 85016-2852

302 243 10 00 1  
HELMAND ROBERT B  
15210 N SCOTTSDALE RD STE 230  
SCOTTSDALE AZ 85254-8217

235 192 15 00 6  
HEMMINGSEN GEORGE TR  
700 I AV  
CORONADO CA 92118

428 010 10 00 0  
HENG LIPMENG & LYCHHENG  
1942 SAMARA DR  
ROWLAND HEIGHTS CA 91748-2510

235 282 31 00 8  
HENRY MONTY L & GLORIA J  
22118 SCHOOLCROFT ST  
CANOGA PARK CA 91303

302 243 03 00 1  
HERBST MICHAEL T  
11 LYNBROOK RD  
TRUMBULL CT 06611

235 270 18 00 4  
HERNANDEZ AQUILINO & ROJAS B  
15103 CABELL AV  
BELLFLOWER CA 90706-3718

235 064 06 00 6  
HERNANDEZ CESAR A & DORY J  
1242 S ROWAN AV  
LOS ANGELES CA 90023

235 352 15 00 2  
HERNANDEZ MARY-ANNE  
33E CAMBRIDGE CT  
LAKEWOOD NJ 08701-6293

235 340 26 00 7  
HERRERA LEONARDO C  
5715 HAROLD WY APT 105  
LOS ANGELES CA 90028-6794

428 041 23 00 4  
HI TECH UNIVERSE  
19638 EAGLE RIDGE LN  
NORTHRIDGE CA 91326

235 282 28 00 0  
HIGA FAMILY TRUST  
2317 W 177TH ST  
TORRANCE CA 90504-4228

235 061 02 00 3  
HIGHWAY 58 PROP LLC  
4370 LA JOLLA VILLAGE DR STE 960  
SAN DIEGO CA 92122

235 065 17 00 5                      **DUP**  
HIGHWAY 58 PROP LLC  
4370 LA JOLLA VILLAGE DR STE 960  
SAN DIETO CA 92122

235 282 22 00 2                      **DUP**  
HIGHWAY 58 PROP LLC  
4370 LA JOLLA VILLAGE DR # 960  
SAN DIEGO CA 92122

428 051 15 00 4  
HO DAVID W & IRENE M  
309 E MARSHALL ST  
SAN GABRIEL CA 91776-3805

428 202 23 00 7  
HOFFMAN SIGEL J & GUANELL C  
P O BOX 1059  
BAKERSFIELD CA 93302

235 064 25 00 1                      **DUP**  
HOLLOSCHUTZ LEON TRUST  
ADDRESS UNKNOWN

235 270 15 00 5  
HOLMAN GREGORY E TR  
4225 OCEANSIDE BL STE H  
OCEANSIDE CA 92056-3473

235 270 26 00 7  
HOLQUIN MELINDA LIVING T  
2050 VIA MARIPOSA EAST U B  
LAGUNA WOODS CA 92637-0800

235 192 12 00 7  
HOLZER SURVIVOR TRUST  
261 W KENNETH RD  
GLENDALE CA 91202-1458

235 204 28 00 0  
HOME EQUITY OPTIONS LLC  
10401 VENICE BL # 283  
LOS ANGELES CA 90034

428 093 13 00 4                    **DUP**  
HOME EQUITY OPTIONS LLC  
10401 VENICE BL 283  
LOS ANGELES CA 90034

235 064 12 00 3  
HONDA REAL PROPERTY TRUST  
1935 MANCHA WY  
MONTEREY PARK CA 91755-6711

235 121 02 00 0  
HOOVER JOSEPH ROGER JR  
133 ALAMO AV  
SANTA CRUZ CA 95060-3001

235 320 12 00 0  
HOTTA GEORGE M & TOSHIKO  
1651 SO BRADSHAW AV  
MONTEREY PARK CA 91754

235 112 10 00 7  
HOWARD SUSAN L & JACQUELINE M  
1121 LINCOLN AV  
PASADENA CA 91103

235 320 07 00 6  
HOYOS MARIA D TRUST  
220 E 68TH WY  
LONG BEACH CA 90805-1228

235 204 26 00 4  
HSU SHIH CHIEH  
105 MOUNTAIN VIOLET  
IRVINE CA 92620-3103

235 340 27 00 0  
HUANG TED & LUCINDA TRUST B  
635 GARDENIA DR  
AZUSA CA 91702-6296

235 082 12 00 5  
HUI JOHN  
5560 S FORT APACHE RD STE 100  
LAS VEGAS NV 89148

235 024 08 00 0  
HULIGANGA TR  
1920 RIPPLE ST  
LOS ANGELES CA 90039-3431

235 290 10 00 6  
HUTCHISON MELVIN D  
483 E CERRITOS  
RIALTO CA 92376

235 081 02 00 9  
HUYNH CHIN & NGUYEN BINH  
16098 MOUNT HICKS ST  
FOUNTAIN VALLEY CA 92708-1723

235 064 21 00 9  
HYMAN CALIFORNIA PROPERTY TR  
22591 ALBARES  
MISSION VIEJO CA 92691-1402

235 031 42 00 0  
HYUNDAI MOTOR AMER  
10550 TALBERT AV  
FOUNTAIN VALLEY CA 92708-6032

428 231 07 00 3  
IGE DANIEL S TRUST  
493 DORAL CT  
BRENTWOOD CA 94513-5030

235 330 39 00 2  
IGLESIAS FERMIN & CLARA E  
15505 VIRGINIA AV  
PARAMOUNT CA 90723

235 065 14 00 6  
IPARADISO LLC  
2629 FOOTHILL BL  
LA CRESCENTA CA 91214-3511

235 380 03 00 2  
ISHIDA FAMILY TR  
660 FERNGLN CI  
FILLMORE CA 93015-1342

428 240 19 00 4  
ITURRIOS RUTH  
15622 LEMOLI AV  
GARDENA CA 90249-4462

235 191 11 00 7  
J D LOOMIS INVS LLC  
7100 LOCH LOMOND DR  
BETHESDA MD 20817-4760

235 112 04 00 0  
JACKSON ANDREW P  
341 WEST AVENUE G  
LANCASTER CA 93534

235 064 38 00 9  
JACKSON ROY  
4672 TOPANGA CANYON BL # 269  
WOODLAND HILLS CA 91364

235 192 03 00 1  
JACOBSON FRANK R & LINDA  
FAMILY TR  
728 ORANGE BELT LOOP  
WINTER GARDEN FL 34787

235 282 04 00 0  
JACQUEZ RAUL H & MARIA C  
13137 MUSCATINE ST  
ARLETA CA 91331-4818

235 204 23 00 5  
JAMES LON O TR  
2714 KITCHEN DICK RD  
SEQUIM WA 98382-9538

244 234 35 00 5  
JAMES MILDRED J SEPARATE  
PROPERTY TRUST  
12823 ENCANTO WY  
REDDING CA 96003

428 092 11 00 1  
JANKUS FAMILY LTD  
9554 BONE BLUFF DR  
NAVARRE FL 32566

428 072 04 00 5  
JELUSICH TR  
3421 CURTIS ST  
SAN DIEGO CA 92106-1360

235 134 21 00 9  
JERIES KHADER FAM TR  
3 VIA PUMA  
RCHO SANTA MARG CA 92688

235 134 12 00 3  
JOHNSON FAMILY TRUST  
2906 ALDER PL  
FULLERTON CA 92635



428 202 27 00 9  
JOHNSON G ROBERT & DOLLIE J  
222 OLLIS RD SP 91  
CAPE JUNCTION OR 97523

235 370 03 00 9  
JOHNSON TRUST  
17572 SHERBROOK DR  
TUSTIN CA 92780

244 234 12 00 8  
JOHNSTON BARBARA Z  
106 SILVER VALLEY BL  
MUNROE FALLS OH 44262

235 410 12 00 6  
JONES MERLYN J  
52 VISTA LA CUESTA  
RNCH ST MRGRT CA 92688

428 202 22 00 4  
JONES ROBERT A & JERRI J  
PO BOX 2193  
TEHACHAPI CA 93581

235 330 43 00 3  
JUAREZ FELIPE H REV LIV TR  
1166 N 6TH PL  
PORT HUENEME CA 93041

428 052 07 00 8  
JUNKIN FAMILY TRUST 1990  
81429 AVENIDA MONTURA  
INDIO CA 92203

428 082 14 00 7  
KADUBEC JOHN  
508 SE 157TH AV U 42  
VANCOUVER WA 98684-8879

302 243 11 00 4  
KAGAN SIMON  
23611 VALARTA LN  
MISSION VIEJO CA 92691-3425

428 092 18 00 2  
KAHENYA LOISE W  
645 REDONDO AV APT 201  
LONG BEACH CA 90814

235 340 02 00 7  
KANG HENRY & JANIE ET AL  
6208 OAK PARK AV  
LAS VEGAS NV 89118

428 231 10 00 1  
KANG SHIN S & TERESA A  
22098 PHEASANT ST  
LAKE FOREST CA 92630

234 520 34 00 5  
KARAPETYAN TAGUI LIVING TRUST  
7037 MAMMOTH AV  
VAN NUYS CA 91405-3328

235 340 34 00 0  
KASHIWAGI KAREN  
1766 N WILLOW WOODS DR # D  
ANAHEIM CA 92807

235 172 14 00 7  
KAUFMANN FAMILY TR  
14165 COPENHAGEN DR  
TRUCKEE CA 96161

235 310 27 00 1  
KELLEY HUBERT A JR & DELORES N  
1233 HYDE LN  
RICHMOND VA 23229

428 231 30 00 9  
KENNEDY JONATHAN L  
P O BOX 2947  
LANCASTER CA 93539

235 025 21 00 4  
KEREN & ASSCS LLC  
P O BOX 2016  
BEVERLY HILLS CA 90213

235 111 14 00 2  
KERN LAND DEV LLC  
10450 WILSHIRE BL #5G  
LOS ANGELES CA 90024

235 134 01 00 1  
KHAN FAMILY TRUST 2001  
5315 HEIDORN RANCH RD  
BRENTWOOD CA 94513-5304

235 065 08 00 9  
KHATIBI RICHARD  
P O BOX 16296  
ENCINO CA 91416

235 290 09 00 4  
KHERA NARENDRA & NORIEGA JOE  
15305 METROPOL DR  
HACIENDA HGTS CA 91745

235 370 07 00 1  
KILLMER KENNETH G  
P O BOX 276  
CATHEYS VLY CA 95306

235 024 22 00 0  
KIM ANTHONY  
P O BOX 3694  
VICTORVILLE CA 92393

428 092 19 00 5  
KIM CHONG OH & KIMIE DOHYANG  
3445 CLEARVIEW CI  
HOUSTON TX 77025-5927

235 282 30 00 5  
KIM ISSAC & LOIS  
4225 NEUHAUS DR  
MCALLEN TX 78503-8218

235 380 02 00 9  
KING DESMOND N  
1130 E ALOSTA AV U B102  
AZUSA CA 91702-2703

428 041 16 00 4  
KINKER JAMES W & DOROTHY L  
15692 HUMMINGBIRD LN  
HUNTINGTON BEAC CA 92649-1417

428 041 28 00 9  
KIRILLOVA ELIZAVETA  
5757 OWENSMOUTH AV APT 10  
WOODLAND HILLS CA 91367

428 202 36 00 5  
KIRKSEY FAMILY TRUST  
512 GALLEON WY  
SEAL BEACH CA 90740-5939

428 093 22 00 0  
KITE CONSTANCE J TR ET AL  
2489 W BEECHWOOD AV  
FRESNO CA 93711-7015

428 042 21 00 5  
KLEPL DONALD  
208 ANDERSON RD  
PRESCOTT AZ 86303-3755

235 340 21 00 2  
KNUST GRAICHEN FAMILY TRUST  
2524 KING WY  
CLAREMONT CA 91711-1719

302 241 12 00 3  
KOMSKY SUBTRUST A  
PO BOX 667  
WOODLAND HILLS CA 91365-0667

428 231 14 00 3  
KONGSHOY FAMILY TRUST  
18 LINDEN RD  
WATSONVILLE CA 95076-0808

235 101 19 00 4  
KOTKIN LEIGH TR  
12325 EVENSONG DR  
LOS ANGELES CA 90064

428 202 25 00 3  
KOULEYAN FAMILY TRUST  
1008 LINDENWOOD LN  
LOS ANGELES CA 90049-1409

235 282 21 00 9  
KUBOTA EDWIN J & JANET S  
26 TRUMPET VINE  
IRVINE CA 92603-4210

235 064 24 00 8  
KUNTZ SEYMOUR & ROSE TRUST  
10847 CHARBONO PT  
SAN DIEGO CA 92131-1505

235 031 07 00 9  
KUTU INV CO  
PO BOX 7663  
LAGUNA NIGUEL CA 92607-7663

428 051 04 00 2  
L & P INVESTMENTS INC  
1100 ALAKEA ST # 7  
HONOLULU HI 96813-2855

428 240 09 00 5  
L I LAND PORTFOLIO LLC  
12671 HIGH BLUFF DR STE 150  
SAN DIEGO CA 92130-3018

428 240 20 00 6  
L I LAND PORTFOLIO LLC  
126715 HIGH BLUFF DR 150  
SAN DIEGO CA 92130

235 310 06 00 0  
LA VERTU DENIS J  
24071 LANDISVIEW AV  
LAKE FOREST CA 92630-5133

234 052 06 00 2  
LAND INV NETWORK LLC  
3142 PACIFIC COAST HW STE 200  
TORRANCE CA 90505-6750

235 102 23 00 2                   **DUP**  
LAND INVS NETWORK  
3142 PACIFIC COAST HW STE 200  
TORRANCE CA 90505-6750

428 092 14 00 0                   **DUP**  
LAND PARCEL LIQUIDATORS INC  
4765 PARK ENCINO LN U 333  
ENCINO CA 91436-3276

428 232 08 00 3  
LAND PARCEL LIQUIDATORS INC  
4765 PARK ENCINO LN # 333  
ENCINO CA 91436

235 171 09 00 6  
LAND TITLE LLC  
PO BOX 6492  
ORANGE CA 92863

235 380 04 00 5  
LANDER COLEMAN H & POORE  
MARY  
6030 VAN NOORD  
VAN NUYS CA 91401

428 231 16 00 9  
LANDRUSH  
P O BOX 348  
SAN FERNANDO CA 91341

235 064 05 00 3  
LANE FAMILY TRUST  
P O BOX 6196  
LANCASTER CA 93539

235 202 13 00 2  
LANG ADOLPH & ANNE  
4529 FAIR AV  
OAKLAND CA 94619-2926

235 101 08 00 2  
LANSING INDUSTRIES PSP LLC  
12671 HIGH BLUFF DR STE 150  
SAN DIEGO CA 92130-3018

428 051 16 00 7  
LAU LAWRENCE H & AMY KAM-MAI  
ET AL  
216 S ELECTRIC AV  
ALHAMBRA CA 91801

235 111 05 00 6  
LAURENTI EDWARD  
31 RAMAPO RD  
CRANFORD NJ 07016-3465

428 042 09 00 1  
LAWLOR JOHN & CHARLENE TRUST  
43843 JENKINS LN  
ASHBURN VA 20147

428 231 01 00 5  
LAWS JERRY JOSEPH  
19453 8TH PL  
ESCONDIDO CA 92029-8127

235 300 14 00 0  
LAZERSON JACOB & JANICE M TR  
11 LARKFIELD LN  
LAGUNA NIGUEL CA 92677

234 520 36 00 1  
LE TAM THI  
1040 GRAPE ST  
SAN MARCOS CA 92069-3164

235 024 38 00 7  
LEBOVIC JOAN SURVIVORS TR  
18839 LA AMISTAD PL  
TARZANA CA 91356-5211

428 232 29 00 4  
LEE CHARLES T & TINA K  
2771 MARIPOSA ST  
TORRANCE CA 90503

428 174 01 00 9  
LEE JANG WOO  
2867 MUIR TRAIL DR  
FULLERTON CA 92833-5517

235 111 28 00 3  
LEE JOO S  
466 FOOTHILL BL # 317  
LA CANADA FLINT CA 91011-3518

428 010 02 00 7  
LEE MEI RUEY YANG TRUST  
1680 WILLIAMSPORT ST  
HENDERSON NV 89052-6831

235 112 05 00 3  
LENDIO JAMES  
5732 PLAZA CT  
PALMDALE CA 93552-4695

235 410 35 00 3  
LEON CESAR OCTAVIO  
2505 ILLINOIS AV APT C  
SOUTH GATE CA 90280-3907

235 310 03 00 1  
LEON JOSE P & SUAREZ CARLOS A  
P O BOX 9686  
GLENDALE CA 91226-9686

428 041 10 00 6  
LEPPO AMY L  
229 SMITH RD  
ALAMO CA 94507

428 051 11 00 2  
LEPPO JAN R  
553 SUZANNE CT  
PALO ALTO CA 94306

428 041 07 00 8  
LEPPO ROBYN B  
8711 PEZZI RD  
STOCKTON CA 95215

235 024 31 00 6  
LESH THOMAS A  
21723 HERCULES ST  
APPLE VALLEY CA 92308-8490

428 051 22 00 4  
LEVEY WILLIAM C & PENELOPE  
FAMILY TRUST  
735 CALLA DR # 1  
SUNNYVALE CA 94086-8004

428 202 20 00 8  
LEVISTE MANAGEMENT SYSTEMS  
INC  
1246 5 CAHUENGA BL  
LOS ANGELES CA 90038

302 241 08 00 2 **DUP**  
LEVY GABRIEL & ESTHER  
ADDRESS UNKNOWN

235 340 37 00 9  
LEWIS DAVID ACTON & BEVERLY M  
P O BOX 3053  
EUREKA CA 95501

428 062 05 00 5  
LIGHT FRANCINE JUDITH TRUST &  
ET AL  
10257 CENTURY WOODS DR  
LOS ANGELES CA 90067-6312

235 065 03 00 4  
LIU WARNER  
18830 NORWALK BL  
ARTESIA CA 90701-5973

235 065 15 00 9  
LLOYD J D JR  
8916 NE 299TH ST  
BATTLE GROUND WA 98604

235 134 07 00 9 **DUP**  
LO LIEN-GWEN & EDITH  
ADDRESS UNKNOWN

428 232 23 00 6  
LONGO FAMILY TRUST  
621 W SAFFRON LN  
RATHDRUM ID 83858

235 204 31 00 8  
LOPEZ CONSUELO TRUST  
12648 REXTON ST  
NORWALK CA 90650-4458

428 042 05 00 9  
LOPEZ JOSE A & MARIA J  
5954 8TH AV  
LOS ANGELES CA 90043

235 192 04 00 4  
LORENZ LARRY G & SARAH G TR  
2127 WEST 230TH ST  
TORRANCE CA 90501

244 234 36 00 8  
LORENZO VENTON T  
2115 DENMEAD ST  
LAKEWOOD CA 90712

235 064 20 00 6  
LORICH CARL A  
12220 5TH ST # 140  
YUCAIPA CA 92399

235 102 36 02 8  
LUITWIELER GEORGE R & JANE TR  
1713 SOUTH ALMANSON  
ALHAMBRA CA 91801

235 330 07 00 9  
LUNCHE ROBERT G SURV TR  
2530 CABRILLO WY  
OXNARD CA 93010

235 140 22 00 7  
LUNING ASSCS L P  
1888 BROADWAY PL  
WENATCHEE WA 98801-8333

235 101 29 00 3  
LUONG KHANH DAN & LE XUAN  
UYEN  
2706 E LOCUST AV  
ORANGE CA 92867

235 024 33 00 2  
LY KHANH TUYET  
2107 WALNUT GROVE LN  
RICHMOND TX 77406-6627

235 410 08 00 5  
M4GC INC  
72380 TANGLEWOOD LN  
RANCO MIRAGE CA 92270

235 330 05 00 3  
MACAPAGAL LEONARDO L &  
ELEANOR  
13333 MISSION TIERRA WY  
GRANADA HILLS CA 91344

235 111 08 00 5  
MACIEL SILVANO & KHALIL VICTOR  
44200 KINGTREE AV U 26  
LANCASTER CA 93534

235 282 05 00 3  
MADRIAGA EDWIN & IMELDA  
4516 THIRA WY  
ELK GROVE CA 95758-5156

235 340 16 00 8  
MAHER DONALD & GAIL FAMILY  
TRUST  
18523 KINGSBURY ST  
NORTHRIDGE CA 91326

235 025 01 00 6  
MALAD FAMILY L P  
3967 CORTE MAR DE BRISA  
SAN DIEGO CA 92130-2640

235 082 10 00 9  
MANN ALFONS & LIDA  
20 ANJOU  
NEWPORT COAST CA 92657-1036

428 202 32 00 3  
MANUEL RENATO S & ZENAIDA C  
3102 SW 313TH PL  
FEDERAL WAY WA 98023-7828

235 064 02 00 4  
MARCOS RUFINO C  
3531 ARROYA SICO AV U 1  
LOS ANGELES CA 90065

235 082 06 00 8  
MARGOLIN MALCOLM L TR  
620 PALISADES DR  
PACIFIC PALISAD CA 90272-2849

235 082 08 00 4  
MARGOLIS K W TR & WENDIE &  
RADIST TR  
4400 AZALIA AV  
TARZANA CA 91356

428 041 21 00 8  
MARK E THOMPSON A P C PROFIT  
SHARING PLAN  
963 W AVENUE J  
LANCASTER CA 93534-3428

235 112 07 00 9  
MARLOWE SAMUEL B  
913 W MYRRH ST  
COMPTON CA 90220

302 243 07 00 3  
MARTINEZ ANANDY  
13301 WESTLAKE ST  
GARDEN GROVE CA 92843

235 340 06 00 9  
MARTINEZ OSCAR  
2606 SANTA ANITA AV # 3  
EL MONTE CA 91733

244 234 30 00 0  
MARTINI JOSEPH F TR  
41181 SUMMITVIEW LN  
PALMDALE CA 93551-2763

235 290 07 00 8  
MASCHKE MICHELLE  
252 HEMENWAY RD  
WINLOCK WA 98596

235 290 05 00 2  
MASCHKE ROBERT  
PO BOX 94  
THERMOPOLIS WY 82443

235 191 02 00 1  
MASON FAMILY TRUST A  
1855 HAREN DR  
HENDERSON NV 89011-4366

235 204 41 00 7  
MASON RANDY L TRUST  
1452 E HOGAN ST  
EAGLE ID 83616-6525

235 171 02 00 5  
MASTIN DEBORAH  
500 NE 55TH TR  
MIAMI FL 33137-2619

428 053 08 00 8  
MATROS BARBARA L  
2556 WEST N-4  
PALMDALE CA 93551

235 121 01 00 7  
MATTISON CHARLES A  
9 CROWN CT  
RANCHO MIRAGE CA 92270-1622

235 353 01 00 8  
MAY PATRICIA L  
437 E FEDORA AV  
FRESNO CA 93704-4706

235 102 20 00 3  
MC CAFFREY THOMAS F  
P O BOX 561  
BORON CA 93596

428 042 31 00 4 **DUP**  
MC PHERSON HOWARD L  
ADDRESS UNKNOWN

235 310 19 00 8  
MEDER JOANN MARY  
174 FLORIDA SHORES BL  
DAYTONA BCH SH FL 32118-5639

235 282 15 00 2  
MEDINA RANDY  
PO BOX 2061  
MONTCLAIR CA 91763-0561

235 204 29 00 3  
MEINERT GORDON E & LINDA  
1649 2ND ST  
DUARTE CA 91010

428 240 16 00 5  
MEJIA CARMEN SOLEDAD  
6475 ATLANTIC AV SP 412  
LONG BEACH CA 90805-8602

428 240 69 00 9  
MEJIA FERDINAND N  
PO BOX 2083  
LEHIGH ACRES FL 33970-2083

428 240 59 00 0  
MEJIA RAUL  
3914 N CREOSOTE CT  
CASA GRANDE AZ 85122-8286

235 360 07 00 8  
MERCADO LIVING TRUST  
11014 FIORE DR  
RANCHO CORDOVA CA 95670-6945

235 181 02 00 8  
MERKEL LARRY  
5136 GROSSE POINT PW  
TOLEDO OH 43611

428 231 15 00 6  
MEYER STERLING P  
155 LAIDLEY ST  
SAN FRANCISCO CA 94131

235 064 11 00 0  
MICU ELENA U REVOCABLE TRUST  
230 N LIMA ST  
BURBANK CA 91505-3509

234 520 23 00 3  
MILLER CAMILLE K  
111 CLARK ST  
SAN RAFAEL CA 94901

235 101 25 00 1  
MILLER FAMILY TR  
531 TOWERING VISTA PL  
HENDERSON NV 89012

235 290 15 00 1  
MILLER NORMAN L & CHRISTA M  
P O BOX 503  
LANCASTER CA 93584

235 310 29 00 7  
MILLS LEIGHTON S & VALERIE TR  
2447 N SHADY FOREST LN  
ORANGE CA 92667

235 330 08 00 2  
MIN BYONG KWAN  
1119 ALBANY ST APT 331  
LOS ANGELES CA 90015-2073

235 310 08 00 6  
MITCHELL BARBARA E  
26245 ACORN LN  
MUNDELEIN IL 60060

428 041 32 00 0  
MOFFETT JAMES H & BONNIE B  
2322 PALO DANZANTE  
ALPINE CA 91901-3620

428 102 32 00 4  
MOJAVE 58 INVS LLC  
PO BOX 20819  
BAKERSFIELD CA 93390-0819

428 051 09 00 7  
MOJAVE AIR & SPACE PORT  
1434 FLIGHT LINE  
MOJAVE CA 93501-2016

235 191 03 00 4  
MOJAVE AIRPORT INDUSTRIAL LLC  
12671 HIGH BLUFF DR STE 150  
SAN DIEGO CA 92130

235 111 02 00 7  
MOORE HARRY MET AL  
P O BOX 107  
WEST LINN OR 97068

235 121 09 00 1  
MORITA ROY  
3432 IVAR AV  
ROSEMEAD CA 91770-2838

235 353 10 00 4  
MORRIS FMLY TR  
23981 JUANENO DR  
MISSION VIEJO CA 92691

235 380 13 01 0  
MORTIMER RICHARD  
19640 DELIGHT ST  
CANYON COUNTRY CA 91351

428 072 07 00 4  
MOSELY MARILYN MYRTLE REV LIV  
TRUST  
8146 BAY VIEW DR  
FOLEY AL 36535

428 072 10 00 2  
MOSELY MARILYN MYRTLE REV LIV  
TRUST  
8146 BAYVIEW DR  
FOLEY AL 36535

235 353 12 00 0  
MOZENA LINDSAY ANNE  
STEINBACK  
5604 W WINSTON DR  
LAVEEN AZ 85339-5257

428 232 06 00 7  
MYERS KENNETH D & PATRICIA A  
13530 OAK MESA DR  
YUCAIPA CA 92399

235 281 19 00 7  
MYERS LARRY LEE & MARILYN  
JEAN JT REV TRUST  
235 KUUPUA  
KAILUA HI 96734

235 320 10 00 4  
NAHAS LOUAI K  
ADDRESS UNKNOWN

**DUP**

428 092 10 00 8  
NAKAGAWA MAKOTO  
ADDRESS UNKNOWN

**DUP**

428 041 15 00 1  
NARVELL DAVID C  
15401 POPPYSEED LN  
CANYON CNTRY CA 91351

428 102 25 00 4  
NATHAN RICHARD C  
P O BOX 1577  
OLYMPIA WA 98507

235 140 21 00 4  
NAYLOR DAVID  
155 JACKSON ST APT 405  
SAN FRANCISCO CA 94111-1921

235 310 01 00 5  
NELSON FAMILY TRUST  
15 LEXINGTON  
IRVINE CA 92720-2535

235 410 02 00 7  
NELSON TAWNEY LYNNE  
188 MEADOW VIEW DR  
PHOENIX OR 97535-9431

428 092 22 00 3  
NELSON WALTER F REV LIV TRUST  
45120 HIGHWAY 79 # 660  
AGUANGA CA 92536

428 092 24 00 9  
NELSON WALTER SEPARATE  
PROPERTY TRUST  
PO BOX 549  
QUARTZSITE AZ 85346-0549

428 051 03 00 9  
NGHIEM MICHAEL & TRAN THUY TP  
4300 DUNCAN DR  
ANNANDALE VA 22003-3727

235 340 14 00 2  
NGUYEN BINH & HUYNH CHIN T  
16098 MOUNT HICKS ST  
FOUNTAIN VALLEY CA 92708-1723

235 024 35 00 8 **DUP**  
NGUYEN BINH N & HUYNH CHIN T  
16098 MOUNT HICKS ST  
FOUNTAIN VALLEY CA 92708-1723

428 162 06 00 7 **DUP**  
NGUYEN BINH NAM & HUYNH CHIN  
THI  
16098 MOUNT HICKS ST  
FOUNTAIN VALLEY CA 92708-1723

235 082 14 00 1  
NGUYEN KENEDY PHU & LENA  
TRUST  
4569 W 136TH ST  
HAWTHORNE CA 90250-5733

235 065 12 00 0  
NGUYEN LUAN K  
16098 MOUNT HICKS ST  
FOUNTAIN VALLEY CA 92708-1723

428 082 09 00 3 **DUP**  
NGUYEN LUAN KINH  
16098 MOUNT HICKS ST  
FOUNTAIN VALLEY CA 92708-1723

235 024 27 00 5  
NGUYEN NHUT M & PHUONGCHI T  
11721 DEBBIE LN  
GARDEN GROVE CA 92840-2617

428 231 09 00 9  
NGUYEN NINH VAN & TA TRACY  
THU  
1270 CHAD DR  
ROUND ROCK TX 78665-2038

234 052 02 00 0  
NGUYEN YEN MY  
107 E MELBOURNE AV  
SILVER SPRING MD 20901

235 410 11 00 3  
NIERGARTH CHARLES LIV TR  
1468 SIGNAL ST  
SAN DIEGO CA 92154

235 352 06 00 6  
NOLASCO WILBER ULISES RUIZ  
2609 PIPER CT  
BAKERSFIELD CA 93306-2818

235 352 17 00 8  
NORIEGA NELLY C LIV TR  
560 GOLDEN SPUR CI  
WALNUT CA 91789-4203

235 300 13 00 7  
NORITAKE ROY FAMILY TRUST  
724 DE PALMA WY  
MONTEBELLO CA 90640-3516

428 093 25 00 9  
NORTON LYNN MARIE  
6005 PASEO CANYON DR  
MALIBU CA 90265-3131

235 182 02 00 5  
OAKLEY KIM LY  
23106 AUDREY AV  
TORRANCE CA 90505-3708

428 082 15 00 0  
OH GAP HYUN TRUST  
4933 LA CRESCENTA AV  
LA CRESCENTA CA 91214-2944

235 352 01 00 1  
OISHI MARCIA HUYNH  
36108 MANGROVE LN  
NEWARK CA 94560-1931

235 112 08 00 2  
OJO IDOWU  
5391 QUINCY ST # 2  
HYATTSVILLE MD 20784

235 353 02 00 1  
OKA MILTON M  
1062 KALAPAKI ST  
HONOLULU HI 96825-2706

235 353 20 00 3  
OKAGI CHRISTOPHER S EST  
440 N JUDD ST U A  
HONOLULU HI 96817

235 410 21 00 2  
OLIVER FAM LIV TR  
2028 WEST 66TH ST  
LOS ANGELES CA 90047

235 410 22 00 5  
ORNG CLARINDA W  
21236 WILDER AV  
LAKEWOOD CA 90715-2415

235 102 31 00 5  
ORTEGA SEFERINO JR & CATALINA  
13 CTY RD 1517  
BAY SPRINGS MS 39422

235 102 15 00 9  
OSTBY MARILYN M TR  
15723-4 LA SUBIDA DR  
HACIENDA HTS CA 91745

428 240 15 00 2  
PACHECO BERTA O  
1046 CATALINA  
LOS ANGELES CA 90006

428 231 19 00 8  
PACIFIC STATES LAND CO  
P O BOX 880088  
SAN DIEGO CA 92168

235 024 25 00 9  
PAE FAMILY TRUST 2021  
920 IROLO ST 3  
LOS ANGELES CA 90006

234 052 04 00 6  
PAE KWANG CHIN  
560 JOHN K DR APT 102  
LONG BEACH CA 90803

428 082 11 00 8  
PAE MOON BOO & HEA JA  
2066 VILLA DEL LAGO # A  
CHINO HILLS CA 91709

235 064 34 00 7  
PAJAK SHARLENE LIVING TRUST  
2000 RAMAR RD # 661  
BULLHEAD CITY AZ 86442-9341

235 290 13 00 5  
PALADIJCZUK TR  
745 N 184TH ST  
SHORELINE WA 98133

302 243 09 00 9  
PALISADES LUTHERAN CHURCH  
15905 W SUNSET BL  
PACIFIC PALISAD CA 90272-3499

235 340 01 00 4  
PARK KOO WON & NAN SOOK  
19707 EAGLE RIDGE LN  
NORTHRIDGE CA 91326

235 282 19 00 4  
PARK PUNG SAN & POK CHU  
22805 LOUMONT DR  
LAKE FOREST CA 92630

235 101 20 00 6  
PARKS MERLINE F & DONALD J  
2946 ASPEN ST  
HANFORD CA 93230

235 024 17 00 6  
PARNELL LIVING TRUST  
11135 SARAH ST  
NORTH HOLLYWOOD CA 91602-1739

235 270 23 00 8  
PARSONS GARY D & NORMA E  
1408 SKI LODGE RD  
VIRGINIA BCH VA 23456

235 340 08 00 5  
PATERNO MARIA BELEN  
45 ARLINGTON AV  
KENSINGTON CA 94707

235 024 23 00 3  
PATTERSON-ENGELHARDT  
43912 W 20TH ST  
LANCASTER CA 93534

428 041 35 00 9  
PAULEY JOSEPH L & BEVERLY M  
REV TRUST  
P O BOX 57  
ROSAMOND CA 93560

235 300 17 00 9 **DUP**  
PAULEY JOSEPH L & BEVERLY M TR  
P O BOX 57  
ROSAMOND CA 93560

235 082 23 00 7  
PAULY BENJAMIN J  
688 N. CLINTON  
ORANGE CA 92667

235 260 20 00 6  
PELLO GENE & LISA  
3815 BALDWIN AV # 12  
EL MONTE CA 91731

235 310 23 00 9  
PENA KATYA L  
14285 TONTO CT  
VICTORVILLE CA 92394-6412

235 081 01 00 6  
PEREZ MANUEL & GLORIA P  
9111 MYRON ST  
PICO RIVERA CA 90660

428 202 48 00 0  
PEREZ PEDRO & CONNIE FAMILY  
TRUST  
828 S 6TH ST  
MONTEBELLO CA 90640-5914

235 330 27 00 7  
PERRETTA MARILYN  
515 S DARTMOUTH LN  
ALTOONA PA 16602-7330

428 093 27 00 5  
PETRELL CHRIS  
PO BOX 5  
GERLACH NV 89412-0005

235 102 13 00 3  
PINNIX JOHN D & MICHELLE A  
1811 HACIENDA DR  
EL CAJON CA 92020

225 250 21 00 3  
PIONEER PARTNERS 2000 LLC  
2001 KIRBY DR STE 500  
HOUSTON TX 77019

235 370 08 00 4  
PONG J A FAM TRUST  
23081 GRAND TERRACE RD  
GRAND TERRACE CA 92313-4927

235 140 09 00 0  
PORTER DON C  
69811 BURLWOOD DR  
MOUNTAIN CENTER CA 92561-3575

235 380 10 00 2  
PRICE PATSY LEE  
812 RYE RD  
NORMAN OK 73072

428 042 30 00 1  
PRINSTER GANNA  
11901 SANTA MONICA BL # 391  
LOS ANGELES CA 90025

428 092 09 00 6  
PROFESSIONAL EQUITIES IN  
23201 MILL CREEK DR FLR 3  
LAGUNA HILLS CA 92653-1692

428 051 01 00 3  
PROFESSIONAL EQUITIES IN  
23201 MILL CREEK DR FLR 3  
LAGUNA HILLS CA 92653-1692

235 064 07 00 9  
QUINATA RONALD C  
PO BOX 326011  
HAGATNA GU 96932-6000

235 064 04 00 0  
QUINDOY SENEN B  
8119 SHADYGLADE AV  
NO HOLLYWOOD CA 91605

428 202 18 00 3 **DUP**  
QUINTAS DOMINGO & EDUVEDES  
ADDRESS UNKNOWN

235 102 19 00 1  
QUIROZ PATRICIA JOAN TRUST  
32013 CORTE SOLEDAD  
TEMECULA CA 92592-6464

428 042 08 00 8  
RAMIREZ CYNTHIA JORDAN  
213 OCEAN AV APT A  
SEAL BEACH CA 90740

235 410 29 00 6  
RAMIREZ FELIPE  
480 ALTA RD  
SAN DIEGO CA 92179-0001

428 053 06 00 2  
RAMIREZ NELLIE SEPARATE PROP  
TR  
15708 CAMEO AV  
NORWALK CA 90650

428 041 12 00 2  
RAMIREZ SALAS RICARDO ALBERTO  
2100 TURQUOISE RIDGE ST U 104  
LAS VEGAS NV 89117-5969

428 102 05 00 6  
RAMOS LINDA  
3406 E 17TH AV  
ANCHORAGE AK 99502

428 102 08 00 5  
RAMOS NORMA T & LUCAS T  
1975 SE 211TH AV  
SAMMAMISH WA 98075-7501

235 101 27 00 7  
RAMOS STEPHANIE LEINANI RITUA  
662 BOWCREEK DR  
DIAMOND BAR CA 91765-1853

428 051 14 00 1  
RANCHERS CATTLE OIL & LAND CO  
1510 S MILLS AV APT 109  
LODI CA 95242-4237

235 082 13 00 8  
RATCLIFF FAMILY TRUST  
3064 BLACKWELL DR  
VISTA CA 92084-1424

235 353 06 00 3  
RATLIFF DEANNA  
P O BOX 626  
OAKDALE CA 95361

235 410 13 00 9  
RAWLS SHANNON WENDELL &  
CHISTANN CHANELL  
312 S BEVERLY DR U 6493  
BEVERLY HILLS CA 90212-2066

235 191 05 01 9  
RAWLS SHEILA D  
3108 W GRANDVIEW AV  
SPOKANE WA 99224-5527

235 101 15 00 2  
RAYAS REYNALDO  
15060 MINNEHAHA ST  
MISSION HILLS CA 91345

235 024 24 00 6  
RECCHIA WILLIAM & GOBY TERRI  
P O BOX 9040  
CANOGA PARK CA 91309

235 282 27 00 7  
REDDEN JERRY  
501 BOKMEN PL  
SOMONA CA 95476

235 204 30 00 5  
REDMAN INVESTMENT CO  
12121 WILSHIRE BL STE 600  
LOS ANGELES CA 90025

235 401 09 00 2  
REDMAN MARSHALL & DORIS E  
12121 WILSHIRE BL STE 600  
LOS ANGELES CA 90025

428 231 24 00 2  
REED FAMILY TR  
10036 LA PLACITA DR  
RNCH CORDOVA CA 95670

428 042 20 00 2 **DUP**  
REINTS LARRY LEE & ROBERTA ET  
AL  
ADDRESS UNKNOWN

428 092 20 00 7  
REITTER ARDA TRUST  
2484 JADA DR  
HENDERSON NV 89044

235 282 36 00 3  
RETHY KATHERINA TRUST EST  
16921 SE 32ND PL  
BELLEVUE WA 98008-5769

235 310 24 00 2  
RETZ FAMILY 2005 REVOCABLE TR  
10129 HARLEY LEIGHTON RD  
REDDING CA 96003

235 290 02 00 3  
REYNOLDS FAMILY TR  
57 D ST  
EPHRATA WA 98823

235 270 21 00 2  
REYNOSO ENRIQUE & MARIA  
9552 E AVENUE Q4  
PALMDALE CA 93591-2215



235 140 28 00 5 RIAZ PARVEEN 11866 BROADWAY RD MOORPARK CA 93021	428 051 23 00 7 RICH FREDERICK W 4844 LEIGH AV SAN JOSE CA 95124	<b>DUP</b> 428 051 21 00 1 RICH FREDERICK W & TOMI 4844 LEIGH AV SAN JOSE CA 95124
428 051 24 00 0 RICH GEORGE W & CLAUDIA J TRUST 2540 BUTANO DR SACRAMENTO CA 95821-6506	235 300 09 00 6 RICHARDS JAMES & VIOLET P O BOX 5549 EUGENE OR 97405-0549	235 181 08 01 5 RIVAS OMAR 8467 PENFIELD AV WINNETKA CA 91306
428 041 06 00 5 ROBERTSON LA VERNE 830 TORO CANYON RD SANTA BARBARA CA 93108	234 052 01 00 7 ROBERTSON PAUL BARLOW ADDRESS UNKNOWN	<b>DUP</b> 235 353 16 00 2 RODDICK DONALD L & MARILYN J FAM TR 841 17 MILE DR PACIFIC GROVE CA 93950
235 340 05 00 6 RODEO GREEN TREE LLC 12671 HIGH BLUFF DR SAN DIEGO CA 92130	235 064 22 00 2 RODICA ELISA N REV TRUST 15224 DYLA WY BROOKSVILLE FL 34604-0735	235 352 05 00 3 RODMAN MARSHALL & DORIS E 12121 WILSHIRE BL STE 600 LOS ANGELES CA 90025
428 051 17 00 0 RODRIGUEZ JESUS & CONCEPCION 8540 RUDNICK AV WEST HILLS CA 91304-2259	235 401 22 00 9 RODRIGUEZ ROSENDO 2100 RAYO DEL SOL DR ARVIN CA 93203-9447	235 065 06 00 3 ROLANDELLI KAREN W 3108 TEIGLAND RD LAFAYETTE CA 94549-2015
235 192 13 00 0 ROMERO ANTHONY G & PATRICIA M 21391 VINTAGE WY LAKE FOREST CA 92630-5827	428 202 33 00 6 RONAS ERLINDA P 77 SARRAGUT ST SAN FRANCISCO CA 94112	235 204 40 00 4 ROSAS MIGUEL R & OFELIA L 32211 FALL RIVER RD TRABUCO CANYON CA 92679-3317
235 111 26 00 7 ROSEMARY JACK C P O BOX 2474 LA HABRA CA 90632	235 410 20 00 9 ROXY TR 19401 OPAL LN SANTA CLARITA CA 91350-3244	235 370 05 00 5 RUBIN ARLENE 4001 N OCEAN BL # 304B BOCA RATON FL 33431
235 401 03 00 4 RUDOLPH ALICE L 720 WEST 4TH ST LONG BEACH CA 90802	235 380 08 00 7 RUOTOLO PAUL 668 AMALIA AV LOS ANGELES CA 90022	428 062 16 00 7 RUSH GRANVILLE A TR RR 2 BOX 340C LEWISBURG WV 24901-9344
235 330 40 00 4 SAAVEDRA FERNANDO & FERNANDO I 2227 LLANO MEDIANO LN EDINBURG TX 78542-2551	235 401 02 00 1 SAAVEDRA GUADALUPE & MONICA 2227 LLANO MEDIANO LN EDINBURG TX 78542-2551	235 102 05 00 0 SAGLIMBENI NICK 530 S LAKE AV STE 601 PASADENA CA 91101-3515
235 132 16 00 1 SAHOTA MANDEEP K 8499 MONTE CRISTO AV LIVINGSTON CA 95334-9354	428 212 23 00 0 SAHOTA SARIKA NISHA 4154 PRADO DE LA PUMA CALABASAS CA 91302-3629	235 065 04 00 7 SAHOTA SOHAN SINGH 8499 MONTE CRISTO AV LIVINGSTON CA 95334-9354

235 270 29 00 6  
SAIDI GHOLAM REZA & MEIMAN LAI  
735 PLATEAU AV  
MONTEREY PARK CA 91755

235 024 05 00 1  
SAKURAI SURVIVORS TRUST  
23442 EL TORO RD APT E133  
LAKE FOREST CA 92630-6905

235 401 13 00 3  
SALAMEH YOUSEF MANUEL  
4400 TRUXEL RD # 59  
SACRAMENTO CA 95835-2615

235 310 05 00 7  
SALTZGIVER JOHN  
56925 YUCCA TR  
YUCCA VALLEY CA 92284

235 330 33 00 4  
SANABRIA FRANCISCA IBARRA TR  
1215 DIANA RD  
SANTA BARBARA CA 93103-2537

302 243 08 00 6  
SARKESHIK AMIR  
6447 E LOOKOUT LN  
ANAHEIM CA 92807-4827

428 053 02 00 0  
SARTO FAMILY TR  
1119 SO OAKHURST DR APT 1  
LOS ANGELES CA 90035

235 300 16 00 6  
SAUNDERS ROBERT & DEBBIE  
10728 BING DR  
FORT WORTH TX 76108-4620

235 310 31 00 2  
SAWYER GARY J  
332 HERITAGE LP  
GLASSBORO NJ 08028-3236

235 380 12 00 8  
SAYSON ERNESTO CALDERON JR  
9328 HAMBLEY CI  
ELK GROVE CA 95624-6043

235 380 14 00 4  
SAYSON JONATHAN JARRED  
432 BEGONIA DR  
SAN LEANDRO CA 94578-3802

428 093 16 00 3  
SCHNEPPER FRED W IRA  
75 N UNIVERSITY AV  
PROVO UT 84601-4429

235 410 28 00 3  
SCHONBORG PALMETTA L GILL  
20560 MONTALVO LN  
SARATOGA CA 95070-6313

428 041 19 00 3  
SCHREY TRUST  
26650 MACMILLAN RANCH RD  
CANYON COUNTRY CA 91387-4036

235 282 24 00 8  
SCHWEIGER GARRY LIV TR  
9107 OLIN DR  
CHATSWORTH CA 91311-6301

428 042 23 00 1  
SCHWERING PAUL J & CARL J  
7900 PASO ROBLES AV  
VAN NUYS CA 91406

428 202 26 00 6  
SCIONTI ALFRED  
9651 S PLACITA DE LA CAUSA  
VAIL AZ 85641-2074

244 234 13 00 1  
SCOTT LINDA LEE  
PO BOX 274  
FALL RIVER MILL CA 96028-0274

235 410 14 00 2  
SEASONS LAND CORP  
3595 INLAND EMPIRE BL # 3  
ONTARIO CA 91764

244 411 01 00 7  
SECORD DEBRA A LIVING TRUST  
9330 EL CAMINO AV  
FOUNTAIN VALLEY CA 92708-4524

235 064 32 00 1  
SEELEY RUTH M  
1841 COTTONWOOD ST  
SOLVANG CA 93463

235 204 39 00 2  
SEIFFERT BEATRICE E  
645 STANLEY CT  
ESCONDIDO CA 92026

235 330 41 00 7  
SEIZED PROP  
13312 RANCHERO RD 430  
OAK HILLS CA 92344

428 072 09 00 0  
SELECT ENTERPRISES INC  
7185 S DURANGO DR STE 109  
LAS VEGAS NV 89113-2018

428 202 49 00 3  
SELIS LAURA  
1200 ARCADIA AV APT B  
AUSTIN TX 78757-3044

235 270 20 00 9  
SEMINARO MARK L  
P O BOX 8105  
NEWPORT BEACH CA 92658

235 024 12 00 1  
SEPEHR ALI  
18175 KAREN DR  
TARZANA CA 91356

235 290 04 00 9  
SHAW TERRY C  
19005 E 60TH ST  
LAKE TAPPS WA 98391-8808

428 231 11 00 4  
SHAY TINA  
P O BOX 660162  
ARCADIA CA 91066

235 024 19 00 2  
SHEFI RON  
700 NORWOOD DR  
NASHVILLE TN 37204-3513

235 270 19 00 7  
SHEN FAMILY TRUST  
933 EL CAMPO DR  
PASADENA CA 91107

428 072 08 00 7  
SHIMER K L & F C & S E  
42448 22ND STREET WEST  
LANCASTER CA 93534

428 072 06 00 1  
SIDDALL ROBERT I  
PO BOX 138  
LAURENS IA 50554

235 380 09 00 0  
SIMMONS VIVIAN M & BEAKLEY TR  
3934 POZZALLO LN  
SACRAMENTO CA 95834-7519

235 101 18 00 1  
SINGH HARKIRAT & GURMAIL  
FAMILY TRUST  
636 AZURE HILLS DR  
SIMI VALLEY CA 93065-5517

428 051 19 00 6  
SKANKEY A O & MARGUERITE TR  
PO BOX 526297  
SALT LAKE CTY UT 84152

235 064 08 00 2  
SKAUG WAYNE A  
2502 BRIAR GLEN RD  
ACTON CA 93510-2108

235 330 10 00 7  
SMALL VERDA I  
309 NW NINTH ST  
ANKENY IA 50021

235 330 11 00 0 **DUP**  
SMALL VERDA I  
309 NW 9TH ST  
ANKENY IA 50021

235 024 34 00 5  
SMITH DAWN MARIA  
4440 MAMMOTH AV  
SHERMAN OAKS CA 91423

235 111 12 00 6  
SMITH DIANE RENEE BUSH  
6653 E STRATFORD DR  
PRESCOTT VALLEY AZ 86314-3834

235 340 35 00 3  
SMITH JAMES D & PATRICIA A  
TRUST  
1920 W BAYSHORE DR  
ANAHEIM CA 92801

235 320 16 00 2  
SMITH MICHELE TR  
250 E TELEGRAPH RD SP 180  
FILLMORE CA 93015

428 062 15 00 4  
SMITH WILLIAM H & BARBARA J  
TRUST  
959 S GRANTHAM DR  
VAIL AZ 85641-2832

235 101 51 00 6  
SMY LAND LLC TR  
17350 W SUNSET BL U 303C  
PACIFIC PALISAD CA 90272-4105

235 282 11 00 0  
SNYDER ROBERT E REV TR  
55 CAYMAN ISLES BL  
ENGLEWOOD FL 34223-1832

225 250 05 00 7  
SOHN SOON CHON  
6180 VILLA FLORA  
BONSALL CA 92003

235 101 26 00 4  
SOMMERS JOAN R  
3126 TRUENO RD  
HENDERSON NV 89014-3650

235 360 06 00 5 **DUP**  
SORIANO LEO M & MARIA LUZ  
ADDRESS UNKNOWN

235 330 04 00 0  
SOUMEKH MICHAEL & RACHEL  
1140 S ALFRED ST  
LOS ANGELES CA 90035

234 042 01 00 4  
SOUTH AV PROP LLC  
4370 LA JOLLA VILLAGE DR STE 960  
SAN DIEGO CA 92122

234 520 27 00 5 **DUP**  
SOUTH AV PROP LLC  
4370 LA JOLLA VILLAGE DR # 960  
SAN DIEGO CA 92122

235 024 09 00 3  
SPENCER PATRICIA L  
PO BOX 2456  
CORRALES NM 87048-2456

235 024 10 00 5  
SPENCER STEVEN R  
P O BOX 2456  
CORRALES NM 87048

235 102 34 00 4  
SPOLSDOFF PAUL P JR ET AL  
1000 ROSEWOOD AV  
WASCO CA 93280

235 320 06 00 3  
ST JOHN LINDA J LIV TR  
800 COMMUNITY COLLEGE DR # 365  
SAN JACINTO CA 92583

235 282 20 00 6  
STASIAK IRENE R  
1380 CENTERVILLE LN # 126  
GARDNERVILLE NV 89410

225 250 15 00 6  
STATE OF CALIFORNIA  
500 S MAIN ST  
BISHOP CA 93514

428 052 09 00 4  
STEELE 1994TRUST  
29943 QUAIL RUN  
AGOURA HILLS CA 91301

428 072 05 00 8  
STEFFES EUGENE & BETTY J TR  
39 SW 106TH PL  
PORTLAND OR 97225-6973

235 101 21 00 9  
STEMWEDEL JERALD P & POPPY C  
1111 CONDADO DR  
ROCKLEDGE FL 32955-3305

235 282 25 00 1  
SUBLABAN FAISAL E  
2658 DEL MAR HEIGHTS RD 515  
DEL MAR CA 92014-3100

235 353 03 00 4  
SUGIURA ISAMU & KYUNG S  
115 ARUSHA AV  
SAVANNAH GA 31419-3194

235 340 22 00 5  
SULLIVAN RAYMOND ANTHONY TR  
37158 E 28TH ST  
PALMDALE CA 93550

235 134 23 00 5  
SURVIVORS TRUST  
P O BOX 2645  
CULVER CITY CA 90231-2645

235 410 17 00 1  
SUTTON LEE L JR & CHARLOTTE R  
1591 GILHAM RD  
EUGENE OR 97401

428 231 18 00 5  
TABIBIAN MORAD  
2304 S BEVERLY GLEN APT 104  
LOS ANGELES CA 90064

235 064 37 00 6  
TAKECARE CHARLES A & MILDRED  
1833 WEST CHASE AV  
CHICAGO IL 90626

235 024 02 00 2  
TAM JASON  
708 E 15TH ST  
OAKLAND CA 94606-2928

235 102 37 00 3  
TANDOC SALVADOR & CANDACE  
319 TURNBERRY WY  
VALLEJO CA 94591

225 250 07 00 3  
TANG SAMANTHA K  
1942 SAMARA DR  
ROWLAND HEIGHTS CA 91748-2510

235 282 32 00 1  
TAYLOR FAMILY TRUST  
18644 LOS LEONES  
FOUNTAIN VLY CA 92708

235 064 23 00 5  
TAYLOR LINDA L  
895 7TH ST  
OGDEN UT 84404-5159

428 231 08 00 6  
TAYLOR STEPHEN A ET AL  
11676 TERRY PL  
ANACORTES WA 98221-8425

428 202 29 00 5  
TDP CA LLC  
6200 N ROCKSIDE WOODS BL STE 215  
INDEPENDENCE OH 44131-2373

235 352 16 00 5  
TENA SERGIO & MARTHA EMMA  
1506 S KENILWORTH  
BERWYN IL 60402

235 260 19 00 4  
TEXAS LAND & CATTLE CORP  
5560 S FORT APACHE RD STE 100  
LAS VEGAS NV 89148

235 340 07 00 2 **DUP**  
TEXAS LAND & CATTLE CORP  
5560 S FT APACHE RD # 100  
LAS VEGAS NV 89148-7699

235 353 11 00 7  
THOMAS PAUL L  
1161 MCINTEER CI  
GREENSBORO GA 30642-6049

428 041 29 00 2  
THOMAS SHERYL  
27149 HOWARD ST  
MENIFEE CA 92586-2003

428 232 11 00 1  
THOMAS WARREN & SHERYL L  
27149 HOWARD ST  
MENIFEE CA 92586-2003

235 330 03 00 7  
THOMPSON LELAND J & PEGGY SUE  
THOMPSON TRUST  
13864 SEA GRAPE DR  
RIVERSIDE CA 92503-6912

235 102 41 00 4  
TONG NHIEM & LY HUONG P  
PO BOX 2411  
LA HABRA CA 90632-2411

428 092 21 00 0  
TOPETE JOSE V  
5669 MINERAL CITY CT  
LAS VEGAS NV 89110-1739

235 410 06 00 9  
TOPPETA MICHAEL  
PO BOX 875  
TEHACHAPI CA 93581-0875

428 042 19 00 0  
TORAL MIGUEL A ET AL  
13665 LEXICON PL  
SYLMAR CA 91342

235 192 02 00 8  
TORRES ROMULO R & NORMA A  
13626 JANETTE LN  
POWAY CA 92064-4074

244 234 03 00 2  
TORRES VINCENT G  
17422 KLEE ST  
SHERWOOD FOREST CA 91325-3235

235 065 13 00 3  
TRAINA JAMES J & ANTONIA C  
51-20 64TH ST  
WOODSIDE NY 11377

235 260 22 00 2  
TRAN HUAN HOANG  
2362 MOSSDALE WY  
SAN JOSE CA 95133

428 240 17 00 8  
TREJO ALFREDO  
515 N INDIANA ST  
LOS ANGELES CA 90063

235 172 15 00 0  
TREJO LUISA  
12995 RISING MOON WY  
VICTORVILLE CA 92392-8341

235 270 17 00 1  
TREMBLEY FAM TRUST  
16294 SHARON WY  
GRASS VALLEY CA 95949-6601

235 024 01 00 9  
TREND CAPITAL GROUP INC  
PO BOX 10476  
BEVERLY HILLS CA 90213-3476

235 353 08 00 9  
TRIPLE E DEV CORP  
5560 S FORT APACHE RD # 100  
LAS VEGAS NV 89148-7699

428 041 09 00 4  
TRUONG HAI T  
11780 OVERLAND DR  
FONTANA CA 92337-7640

235 191 01 00 8  
TRUSKIER PETER & MARY TR  
21 ELYSIAN FIELDS DR  
OAKLAND CA 94605-4940

235 353 04 00 7  
TURNER JACK H & JEAN M  
SURVIVORS TRUST  
1210 WILLIAMS WY  
TAFT CA 93268-2019

235 340 12 00 6  
TURNER KATHERINE  
44526 E 15TH ST U 7  
LANCASTER CA 93535-6322

428 093 21 00 7  
TURNWALL CHERYL M  
967 N ADELE SP 115  
ORANGE CA 92867

235 064 13 00 6  
TWO GATOS FAMILY TRUST  
5334 MEDINA RD  
WOODLAND HILLS CA 91364-1915

234 052 16 00 1  
U S A  
450 GOLDEN GATE AVENUE  
SAN FRANCISCO, CA 94102

235 101 17 00 8 **DUP**  
UEMURA Y  
ADDRESS UNKNOWN

428 092 12 00 4 **DUP**  
UTSUMI DAIJIRO & NAKAO J  
ADDRESS UNKNOWN

235 282 13 00 6  
UYEHARA CAROL  
41410 JUNIPER ST U 2921  
MURRIETA CA 92562-7515

428 212 09 00 0  
VAKIL AKHTAR & I U & ABUBAKAR  
548 C L FLEMING CI  
CORONA CA 92881-3592

235 330 06 00 6  
VALDIVIEZ ELVIRA S SEPARATE  
PROP TRUST  
11208 GALAX ST  
S EL MONTE CA 91733

235 340 39 00 5  
VALDIVIEZ TOM R & MARY N TR  
901 COUNTRY LN  
LA HABRA CA 90631-3050

235 101 42 00 0  
VALENCIA ALFONSO ALONZO  
321 JAMES ST  
RIALTO CA 92376

235 101 36 00 3 **DUP**  
VALVERDE EVANSWINDA  
ADDRESS UNKNOWN

234 520 08 00 0  
VAN TRAN HOA & NGOC VAN THI  
19351 HICKORY LN  
HUNTINGTON BCH CA 92646

428 051 05 00 5  
VIK DAVID  
1613 SHIRLEY AV  
LOS ALTOS CA 94024

302 243 06 00 0  
VIVEROS SHAWN R  
36501 MUSTANG LN  
PALMDALE CA 93550-7991

234 520 37 00 4  
VU FAMILY TR  
1515 E ARMANDO DR  
LONG BEACH CA 90807

235 102 12 00 0  
VU JOSEPH P M  
902 FULLER RD  
COLORADO SPGS CO 80920

235 410 23 00 8  
VUONG VU A  
2817 ELSMOR ST  
FAIRFAX VA 22031

235 024 37 00 4  
WAGNER CHARLES & VIRGINIA O  
304 KILLDEER LN  
OCEANSIDE CA 92057-6451

235 111 25 00 4 **DUP**  
WAGSHALL HERBERT & MARGARET  
ADDRESS UNKNOWN

235 202 10 00 3  
WALSH THOMAS S TRUST  
160 TELOMA DR  
VENTURA CA 93003-2138

428 052 04 00 9  
WANG NATHAN & LYNDIA S  
12523 NEON WY  
GRANADA HILLS CA 91344-1342

235 065 02 00 1  
WANG PEI-HO CHEN  
1235 S 1ST AV  
ARCADIA CA 91006

235 360 03 00 6  
WARNE LARRY H & JODY TR  
29400 SAN JOAQUIN DR  
TEHACHAPI CA 93251

235 192 14 00 3  
WASSENAAR JOHN & DOROTHY  
2341 FLORENCE ST  
BLUE ISLAND IL 60406-1628

244 234 02 00 9  
WEBSTER CHARLEEN  
5161 DECATUR DR  
LA PALMA CA 90623

235 181 01 00 5  
WEBSTER IRENE M FAMILY TR  
1519 SUNDALE RD  
EL CAJON CA 92019-0372

235 282 33 00 4  
WEI JANNY  
3525 WILLETT PL  
SANTA CLARA CA 95051

235 024 26 00 2  
WEIL FAMILY TRUST  
726 LA JOLLA AV  
LOS ANGELES CA 90046

244 234 14 00 4  
WEISSMAN RICHARD RECEIVER  
12121 WILSHIRE BL STE 600  
LOS ANGELES CA 90025

428 041 34 00 6  
WEISZ TIM  
19490 BIG HORN ST  
APPLE VALLEY CA 92308-3337

428 051 07 00 1  
WENZEL JUDITH L  
5701 HILLCREST TERRACE  
SAN LUIS CO 81152

235 022 01 00 5  
WEST MOJAVE PROP LLC  
4370 LA JOLLA VILLAGE DR STE 960  
SAN DIEGO CA 92122

235 022 02 00 8 **DUP**  
WEST MOJAVE PROP LLC  
4370 LA JOLLA VLG DR STE 960  
SAN DIEGO CA 92122

235 022 07 00 3 **DUP**  
WEST MOJAVE PROP LLC  
4370 LA JOLLA VILLAGE DR # 960  
SAN DIEGO CA 92122

428 041 27 00 6  
WESTFALL FAMILT TRUST  
6728 SYCAMORE LN  
PALMDALE CA 93551

428 202 30 00 7  
WHITE LUTHER J & MARGARET F  
TRUST  
PO BOX 190  
CERRILLOS NM 87010-0190

235 320 08 00 9  
WIEGAND CAROLYN ANITA LIV TR  
11455 PAULS DR  
CONIFER CO 80433

235 064 19 00 4  
WIGAL ROGER K & BLIANCA P  
10914 WINCHELL ST  
WHITTIER CA 90606-2161

235 031 24 00 8  
WILKINS ROBERT & LYNN  
11048 GRACELAND LN  
FRISCO TX 75034-0064

235 111 03 00 0  
WILLIAMS FMLY TR  
4627 MARBELA CT  
SAN JOSE CA 95124

235 204 42 00 0  
WILLIAMS FMLY TR  
4627 MARBELLA CT  
SAN JOSE CA 95124

235 353 25 00 8  
WILSON MERLE D & MARY HELEN  
21811 VERA ST # 66  
CARSON CA 90745

428 052 02 00 3  
WILSON STEVEN M  
4308 MONTEREY DR  
PASCO WA 99301-8102

235 340 17 00 1  
WINTERROWD GARY LEE & PEGGY  
JO  
31 COUNTRY MEADOW  
ROLLING HLS EST CA 90274

235 025 18 00 6  
WOLFE GLENDA  
P O BOX 2016  
BEVERLY HILLS CA 90213

235 171 12 00 4  
WOLFORD ROGER R & BARBARA J  
4285 S CAVALRY RD  
FORT MOHAVE AZ 86426-6228

235 204 25 00 1  
WOODS LONNIE C  
4709 LA RICA AV  
BALDWIN PARK CA 91706

235 320 14 00 6  
WPL HOLDINGS LLC  
PO BOX 1084  
HIGHLAND PARK IL 60035

235 410 34 00 0  
WPL HOLDINGS LLC  
166 W WASHINGTON ST STE 730  
CHICAGO IL 60602-3588

428 052 08 00 1  
WRIGHT FAMILY TRUST  
14275 BRIDGE ST  
CORONA CA 92880-9108

235 410 03 00 0  
WRIGHT MILDRED L TR  
1732 S MAGNOLIA AV  
ONTARIO CA 91762

235 204 27 00 7  
WU CHIE HUEI & YU-CHEN  
10521 FREDRICK DR  
VILLA PARK CA 92667-5334

235 320 15 01 8  
WU FAMILY TR  
5012 SPENCER ST  
TORRANCE CA 90503

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YEH FAMILY TRUST  
3617 W 227TH PL  
TORRANCE CA 90505-2660

235 064 35 00 0  
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428 240 60 00 2  
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235 352 10 00 7  
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VIENNA VA 22182-1457

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ZAMARRIPA ALFREDO & MAURA C  
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428 041 22 00 1  
ZAMORAS LUCITA A  
8933 W GOLF RD  
NILES IL 60714-5812

234 052 03 00 3  
ZEDAN NAJIB T & NELLY N  
14201 STREAMS TOWN CT  
ORLAN PARK IL 60462

235 300 15 00 3  
ZIMMERMAN KAY & NELSON JAMES  
30464 BATTLE CRK BOTTOM RD  
MANTON CA 96059

235 024 42 00 8  
1987 DE MONTE FAMILY TRUST A  
2423 NICKLAUS DR  
SANTA MARIA CA 93455-1524

## 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 # 2021010168

**Project Title:** Bellefield Solar Project by 50LW 8ME (8Minute Energy)

Lead Agency: Kern County Planning Department

Contact Person: Ronelle Candia

Mailing Address: 2700 "M" Street Suite 100

Phone: (661) 862-8997

City: Bakersfield

Zip: 93301-2323

County: Kern

**Project Location:** County: Kern

City/Nearest Community: City of California City/Mojave

Cross Streets: Altus Avenue & State Route 58

Zip Code: 93501 & 93505

Lat. / Long.: 35°N / 118°W

Total Acres: 8,371

Assessor's Parcel No.: Multiple

Section: Multiple Twp.: 11N Range: 11W, 12W Base: SBB&M

Within 2 Miles: State Hwy #: SR 58; Hwy 14

Waterways: None

Airports: Mojave Air and Spaceport

Railways: Southern Pacific Railroad Schools: None

### 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 SPA/Non-Sum Vac.

### 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 MW 1,500  
☐ Waste Treatment: Type \_\_\_\_\_ MGD \_\_\_\_\_  
☐ Hazardous Waste: Type \_\_\_\_\_  
☒ Other: Battery Energy Storage – 1,500 MW Hours

### Project Issues Discussed in Document:

☒ Aesthetic/Visual  
☒ Agricultural Land  
☒ Air Quality  
☒ Archeological/Historical  
☐ Biological Resources  
☐ Coastal Zone  
☒ Drainage/Absorption  
☒ Economic/Jobs  
☐ Other GHG, Wildfire, Tribal Cultural Resources, Energy

☐ 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

### Present Land Use/Zoning/General Plan Designation:

Undeveloped Land/*Kern County General Plan*: 1.1 (State and Federal Land); 8.5 (Resource Management, Min. 20 Acre Parcel Size); and 8.5/2.5 (Resource Management, Min. 20 Acre Parcel Size/Flood Hazard).

Undeveloped Land/*Mojave Specific Plan*: 7.1 (7.1 - Light Industrial); and 7.3 (7.3 - Heavy Industrial).

*Kern County Zoning*: A (Exclusive Agriculture); A-1 (Limited Agriculture); A-1 MH (Limited Agriculture Mobilehome Combining District); M-2 PD (Medium Industrial Precise Development Combining District); and M-3 PD (Heavy Industrial Precise Development Combining District).

Undeveloped Land/*California City General Plan*: O/RA - Controlled Development & Open Space.

Undeveloped Land/*California City Zoning*: O/RA (Open Space/Residential/Agricultural).



## Project Description:

The Bellefield Solar Project by 50LW 8ME LLC (8Minute Energy - project proponent), is a proposed photovoltaic solar facility and energy storage system capable of producing up to 1,500 megawatt (MW) alternating current (AC) utility-scale solar power with an up to 1,500 MW-hour (MWh) energy storage capacity on approximately 8,371 acres of privately-owned land. The proposed project would be supported by a 230 kilovolt (kV) overhead and/or underground electrical transmission line(s) originating from one or more on-site substation(s)/switchyard(s) and terminating at the Southern California Edison (SCE) Windhub Substation. The proposed project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance (O&M) facilities.

The project proponent is requesting the following: **Kern County (Lead Agency):** **a)** GPA #2, Map 195 from the existing Map Code 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres; **b)** ZCC # 2, Map 195 from existing Zone District A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres and from A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.; **c)** ZCC #57, Map 196 from existing Zone District M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres and M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres; **d)** Issuance of CUP #1, Map 195 to allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance; **e)** Issuance of CUP #57, Map 196 to allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G, and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance; **f)** GPA #3, Map 195 to amend the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries; **g)** SPA #31, Map 196 to amend the Circulation Element of the Mojave Specific Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries; and **h)** Non-Summary Vacations of Public Access Easements within the Project Boundaries. **California City (Responsible Agency):** **a)** For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) zone (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity. The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

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".

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

The Bellefield Solar Project by 50LW 8ME LLC (8Minute Energy - project proponent), is a proposed photovoltaic solar facility and energy storage system capable of producing up to 1,500 megawatt (MW) alternating current (AC) utility-scale solar power with an up to 1,500 MW-hour (MWh) energy storage capacity on approximately 8,371 acres of privately-owned land. The proposed project would be supported by a 230 kilovolt (kV) overhead and/or underground electrical transmission line(s) originating from one or more on-site substation(s)/switchyard(s) and terminating at the Southern California Edison (SCE) Windhub Substation. The proposed project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance (O&M) facilities.

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## Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".

If you have already sent your document to the agency please denote that with an "S".

<input checked="" type="checkbox"/> S Air Resources Board	<input type="checkbox"/> Office of Emergency Services
<input type="checkbox"/> Boating & Waterways, Department of	<input checked="" type="checkbox"/> S Office of Historic Preservation
<input checked="" type="checkbox"/> S California Highway Patrol	<input type="checkbox"/> Office of Public School Construction
<input checked="" type="checkbox"/> X CalFire	<input type="checkbox"/> Parks & Recreation
<input checked="" type="checkbox"/> S Caltrans District # <u>6 &amp; 9</u>	<input type="checkbox"/> Pesticide Regulation, Department of
<input checked="" type="checkbox"/> S Caltrans Division of Aeronautics	<input checked="" type="checkbox"/> S Public Utilities Commission
<input type="checkbox"/> Caltrans Planning (Headquarters)	<input checked="" type="checkbox"/> S Regional WQCB # <u>Lahontan</u>
<input type="checkbox"/> Central Valley Flood Protection Board	<input type="checkbox"/> Resources Agency
<input type="checkbox"/> Coachella Valley Mountains Conservancy	<input type="checkbox"/> S.F. Bay Conservation & Development Commission
<input type="checkbox"/> Coastal Commission	<input type="checkbox"/> San Gabriel & Lower L.A. Rivers and Mtns Conservancy
<input type="checkbox"/> Colorado River Board	<input type="checkbox"/> San Joaquin River Conservancy
<input checked="" type="checkbox"/> S Conservation, Department of	<input type="checkbox"/> Santa Monica Mountains Conservancy
<input type="checkbox"/> Corrections, Department of	<input checked="" type="checkbox"/> X State Lands Commission
<input type="checkbox"/> Delta Protection Commission	<input type="checkbox"/> SWRCB: Clean Water Grants
<input type="checkbox"/> Education, Department of	<input type="checkbox"/> SWRCB: Water Quality
<input checked="" type="checkbox"/> S Energy Commission	<input type="checkbox"/> SWRCB: Water Rights
<input checked="" type="checkbox"/> S Fish & Game Region # <u>Fresno</u>	<input type="checkbox"/> Tahoe Regional Planning Agency
<input type="checkbox"/> Food & Agriculture, Department of	<input checked="" type="checkbox"/> X Toxic Substances Control, Department of
<input type="checkbox"/> General Services, Department of	<input type="checkbox"/> Water Resources, Department of
<input type="checkbox"/> Health Services, Department of	
<input type="checkbox"/> Housing & Community Development	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> S Integrated Waste Management Board	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> X Native American Heritage Commission	

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

Starting Date July 2, 2021 Ending Date August 16, 2021

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### 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: 7/2/2021

Ronelle Candia, Supervising Planner

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

# **Draft Environmental Impact Report**

**SCH# 2021010168**

## **Volume 1**

**Chapters 1 through 10**

### **BELLEFIELD SOLAR PROJECT**

**by 50LW 8ME LLC (8Minute Energy)**

**(PP20403)**

General Plan Amendment No. 2, Map No. 195;  
Zone Classification Change No. 2, Map No. 195;  
Zone Classification Change No. 57, Map No. 196;  
Conditional Use Permit No. 1, Map No. 195;  
Conditional Use Permit No. 57, Map No. 196;  
General Plan Amendment No. 3, Map No. 195 (Circulation);  
Mojave Specific Plan Amendment No. 31, Map No. 196 (Circulation);  
Non-summary Vacations of Public Access Easements



Kern County  
Planning and Natural Resources Department  
Bakersfield, California

Technical Assistance by:  
Michael Baker International

July 2021

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**Appendices**

**Appendix A** Notice of Preparation / Initial Study and Comments

**Appendix B** Visual Resources Technical Report

**Appendix C** Glare Study

**Appendix D** Air Quality and Greenhouse Gas Study

**Appendix E** Biological Resources  
**E.1 Biological Evaluation**  
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**Appendix G** Energy Consumption Technical Memorandum

**Appendix H** CEQA Level Geotechnical Study

**Appendix I** Paleontological Resources Assessment

**Appendix J** Phase I Environmental Site Assessment

**Appendix K** Hydrology Report

**Appendix L** Noise Study

**Appendix M** Transportation Analysis

**Appendix N** Water Supply Assessment

## 1.1 Introduction

The Bellefield Solar Project (proposed project), proposed by 50LW 8ME LLC (project proponent/operator), would develop a photovoltaic solar facility and energy storage system along with associated infrastructure necessary to generate up to 1,500 megawatts (MW) of alternating current and up to 1,500 MW-hour (MWh) energy storage capacity. The proposed project consists of approximately 8,371 acres of privately-owned land, as identified in **Table 1-1, Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**, below, identifies the Assessor Parcel Numbers (APNs) for the project site. The proposed project would be supported by a 230 kilovolt (kV) overhead and/or underground electrical transmission line(s) (gen-ties) that would originate from one or more on-site substation(s)/switchyard(s) and terminate at the Southern California Edison (SCE) Windhub Substation.

The project proponent/operator is requesting the following (acreages are approximate):

- General Plan Amendment #2, Map 195:
  - From 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres.
- Zone Change Case # 2, Map 195:
  - From A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres; and
  - From A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.
- Zone Change Case #57, Map 196
  - From M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres; and
  - From M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres.
- Issuance of Conditional Use Permit #1, Map 195
  - To allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- Issuance of Conditional Use Permit #57, Map 196



- To allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G, and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance.
- General Plan Amendment #3, Map 195:
  - Amendment to the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- Specific Plan Amendment #31, Map 196
  - Amendment to the Circulation Element of the Mojave Specific Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- Non-Summary Vacations of Public Access Easements within the Project Boundaries

#### **California City (Responsible Agency):**

- The City of California City is a Responsible Agency under CEQA. For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) zone (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity. The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

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

**Table 1-1. Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
<b>Kern County</b>							
1	428-010-11	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-3 PD	M-1 PD	B2	263.77
2	428-010-10	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-3 PD	M-1 PD	B2	42.61
3	428-010-02	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-3 PD	M-1 PD	B2	171.11

<b>Map ID</b>	<b>APN</b>	<b>Existing Map Code Designation</b>	<b>Proposed Map Code Designation</b>	<b>Existing Zoning</b>	<b>Proposed Zoning</b>	<b>ALUCP Designation</b>	<b>Acres</b>
4	428-010-03	7.3 (Mojave Specific Plan)	7.3 (Mojave Specific Plan)	M-3 PD	M-3 PD	--	170.94
5	235-024-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	120.51
5	235-024-01	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	--	2.94
6	428-052-15	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	4.32
7	428-052-17	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	7.20
8	428-053-18	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	9.35
9	428-053-16	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	10.19
10	428-041-38	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	15.69
11	428-042-35	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	7.36
12	428-041-02	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.51
13	428-042-02	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.43
14	428-041-03	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.56
15	428-042-03	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	A	A	B2	20.48
16	428-041-04	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.61
17	428-042-04	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	A	A	B2	20.53
18	428-041-05	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	5.21
19	235-024-42	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	26.95
19	235-024-42	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	--	14.04
20	235-024-43	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	26.05

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
20	235-024-43	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	--	15.41
21	235-024-14	1.1 (Kern County General Plan) <sup>1</sup>	8.5 (Kern County General Plan)	A	A	--	82.19
22	235-022-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	538.38
22	235-022-01	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	--	118.74
23	235-024-40	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.57
24	235-024-17	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	63.64
25	235-024-15	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	79.94
26	235-024-41	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	B2, C	654.99
27	235-351-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	B2, C	81.53
28	235-081-09	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	61.19
29	235-081-12	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.19
30	235-351-02	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.47
31	235-351-03	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.45
32	235-351-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	40.86
33	235-081-10	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.43
34	235-081-11	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.19
35	235-081-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.20
36	235-081-05	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.21
37	235-081-03	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.19

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
38	235-081-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.20
39	235-064-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	332.71
40	235-082-25	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	2.56
41	235-082-24	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	2.56
42	235-082-19	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	10.22
43	235-082-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	5.10
44	235-082-06	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	25.53
45	235-082-18	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	5.11
46	235-082-17	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	5.12
47	235-082-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	5.11
48	235-340-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.30
49	235-340-09	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	82.69
50	235-340-10	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.38
51	235-340-11	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.39
52	235-340-28	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.60
53	235-340-36	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	2.59
54	235-340-19	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	10.37
55	235-340-29	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	2.59
56	235-353-22	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	0.89
56	235-353-22	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	C	1.69

<b>Map ID</b>	<b>APN</b>	<b>Existing Map Code Designation</b>	<b>Proposed Map Code Designation</b>	<b>Existing Zoning</b>	<b>Proposed Zoning</b>	<b>ALUCP Designation</b>	<b>Acres</b>
57	235-353-21	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	1.59
57	235-353-21	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	C	0.98
58	235-353-11	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	5.15
59	235-082-16	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	40.99
60	235-082-15	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.48
61	235-082-12	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	1.28
62	235-065-18	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	398.53
62	235-065-18	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	C	44.11
63	235-065-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	15.50
64	235-065-05	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	0.99
65	235-065-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	1.49
66	235-065-17	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	33.49
67	235-064-12	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.38
69	235-064-29	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	77.86
70	235-064-26	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.39
71	235-064-25	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.40
72	235-064-28	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.37
73	235-064-27	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.40
74	235-191-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.32

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
75	235-134-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	391.03
75	235-134-01	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	--	98.78
76	235-132-16	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	601.25
76	235-132-16	8.5/2.4 (Kern County General Plan)	8.5/2.4 (Kern County General Plan)	A-1	A	--	0.22
77	235-410-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	8.04
78	235-410-02	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.16
79	235-410-06	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.08
86	235-101-29	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	23.55
88	235-102-02	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	305.10
89	235-102-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	11.58
90	235-221-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	489.82
<b>Subtotal –Kern County Acres</b>							<b>6,269.13</b>
<b>California City</b>							
68	235-061-02	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	658.81
80	235-282-22	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	2.55
81	235-101-51	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	262.88
82	235-101-47	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	154.85
83	235-101-45	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	304.04

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
84	235-101-46	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	103.66
85	235-101-49	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	464.68
87	235-101-48	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	151.16
<b>Subtotal – California City Acres</b>							<b>2,102.63</b>
<b>Total Project</b>							<b>8,371.76</b>
<p><u>Notes:</u></p> <p><u>Kern County General Plan Map Code Designation</u></p> <p>1.1 (State or Federal Land)</p> <p>8.5 (Resource Management, Min. 20 Acre Parcel Size)</p> <p>8.5/2.5 (Resource Management, Min. 20 Acre Parcel Size/Flood Hazard)</p> <p><u>Mojave Specific Plan Map Code Designation</u></p> <p>7.1 (Light Industrial)</p> <p>7.3 (Heavy Industrial)</p> <p><u>Kern County Zone District Classification</u></p> <p>A (Exclusive Agriculture); A-1 (Limited Agriculture); A-1 MH (Limited Agriculture, Mobile Home Combining); M-2 PD (Medium Industrial, Precise Development Combining); M-3 PD (Heavy Industrial, Precise Development Combining)</p> <p>California City General Plan Designation:</p> <p>O/RA = Controlled Development, Public Parks and Recreation or Public Schools</p> <p><u>California City General Plan Designation</u></p> <p>O/RA = Controlled Development &amp; Open Space</p> <p><u>California City Zoning District</u></p> <p>O/RA = Open Space/Residential Agricultural</p> <p><u>Airport Land Use Compatibility Plan – Mojave Air and Spaceport</u></p> <p>B2: Zone B2, The Extended Approach/Departure Zone includes areas where aircraft are commonly below 800 feet above ground level on a straight-in approach or straight-out departure. The 60 CNEL contour should be encompassed within this zone.</p> <p>C: Zone C, the outer boundary of the Common Traffic Pattern Zone is defined as the area where aircraft are commonly below 1,000 feet above ground level (i.e., the traffic pattern and pattern entry points). This area is considered to extent 5,000 feet laterally from the runway centerline.</p>							

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: CUPs (CUP #1, Map 195; CUP#57, Map 196), GPA to change the map code from 1.1 to 8.5 on one parcel (GPA #2, Map 195); GPA and SPA to amend to the Circulation Elements of the Kern County General Plan and the Mojave Specific Plan (GPA #3, Map 195; SPA #31, Map 196); the requested ZCCs required for the project (ZCC

#2, Map 195; ZCC #57, Map 196); and the non-summary vacations of public access easements within the project boundaries.

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.

## 1.2 Project Summary

The proposed project would develop a solar PV generating facility. As shown in **Chapter 3, Project Description**, in **Figure 3-1, Site Vicinity**, and **Figure 3-2, Project Site Boundaries**, of this EIR, the project is approximately 8,371 acres located in the south-eastern portion of Kern County and portions of the City of California City, east of the unincorporated community of Mojave and the Mojave Air and Space Port (Mojave Airport). The project would generate a total of 1,500 MW of renewable electrical energy and up to 1,500 MWh of energy storage capacity for delivery to the Statewide grid. The proposed project would construct gen-tie lines from one or more on-site substations/switchyards that would terminate at the SCE Windhub Substation. See **Section 1.5.4, Project Characteristics**, below, for a detailed description of the components of the proposed project, including solar PV panels, solar trackers, electrical collection systems, the energy storage system, substations, the Operations & Maintenance (O&M) facility, onsite meteorological stations, site access and security, and electrical interconnection to transmission owner infrastructure.

### 1.2.1 Entitlements Required

The Kern County Planning and Natural Resources Department, the lead agency for the project, has discretionary authority over the proposed project. To implement this project, the project operator would need to obtain, at a minimum, the permits/approvals listed below. Additionally, the EIR, once certified, will be used to satisfy the CEQA requirements for the approvals detailed below. In addition to those listed below, other additional permits or approvals from responsible agencies may be required for the project.

#### Kern County (Lead Agency)

- Consideration and certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Adoption of proposed Mitigation Measure Monitoring Program
- Approval by the Kern County Board of Supervisors for proposed change in General Plan Designation
- Approval by the Kern County Board of Supervisors for proposed changes in zone classification
- Approval by the Kern County Board of Supervisors for proposed conditional use permits for the project site
- Approval by the Kern County Board of Supervisors for proposed General Plan Amendment and Specific Plan Amendment to the Circulation Elements



- Approval by the Kern County Board of Supervisors for the proposed non-summary vacation requests
- Kern County grading and building permits
- Kern County encroachment permits
- Kern County Franchise Agreements
- Kern County easements and Licenses
- Kern County Fire Safety Plan

### **California City (Responsible Agency)**

- Consideration of a previously certified Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Adoption of proposed Mitigation Measure Monitoring Program
- Approval by the California City Planning Commission for proposed conditional use permits for the project site
- California City grading and building permits
- California City Franchise Agreements/Business License
- California City encroachment permit
- California City public road(s) and easement(s) vacation(s) (if required)
- California City Fire Strategic Plan
- Development Agreement (if required)

### **Other Responsible Agency Approvals**

- Federal Aviation Administration review
- US Fish and Wildlife Service consultation, if required
- US Fish and Wildlife Service Habitat Conservation Plan (if required)
- Bureau of Land Management Right of Way Agreement for Limited Improvements for Access Roads and Gen-tie Line (if required)
- California Department of Fish and Wildlife, Lake and Streambed Alteration Agreement or Incidental Take Permit or Habitat Conservation Plan (if required)
- State Water Resources Control Board, National Pollutant Discharge Elimination System Construction General Permit
- California Department of Transportation Right-of-Way Encroachment Permit, Permit for Transport of Oversized Loads, and scenic roadway eligibility requirements, if required

- California State Lands Commission, approval of lease
- Union Pacific, BSNF Railroad Wireline Crossing Agreement
- SCE, Rights-of-Way Crossing Permits
- Los Angeles Department of Water and Power Crossing Agreement
- Eastern Kern County Air Pollution Control District, Authority to Construct/Permit to Operate/Fugitive Dust Control Plan

## **1.3 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 Bellefield Solar Project would be subject to its own use permits, conditions of approval, interconnection agreements, and power purchase agreement (PPA). The County understands that the Bellefield Solar 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. The proposed project would involve construction of 230 kV overhead and/or underground generation-transmission line(s) which would ultimately connect to the SCE Windhub Substation.

## **1.4 Purpose and Use of the EIR**

An EIR is a public informational document used in the planning decision-making process. This project-level EIR will analyze the environmental impacts of the proposed project. The Kern County Planning Commission will consider the information in this EIR, including the public comments and staff response to those comments, during the public hearing process. As a legislative action, the final decision is made by the Kern County Board of Supervisors, which 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 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 purpose 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 Section 15087 of the *CEQA Guidelines*. 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 is located on the western edge of the Mojave Desert on lands that gradually slope downward from the northwest to the south. The topography of the project area is relatively flat as the project site is south of the Tehachapi Mountains, with changes in elevation reaching a maximum of approximately 266 feet from the northwest portion of the site to the southern portion of the site. Desert vegetation dominates the region. The City of California City is located directly to the northeast of the project site with 9 parcels of the project being located within the City.

SR-58, a four-lane divided highway, which is eligible for listing as a scenic highway within the project area, provides regional access to the project site. Vehicular access to the site would be also be from Altus Avenue, Arroyo Avenue, Denise Avenue, Sunset Avenue, Silver Queen Road, and 20<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup> and 70<sup>th</sup> Streets. Many unmaintained dirt roads crisscross the project site.

According to the US Geological Survey (USGS), the majority of the project falls within the lower three-quarters portion of the Sanborn USGS 1:24,000 topographic map (7.5-minute quadrangle). The project extends east into the southwest portion of the California City South quadrangle and into the upper northern portion of the Bissell quadrangle, and into the eastern portion of the Mojave quadrangle. More specifically, the project is located as follows: Township 11N, Range 11W, all or portions of Sections 5, 6, 7, 17, 18, 19, 20, 21 (all), 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 and Township 11N, Range 12W, portions of Sections 1 and 2, San Bernardino Base and Meridian (**Figure 3-2, Project Site Boundaries**).

### 1.5.2 Surrounding Land Uses and Project Site Conditions

Elevations across the project site range from approximately 2,798 feet above mean sea level (amsl) in the northwest portion of the site to approximately 2,532 feet amsl in the southern portion of the project site. Existing land uses in the project vicinity are primarily undeveloped. Several unincorporated rural communities are located near the project site. The unincorporated community of Mojave is located adjacent to the northwestern corner of the project site, including the Mojave Air and Space Port, which is located approximately 0.7 miles west of the project site. The Hyundai Proving Ground is adjacent to the project site to the north and east. Edwards Air Force Base is directly southeast of the project site. The BNSF railway is a single track through the Gen-tie Corridor that becomes a double track line railroad through the project area.

The nearest sensitive receptors consist of several scattered rural residences located approximately 1.2 miles southwest of the southwest corner of the project site. The closest residences are located off Dalton Avenue, in the community of Sanborn.

The western portion of the project site is located within an area governed by the Kern County Airport Land Use Compatibility Plan (ALUCP), which establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. Specifically, as shown on **Figure 3-5, ALUCP Designations**, portions of the project site are located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern.”

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). Based on the FIRMs for the project area, portions of the solar facility site and gen-tie line are mapped in 100-year (Zone A) floodplains. Zone A is defined as areas subject to inundation by the 1-percent-annual-chance flood event, generally determined using approximate methodologies. The rest of the project site is mapped as Zone X, which is defined as areas of minimal flood hazard that are outside of the Special Flood Hazard Area and beyond the limits of the 0.2-percent-annual-chance (500-year) flood (refer to **Figure 3-6, FEMA Flood Zones**).

The project site is not designated by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The project site is designated as nonagricultural and natural vegetation. There are no lands designated as important farmland located adjacent to or in the vicinity of the project site. Additionally, no lands affected by the project are subject to a Williamson Act Land Use contract, nor are they located within a Kern County Agricultural Preserve.

The project site is not within a mineral recovery area or within a designated mineral and petroleum resource site designated by the Kern County or California City General Plans, nor is it identified as a mineral resource zone by the Department of Conservation’s California Geologic Energy Management Division (CalGEM) State Mining and Geology Board.

The project would be served by the Kern County Sheriff’s Office and California City Police Department for law enforcement and public safety and Kern County Fire Department and California City Fire Department for fire suppression and emergency medical services. The portion of the project site located within unincorporated Kern County would be served by the Kern County Sheriff’s Department – Mojave Substation located at 1771 Highway 58. The portion of the project site located within California City would be served by the California City Police Station located at 21130 Hacienda Boulevard. The portion of the project site located within unincorporated Kern County would be served by the Kern County Fire Department Station #14 located at 1773-1999 Mojave-Barstow Highway in Mojave. The portion of the project site located within California City would be served by California City Fire Station #85 located at 20890 Hacienda Boulevard in California City. The nearest hospitals are the California City Medical Center, approximately 6 miles to the northeast, and the Tehachapi Hospital and Adventist Health Tehachapi Valley Hospital, both of which are located approximately 18 miles to the northwest in the City of Tehachapi. The nearest schools in unincorporated Kern County are Mojave Elementary School and Mojave Jr/Sr High School, located approximately 2.5 miles west of the project site. The closest school in California City is California City High School, located approximately 6 miles northeast of the project site.

**Table 1-2, Existing On- and Off-site Land Use, General Plan Map Code, Specific Plan Map Code Designations, and Zoning**, presents the existing land uses, designations, and zoning classification for the project site and surrounding area.

**TABLE 1-2. EXISTING ON- AND OFF-SITE LAND USE, GENERAL PLAN MAP CODE, SPECIFIC PLAN MAP CODE DESIGNATIONS, AND ZONING**

<b>Location</b>	<b>Existing Land Use</b>	<b>Existing General Plan and Specific Plan Map Code Designations</b>	<b>Existing Zoning</b>
<b>Kern County</b>			
<b>Project Site</b>	Undeveloped	Kern County General Plan: 1.1 (State and Federal Lands) 8.5 (Resource Management, minimum 20-acre parcel size) 8.5/2.5 (Resource Management, minimum 20-acre parcel size/ Flood Hazard)  Mojave Specific Plan: 7.1 (Light Industrial) 7.3 (Heavy Industrial)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 MH (Limited Agriculture, Mobile Home Combining) M-2 PD (Medium Industrial, Precise Development Combining) M-3 PD (Heavy Industrial, Precise Development Combining)
<b>North</b>	Undeveloped; California City; Hyundai-Kia Proving Ground	Kern County General Plan: 8.3 (Extensive Agriculture, min. 20-acre parcel size) 8.3 (Extensive Agriculture, min. 20-acre parcel size/Flood Hazard) 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 MH (Limited Agriculture, Mobile home Combining) E(2 ½) MH (Estate 2.5 Acres, Mobile home Combining)
<b>East</b>	Hyundai-Kia Proving Ground, Undeveloped; Unincorporated community of North Edwards	Kern County General Plan: 1.1 (State or Federal Land) 1.2 (Incorporated Cities) 8.5 (Resource Management, min. 20-acre parcel)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 H (Limited Agriculture, Airport Approach Height Combining) M1 (Light Industrial)
<b>South</b>	Edwards Air Force Base, Unincorporated communities of Sanborn, and Fleta	Kern County General Plan: 1.1 (State or Federal Land) 3.3 (Other Facilities) 5.7 (Minimum 5 Gross Acres/Unit) 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)	A-1 (Limited Agriculture)

<b>Location</b>	<b>Existing Land Use</b>	<b>Existing General Plan and Specific Plan Map Code Designations</b>	<b>Existing Zoning</b>
<b>West</b>	Mojave Air and Space Port, Undeveloped, Unincorporated community of Mojave	Kern County General Plan 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)  Mojave Specific Plan: 7.1 (Light Industrial) 7.1/2.5 (Light Industrial/Flood Hazard) 7.2 (Service Industrial) 7.3 (Heavy Industrial)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 H (Limited Agriculture, Airport Approach Height Combining) M-1 (Light Industrial) M-1 PD (Light Industrial, Precise Development Combining) M-1 PD H (Light Industrial, Precise Development, Airport Approach Height Combining) M-2 PD (Medium Industrial, Precise Development Combining) M-3 PD (Heavy Industrial, Precise Development Combining)
<b>California City</b>			
<b>Project Site</b>	Undeveloped	California City General Plan: O/RA (Controlled Development & Open Space)	O/RA (Open Space/Residential Agricultural)
<b>North</b>	Undeveloped; California City; Hyundai-Kia Proving Ground	California City General Plan: M1 (Light Industrial District)	M1 (Light Industrial District)
<b>East</b>	Hyundai-Kia Proving Ground, Undeveloped	California City General Plan: M1 (Light Industrial District)	M1 (Light Industrial District)
<b>South</b>	Unincorporated Kern County (see above descriptions)		
<b>West</b>	Unincorporated Kern County (see above descriptions)		

### 1.5.3 Project Objectives

The project has the following objectives:

- Construct and operate a solar energy facility capable of producing up to 1,500 MW of reliable electricity and 1,500 MWh of energy storage in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.
- Provide energy to the electric grid to meet increasing demand for in-state generation.
- Integrate operating facilities with other existing solar projects in the vicinity to maximize economies of scale.

- Assist the County in continuing 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.
- Promote economic development and bring regionally defined living-wage jobs to the region throughout the life of the proposed project.
- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under SB 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030.
- Support California's aggressive RPS Program consistent with the timeline established by SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") as approved by the California Legislature and signed by Governor Brown in September 2018, which established a 50 percent RPS goal by December 31, 2026, 60 percent by December 31, 2030, and a goal that 100 percent of electric retail sales to end-use customers be provided by renewable energy and zero-carbon resources by 2045.

### 1.5.4 Project Characteristics

The proposed project includes the development of a 1,500 MW PV solar energy-generating facility, 1,500 MWh energy storage, and associated infrastructure. The project site is shown in **Chapter 3, Project Description, Figure 3-2, Project Site Boundaries**, of this EIR. Conceptual site plans for the project site is shown in **Figure 3-15A, Overall Site Plan – Key Map** along with more detailed plans in **Figures 3-15B, 3-15C, and 3-15D**. The project would include the following components:

- Installation of up to a total combined 1,500 MW of solar PV modules, mounted in either a fixed-tilt configuration, with the panels oriented toward the south, or using tracker mount systems (either single- or dual-axis). The modules are expected to remain between 6 and 8 feet high;
- Installation of an energy storage facility and accessories that would provide energy storage capacity of up to 1,500 MWh for the electrical grid;
- A collection system of cables for delivering photovoltaic energy to inverter stations generally consisting of one or more inverter modules, a unit transformer, and voltage switch gear;
- One or more on-site substation(s) or switchyard(s) which would receive electricity from inverter stations through overhead and/or underground collector lines. Each substation would occupy an area of approximately 5 acres;
- 230 kV overhead and/or underground gen-tie lines;
- An O&M facility is possible for the project site, though the proposed project may share O&M facilities with one or more nearby solar projects and/or may be remotely operated;
- Telecommunications equipment, including underground and overhead fiber optics, and an on-site meteorological station;

- Onsite access roads; and
- Perimeter security fencing and shielded nighttime directional lighting.

The components listed above are described in more detail below.

## Solar PV Module Configuration

The proposed project would use photovoltaic panels or modules (including but not limited to concentrated photovoltaic (CPV) technology) on mounting frameworks to convert sunlight directly into electricity. Individual panels would be installed on either fixed-tilt or tracker mount systems (single- or dual-axis, using galvanized steel or aluminum). If the panels are configured for fixed-tilt, the panels would be oriented toward the south. For tracking configurations, the panels would rotate to follow the sun over the course of the day. Although the panels could stand up to 20 feet high, depending on the mounting system used and on County building codes, panels are expected to remain between 6 and 8 feet high. The conceptual site plan exhibits showing the proposed project facilities, including solar block and solar panel layout, O&M building, project substation, and electrical infrastructure are shown on **Figure 3-15A to Figure 3-15E, Overall Site Plan and Plan View**. Refer to **Figure 3-16, Panel Tracker and O&M Building Details**, and **Figure 3-17, Representative Examples of Photovoltaic Panel/Mounting Configuration**, depicts representative examples of photovoltaic panel/mounting configurations.

The foundations for the mounting structures can extend up to 10 feet below ground, depending on the structure, soil conditions, and wind loads, and may be encased in concrete or utilize small concrete footings. A light-colored ground cover or palliative may be used to increase electricity production. Final solar panel layout and spacing would be optimized for project area characteristics and the desired energy production profile.

The solar array fields would be arranged in groups called “blocks” with inverter stations generally located centrally within the blocks. Blocks would produce direct electrical current (DC), which is converted to alternating electrical current (AC) at the inverter stations.

## Site Access

Construction and operation traffic would access the project site from SR 58, Altus Avenue, Silver Queen Road, 50<sup>th</sup> Street 55<sup>th</sup> Street, 140<sup>th</sup> Street, Hyundai-Kia Boulevard, and Sunset Avenue, depending on the portion of the project site to access. Driveways and parking lot entrances would be constructed in accordance with Kern County and California City improvement standards. Any off-site roadway improvements would be constructed in conformance with Caltrans and/or County and/or City code and regulations, as necessary and applicable.

## Collection, Inverter, and Transformer Systems

Photovoltaic energy is delivered via cable to inverter stations, generally located near the center of each block of solar panels. Inverter stations typically comprise of one or more inverter modules with a rated power of up to 7.5 MW each, a unit transformer, and voltage switch gear. The unit transformer and voltage switch gear are housed in steel enclosures, while the inverter module(s) are housed in cabinets. Depending on the vendor selected, the inverter station may lie within an enclosed or canopied metal structure, typically



on a skid or concrete mounted pad. **Figure 3-18**, *Representative Examples of Typical Inverter Stations*, depicts representative examples of typical inverter stations.

## Energy Storage System

The proposed project may include one or more Energy Storage Systems (ESS), located at or near a substation/switchyard (on-site or shared) and/or at the inverter stations, but possibly elsewhere on-site. Such large-scale ESSs would be up to 1,500 MWh-AC in capacity and up to 50 acres in total area. ESSs consist of modular and scalable battery packs and battery control systems that conform to U.S. national safety standards.

The ESS modules, which could include commercially available lithium or flow batteries, typically consist of standard International Organization for Standardization containers (approximately 40 feet in length by 8 feet in width by 8 feet in height) housed in pad- or post-mounted, stackable metal structures, but may also be housed in a dedicated building(s) in compliance with applicable regulations. The maximum height of a dedicated structure is not expected to exceed 25 feet. The actual dimensions and number of energy storage modules and structures vary depending on the application, supplier, and configuration chosen, as well as on offtaker/power purchase agreement requirements and on County building standards. **Figure 3-19**, *Representative Examples of Typical Battery Storage Energy Systems*, depicts representative examples of typical ESSs.

The ESS would be unmanned, remotely controlled containers and would periodically be inspected for maintenance purposes. The ESS would have a fire rating in conformance with Kern County, California City, and national ESS fire standard NFPA 855 and specialized fire suppression systems would be installed for each of the battery compartments, where required by NFPA 855 and UL9540A standards.

## On-Site Meteorological Station

A solar meteorological station would be on-site, the location of which would be determined at final project design. The meteorological station would include solar energy (irradiance) meters, in addition to an air temperature sensor and wind anemometer. It is anticipated that the maximum height of this equipment would be 20 feet.

## Substation

Output from the inverter stations would be transferred via electrical conduits and electrical conductor wires to one or more on-site substation(s) or switchyard(s) (collectively referred to as a “substation” herein). Generally, the collectors would originate at each inverter and be “bundled” together as they approach the substation(s). Underground and/or overhead collector lines would cross SR-58 in several locations, depending on the final substation location(s). Each substation may contain several components, including auxiliary power transformers, distribution cabinets, revenue metering systems, microwave transmission tower, and voltage switch gear. Each substation would occupy an area of approximately 5 acres, secured separately by an additional chain-link fence, and typically located along the perimeter of the project. The final location(s) would be determined before issuance of building permits.

Substations typically include a small control building (roughly 500 square feet) standing approximately 10 feet tall. The building is either prefabricated concrete or steel housing with rooms for the voltage switch gear and the metering equipment, a room for the station supply transformer, and a separate control

technology room in which the main computer, the intrusion detection system, and the main distribution equipment are housed. Components of this building (e.g., control technology room and intrusion detection system) may alternatively be located at the O&M building(s). **Figure 3-20, *Representative Example of Typical Substation Design***, depicts a representative example of a typical substation.

## Generation -Transmission Line

From the proposed project's substation(s), power would be transmitted to the SCE Windhub Substation via up to 230 kV overhead and/or underground gen-tie line(s). The preferred and alternative gen-tie alignments are shown on **Figure 3-3, *Aerial Photograph***. The combined linear distance of the gen-tie alternatives are 89.6 miles with a width of 200 feet. The collector lines are generally located within or adjacent to the Kern County and/or California City project parcels, while the gen-tie alternatives generally originate from the central portion of the project heading west around Mojave, before reaching Oak Creek Road and SCE's Windhub Substation. The project may require the acquisition of up to 200 feet of privately-owned land, abutting the Oak Creek Road right-of-way for gen-tie routing purposes.

The overhead lines would be mounted on monopoles no higher than 100 feet tall as designated in Figure 19.08.160 (*Military Review Requirements Map*) of the Kern County Zoning Ordinance. Along Oak Creek Road, the gen-tie support structures would be subject to height limitations in accordance with Section 19.38.080 (*Medium Industrial (M-2) District - Height Limits*) of the Kern County Zoning Ordinance, which states that "no building or structure shall exceed ten (10) stories or one hundred and thirty-five (135) feet." Portions of the gen-tie line may be undergrounded to avoid conflict with operation of the Mojave Air and Space Port and allow the line to avoid conflicts with other existing infrastructure. Kern County and California City may accept Irrevocable Offers of Dedication, or grant a franchise, license, and/or encroachment agreement for portions of the gen-tie, while other portions would be sited within private easements.

Construction of the gen-tie line may require one lane of traffic along Oak Creek Road to be closed for up to 12 months. Several small single-lane shutdowns or one longer shutdown would be used to allow construction personnel to safely construct the gen-tie line. Additionally, equipment and components may be temporarily staged within the single lane shutdown or adjacent to the road during construction. Depending on the final design, a full closure of Oak Creek Road between Koch Street and the western side of the Windhub Substation for 4-6 weeks may be necessary.

Three staging areas up to 20 acres each would support construction of the project gen-tie. The first staging area would be located at the intersection in Benton and Treescaple Roads, the second staging area would be located at the intersection of Oak Creek and Holt Street, and the third would be adjacent to Oak Creek Road, east of Windhub Substation. Staging areas would be cleared, graveled, and fenced. Gates and road aprons would be constructed to facilitate ingress and egress of construction equipment and personnel. No permanent structures would be constructed in the staging areas as part of the project.

The collector lines are generally located within or adjacent to the Kern County and/or California City project parcels, while the gen-tie alternatives generally originate from the central portion of the project heading west around Mojave, before reaching Oak Creek Road and SCE's Windhub Substation. The project may require the acquisition of up to 200 feet of privately owned land abutting the Oak Creek Road right-of-way, for gen-tie routing purposes.

SCE may relocate approximately 400 feet of overhead distribution and telecommunication line from the north side of Oak Creek Road to the south side of Oak Creek Road to create an open space for the project

proponent to construct 230kV transmission riser pole(s) on the north side of Oak Creek Road at Windhub Substation. Relocated overhead facilities would consist of up to five new wood poles and/or lightweight steel poles that range in height from 35 feet to 60 feet. Final heights and structure types are subject to change pending final engineering.

## **Water Usage**

Water demand for panel washing and O&M domestic use is not expected to exceed 200.8 acre-feet per year. Water is anticipated to be obtained from on-site wells, or delivered via truck or pipeline from an off-site source(s). A small water treatment system with a footprint of up to 30 feet by 30 feet may be installed to provide deionized water for panel washing.

## **Water Storage Tank(s)**

One or more plastic or steel above-ground water storage tanks with a total capacity of up to 80,000 gallons (greater if required by Fire Department regulations) may be placed on-site near the O&M building(s). The storage tank(s) near the O&M building(s) would have the appropriate fire department connections to be used for fire suppression purposes.

## **Operations and Maintenance Building**

The proposed project may include an O&M building(s) of approximately 40 feet by 80 feet in size, with associated on-site parking. The O&M building would be steel framed, with metal siding and roof panels. The O&M building may include the following:

- Office
- Repair building/parts storage
- Control room
- Restroom
- Septic tank and leach field

The septic tank and leach field, roads, driveways, and parking lot entrances would be constructed in accordance with Kern County and California City improvement standards. Parking spaces and walkways would be constructed in accordance with all California accessibility regulations. As previously mentioned, the proposed project may share O&M facilities with one or more nearby solar projects in the area and/or may be remotely operated. Any unused O&M areas on-site may be covered by solar panels.

## **Project Site Security and Fencing**

The project site would be enclosed within a chain link fence with barbed wire measuring up to 8 feet in height (from finished grade). An intrusion alarm system composed of sensor cables integrated into the perimeter fence, intrusion detection cabinets placed approximately every 1,500 feet along the perimeter fence, and an intrusions control unit, located either in the substation control room or at the O&M building, or similar technology, would be installed. The proposed project may include additional security measures including, but not limited to, barbed wire, low voltage fencing with warning reflective signage, controlled

access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespassing and/or unauthorized activities that could interfere with operation of the proposed project.

Controlled access gates would be maintained at the main entrances to the project site. Project access would be provided to offsite emergency response teams that respond in the event of an “after-hours” emergency. Enclosure gates would be manually operated with a key provided in an identified key box location.

## Project Site Lighting

Proposed nighttime lighting on-site would be minimal and is anticipated to be installed at the access gates, substation(s), O&M building(s), and inverters to allow for access and emergency maintenance. Nighttime lighting would provide O&M personnel with illumination for both normal and emergency operating conditions. The minimum illumination needed to ensure worker safety and security on-site would be provided. All nighttime lighting installed would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as required by Kern County Ordinance (Chapter 19.81) - *Outdoor Lighting-Dark Skies Ordinance* requirements. Additionally, motion-sensitive cameras would be installed within the solar fields in proximity to the inverters for purposes of security.

## 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 Appendix G of the CEQA *Guidelines* except Mineral Resources, 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.

- Mineral Resources
- Population and Housing
- Recreation

### 1.6.2 Impacts of the Project

Sections 4.1 through 4.17 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 1-6, 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
- 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 4.17 of this EIR present detailed analysis of these impacts and describe the means by which the mitigation measure listed in **Table 1-3** 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**

<b>Impact</b>	<b>Mitigation Measures</b>
Agriculture and Forest Resources (Project and Cumulative)	No mitigation required
Biological Resources (Project)	<b>MM 4.4-1KC through MM 4.4-23KC; MM 4.4-1CC through MM 4.4-23CC; MM4.1-5KC and MM 4.1-5CC; MM 4.9-1KC; MM 4.9-1CC; MM 4.10-1KC, MM 4.10-2KC; and MM 4.10-1CC, MM 4.10-2CC.</b>
Cultural Resources (Project and Cumulative)	<b>MM 4.5-1KC through MM 4.5-13KC, and MM 4.5-1CC through MM 4.5-4CC</b>
Energy (Project and Cumulative)	<b>MM 4.3-1KC and MM 4.3-1CC</b>
Geology and Soils (Project and Cumulative)	<b>MM 4.7-1KC through MM 4.7-5KC; MM 4.7-1CC through MM 4.7-4CC, MM 4.10-2KC, MM 4.10-2CC</b>
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project)	<b>MM 4.9-1KC through MM 4.9-6KC; MM 4.9-1CC through MM 4.9-5CC, MM 4.13-1KC, MM 4.13-1CC; MM 4.16-1KC, and MM 4.16-1CC</b>
Hydrology and Water Quality (Project and Cumulative)	<b>MM 4.9-1KC, MM 4.10-1KC through 4.10-3KC, MM 4.9-1CC and MM 4.10-1CC through MM 4.10-3CC</b>
Land Use Planning (Project and Cumulative)	<b>MM 4.9-6KC and MM 4.9-6CC; MM 4.11-1KC, MM 4.11-1CC, MM 4.11-2KC, and MM 4.11-2CC</b>
Noise (Project and Cumulative)	<b>MM 4.9-4KC and MM 4.9-4CC; MM 4.12-1KC through MM 4.12-3KC and MM 4.12-1CC through MM 4.12-3CC</b>
Public Services (Project and Cumulative)	<b>MM 4.13-1KC through MM 4.13-5KC and MM 4.13-1CC through MM 4.13-5CC</b>
Transportation (Project and Cumulative)	<b>MM 4.14-1KC and MM 4.14-1CC</b>
Tribal Cultural Resources (Project and Cumulative)	<b>MM 4.5-1KC, MM 4.5-1CC, MM 4.5-2KC, MM 4.5-2CC, MM 4.5-4CC, MM 4.5-5KC, MM 4.5-5CC, MM 4.5-11KC, MM 4.5-11CC, and MM 4.5-12KC</b>
Utilities and Service Systems (Project and Cumulative)	<b>MM 4.10-1KC, MM 4.10-1CC, MM 4.10-2KC, MM 4.10-2CC; MM 4.16-1KC, MM 4.16-1CC</b>
Wildfire (Project)	<b>MM 4.13-1KC, MM 4.13-1CC, MM 4.14-1KC, and MM 4.14-1CC</b>

## 1.6.4 Significant and Unavoidable Impacts

Section 15126.2(c) 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, Environmental Setting, Impacts, and Mitigation Measures**, of this EIR.

According to Section 15355 of the CEQA *Guidelines*, 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 (project and cumulative)
- Air Quality (project and cumulative)
- Biological Resources (cumulative)
- Hazards and Hazardous Materials (cumulative)
- Wildfire (cumulative)

**Table 1-4. Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Solar Facility**

Resources	Project Impacts	Cumulative Impacts	Mitigation Measures
Aesthetics	Implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC and MM 4.1-1CC through MM 4.1-7CC</b> would be incorporated to reduce visual impacts to the extent feasible, which include requirements to provide ongoing site maintenance including trash and debris removal; preserve and enhance scenic vegetation where possible; install visually screening features that would limit the visibility of project features; minimize color contrast through the selection of appropriate paint colors and surface treatments for project facilities; and, limit impacts from the location of tall, intrusive project facilities near public viewing	The project would result in cumulative significant and unavoidable impacts related to visual character despite implementation of mitigation. While other projects in the region would also be required to implement various 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. Even with implementation of Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC and MM 4.1-1CC through MM 4.1-7CC</b> , the project's contribution to significant	<b>MM 4.1-1KC through MM 4.1-7KC and MM 4.1-1CC through MM 4.1-7CC</b>

Resources	Project Impacts	Cumulative Impacts	Mitigation Measures
	areas. However, because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, the project would substantially degrade the existing visual character and scenic quality of public views of the site and its surroundings, as seen and described from the KOPs, and impacts on visual resources would remain <b>significant and unavoidable</b> .	impacts associated with visual character in the Antelope Valley would be <b>significant and unavoidable</b> .	
Air Quality	Despite the implementation of Mitigation Measures <b>MM 4.3-1KC</b> , <b>MM 4.3-1CC</b> , <b>MM 4.3-5KC</b> and <b>MM 4.3-5CC</b> , exposure to dust resulting from construction could still occur, increasing the susceptibility to contracting COVID-19 and increasing the severity of the disease. Further, NO <sub>x</sub> and PM <sub>10</sub> emissions would be considered cumulatively considerable, despite implementation of mitigation measures. Therefore, impacts in this regard would remain <b>significant and unavoidable</b> .	If construction of the proposed projects in the project's vicinity overlap, emissions of NO <sub>x</sub> and PM <sub>10</sub> would be cumulatively considerable. Even with implementation of mitigation measures <b>MM 4.3-1KC through MM 4.3-7KC</b> and <b>MM 4.3-1CC through MM 4.3-7CC</b> , cumulative temporary construction impacts are considered <b>significant and unavoidable</b> .	<b>MM 4.3-1KC through MM 4.3-7KC</b> and <b>MM 4.3-1CC through MM 4.3-7CC</b>
Biological Resources	There would be no significant and unavoidable project impacts.	Given the number of present and reasonably foreseeable future development projects in the Fremont Valley, the project, when combined with these other projects, would have an incremental contribution to the cumulative loss of foraging and nesting habitat for special-status species. While the project would have less than significant impacts on sensitive biological resources with implementation of Mitigation Measures <b>MM 4.4-1KC through MM 4.4-23KC</b> and <b>MM 4.4-1CC through MM 4.4-23CC</b> at the project level, when combined with related development projects, cumulative impacts would be <b>significant and unavoidable</b> .	<b>MM 4.4-1KC through MM 4.4-23KC</b> and <b>MM 4.4-1CC through MM 4.4-23CC</b>



Resources	Project Impacts	Cumulative Impacts	Mitigation Measures
Hazards and Hazardous Materials	There would be no significant and unavoidable project impacts	Given the project's location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to impairment or interference with an adopted emergency response plan or emergency evacuation plan. Further, the project and related projects would have the potential to result in a cumulative impact from the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. Cumulative impacts in this regard are considered <b>significant and unavoidable</b> .	<b>MM 4.9-1KC, MM 4.9-2KC, MM 4.9-1CC, MM 4.9-2CC, MM 4.9-5KC, MM 4.9-5CC, MM 4.9-6KC, MM 4.13-1KC, MM 4.13-1CC, MM 4.16-1KC, and MM 4.16-1CC</b>
Wildfire	There would be no significant and unavoidable project impacts	Given the project's location in a rural area and limited infrastructure, the project, in combination with related projects, would have the potential to result in a cumulative impact to an adopted emergency response plan or emergency evacuation plan and to infrastructure improvements that may increase fire risk or result in significant impacts. Given the project's location combined with the fact that certain cumulative projects in the project vicinity may have a greater risk of wildfire, the project and related projects are considered to have the potential to result in a significant cumulative impact related to exposure of project occupants to pollutant concentrations from a wildfire. As such, the project, in combination with other related projects, could result in <b>significant and unavoidable</b> cumulative impacts.	<b>MM 4.13-1KC and MM 4.13-1CC</b>

## 1.6.5 Irreversible Impacts

Section 15126.2(d) 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, gases, 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, Mojave Specific Plan, and the California City General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan and California City General Plan ensures that any irreversible environmental changes associated with those comments will be minimized.

## 1.6.6 Growth Inducement

The Kern County General Plan recognizes that certain forms of growth are beneficial, both economically and socially. Section 15126.2(e) 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. There would be 20 full-time equivalent (FTE) personnel required for the project’s operation. It is anticipated that the construction 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. If temporary housing should be necessary, it is expected that accommodations would be available in nearby 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.

## 1.7 Alternatives to the Project

Section 15126.6 of the CEQA *Guidelines* 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 proposed project, the aforementioned objectives established for the proposed 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)(3)). Kern County considered several alternatives to reduce impacts to aesthetics (project and cumulative), air quality (project and cumulative), biological resources (cumulative only), hazards and hazardous materials (cumulative only), and wildfire (cumulative only). 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 1,500 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, low maintenance and 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 conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan, and the Edwards Air Force Base due to the heights of the turbines.
- 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.

## Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 300 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 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) increased demand on public utilities, including water and waste disposal.

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 manner 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 result in additional/greater impacts than the 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 may conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan, and the Edwards Air Force Base due to the heights of the cooling towers and smoke stacks.
- It would not contribute to the statewide renewable energy and GHG emission reduction objectives as this alternative would use nonrenewable energy to produce electricity.

## Alternative Site

This alternative would involve the development of the 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 western Antelope Valley, similar to the project. This alternative is assumed to involve construction of a 1,500 MW PV solar facility with up to 1,500 MW of energy storage on a site totaling 8,371 acres. CEQA Guidelines 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 project.

Western Antelope Valley 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 western Antelope Valley, 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, biological resources, hazards, and wildfire. This is based on the known general conditions in the area and the magnitude of the 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 project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the 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 were evaluated, which are described in the sections below:

- Alternative 1: No Project Alternative (required by CEQA)
- Alternative 2: General Plan/Specific Plan and 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 Proposed Project and Development Alternatives*, provides a summary description, basis for analysis, and applicable feasibility of each development alternative. A complete discussion of each alternative is also provided below.

**Table 1-5. Summary of Proposed Project and Development Alternatives**

Alternative	Description	Basis for Selection and Summary of Analysis
Proposed Project	Construction and operation of a solar facility on approximately 8,371 acres would generate up to 1,500 MW of electricity and up to 1,500 MW of energy storage capacity. The power would then be delivered via 230 kV gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at the Southern California Edison's Windhub Substation. Approval of the project would require one general plan amendment, two zone case changes, two conditional use permits, one general plan amendment (Circulation Element), one specific plan amendment (Circulation Element) and non-summary vacations of public access easements from Kern County and one conditional use permit from California City.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	<ul style="list-style-type: none"> <li>• Required by CEQA.</li> <li>• Avoids the need for general plan amendments, zone case changes, conditional use permits, a specific plan amendment, and non-summary vacations from Kern County.</li> <li>• Avoids the need for a conditional use permit from California City.</li> <li>• Avoids all significant and unavoidable impacts.</li> <li>• Would not offset GHG emissions from nonrenewable energy generation, thus greater impacts on GHG emissions.</li> <li>• Less impact in all remaining environmental issue areas.</li> <li>• Does not meet any of the project objectives.</li> </ul>
Alternative 2: General Plan, Specific Plan, and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan, Mojave Specific Plan, California City General Plan, land use designations, zoning classifications, and other existing applicable restrictions.	<ul style="list-style-type: none"> <li>• Avoids the need for general plan amendments, zone case changes, conditional use permits, and a specific plan amendment from Kern County.</li> <li>• Avoids the need for a conditional use permit from California City.</li> </ul>

Alternative	Description	Basis for Selection and Summary of Analysis
		<ul style="list-style-type: none"> <li>Reduces impacts on aesthetics, agriculture and forestry resources, and wildfire.</li> <li>Similar impacts on hazards and hazardous materials.</li> <li>No impacts on land use and planning.</li> <li>Greater overall impacts in all remaining environmental issue areas.</li> <li>Does not meet any project objectives.</li> </ul>
Alternative 3: Reduced Acreage Alternative	Construction and operation of multiple solar facilities on a portion of the proposed project site on approximately 5,835 acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 1,050 MW, with up to approximately 1,050 MW of energy storage. As with the proposed project, this alternative would also require general plan amendments, zone case changes, conditional use permits, a specific plan amendment, and non-summary vacations of public access easements from Kern County and a conditional use permit from the City of California City.	<ul style="list-style-type: none"> <li>Reduces, but results in similar impacts on aesthetics, air quality, biological resources, hazards and hazardous materials, land use and planning, noise, and public services.</li> <li>Reduces impacts in all remaining environmental issue areas.</li> <li>Reduces benefit of offsetting GHG emissions from nonrenewable energy generation, thus greater GHG emissions impact.</li> <li>Does not meet all the project objectives.</li> </ul>
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 1,500 MW of PV solar distributed on rooftops throughout western Antelope Valley. Electricity generated would be for on-site use only. No energy storage would be included.	<ul style="list-style-type: none"> <li>Avoids the need for general plan amendments and zone changes at the project site, but may require other entitlements on the site, such as a CUP or Variance.</li> <li>Avoids significant and unavoidable impacts associated with aesthetics, air quality, biological resources, and hazards.</li> <li>Reduces benefit of offsetting GHG emissions from nonrenewable energy generation by utility purveyors.</li> <li>No impacts on land use and planning.</li> <li>Similar impacts on energy.</li> <li>Less impacts on all remaining issue areas.</li> <li>Does not meet all the project objectives nor does it account for the energy storage component of the project.</li> </ul>

### 1.7.3 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 or denying a project altogether. Accordingly, Alternative 1 assumes that the development of the up to 1,500 MW solar facility with up to 1,500 MW energy storage capacity on the approximately 8,371 -acre site would not occur. The No Project Alternative would not require one general plan amendment to the land use element, two zone case changes, two conditional use permits, one general plan amendment to the circulation element, one specific plan amendment to the circulation element (Mojave Specific Plan), and non-summary vacations of public access easements from Kern County, and one conditional use permit from California City for construction and operation of the proposed solar and energy storage project. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

## 1.7.4 Alternative 2: General Plan, Specific Plan, and Zoning Build-Out Alternative

Under the General Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing land use designations and zoning classifications for the project parcels according to the Kern County General Plan, Mojave Specific Plan, Kern County Zoning Ordinance, and California City General Plan and Zoning Ordinance. No project-related solar facilities would be developed under this alternative and, therefore, no zone changes for solar facility construction and operation would be required. A summary of these designations for the entire project site is provided below. A detailed description of the designations that apply to specific properties of the project or summaries by quadrant are provided in **Table 3-1** and **Table 3-2**, provided in Chapter 3, *Project Description*.

- **Kern County – General Plan**
  - 1.1 (State and Federal Lands)
  - 1.2 (Incorporated Cities)
  - 3.3 (Other Facilities)
  - 5.7 (Minimum 5 Gross Acres/Unit)
  - 8.3 (Extensive Agriculture, min. 20-acre parcel size)
  - 8.3 (Extensive Agriculture, min. 20-acre parcel size/Flood Hazard)
  - 8.5 (Resource Management, min. 20-acre parcel size)
  - 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope)
  - 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)
- **Kern County – Mojave Specific Plan**
  - 7.1 (Light Industrial)
  - 7.1/2.5 (Light Industrial/Flood Hazard)
  - 7.2 (Service Industrial)
  - 7.3 (Heavy Industrial )
- **Kern County – Zoning**
  - A (Exclusive Agriculture)
  - A-1 (Limited Agriculture)
  - A-1 H (Limited Agriculture, Airport Approach Height Combining)
  - A-1 MH (Limited Agriculture, Mobile Home Combining)
  - E(2 ½) MH (Estate 2.5 Acres, Mobile home Combining)
  - M-1 (Light Industrial)
  - M-1 PD (Light Industrial, Precise Development Combining)
  - M-1 PD H (Light Industrial, Precise Development, Airport Approach Height Combining)



- M-2 PD (Medium Industrial, Precise Development Combining)
- M-3 PD (Heavy Industrial, Precise Development Combining)
- **California City – General Plan**
  - M1 (Light Industrial District)
  - O/RA (Controlled Development & Open Space)
- **California City –Zoning**
  - O/RA (Open Space/Residential Agriculture)

### 1.7.5 Alternative 3: Reduced Acreage Alternative

Alternative 3 would involve a reduced footprint of the total area proposed where solar development would occur, including the installation of solar panels, collector lines, transformers, substations, energy storage facilities, access roads, and O&M facilities. The purpose of the Reduced Acreage Alternative is to avoid or minimize adverse effects associated with the project's proximity to sensitive receptors, vegetation removal, ground disturbance, construction air emissions, and the extent project facilities would be visible from sensitive viewing locations. Reducing acreage of the project to achieve these goals can be achieved through a number of different footprint configurations. While a portion of the proposed project's environmental resource conditions and impacts are consolidated or based on the presence of fixed features (i.e., receptor locations), others are not consolidated (i.e., biological resources) in a manner that clearly indicates which portions of the proposed project site could be eliminated to reduce the project's environmental effects across all parameters to the greatest extent possible. The Reduced Acreage Alternative targets an overall reduction of the project footprint by roughly 30 percent, which is intended to reduce impacts associated with project development roughly proportionally. A hypothetical reduced footprint configuration was developed for the Reduced Acreage Alternative that meets this reduction target, as discussed below; however, the County, acting within its role as CEQA lead agency when making its decision to approve or deny the project, may determine that a different footprint configuration would be more appropriate at reducing the project impacts. This could be based on considerations of operational feasibility and/or effectiveness, giving more weight to certain environmental objectives versus others, or possibly other considerations.

Under Alternative 3, the hypothetical footprint configuration for the Reduced Acreage Alternative, involves establishing a 0.25-mile setback from SR 58 and eliminating parcels from development in the northwest and southwest areas of the project located south and west of SR 58 (refer to **Figure 6-1**). The remaining areas that comprise the Reduced Acreage Alternative footprint would be mostly consolidated on the north side of SR 58 (approximately 4,805 acres), except for the southeastern most area of the project site located on the south side of SR 58 (approximately 1,030 acres). In total, the Reduced Acreage Alternative footprint would be approximately 5,835 acres, which is approximately 70 percent of the proposed project. Based on the reduced area, the energy generation and storage capacities would both be reduced roughly proportionally from approximately 1,500 MW to 1,050 MW. It is assumed that the same gen-tie alignments identified for the proposed project would also be used for the Reduced Acreage Alternative (refer to **Figure 6-1**). Similar to the proposed project, this alternative would also require the aforementioned general plan amendment to the land use element, zone case changes, conditional use permits, a general plan amendment to the Circulation Element, a specific plan amendment to the Circulation Element, and non-summary vacations of public access easement for construction and operation of a commercial solar electrical generating facility.

### 1.7.6 Alternative 4: No Ground Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Onsite Solar Only

Alternative 4, the No Ground Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Onsite Solar Only Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatt- hours to 1 MW) within existing developed areas, typically on the rooftops and/or already disturbed parking lots of commercial and industrial facilities situated throughout western Antelope Valley. 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 8,371 acres of total rooftop area) may be required to attain project's capacity of 1,500 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop or ground-level 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 1,500 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop or parking area development would occur primarily on commercial and industrial structures and associated parking areas, due to the greater availability of large, relatively flat roof and ground 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 energy storage systems, electrical substations or transmission facilities.

### 1.7.7 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 6-2**, 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 - Distributed Commercial and Industrial Onsite Solar Only Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality, biological resources, and noise. Offsets of GHG emissions generated at fossil fuel-based electrical generating facilities would be

reduced under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology or up to 1,500 MW of energy storage. However, this alternative would result in less impact to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire hazards. Thus, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the 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 - Distributed Commercial and Industrial Onsite Solar Only Alternative within the same time frame and/or with the same efficiency as the project because the project proponent would lack control and access to the sites required to develop 1,500 MW of distributed solar generated electricity on building rooftops and the required land to support up to 1,500 MW of energy storage. 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 - Distributed Commercial and Industrial Onsite Solar Only Alternative is considered the Environmentally Superior Alternative.

**Table 1-6. Comparison of Alternatives**

<b>CEQA Issue Topic</b>	<b>Proposed Project Impacts</b>	<b>Alternative 1: No Project Alternative</b>	<b>Alternative 2: General Plan, Specific Plan, and Zoning Build-Out Alternative</b>	<b>Alternative 3: Reduced Acreage Alternative</b>	<b>Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only</b>
Aesthetics	Significant and unavoidable (project and cumulative)	Less (NI)	Less (SU)	Less (SU)	Less (LTS)
Agriculture and Forestry Resources	Less than significant with mitigation	Less (NI)	Less (NI)	Less (LTS)	Less (NI)
Air Quality	Significant and unavoidable (project and cumulative)	Less (NI)	Greater (SU)	Less (SU)	Less (LTS)
Biological Resources	Less than significant with mitigation (project) Significant and unavoidable (cumulative only)	Less (NI)	Greater (SU)	Less (SU)	Less (NI)
Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Energy	Less than significant	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Geology and Soils	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than significant	Greater (LTS)	Greater (LTS)	Greater (LTS)	Greater (LTS)

<b>CEQA Issue Topic</b>	<b>Proposed Project Impacts</b>	<b>Alternative 1: No Project Alternative</b>	<b>Alternative 2: General Plan, Specific Plan, and Zoning Build-Out Alternative</b>	<b>Alternative 3: Reduced Acreage Alternative</b>	<b>Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only</b>
Hazards and Hazardous Materials	Less than significant with mitigation (project) Significant and unavoidable (cumulative only)	Less (NI)	Similar (SU)	Less (SU)	Less (LTS)
Hydrology and Water Quality	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Land Use and Planning	Less than significant (project) Less than significant with mitigation (cumulative)	Less (NI)	Less (NI)	Similar (LTS)	Less (NI)
Noise	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Public Services	Less than significant with mitigation	Less (NI)	Greater (SU)	Similar (LTS)	Less (LTS)
Transportation	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Tribal Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (NI)
Utilities and Service Systems	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Wildfire	Significant and unavoidable (cumulative only)	Less (NI)	Greater (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	None	None	Some
Notes: <sup>a</sup> It was determined in the IS/NOP that no impacts would occur from project implementation with regard to Mineral Resources, Recreation, and Population and Housing resource areas and, therefore, no further analysis was required in the EIR. NI = No Impact LTS = Less Than significant SU = Significant and Unavoidable					

## 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 aesthetics
- Impacts related to air quality
- Impacts related to biological resources
- Impacts related to hazards and hazardous materials
- Impacts to hydrology and water quality
- Impacts to land use
- Impacts related to traffic

## 1.9 Issues to Be Resolved

Section 15123(b) (3) of the CEQA *Guidelines* 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 Levels of Significance*, summarizes the environmental impacts of the project, mitigation measures, and unavoidable significant impacts identified and analyzed in **Sections 4.1** through **4.17** of this EIR. Refer to the appropriate EIR section for additional information.

**Table 1-7. Summary of Impacts, Mitigation Measures, and Levels of Significance -- Kern County and Gen-Tie Line**

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
<b>4.1 Aesthetics</b>			
<b>Impact 4.1-1:</b> The project would have a substantial adverse effect on a scenic vista.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>Impact 4.1-2:</b> 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	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>Impact 4.1-3:</b> The project would 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.	Significant and unavoidable	<b>Kern County:</b> <b>MM 4.1-1KC:</b> 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.	Significant and unavoidable

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Locations of all trash receptacles during operation of the project shall be shown on final plans.</p> <p>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.</p> <p><b>MM 4.1-2KC:</b> The project proponent shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, including E (Estate Residential), E (2 ½) MH (Estate – 2.5 Acres Mobile Home Combining), R-1 (Low-Density Residential), R-2 (Medium-Density Residential), R-3 (High-Density Residential), or PL (Platted Lands) zoning unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.</p> <p><b>MM 4.1-3KC:</b> 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 Planning and Natural Resources Department, that will ensure all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy finishes.</p> <p><b>MM 4.1-4KC:</b> Wherever possible, within the proposed project boundary, the natural 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 as permitted by Fire Code. 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.</p> <p>a. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>in loose soil), the ground surface shall be revegetated with a native seed mix or native plants (including Mohave creosote scrub habitat) or allowed to revegetate with the existing native seed bank in the topsoil reestablish vegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.</p> <p>b. The plan must include but is not limited to: (1) the approved California native seed mix that will be used on-site; (2) a timeline for seeding the site; (3) the details of which areas are to be revegetated; (4) a list of the consultation efforts completed; (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations; and (6) a clear prohibition of the use of toxic rodenticides.</p> <p>c. During decommissioning and site restoration, ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish revegetation. 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).</p> <p>d. Vegetation/ground cover shall be continuously maintained on the site by the project operator.</p> <p>e. The revegetation 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, reevaluation 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. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with</p>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>conditions prior to implementation of the proposed project, where feasible.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measure <b>MM 4.1-1KC</b> and <b>MM 4.1-3KC</b>.</p>	
<p><b>Impact 4.1-4:</b> The project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.</p>	<p>Potentially significant</p>	<p><b>Kern County</b></p> <p><b>MM 4.1-5KC:</b> Prior to final activation 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.</p> <p><b>MM 4.1-6KC:</b> 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 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 for review and final approval.</p> <p><b>MM 4.1-7KC:</b> Prior to final activation of the solar facility, the project operator shall demonstrate that the Operations and Maintenance (O&amp;M) building, energy storage facilities, gen-tie facilities, and collector facilities utilize materials that minimize glare, as approved by the Kern County Planning and Natural Resources Department. Prior to final activation of the solar facility, the project operator shall demonstrate that the O&amp;M building, energy storage facilities, gen-tie facilities, and collector facilities all on-site buildings utilize materials that minimize glare, non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measure <b>MM 4.1-5KC</b> through <b>MM 4.1-7KC</b>.</p>	<p>Less than significant</p>

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
Cumulative Impacts	Significant and unavoidable	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC</b>  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC</b>	Significant and unavoidable
<b>4.2 Agriculture and Forestry Resources</b>			
<b>Impact 4.2-1:</b> The project would conflict with existing zoning for agricultural use or a Williamson Act Contract.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
Cumulative Impacts	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>4.3 Air Quality</b>			
<b>Impact 4.3-1:</b> The project would conflict with or obstruct implementation of the applicable air quality plan.	Potentially significant	<b>Kern County:</b> <ol style="list-style-type: none"> <li><b>MM 4.3-1KC:</b> The project operator shall ensure that construction, operation, and decommissioning of the proposed project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District (EKAPCD). The project operator shall develop a fugitive dust control plan (Plan) for the project. The Plan shall address short-term construction and long-term operational activities. The Plan shall be endorsed by the Eastern Kern Air Pollution Control District (EKAPCD) prior to the start of any earthmoving activity. The project operator shall also develop a decommissioning fugitive dust control plan (Decommissioning Plan) for the project if a decision is made to decommission and remove the solar facilities in the future. The Decommissioning Plan shall be endorsed by the Eastern Kern Air Pollution Control District EKAPCD prior to any decommissioning activities.</li> <li>Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>inclusive and any other measures to reduce fugitive dust emissions not listed shall be encouraged:</p> <ul style="list-style-type: none"> <li>c. The following dust control measures shall be implemented during land preparation, excavation, and/or demolition:</li> <li>d. 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 three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative.</li> <li>e. All disturbed areas on the project site and proposed transmission corridor shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods. The frequency of watering can be reduced or eliminated during period of precipitation.</li> <li>f. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.</li> <li>g. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures or neighboring property, or as identified in a plan approved by the Eastern Kern Air Pollution Control District (EKAPCD).</li> <li>h. All trucks entering or leaving the project site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of six inches.</li> <li>i. Areas disturbed by clearing, earth-moving, or excavation activities shall be minimized at all times.</li> <li>j. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.</li> <li>k. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>l. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.</li> <li>m. Where acceptable to the Kern County Fire Department and California City Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.</li> <li>n. After clearing, grading, earth-moving and/or excavating is completed within any portion of the project site, the following dust control practices shall be implemented during site construction: <ul style="list-style-type: none"> <li>1. Once initial leveling has ceased, all inactive soil areas within the construction site shall be immediately treated with a dust palliative.</li> <li>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.</li> <li>3. All unpaved road areas shall be treated with a dust palliative or graveled to prevent excessive dust.</li> </ul> </li> <li>o. During all phases of construction, the following vehicular control measures shall be implemented: <ul style="list-style-type: none"> <li>1. No vehicle shall exceed 10 miles per hour on unpaved areas within the project site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.</li> <li>2. Visible speed limit signs shall be posted at the project site entrance(s).</li> <li>3. All areas with vehicle traffic, especially the main entrance roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.</li> <li>4. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.</li> </ul> </li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>5. Streets adjacent to the project site shall be kept clean and project related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.</p> <p>6. Access to the project site shall be by means of an apron into the facility site from adjoining surfaced roadways. The apron 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 facility site, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires.</p> <p>p. <b>MM 4.3-2KC:</b> The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project on the project site:</p> <p>q. All equipment shall be maintained in accordance with the manufacturer's specifications.</p> <p>r. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. Equipment shall be shut down when not in use for extended periods of time.</p> <p>s. No individual piece of construction equipment shall operate longer than eight cumulative hours per day.</p> <p>t. Electric equipment shall be used whenever feasible in lieu of diesel or gasoline-powered equipment.</p> <p>u. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.</p> <p>v. On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.</p> <p><b>MM 4.3-3KC:</b> The project operator shall continuously comply with the following measures during construction and operation to control NOx emissions from on-road heavy-duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and materials for the proposed project:</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>a. 2006 engines or pre-2006 engines with California Air Resources Board-certified Level 3 diesel emission controls will be used to the extent possible.</p> <p>b. All on-road construction vehicles, except those meeting the 2006/California Air Resources Board certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards to the greatest extent possible. This does not apply to worker personal vehicles.</p> <p>c. All on-road construction vehicles, except those meeting the 2006/California Air Resources Board-certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to worker personal vehicles.</p> <p>d. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications.</p> <p><b>MM 4.3-4KC:</b> The project operator shall continuously comply with the following measures during operation to control fugitive dust emissions:</p> <p>a. The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation</p> <p>b. The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.</p> <p>c. Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.3-1KC through MM 4.3-3KC.</b></p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>Impact 4.3-2:</b> The project would expose sensitive receptors to substantial pollutant concentrations.</p>	<p>Significant and unavoidable</p>	<p><b>Kern County</b></p> <p>Implement Mitigation Measure <b>MM 4.1-4KC</b> (see <b>Section 4.1, Aesthetics</b> for full text), Mitigation Measures <b>MM 4.3-1KC through MM 4.3-4KC</b></p> <p><b>MM 4.3-5KC:</b> 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. At the time of project implementation, the Kern County Public Health and Service Department shall determine if the COVID-19 pandemic is still present at a level where spread to sensitive receptors could occur. If determined necessary by the Kern County Public Health and Service Department, a COVID-19 Health and Safety Plan shall be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy shall be submitted to the Kern County Planning Department and California City Community Development Department for review and approval.</p> <p><b>MM 4.3-6KC:</b> 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:</p> <ol style="list-style-type: none"> <li>Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.</li> <li>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.</li> <li>The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.</li> <li>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.</li> <li>To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.</li> <li>Workers shall receive training in procedures to minimize activities that may result in the release of airborne <i>Coccidioides immitis</i> spores, to recognize the symptoms of Valley Fever, and shall be instructed to</li> </ol>	<p>Significant and unavoidable</p>

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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.</p> <p>g. A Valley Fever informational handout shall be provided to all on-site 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.</p> <p>h. On-site 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 on-site personnel, upon request. When exposure to dust is unavoidable, provide appropriate respiratory protection, approved by the National Institute for Occupational Safety and Health (OSHA), 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).</p> <p><b>MM 4.3-7KC:</b> 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.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.3-1KC through MM 4.3-7KC.</b></p>	
<b>Impact 4.3-3:</b> The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than significant	<p><b>Kern County</b></p> <p>No mitigation measures are required.</p> <p><b>Gen-Tie</b></p> <p>No mitigation measures are required.</p>	Less than significant
<b>Impact 4.3-4:</b> The project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.	Significant and unavoidable	<p><b>Kern County</b></p> <p>Implementation of Mitigation Measures <b>MM 4.3-1KC through MM 4.3-7KC.</b></p>	Significant and unavoidable



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<b>Gen-tie</b> Implementation of Mitigation Measures <b>MM 4.3-1KC through MM 4.3-7KC</b> .	
Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures <b>MM 4.3-1KC through MM 4.3-7KC</b> and <b>MM 4.3-1CC through MM 4.3-7CC</b> .	Significant and unavoidable
<b>4.4 Biological Resources</b>			
<b>Impact 4.4-1:</b> 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 CDFW or USFWS.	Potentially significant	<b>Kern County</b>  Implement Mitigation Measure <b>MM 4.1-5KC</b> (see <b>Section 4.1, Aesthetics</b> , for full Mitigation Measure text), regarding compliance with the Kern County Dark Skies Ordinance.  <b>MM 4.4-1KC:</b> Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by United States Fish and Wildlife Service and California Department of Fish and Wildlife to oversee compliance with protection measures for all listed and other special-status species. The project Lead Biologist shall be on-site during all fencing and ground disturbance activities throughout the construction phase. The project Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures described herein. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The project Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.  <b>MM 4.4-2KC:</b> Prior to the issuance of grading or building permits, and for the duration of construction activities, all new construction workers at the project site shall attend a Worker Environmental Awareness Program (WEAP), developed and presented by the project Lead Biologist. As part of the WEAP training, the project Lead Biologist shall perform the following training-related tasks:  a. Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, nighttime construction limitations), and applicable fire protection	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>measures. WEAP training shall also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered.</p> <ul style="list-style-type: none"> <li>b. Send a copy of all WEAP training materials to the Kern County Planning and Natural Resources Department.</li> <li>c. Maintain a list on-site of all employees who have undergone WEAP training. A copy of this list shall be provided to the Kern County Planning and Natural Resources Department as necessary.</li> </ul> <p><b>MM 4.4-3KC:</b> The Worker Environmental Awareness Program (WEAP) shall be presented by the Lead Biologist and shall include information on the life history of each federal and state-listed species, as well as other special-status wildlife, natural communities, and plant species that may be encountered during construction activities, their legal protections, the definition of “take” under the federal and State Endangered Species Acts, measures the project operator is implementing to protect special-status species, reporting requirements, specific measures that each worker shall employ to avoid take of special-status wildlife species, and penalties for violation of the acts. Training shall be documented as follows:</p> <ul style="list-style-type: none"> <li>a. An acknowledgement form signed by each worker indicating that environmental training has been completed.</li> <li>b. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker.</li> <li>c. A copy of the training transcript/training video and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgements forms shall be submitted to the Kern County Planning and Natural Resources Department.</li> </ul> <p><b>MM 4.4-4KC:</b> During construction and decommissioning the anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible.</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Construction-related activities outside of the impact zone shall be avoided. The construction crews and contractor(s) shall be held responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.</p> <p><b>MM 4.4-5KC:</b> New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, a biological resources survey shall be conducted by the Lead Biologist or by biological monitor(s) under the Lead Biologist's supervision to determine if listed or special-status species would be impacted. Impacts shall be avoided to the maximum extent practicable or shall be fully mitigated for. Construction shall not begin until the route is cleared for biological resources. The route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction and use.</p> <p><b>MM 4.4-6KC:</b> Spoils shall be stockpiled in disturbed areas. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project-related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.</p> <p>Spoils shall be stockpiled in existing disturbed areas. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project-related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.</p> <p><b>MM 4.4-7KC:</b> All ground disturbance construction and decommissioning activities shall be monitored by the qualified Lead Biologist or by biological monitors under the Lead Biologist's supervision to ensure compliance with avoidance and minimization measures.</p> <p><b>MM 4.4-8KC:</b> The project operator and/or contractor shall implement the following during project decommissioning:</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>a. All applicable construction phase general protection measures shall be implemented during decommissioning.</li> <li>b. A 25-mile-per-hour speed limit on paved or stabilized unpaved roads shall be applied for travel during decommissioning activities. Travel shall be confined to existing roads and previously disturbed areas.</li> <li>c. If any special-status wildlife is detected in the work area during decommissioning activities, no work shall be conducted until the individual moves on its own outside of the work area.</li> <li>d. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours.</li> </ul> <p><b>MM 4.4-9KC:</b> During construction and decommissioning the project operator and/or contractor shall implement the following general avoidance and protective measures:</p> <ul style="list-style-type: none"> <li>a. Prior to issuance of grading or building permits but after consulting with the United States Fish and Wildlife Service and California Department of Fish and Wildlife, the solar facility project site shall be fenced with a permanent desert tortoise exclusion fence to keep any desert tortoises and Mohave ground squirrels that may be using habitat adjacent to the facility from entering during construction, operations and maintenance, and dismantling and restoration (decommissioning) phases. The project proponent shall submit a fencing plan that outlines the location, type of fence, and construction methods to United States Fish and Wildlife Service and California Department of Fish and Wildlife for review. The fencing type shall follow current fence specifications established by the United States Fish and Wildlife Service. Desert tortoise-proof gates shall be established at all photovoltaic solar facility entry points, unless otherwise approved by United States Fish and Wildlife Service and California Department of Fish and Wildlife. Workers installing the exclusion fencing shall have undergone the worker training program mandated in Mitigation Measure <b>MM 4.4-2KC</b> and a biological monitor under the authority of the project Lead Biologist shall be present during exclusion fencing installation.</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b. The fencing shall be routinely inspected with inspections after precipitation events of more than 1 inch at each ephemeral drainage crossing. Any damage to the fencing shall be repaired immediately or no later than 2 days following the observation.</p> <p>c. Following the construction of exclusion fencing around the solar facility perimeters, clearance surveys shall be conducted by the Lead Biologist to ensure that no desert tortoises, Mohave ground squirrels, or other listed wildlife species are trapped within the fenced area. The Lead Biologist may be assisted by biological monitors under the supervision of the Lead Biologist. The clearance surveys shall be conducted no more than 30 days prior to ground disturbing activities associated with construction, O&amp;M, or decommissioning. Clearance surveys shall adhere to the current United States Fish and Wildlife Service clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes to be completed after desert tortoise-proof fencing is installed, which shall coincide with heightened desert tortoise activity from late March through May and September through October. The Designated Biologist(s) shall perform pre activity surveys for desert tortoise and shall remain on-site daily until the construction period ends or exclusion fencing has been installed to preclude desert tortoises from entering a given work area (work area is completely enclosed with exclusionary fence). United States Fish and Wildlife Service and California Department of Fish and Wildlife may impose modified or additional fencing requirements in the project's final 2081 Permit and/or Habitat Conservation Plan, if required.</p> <p>d. If a desert tortoise or Mohave ground squirrel is found on the site during project construction, operation, or decommissioning, activity shall cease in the vicinity of the animal and the desert tortoise and/or Mohave ground squirrel shall be passively restricted to the area encompassing its observed position on the construction site and its point of entry shall be determined if possible. The Lead Biologist shall install a temporary tortoise-proof fence around this area. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>be necessary. Once the desert tortoise and/or Mohave ground squirrel is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the activities of the desert tortoise and/or Mohave ground squirrel within the site; all fence construction, modification, and repair efforts; and movements of the desert tortoise and/or Mohave ground squirrel once again outside the permanent tortoise-proof fence. This report shall be submitted to wildlife and resource agency representatives and the Kern County Planning and Natural Resources Department. If passive relocation is not possible, desert tortoise and/or Mohave ground squirrel may also be translocated in accordance with an United States Fish and Wildlife Service and/or California Department of Fish and Wildlife approved Translocation Plan.</p> <p>e. Outside permanently fenced desert tortoise exclusion areas where desert tortoise may be present, the project operator shall limit the areas of disturbance in desert tortoise and Mohave ground squirrel habitat. Parking areas, new roads, pulling sites, and locations for staging, storage, excavation, and disposal shall be confined to the smallest areas possible. These areas shall be flagged, and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.</p> <p>f. The Lead Biologist or biological monitor shall monitor any ground-disturbance activities that occur outside the desert tortoise exclusion fencing. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours where desert tortoise are determined to be present.</p> <p><b>MM 4.4-10KC:</b> During construction the project operator and/or contractor shall implement the following general avoidance and protective measures:</p> <p>a. The Lead Biologist or biological monitor shall monitor all ground-disturbance activities. Work shall only occur during daylight hours as practicable. Specialized testing activities, work on the project gen-tie line, and/or continuous operations (i.e., well drilling) may be conducted at night when necessary. Prior to conducting vegetation removal or grading activities inside the fenced area, a Lead Biologist or biological monitor under the supervision of a Lead Biologist shall survey the area immediately prior to conducting these activities to</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>ensure that no listed or special-status animals or plants are present. The project Lead Biologist shall have the right to halt all activities that are in violation of the special species protection measures. Work shall proceed only after hazards to special species are removed and the species is no longer at risk. The project biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.</p> <p>b. At the end of each work day, the Lead Biologist shall ensure that all trenches, bores, and other excavations outside the permanently fenced area in suitable habitat for desert tortoise have been inspected for the presence of desert tortoise and backfilled, if no tortoise is present. If backfilling is not feasible, these excavations shall be modified to ensure that they cannot potentially entrap desert tortoises (e.g., equipped with desert tortoise escape ramps, covered to prevent desert tortoise access, enclosed with a desert tortoise exclusion fence). All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods and with a diameter of four inches or greater shall be thoroughly inspected for listed and special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe that section of pipe shall not be moved until the animal has moved off on its own. If the animal does not move in a timely manner, then the appropriate resource agency shall be consulted.</p> <p>c. Any construction pipe, culvert, or similar structure stored within desert tortoise habitat (i.e., outside areas with desert tortoise exclusion fencing) shall be inspected for desert tortoise before the material is moved, buried, or installed.</p> <p>d. Water used for dust abatement shall be minimized, as allowed by Kern County Engineering, Surveying, and Permit Services Department, or managed in such a manner as to prevent the formation of puddles that could attract common ravens, predators, and other wildlife species to or near the site.</p> <p>e. No vehicle or equipment parked outside the fenced areas shall be moved prior to inspecting the ground beneath the vehicle or equipment</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>for the presence of desert tortoise. If present, the desert tortoise shall be left to move on its own.</p> <ul style="list-style-type: none"> <li>f. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited. Vehicle speeds within the project site shall not exceed 25 miles per hour on roads within desert tortoise habitat.</li> <li>g. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills immediately and hazardous spills shall be cleaned up as soon as practical and the contaminated soil shall be properly disposed of at a licensed facility.</li> <li>h. A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.</li> <li>i. Workers shall be prohibited from bringing pets and firearms to the project and from feeding wildlife.</li> <li>j. Intentional killing or collection of either plant or wildlife species, including listed species, in the project site and surrounding areas shall be prohibited. The Lead Biologist, wildlife and resource agency representatives and Kern County Planning and Natural Resources Department shall be notified of any such occurrences within 24 hours.</li> <li>k. Construction monitoring shall be conducted by either the Lead Biologist or by biological monitors under the Lead Biologist's supervision. The biological monitors shall have experience in monitoring for special-status wildlife.</li> <li>l. During construction, daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report for the wildlife and resource agencies and Kern County Planning and Natural Resources Department on a monthly</li> </ul>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>basis, 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 biological resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities.</p> <p><b>MM 4.4-11KC:</b> The introduction of exotic plant species shall be avoided and controlled wherever possible and may be achieved through physical or chemical removal and prevention. Preventing exotic plants from entering the site via vehicular sources shall include measures such as implementing Trackclean or other method of vehicle cleaning for vehicles coming and going from the site. Earthmoving equipment shall be cleaned prior to transport to the project site. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced into the site during construction shall be eliminated by chemical and/or mechanical means</p> <p><b>MM 4.4-12KC:</b> In the event ground disturbance does not commence within two (2) years of the last rare plant surveys, the project operator and/or contractor shall conduct preconstruction special-status plant survey(s) during the appropriate blooming period in accordance with the guidelines established by California Department of Fish and Wildlife (2009). Copies of these preconstruction surveys shall be provided to the appropriate wildlife agency and to the Kern County Planning and Natural Resources Department.</p> <p>If any botanical species with a California Native Plant Society rank of 1.B-2 or higher is found during the preconstruction surveys, the project operator and/or contractor shall delay ground disturbance activities and contact California Department of Fish and Wildlife for consultation. If required, in consultation with California Department of Fish and Wildlife, a Habitat Mitigation Plan shall be prepared that includes, at a minimum, the following:</p> <ol style="list-style-type: none"> <li>Wherever feasible, if special-status plant species are observed within the proposed project footprint, the proposed project shall be designed by the Lead Biologist, to reduce impacts to the species through the</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>establishment of preservation areas and buffers. If avoidance or minimization measures are implemented on-site, a Habitat Mitigation Plan shall be developed to ensure adequate management and conservation of botanical resources on-site over the long term. A copy of the Habitat Mitigation Plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>If the project would eliminate more than 10 percent of a local special-status plant population, the Habitat Mitigation Plan would also include the following:</p> <ol style="list-style-type: none"> <li>1. A figure illustrating the area of the population to be preserved, and the area of the population to be removed;</li> <li>2. Identification of on-site or off-site preservation, restoration, or enhancement location(s);</li> <li>3. Methods for preservation, restoration, enhancement, and/or population translocation;</li> <li>4. A replacement ratio and success standard of 1:1 for occupied habitat lost unless a lower mitigation ratio and/or alternative mitigation is agreed to in coordination with California Department of Fish and Wildlife;</li> <li>5. A five-year monitoring program to ensure mitigation success;</li> <li>6. Adaptive management and remedial measures in the event that performance standards are not achieved; and</li> <li>7. Financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.</li> </ol> <p><b>MM 4.4-13KC:</b> Prior to the issuance of grading or building permits, the project operator shall:</p> <ol style="list-style-type: none"> <li>a. Provide evidence to the Kern County Planning and Natural Resources Department that consultation with the Kern County Agricultural Commissioner has taken place regarding removal of plants protected under the California Desert Native Plant Act;</li> <li>b. If the Agricultural Commissioner determines that a permit is not required, the project operator shall provide a letter describing the consultation process and Commissioner's determinations, indicating</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>that such authorization is not required. The letter shall also identify the Commissioner's points of contact and contact information;</p> <p>c. If required by the Agricultural Commissioner, the project operator shall provide evidence to the Kern County Planning and Natural Resources Department that a California Desert Native Plant Act removal permit has been obtained.</p> <p><b>MM 4.4-14KC:</b> The following measures shall be implemented to reduce direct impacts to Sensitive Natural Communities, with the exception of western Joshua tree, for which the project has an approved 2084 permit. To the extent feasible, the following avoidance and minimization measures shall be implemented:</p> <p>a. Where feasible, the project shall be designed to avoid disturbance of spinescale scrub (<i>Atriplex spinifera</i> Shrubland Alliance) and winter fat scrubland (<i>Krascheninnikovia lanata</i> Shrubland Alliance)</p> <p>Where it is not feasible to avoid direct impacts to the spinescale scrub (<i>Atriplex spinifera</i> Shrubland Alliance) and winter fat scrubland (<i>Krascheninnikovia lanata</i> Shrubland Alliance) identified within the project site the project operator shall implement the following measures:</p> <ol style="list-style-type: none"> <li>1. Compensatory mitigation for impacts to Sensitive Natural Communities shall occur either on-site or off-site and would occur at a ratio no less than 1:1 for each Sensitive Natural Community impacted. A Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the California Department of Fish and Wildlife.</li> <li>2. If on-site mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site that contain suitable characteristics for restoration or enhancement of sensitive habitat. Determination of mitigation adequacy shall be based on comparison of the restored or enhanced habitat with similar, undisturbed habitat in the vicinity of the development site. If mitigation is implemented off-site, compensatory lands shall contain similar or more well-developed habitat and preferably be located in the vicinity of the site or watershed. Off-site land shall be preserved through a conservation easement and the Plan shall identify an approach for funding assurance for the long-term management of the compensatory land.</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Where direct impacts to western Joshua trees are unavoidable, if western Joshua tree is listed as a ‘candidate,’ ‘threatened,’ or ‘endangered’ species under the California Endangered Species Act at the time of issuance of a building or grading permit in areas that would involve the removal of western Joshua trees, the project proponent may pursue one of the following mitigation options:</p> <ol style="list-style-type: none"> <li>1. The project operator shall provide evidence to the Kern County Planning and Natural Resources Department demonstrating that that impacts to western Joshua tree have been mitigated in accordance with Section 2084 of the California Fish and Game Code; or</li> <li>2. The project operator shall mitigate for permanent impacts to western Joshua tree, should an Incidental Take Permit be required from California Department of Fish and Wildlife, through an approved mitigation bank, in-lieu fee program, or other California Department of Fish and Wildlife -approved process. Compensatory mitigation for permanent impacts to western Joshua tree shall be determined and acquired in consultation with the wildlife or resource agency. Verification of compliance shall be submitted to the Kern County Planning and Natural Resources prior to project construction in areas that would involve removal of western Joshua trees.</li> </ol> <p><b>MM 4.4-15KC:</b> The measures listed below shall be implemented prior to and during construction, operations, and decommissioning at the project site.</p> <ol style="list-style-type: none"> <li>a. The project operator has filed for an Incidental Take Permit for Mohave ground squirrel and desert tortoise with California Department of Fish and Wildlife, and a Habitat Conservation Plan with the United States Fish and Wildlife Service for desert tortoise. The project proponent shall mitigate for permanent impacts to suitable desert tortoise and Mohave ground squirrel habitat, through an approved mitigation bank, in-lieu fee program, or other mechanism accepted by California Department of Fish and Wildlife and/or United States Fish and Wildlife Service, as outlined in each agencies respective permit. Compensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined and</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>acquired in consultation with the wildlife or resource agency and may be mitigated alongside impact on covered species. Compensatory mitigation would provide habitat for desert tortoise, Mohave ground squirrel, and/or burrowing owl, as well as rare plants, State Waters (only if impacted by the project), and features covered under the project's Lake and Streambed Alteration Agreement. The Final Interim Take Permit and approved Habitat Conservation Plan shall be submitted to Kern County prior to the onset of activities that have the potential to impact covered species.</p> <p>Prepare a Habitat Mitigation and Monitoring Plan (if required, should an incidental take permit be required for the project) or provide a copy of the project's incidental take permit that outlines all project compensatory mitigation for desert tortoise, Mohave ground squirrel, and burrowing owl, in coordination with the California Department of Fish and Wildlife and the Regional Water Quality Control Board.</p> <ol style="list-style-type: none"> <li>1. Compensatory mitigation shall provide ecological benefits to covered species that are similar to or better than the projects impacts on covered species. Mitigation sites in the vicinity of the project (eastern Kern County or western San Bernardino County) are preferable.</li> <li>2. Mitigation shall meet California Department of Fish and Wildlife's durability requirements.</li> <li>3. The plan, or Interim Take Permit, shall identify conservation actions, where applicable, to demonstrate that the compensatory lands are managed to provide durable environmental benefits to the covered species.</li> <li>4. The plan or Interim Take Permit shall identify an approach for funding assurance for the long-term management of the conserved land.</li> </ol> <p><b>MM 4.4-16KC:</b> The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls.</p> <ol style="list-style-type: none"> <li>a. A project Lead Biologist shall be on-site during all construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas to locate active breeding or wintering</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>burrowing owl burrows not more than 14 days prior to construction and/or prior to desert tortoise exclusion fencing installation. The survey methodology shall be consistent with the methods outlined in the Staff Report on Burrowing Owl Mitigation (CDFG 2012), and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with other pre-construction surveys). As burrows are searched, biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department.</p> <p>b. If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted within the distances specified in Table 2 of the Staff Report from an active burrow during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively), unless otherwise authorized by California Department of Fish and Wildlife. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with the table provided in Mitigation Measure <b>MM 4.4-17c</b>), below, and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by California Department of Fish and Wildlife, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).</p> <p>c. During the nonbreeding (winter) season (October 16 to March 31), consistent with the table below (<i>Western Burrowing Owl Burrow Buffers</i>), all ground-disturbing work shall maintain a distance ranging from 164 feet to 1,640 feet from any active burrows depending on the level of disturbance. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be displaced from winter burrows according to recommendations made in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).</p>	

**Western Burrowing Owl Burrow Buffers**

Location	Time of Year	Level of Disturbance (in feet)		
		Low	Medium	High
Nesting Sites	April 1 - Aug 15	656	1,640	1,640
Nesting Sites	Aug 16 - Oct 15	656	656	1,640
Any occupied burrow	Oct 16 - Mar 31	164	328	1,640
Source: CDFG 2012				

- d. Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the Lead Biologist and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Natural Resources Department. The plan shall include, at a minimum:
1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
  2. Type of scope to be used and appropriate timing of scoping to avoid impacts;
  3. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door).
  4. How the burrow(s) shall be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);
  5. Removal of other potential owl burrow surrogates or refugia on-site;

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;</p> <p>e. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;</p> <p>f. How the impacted site shall continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.</p> <p>g. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion shall occur immediately after the end of the breeding season.</p> <p>h. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).</p> <p>i. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or heavy material shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.</p> <p>j. During construction and decommissioning activities, monthly and final compliance reports shall be provided to California Department of Fish and Wildlife, the Kern County Planning and Natural Resources Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.</p> <p><b>MM 4.4-17KC:</b> The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls.</p>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>a. Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented off-site in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) and in consultation with California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including de-compacting soil and revegetating.</li> <li>2. 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.</li> <li>3. Permanently protect or enhance mitigation land through coordination with California Department of Fish and Wildlife. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.</li> </ol> <p>b. Develop and implement a mitigation land management plan in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.</p> <ol style="list-style-type: none"> <li>1. Fund the maintenance, management, or enhancement of mitigation land.</li> <li>2. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans, and the</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.</p> <ol style="list-style-type: none"> <li>3. Mitigation lands or California Department of Fish and Wildlife-approved habitat enhancement projects should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present.</li> <li>4. Consult with the California Department of Fish and Wildlife when determining off-site mitigation.</li> </ol> <p><b>MM 4.4-18KC:</b> Prior to the issuance of grading or building permit the following shall be implemented:</p> <ol style="list-style-type: none"> <li>a. Preconstruction surveys shall be conducted by a qualified biologist for the presence of desert kit fox and American badger dens prior to installation of desert tortoise exclusion fencing. Copies of the completed surveys shall be submitted to Kern County Planning and Natural Resources Department.</li> <li>b. The survey shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes fallow agricultural land and scrub habitats. Surveys shall not be conducted for all areas of suitable habitat at one time; they shall be phased so that surveys occur within two weeks prior to disturbance of that portion of the site. If no potential American badger or desert kit fox dens are present, no further mitigation is required.</li> </ol> <p>If potential dens are observed, the following measures are required to avoid potential adverse effects to American badger and desert kit fox:</p> <ol style="list-style-type: none"> <li>1. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers or foxes from reuse during construction.</li> <li>2. Passive relocation shall be prohibited during the pupping season, which is February 15 to June 1 for both species. If the qualified biologist determines that potential dens outside the breeding season may be active, the biologist shall notify the California Department of Fish and Wildlife. Entrances to the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>the three- to five-day period. After the qualified biologist determines that badgers and foxes have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent reuse during construction. The collapsing of active desert kit fox dens shall not occur without prior consultation with the California Department of Fish and Wildlife. A biologist shall remain on-call throughout construction in the event that badger or desert kit fox are present on the site.</p> <ol style="list-style-type: none"> <li>3. Construction activities shall not occur within 50 feet of active badger dens. The project operator shall contact California Department of Fish and Wildlife immediately if natal badger dens are detected to determine suitable buffers and other measures to avoid take.</li> <li>4. Construction activities shall not occur within 100 feet of active kit fox dens. The project operator shall contact California Department of Fish and Wildlife immediately if pupping kit fox dens are detected to determine suitable buffers and other measures to avoid take.</li> </ol> <p><b>MM 4.4-19KC:</b> Not more than 14 days prior to site clearing and/or ground disturbance in a given area, a qualified biologist shall conduct a preconstruction avian nesting survey. Copies of the completed surveys shall be submitted to Kern County Planning and Natural Resources Department. The surveys shall be conducted as follows:</p> <ol style="list-style-type: none"> <li>a. Surveys shall not be conducted for an entire project site at one time; they shall be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey shall cover all reasonably potential nesting locations on and within 300 feet of the project site—this includes ground-nesting species (e.g., western burrowing owl).</li> <li>b. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys for birds or additional measures are required.</li> <li>c. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>activities during the breeding season, a new nesting bird survey shall be conducted before construction begins again.</p> <p>d. If active nests are found a 250-foot, no-disturbance buffer (or as otherwise determined in consultation with California Department of Fish and Wildlife) shall be created around the active nests. If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the birds have fledged or by relocating the project component(s) to avoid the area.</p> <p>e. All vertical tubes used in project construction, such as solar mounts and chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.</p> <p><b>MM 4.4-20KC:</b> Prior to issuance of a grading or building permit, the project operator shall Submit written documentation to the Kern County Planning and Natural Resources Department verifying that all power lines are designed in accordance with Avian Power Line Interaction Committee Guidelines. The project operator shall conform to the latest practices (as outlined in the Avian Power Line Interaction Committee Guidelines (2006) document) to protect birds from electrocution and collision.</p> <p><b>MM 4.4-21KC:</b> The project operator shall develop a site-specific Common Raven Management Plan in accordance with United States Fish and Wildlife Service guidelines and shall implement management measures for ravens in the project area. These measures may include but are not limited to designing structures to eliminate perches, waste management, road kill management, management of ponded water during construction and operations, and nest removal on structures within the photovoltaic solar facility site and along the transmission line</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.1-5KC</b> (see <b>Section 4.1, Aesthetics</b>, for full Mitigation Measure text) and <b>MM 4.4-1KC</b> through <b>MM 4.4-21KC</b></p>	

<p><b>Impact 4.4-2:</b> The project would 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.</p>	Potentially significant	<p><b>Kern County</b></p> <p>Implement Mitigation Measure <b>MM 4.4-22KC</b>. and: <b>MM 4.4-23KC</b>.</p> <p><b>MM 4.4-22KC:</b> Prior to issuance of any grading or building permit, the project proponent/operator shall submit a report detailing how all identified ephemeral drainages are avoided to the extent practicable and shall be continually complied with during the life of the project. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board the Kern County Planning and Natural Resources Department. The report shall include information as shown below as a plan as necessary and shall outline compliance to the following:</p> <ol style="list-style-type: none"> <li>Potential jurisdictional features (ephemeral drainages) identified in the jurisdictional delineation report shall be avoided to the extent practicable. This may be shown in plan form.</li> <li>Any material/spoils from project activities should be located away from jurisdictional areas. Jurisdictional areas shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and/or straw bale barriers, as appropriate. Protection measures shall follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan and in the Hazardous Materials Business Plan.</li> <li>Prior to the start of construction activities, the project proponent/operator shall provide evidence that all fueling, hazardous materials storage areas, and operations and maintenance activities shall be sited at least 100 feet away from on-site drainages and other water features, as identified in the project-specific delineation of wetlands and waters.</li> <li>Any spillage of hazardous material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.</li> </ol> <p><b>MM 4.4-23KC:</b> If it is determined during final siting that jurisdictional ephemeral drainages cannot be avoided, the project proponent shall notify the California Department of Fish and Wildlife of potentially jurisdictional features and, if necessary, obtain a Lake and Streambed Alteration Agreement. If waters of the State are impacted, the owner/operator shall notify the Lahontan Regional Water Quality Control Board, and obtain a Water Quality Certification pursuant to Section 401 of the Clean Water Act, if required.</p> <p><b>Gen-Tie</b></p>	Less than significant
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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Implement Mitigation Measures <b>MM 4.4-14KC</b> , <b>MM 4.4-22KC</b> and <b>MM 4.4-23KC</b> .	
<b>Impact 4.4-3:</b> 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	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.9-1KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> for full Mitigation Measure text), <b>MM 4.10-1KC</b>, <b>MM 4.10-2KC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> for full Mitigation Measure text), <b>MM 4.4-22KC</b> and <b>MM 4.4-23KC</b>. Implement Mitigation Measures <b>MM 4.4-22KC</b> through <b>MM 4.23KC</b>.</p> <p><b>Gen-Tie Line</b></p> <p>Implement Mitigation Measures <b>MM 4.9-1KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> for full Mitigation Measure text), <b>MM 4.10-1KC</b>, <b>MM 4.10-2KC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> for full Mitigation Measure text), <b>MM 4.4-22KC</b> and <b>MM 4.4-23KC</b>. Implement Mitigation Measures <b>MM 4.4-22KC</b> through <b>MM 4.23KC</b>.</p>	Less than significant
<b>Impact 4.4-4:</b> 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	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.1-3KC</b> (see <b>Section 4.1, Aesthetics</b>, for full Mitigation Measure text) <b>MM 4.4-1KC through MM 4.4-7KC</b>, <b>MM 4.4-9KC through MM 4.4-11KC</b>, <b>MM 4.4-18KC</b>, and <b>MM 4.4-20KC</b>.</p> <p>Implement Mitigation Measures <b>MM 4.4-1KC through MM 4.4-7KC</b>, <b>MM 4.4-11KC</b>, <b>MM 4.4-18KC</b>, and <b>MM 4.4-20KC</b>.</p> <p><b>Gen-Tie Line</b></p> <p>No mitigation measures are required.</p>	Less than significant
<b>Impact 4.4-5:</b> The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially significant	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.4-1KC through MM 4.4-8KC</b>, <b>MM 4.4-10KC through MM 4.4-14KC</b>.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.4-1KC through MM 4.4-8KC</b>, <b>MM 4.4-10KC through MM 4.4-14KC</b>.</p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impacts	Significant and unavoidable	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.4-1KC through MM 4.4-23KC.</b>  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.4-1KC through MM 4.4-23KC.</b>	Significant and unavoidable
<b>4.5 Cultural Resources</b>			
<b>Impact 4.5-1:</b> The project would cause a substantial adverse change in the significance of a historic or an archaeological resource, as defined in CEQA Guidelines Section 15064.5.	Potentially significant	<b>Kern County</b>  <b>MM 4.5-1KC:</b> Prior to issuance of grading permits, the project proponent/operator shall: <ul style="list-style-type: none"> <li>a. Retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards as published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61) to carry out all Mitigation Measures related to archaeological and historical resources.</li> <li>b. The services of a qualified archaeological monitor and Native American monitor shall be retained by the project proponent/operator to monitor all ground-disturbing activities associated with the construction of the proposed project. The Native American monitor shall be selected from a list of Native American contacts with traditional ties to the project area, provided by the Native American Heritage Commission and/or consultation with Native American tribal groups who may have interest in the project area. The archaeological monitor shall work under the supervision of the qualified archaeologist.</li> <li>c. The qualified archaeologist, archaeological monitor and Native American monitor shall be provided all project documentation related to cultural resources prior to commencement of ground disturbance activities. Project 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 qualified archaeologist, archaeological monitor and Native American monitor.</li> </ul> <b>MM 4.5-2KC:</b> Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the project site, laydown area and/or transmission routes. The training shall be prepared and conducted by the qualified archaeologist and may include participation of the Native American monitor. The training may be in video format. The qualified archaeologist shall be available to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>a. A discussion of applicable cultural resources statutes, regulations and related enforcement provisions;</li> <li>b. An overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups, provided by the Native American Monitor or tribal leader;</li> <li>c. A summary of the effects of the proposed project on cultural resources;</li> <li>d. Samples or visuals of artifacts that might be found in the project area;</li> <li>e. A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed;</li> <li>f. A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction;</li> <li>g. Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified archaeologist, in consultation with the Planning and Natural Resources Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance;</li> <li>h. An informational guide that identifies the reporting procedures in the event of a discovery;</li> </ul>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>i. Other information as deemed necessary by the qualified archaeologist or Native American Monitor;</li> <li>j. An acknowledgement form signed by each working indicating that environmental/ cultural training has been completed.</li> <li>k. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental/ cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;</li> <li>l. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department.</li> </ul> <p><b>MM 4.5-3KC:</b> Following issuance of the CUP, but prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-010500. If avoidance is feasible, the area within 100 feet of Site P-15-010500 shall be designated as an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <ul style="list-style-type: none"> <li>a. If avoidance of Site P-15-010500 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</li> <li>b. If avoidance within 100 feet of Site P-15-010500 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</li> <li>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection;</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-4KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-010501. If avoidance is feasible, the area within 100 feet of Site P-15-010501 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site P-15-010501 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance of 100 feet of Site P-15-010501 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-5KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-013568. If avoidance is feasible, the area within 100 feet of Site P-15-013568 shall be designated an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site P-15-013568 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance within 100 feet of Site P-15-013568 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-6KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-013622. If avoidance is feasible, the area within 100 feet of Site P-15-013622 shall be designated an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site P-15-013622 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance within 100 feet of Site P-15-013622 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-7KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-013. If avoidance is feasible, the area within 100 feet of Site BEL-S-013 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site BEL-S-013 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance of 100 feet of Site BEL-S-013 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-8KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-107. If avoidance is feasible, the area within 100 feet of Site BEL-S-107 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site BEL-S-107 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance of 100 feet of Site BEL-S-107 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-9KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-108. If avoidance is feasible, the area within 100 feet of Site BEL-S-108 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site BEL-S-108 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance of 100 feet of Site BEL-S-108 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-10KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-113. If avoidance is feasible, the area within 100 feet of Site BEL-S-113 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>a. If avoidance of Site BEL-S-113 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>b. If avoidance of 100 feet of Site BEL-S-113 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading</p>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>d. If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-11KC:</b> In the event archaeological materials are encountered during the course of grading or construction for any project components, the project contractor shall cease any ground disturbing activities within 100 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 100-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrances to the area shall be avoided until the discovery is assessed by the qualified archaeologist, as well as the Native American monitor if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The qualified archaeologist in consultation with the Native American monitor, if appropriate, 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.</p> <p>Per California Environmental Quality Act Guidelines (CEQA) 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 Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified 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.</p> <p><b>Gen-Tie</b></p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Implement Mitigation Measures <b>MM 4.5-1KC</b>, <b>4.5-2KC</b>, and <b>MM 4.5-11KC</b> and:.</p> <p><b>MM 4.5-12KC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the segment of the Twenty Mule Team Road impacted by the project shall be documented. Documentation shall consist of the development of a historical narrative following the National Park Service (NPS) guidance for Historic American Landscapes Survey Level II documentation supported by archival research using primary and secondary sources. This may include, but not be limited to, historical maps, aerial photographs, written histories, newspapers, existing cultural resource reports, and historic photographs. Detailed maps of the road shall be made, and large-format black and white, archival quality photographs shall be taken following the NPS guidelines for Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey photography. The documentation report and photographs shall be printed on archival quality paper, saved onto an archival quality CD, and housed in an archival storage box. Copies shall be donated to local repositories.</p> <p>After documentation of the segment of the Twenty Mule Team Road potentially impacted by the project is completed, the project developer in coordination with the qualified archaeologist shall determine if the construction zone can be narrowed or otherwise altered to avoid Site P-15-003927. If avoidance is feasible, the area within 100 feet of Site P-15-003927 shall be designated an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>If avoidance of Site P-15-003927 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>If avoidance within 100 feet of Site P-15-003927 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; and surface artifact collection, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>If project phasing allows, multiple resources can be included in a single treatment plan document</p>	
<p><b>Impact 4.5-2:</b> The project would cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5.</p>	Potentially significant	<p><b>Kern County</b></p> <p>With implementation of Mitigation Measure <b>MM 4.5-1KC through MM 4.5-4KC</b> and <b>MM 4.5-7KC through MM 4.5-11KC</b>, impacts would be less than significant.</p> <p><b>Gen-Tie</b></p> <p>With implementation of Mitigation Measure <b>MM 4.5-1KC, 4.5-2KC, and MM 4.5-11K and MM 4.5-12KC</b>, impacts would be less than significant.</p>	
<p><b>Impact 4.5-3:</b> The project would disturb any human remains, including those interred outside of formal cemeteries.</p>	Potentially significant	<p><b>Kern County</b></p> <p><b>MM 4.5-13KC:</b> If human remains are uncovered during project construction, the project contractor shall immediately halt work and an Environmentally Sensitive Area physical demarcation/barrier shall be constructed. The Kern County Planning and Natural Resources Department shall also be notified of the discovery. The County and the project proponent shall then immediately contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native</p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>American, the project operator shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). Per Public Resources Code Section 5097.98, the project operator 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, as prescribed in this section (Public Resources Code Section 5097.98), 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 (7100 et seq.) directing identification of the next-of-kin will apply.</p> <p>The Most Likely Descendant, identified by the Native American Heritage Commission, shall be allowed, under California Public Resources Code §5097.98(a), to: 1) inspect the site of the discovery; and 2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The Most Likely Descendant, County, and project proponent shall agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The Most Likely Descendant shall complete its inspection and make recommendations within 48 hours of the site visit, as required by California Public Resources Code §5097.98.</p> <p>Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code §5097.98 (a) and (b). The Most Likely Descendant in consultation with the project proponent, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties shall be aware that the Most Likely Descendant may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The project proponent shall accommodate on-site reburial in a location mutually agreed upon by the parties.</p> <p>It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure</p>	

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		requirements of the California Public Records Act. The County Coroner, project proponent, and County shall be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code §6254(r).  <b>Gen-Tie</b> Implements Mitigation Measure <b>MM 4.5-13KC</b> .	
Cumulative Impacts	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b> .  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.5-1KC, 4.5-2KC, MM 4.5-11KC, and MM 4.5-13KC</b> .	Less than significant
<b>4.6 Energy</b>			
<b>Impact 4.6-1:</b> The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation.	Less than significant	<b>Kern County</b> Implement construction mitigation measure <b>MM 4.3-1KC</b> as provided in <b>Section 4.3, Air Quality</b> , of this EIR.  <b>Gen-Tie</b> Implement construction mitigation measure <b>MM 4.3-1KC</b> as provided in <b>Section 4.3, Air Quality</b> , of this EIR.	Less than significant
<b>Impact 4.6-2:</b> The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
Cumulative Impacts	Less than significant	<b>Kern County</b> Implement construction mitigation measure <b>MM 4.3-1KC</b> as provided in <b>Section 4.3, Air Quality</b> , of this EIR.  <b>Gen-Tie</b> Implement construction mitigation measure <b>MM 4.3-1KC</b> as provided in <b>Section 4.3, Air Quality</b> , of this EIR.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>4.7 Geology and Soils</b>			
<b>Impact 4.7-1:</b> 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.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>Impact 4.7-2:</b> Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving strong seismic ground shaking.	Potentially significant	<b>Kern County</b>  <b>MM 4.7-1KC:</b> Prior to the issuance of building or grading permits for the proposed project, the project proponent/operator shall conduct a final geotechnical study to confirm the findings of the preliminary geotechnical engineering report regarding soil conditions and geologic hazards on the project site.  1. The final geotechnical study must be signed by a California-registered and licensed professional engineer and must include, but not limited to the following: <ol style="list-style-type: none"> <li>Location of fault traces and potential for surface rupture and ground-shaking potential;</li> <li>Maximum considered earthquake and associated ground acceleration;</li> <li>Potential for seismically induced liquefaction, landslides, differential settlement, and mudflows;</li> <li>Stability of any existing or proposed cut-and-fill slopes;</li> <li>Collapsible or expansive soils;</li> <li>Foundation material type;</li> <li>Potential for wind erosion, water erosion, sedimentation, and flooding;</li> <li>Location and description of unprotected drainage that could be impacted by the proposed development; and,</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>i. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground and any seismic hazards.</p> <p>2. The project proponent/operator shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent/operator shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting improvements on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, alternate setback distances may be proposed.</p> <p>3. The final geotechnical study shall be submitted for review and approval by the Kern County Public Works Department. The Kern County Public Works Department shall evaluate final facility siting design prior to the issuance of any building or grading permits to verify that geological constraints have been avoided. Final design requirements shall also be provided to the on-site construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p><b>Gen-Tie</b> Implement mitigation measure <b>MM 4.7-1KC</b>.</p>	
<b>Impact 4.7-3:</b> 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.	Less than significant	<p><b>Kern County</b> No mitigation measures are required.</p> <p><b>Gen-Tie</b> No mitigation measures are required.</p>	Less than significant
<b>Impact 4.7-4:</b> The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving landslides.	Less than significant	<p><b>Kern County</b> No mitigation measures are required.</p> <p><b>Gen-Tie</b> No mitigation measures are required.</p>	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
<b>Impact 4.7-5:</b> The project would result in substantial soil erosion or the loss of topsoil.	Potentially significant	<b>Kern County</b> Implement mitigation measures <b>MM 4.7-1KC</b> , <b>MM 4.10-1KC</b> , and <b>MM 4.10-2KC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR). <b>Gen-Tie</b> Implement mitigation measures <b>MM 4.7-1KC</b> , <b>MM 4.10-1KC</b> , and <b>MM 4.10-2KC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR).	Less than significant
<b>Impact 4.7-6:</b> 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Potentially significant	<b>Kern County</b> Implement Mitigation Measure <b>MM 4.7-1KC</b> . <b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.7-1KC</b> .	Less than significant
<b>Impact 4.7-7:</b> The project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	Potentially significant	<b>Kern County</b> Implement Mitigation Measure <b>MM 4.7-1KC</b> . <b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.7-1KC</b> .	Less than significant
<b>Impact 4.7-8:</b> 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.	Potentially significant	<b>Kern County</b> <b>MM 4.7-2KC:</b> Prior to the issuance of any building permit for the operation and maintenance facility, the project operator shall obtain all required permits and approvals from Kern County Environmental Health Services Division, and shall implement all required conditions regarding the design and siting of the septic system(s) and leach field(s). A copy of the final permit shall be submitted to the Kern County Planning and Natural Resources Department. <b>Gen-Tie</b> No mitigation would be required.	Less than significant
<b>Impact 4.7-9:</b> Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.	Potentially significant	<b>Kern County</b> <b>MM 4.7-3KC:</b> The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate	Less than significant



		<p>Paleontology's Professional Standards to carry out all mitigation measures related to paleontological resources.</p> <ol style="list-style-type: none"> <li>Prior to the start of any ground-disturbing activities, the qualified paleontologist shall prepare 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.</li> <li>The Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.</li> <li>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.</li> <li>The Paleontological Resources Awareness Training Guides shall be kept on-site and available for all personnel to review and be familiar with as necessary.</li> </ol> <p><b>MM 4.7-4KC:</b> A qualified paleontologist or designated monitor shall be on-site initially to spot-check excavations below a depth of 1 foot below the ground surface in a given area. If it is determined that sediments consist of older alluvium, then full-time paleontological monitoring shall ensue. If sediments are determined to consist of Holocene Quaternary alluvium, paleontological monitoring shall be suspended until an excavation depth of 5 feet below the ground surface is reached in the area.</p> <ol style="list-style-type: none"> <li>The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department and shall be based on a review of geologic maps and grading plans. <ol style="list-style-type: none"> <li>During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.</li> </ol> </li> </ol>	
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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. 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.</p> <p>c. Following the completion of construction, 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, recovery and curation efforts, and 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.</p> <p><b>MM 4.7-5KC:</b> If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment within 50 feet of the find until it is assessed for scientific significance and collected. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammals) require more extensive excavation and longer salvage periods. In this case, the paleontologist should have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.</p> <p>Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County) along with all pertinent field notes, photos, data, and maps. The cost of curation is assessed by the repository and is the responsibility of the project owner.</p> <p>At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The final report shall be submitted to the Kern County Planning and Natural Resources Department. If the monitoring efforts</p>	

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		produced fossils, then a copy of the report shall also be submitted to the designated museum repository  <b>Gen-Tie</b> Implement mitigation measures <b>MM 4.7-3KC thorough MM 4.7-5KC..</b>	
Cumulative Impacts	Potentially significant	<b>Kern County</b> Implement mitigation measures <b>MM 4.7-1KC through MM 4.7-5KC</b> and <b>MM 4.10-2KC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR).  <b>Gen-Tie</b> Implement mitigation measures <b>MM 4.7-1KC, MM 4.7-3KC through MM 4.7-5KC</b> , and <b>MM 4.10-2KC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR).	Less than significant
<b>4.8 Greenhouse Gas Emissions</b>			
<b>Impact 4.8-1:</b> The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>Impact 4.8-2:</b> The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
Cumulative Impacts	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>4.9 Hazards and Hazardous Materials</b>			
<b>Impact 4.9-1:</b> The project would create a significant hazard to the public or the	Potentially significant	<b>Kern County</b>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
environment through the routine transport, use, or disposal of hazardous materials.		<p>Implement Mitigation Measure <b>MM 4.16-1KC</b> (see <b>Section 4.16, <i>Utilities and Service Systems</i></b>, for full mitigation measure text).</p> <p><b>MM 4.9-1KC:</b> During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, 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 at <a href="http://cers.calepa.ca.gov/">http://cers.calepa.ca.gov/</a> for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section.</p> <p>a. The Hazardous Materials Business Plan shall:</p> <ol style="list-style-type: none"> <li>1. Delineate hazardous material and hazardous waste storage areas;</li> <li>2. Describe proper handling, storage, transport, and disposal techniques, including which routes will be used to transport hazardous materials;</li> <li>3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill;</li> <li>4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction;</li> <li>5. Establish public and agency notification procedures for spills and other emergencies including fires; and</li> <li>6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.</li> </ol> <p>b. The project proponent/operator shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.</p> <p>c. A copy of the approved Hazardous Materials Business Plan shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p><b>Gen-Tie</b></p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Implement Mitigation Measure <b>MM 4.9-1KC</b> and Mitigation Measure <b>MM 4.16-1KC</b> (see <b>Section 4.16, Utilities and Service Systems</b> , for full mitigation measure text).Implement Mitigation Measure <b>MM 4.9-1KC</b> .	
<b>Impact 4.9-2:</b> 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	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.9-1KC</b> and <b>MM 4.16-1KC</b> (see <b>Section 4.16, Utilities and Service Systems</b>, for full mitigation measure text).</p> <p><b>MM 4.9-2KC:</b> During project construction and operation, the project proponent/operator shall continuously comply with the following:</p> <ol style="list-style-type: none"> <li>The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use.</li> <li>Herbicides shall be mixed and applied in conformance with the manufacturer's directions.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>A written record of all herbicide applications on the site, including dates and amounts shall be furnished to the Kern County Planning and Natural Resources Department.</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p><b>MM 4.9-3KC:</b> Prior to commencement of any on-site ground disturbing activities within 1,000 feet of the historical Munitions Response Site MRS-01 site (former Mojave Gunnery Range located in the northeastern portion of the solar facility site), the following measures shall be implemented:</p> <ul style="list-style-type: none"> <li>a. The project proponent shall implement all measures identified in the Construction Safety Plan prepared for the project (ECM Consultants 2020), including Unexploded Ordnance Awareness Training for site workers and construction support in any ground disturbing activities occurring within 1,000 feet of the historical MRS-01. The Unexploded Ordnance Awareness Training shall inform site workers of the potential munitions at the site and how to respond if such items are encountered.</li> <li>b. Where ground disturbance work is involved, a supervisor shall be Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response-trained in accordance with Standard 29 Code of Federal Regulations 1910.120 and hold a current certification;</li> <li>c. Where ground disturbance work is involved, contractors shall be trained in identifying Unexploded Ordnance/ Munitions and Explosives of Concern.</li> <li>d. If suspected munitions are encountered on-site at any time by an individual, the “3R’s of Explosives Safety” shall be followed. The “3R’s” include: <ul style="list-style-type: none"> <li>1. Recognize: when something may be a munition and the dangers involved;</li> <li>2. Retreat: do not touch the potential munition and carefully leave the area; and,</li> <li>3. Report: immediately report the finding to local law enforcement.</li> </ul> </li> <li>e. The project proponent shall submit proof of compliance with this measure to the Kern County Planning and Natural Resources Department.</li> </ul> <p><b>MM 4.9-4KC:</b> During project construction, the project proponent/operator shall be required to abandon, in accordance with all applicable local, State, and federal regulations and protocols, including those implemented by the Kern County Public Health Department, any known and/or unknown (i.e.,</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>discovered during project ground disturbance activities) water wells located on-site, unless such wells are proposed for continued operation as part of the development.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.9-1KC through MM 4.9-2KC</b> and <b>MM 4.16-1KC</b> (see <b>Section 4.16, Utilities and Service Systems</b>, for full mitigation measure text).</p> <p><b>MM 4.9-5KC:</b> Prior to issuance of a grading or building permit, the project proponent/operator shall undertake evaluation of on-site soils for areas where the gen-tie corridor would be undergrounded to cross existing railroad tracks. If subsurface work is required for installation of gen-tie lines or poles in areas located within 20 feet of existing railroad tracks, soil sampling shall occur to determine whether metals concentrations in affected soils exceed California hazardous waste levels or regulatory thresholds that may pose a risk to future on-site construction workers.</p> <p>If it is determined that California hazardous waste levels or regulatory thresholds are exceeded, the project proponent/operator shall be required to undertake measures in conformance with applicable local, State, and federal regulations and requirements, as appropriate, for the proper removal and off-site disposal of such soils in an approved facility and submit documentation of the removal and disposal to the Kern County Planning and Natural Resources Department</p>	
<p><b>Impact 4.9-3:</b> The project would result in a safety hazard for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Compatibility Plan.</p>	<p>Potentially significant</p>	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.1-6KC</b> and <b>MM 4.1-7KC</b> (see <b>Section 4.1, Aesthetics</b>, for full mitigation measure text).</p> <p><b>MM 4.9-6KC:</b> Prior to issuance of building and grading permits for portions of the project that meet the Federal Aviation Administration's noticing requirements, the project proponent/operator shall comply with the following:</p> <ol style="list-style-type: none"> <li>Submit Form 7460-1 (Notification of Proposed Construction or Alteration) to the Federal Aviation Administration, in the form and manner prescribed in Code of Federal Regulation 77.17.</li> </ol>	<p>Less than significant</p>

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b. Obtain a Federal Aviation Administration issued “Determination of No Hazard to Air Navigation” or make the Federal Aviation Administration’s recommended changes to the project.</p> <p>c. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating the project would comply with the Kern County Zoning Ordinance Figure 19.08.160 that all project components in the flight area would create no significant military mission impact and a copy of the site plan has been provided to the appropriate military authority responsible for operations in the flight area.</p> <p>d. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating that a copy of the final site plan has been provided to the operators of the Mojave Air and Space Port.</p> <p><b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.9-6KC</b>.</p>	
<b>Impact 4.9-4:</b> The project would impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan.	Less than significant	<p><b>Kern County</b> No mitigation measures are required.</p> <p><b>Gen-Tie</b> No mitigation measures are required.</p>	Less than significant
<b>Impact 4.9-5:</b> The project would expose people or structures, either directly or indirectly, 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.	Potentially significant	<p><b>Kern County</b> Implement Mitigation Measure <b>MM 4.13-1KC</b> (see <b>Section 4.13, Public Services</b>, for full mitigation measure text).</p> <p><b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.13-1KC</b> (see <b>Section 4.13, Public Services</b>, for full mitigation measure text).</p>	Less than significant
Cumulative Impacts	Significant and unavoidable	<p><b>Kern County</b> Implement Mitigation Measures <b>MM 4.9-1KC; MM 4.9-2KC; MM 4.9-6KC; MM 4.13-1KC</b> (see <b>Section 4.13, Public Services</b>, for full mitigation measure text); <b>MM 4.16-1KC</b> (see <b>Section 4.16, Utilities and Service Systems</b>, for full mitigation measure text).</p>	Significant and unavoidable



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.9-1KC; MM 4.9-2KC; MM 4.9-5KC; MM 4.9-6KC; MM 4.13-1KC</b> (see <b>Section 4.13, Public Services</b> , for full mitigation measure text); and <b>MM 4.16-1KC</b> (see <b>Section 4.16, Utilities and Service Systems</b> , for full mitigation measure text).	
<b>4.10 Hydrology and Water Quality</b>			
<b>Impact 4.10-1:</b> The project would violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.	Potentially significant	<b>Kern County</b> Implement Mitigation Measure <b>MM 4.9-1</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> ). <b>MM 4.10-1KC:</b> Prior to issuance of a grading permit, and prior to engagement of decommissioning activities, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Regional Water Quality Control Board—Lahontan Region. 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 off-site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following: <ul style="list-style-type: none"> <li>a. Minimization of vegetation removal.</li> <li>b. Implementing sediment controls, including silt fences as necessary.</li> <li>c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas.</li> <li>d. Properly containing and disposing of hazardous materials used for construction on-site.</li> <li>e. Properly covering stockpiled soils to prevent wind erosion.</li> <li>f. Proper protections and containment for fueling and maintenance of equipment and vehicles.</li> <li>g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.</li> <li>h. Cleanup of silt and mud on adjacent street due to construction activity.</li> </ul>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>i. Checking all lined and unlined ditches after each rainfall.</li> <li>j. Restoring all erosion control devices to working order to the satisfaction of the Lahontan Regional Water Quality Control Board after each rainfall runoff.</li> <li>k. Installing additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.</li> </ul> <p><b>MM 4.10-2KC:</b> Prior to the issuance of a grading permit, the project proponent/operator shall submit a final hydrologic study and drainage plan for review and approval by the Kern County Public Works Department. The final hydrologic study and drainage plan shall be designed to evaluate and minimize potential increases in runoff from the project site. The final hydrologic study and drainage plan shall include, but not be limited to the following:</p> <ul style="list-style-type: none"> <li>a. Numerical stormwater model for the project site, which would evaluate existing and proposed (with project) drainage conditions during storm events ranging up to the 100- year event.</li> <li>b. Consideration of the potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation.</li> <li>c. Engineering recommendations to be incorporated into the project 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 on-site or off-site.</li> <li>d. The final design of the solar arrays shall include 1 foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar module sites located within a 100-year floodplain shall be graded to direct potential floodwaters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code, Kern County Development Standards, Kern County Hydrology Manual and Kern County Floodplain Ordinance, California City Grading Code, and approved by the Kern County Public Works Department prior to the issuance of grading permits.</p> <p><b>MM 4.10-3KC:</b> Prior to issuance of a building permit for any on-site water treatment facilities, the project proponent/project operator shall provide evidence of compliance with any applicable Waste Discharge Requirements established by the Lahontan Regional Water Quality Control Board to the Kern County Public Works Department – Building and Development.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.9-1KC</b> (see Section 4.9, <i>Hazards and Hazardous Materials</i>), <b>MM 4.10-1 KC</b>, and <b>MM 4.10-2KC</b>.</p>	
<b>Impact 4.10-2:</b> 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	<p><b>Kern County</b></p> <p>No mitigation measures are required.</p> <p><b>Gen-Tie</b></p> <p>No mitigation measures are required.</p>	Less than significant
<b>Impact 4.10-3:</b> 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 which would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially significant	<p><b>Kern County</b></p> <p>Implementation of Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b>.</p> <p><b>Gen-Tie</b></p> <p>Implementation of Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b></p>	Less than significant
<b>Impact 4.10-4:</b> 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 which would substantially increase the rate or amount of surface runoff which would result in flooding on- or off-site.	Potentially significant	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b>.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b>.</p>	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
<b>Impact 4.10-5:</b> 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 which would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.10-1KC</b> through <b>MM 4.10-3KC</b> .  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b> .	Less than significant
<b>Impact 4.10-6:</b> 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 which would impede or redirect flood flows.	Potentially significant	<b>Kern County</b> Implement Mitigation Measure <b>MM 4.10-2KC</b> .  <b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.10-2KC</b> .	Less than significant
<b>Impact 4.10-7:</b> The project would result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.9-1KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> for full Mitigation Measure text) <b>MM 4.10-1KC</b> , and <b>MM 4.10-2KC</b> .  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.9-1KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> for full Mitigation Measure text), <b>MM 4.10-1KC</b> , and <b>MM 4.10-2KC</b> .	Less than significant
<b>Impact 4.10-8:</b> Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b> .  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b> .	Less than significant
Cumulative Impacts	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.9-1KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> for full Mitigation Measure text), and <b>MM 4.10-1KC</b> through <b>MM 4.10-3KC</b> .	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.9-1KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> for full Mitigation Measure text), <b>MM 4.10-1KC</b> , and <b>MM 4.10-2KC</b> .	
<b>4.11 Land Use and Planning</b>			
<b>Impact 4.11-1:</b> The project would physically divide an established community.	No impact	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	No Impact
<b>Impact 4.11-21:</b> The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation for the purpose of avoiding or mitigating an environmental effect.	Potentially significant	<b>Kern County</b> With implementation of Mitigation Measure <b>MM 4.9-6KC</b> , impacts would be less than significant.  <b>Gen-Tie</b> With implementation of Mitigation Measure <b>MM 4.9-6KC</b> , impacts would be less than significant.	Less than significant
Cumulative Impacts	Potentially significant	<b>Kern County</b> <b>MM 4.11-1KC:</b> Prior to the issuance of any building permit, the project proponent/operator shall provide the Kern County Planning and Natural Resources Department with a Decommissioning Plan for review and approval. The plan shall be carried out by the proposed operator or a County-contracted consulting firm(s) at a cost to be borne by the project proponent/operator.  a. The Decommissioning Plan shall include, but is not limited to, the following: <ol style="list-style-type: none"> <li>Factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from the removal of support structures (including all underground equipment), and control of fugitive dust on the remaining undeveloped land.</li> <li>Salvage value for the solar panels and support structures shall be included in the financial assurance calculations.</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>3. The assumption, when preparing the estimate, is that the project proponent/operator is incapable of performing the work or has abandoned the solar facility, thereby resulting in the County hiring an independent contractor to perform the decommission work.</p> <p>b. In addition to submittal of a Decommissioning Plan, the project proponent/operator shall post or establish and maintain with the County financial assurances related to the deconstruction of the site as identified on the approved Decommissioning Plan should at any point in time the project proponent/operator determine it is not in their best interest to operate the facility. The financial assurances required prior to issuance of any building permit shall be established using one of the following:</p> <ol style="list-style-type: none"> <li>1. An irrevocable letter of credit;</li> <li>2. A surety bond;</li> <li>3. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommissioning plan; or</li> <li>4. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.</li> </ol> <p>c. The financial assurances documents shall include the following verbiage, including any required verbiage through Kern County Planning and Natural Resources Department's consultation and review with Kern County Counsel:</p> <ol style="list-style-type: none"> <li>1. Financial institution or surety company shall give the County a minimum of 120 days' notice of intent to terminate the letter of credit or bond.</li> <li>2. Financial assurances shall be reviewed annually by the respective counties or County-contracted consulting firm(s) at a cost to be borne by the project proponent/operator to substantiate that those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommissioning Plan.</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>3. Should the project proponent/operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.</p> <p>4. Financial institution or surety company shall be licensed to conduct business in the state of California.</p> <p>d. Once deconstruction has occurred, financial assurances for that portion of the site will no longer be required and any financial assurance posted will be adjusted or returned accordingly. Any funds not utilized through decommissioning of the site by the County shall be returned to the project proponent/operator.</p> <p>e. Should any portion of the solar field not be in operational condition for a consecutive period of twenty-four (24) 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 proponent/operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project proponent/operator may provide the County a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Department 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.</p> <p>f. In no case shall a solar field which 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.</p> <p><b>MM 4.11-2KC:</b> Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measures <b>MM 4.11-1KC</b> and <b>MM 4.11-2KC</b>.</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>4.12 Noise</b>			
<p><b>Impact 4.12-1:</b> The project would generate a substantial temporary or permanent increase in 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.</p>	Potentially significant	<p><b>Kern County</b></p> <p><b>MM 4.12-1KC:</b> To reduce temporary construction-related noise impacts, the following shall be implemented by the project proponent/operator:</p> <ol style="list-style-type: none"> <li>Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible.</li> <li>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.</li> <li>During all construction or decommissioning phases of the proposed project located within the limits of unincorporated Kern County, the construction contractor shall limit all on-site noise-producing activities to the hours of 6:00 a.m. to 9:00 p.m., Monday through Friday, and to the hours of 8:00 a.m. and 9:00 p.m. on Saturdays and Sunday or as required through the Kern County Noise Ordinance (Kern County Code of Ordinances, Title 8, Chapter 8.36.020).</li> <li>If construction-related activities must occur outside of permitted hours per Section 8.36.020 of the Kern County Code, the project proponent/operator shall obtain approval from the development services agency director or designated representative for project construction activities occurring 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, within 1,000 feet of an occupied residential building, if audible to a person with average hearing ability at a distance of 150 feet from a construction site. As a condition of approval for exempting construction activity outside of permitted hours, the project</li> </ol>	Less than significant



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>proponent/operator shall implement a noise control plan including appropriate noise-reduction measures to the satisfaction of the development services agency director or designated representative, which may include the measures listed above. In addition, the noise control plan may include a requirement to restrict the duration of construction activities outside of permitted hours within 1,000 feet of an occupied residential building.</p> <ul style="list-style-type: none"> <li>e. 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).</li> <li>f. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).</li> <li>g. 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.</li> </ul> <p><b>MM 4.12-2KC:</b> The construction contractor shall establish a Noise Disturbance Coordinator for the proposed 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.</p> <p><b>MM 4.12-3KC:</b> Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include:</p> <ul style="list-style-type: none"> <li>a. The mailing notice shall be to all residences within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include: the construction schedule, telephone number and email address where complaints and questions can be registered with the Noise Disturbance Coordinator.</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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.</p> <p>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.</p> <p><b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.12-1KC through MM 4.12-3KC.</b></p>	
<b>Impact 4.12-2:</b> The project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	Less than significant	<p><b>Kern County</b> No mitigation measures are required.</p> <p><b>Gen-Tie</b> No mitigation measures are required.</p>	Less than significant
<b>Impact 4.12-3:</b> 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	<p><b>Kern County</b> No mitigation measures are required.</p> <p><b>Gen-Tie</b> No mitigation measures are required.</p>	
<b>Impact 4.12-4:</b> The project would expose people residing or working in the project area to excessive noise levels, for a project located within the Kern County Airport Land Use Compatibility Plan.	Potentially significant	<p><b>Kern County:</b> Implement Mitigation Measure <b>MM 4.9-3KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b>, for full text).</p> <p><b>Gen-Tie Line:</b> Implement Mitigation Measure <b>MM 4.9-3KC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b>, for full text).</p>	Less than significant
Cumulative Impacts	Potentially significant	<p><b>Kern County:</b> Implement Mitigation Measures <b>MM 4.9-4KC</b> and <b>MM 4.12-1KC through MM 4.12-3KC.</b></p> <p><b>Gen-Tie:</b></p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Implement Mitigation Measures <b>MM 4.9-4</b> and <b>MM 4.12-1</b> through <b>MM 4.12-3</b> .	
<b>4.13 Public Services</b>			
<p><b>Impact 4.13-1:</b> The project would 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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services.</p>	Potentially significant	<p><b>Kern County:</b></p> <p><b>MM 4.13-1KC:</b> 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.</p> <p>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:</p> <ol style="list-style-type: none"> <li>All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.</li> <li>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 shall maintain their factory-installed (type) mufflers in good condition.</li> <li>Fire rules shall be posted on the project bulletin board at the contractor's field office and in areas visible to employees.</li> <li>Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.</li> <li>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.</li> <li>The project proponent/operator shall 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.</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>g. Building plans shall be included for the energy storage system to verify adherence to County and California Building Code standards.</p> <p><b>MM 4.13-2KC:</b>The following Cumulative Impact Charge (CIC) shall be implemented as payment on approved Conditional Use Permit acreage.</p> <p>a. Submittal of Building Permit and Phasing</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows:               <ol style="list-style-type: none"> <li>A. Total gross acreage (Phase)</li> <li>B. Total acres for Operations and Maintenance building permanent accessory improvements</li> <li>C. Total acres for Energy Storage structure and permanent accessory improvements</li> <li>D. Total acres of recorded easements</li> </ol> </li> <li>3. Formula: Net Acreage = (2)A minus the sum of [(2)B + (2)C + (2)D].</li> <li>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.</li> <li>5. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map.</li> <li>6. Any property included in the approved Conditional Use Permit that is not included in a phase must be included in the last phase or a formal modification processed to remove it from the Conditional Use Permit.</li> </ol> <p>b. Calculation and Payment of Cumulative Impact Charge (CIC)</p> <ol style="list-style-type: none"> <li>1. A payment of \$620 per net acre for the map shown with the building permit submittal shall be paid upon issuance of the first building permit. If it is not paid within 30 days after the issuance</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>of the first building permit for the phase regardless of the total number of building permits or type of building permit issued, all such permits shall be suspended until the fee is paid in full.</p> <ol style="list-style-type: none"> <li>2. 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 and phase number.</li> <li>3. 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)</li> </ol> <p><b>MM 4.13-3KC:</b> 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.</p> <p><b>MM 4.13-4KC:</b> 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.</p> <p><b>MM 4.13-5KC:</b> 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, 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</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measure <b>MM 4.13-1KC</b>.</p>	
Cumulative Impacts	Potentially significant	<p><b>Kern County</b></p> <p>Implement Mitigation Measures <b>MM 4.13-1KC through MM 4.13-5KC</b>.</p> <p><b>City of California City</b></p> <p>Implement Mitigation Measures <b>MM 4.13-1CC through MM 4.13-5CC</b>.</p> <p><b>Gen-Tie</b></p> <p>Implement Mitigation Measure <b>MM 4.13-1KC</b>.</p>	Less than significant
<b>4.14 Transportation</b>			
<p><b>Impact 4.14-1:</b> The project would conflict with an applicable plan, ordinance or policy establishing the circulation system, including transit, roadway, bicycle and pedestrian facilities.</p>	Potentially significant	<p><b>Kern County</b></p> <p><b>MM 4.14-1KC:</b> Prior to the issuance of construction or building permits, the project proponent/operator shall:</p> <ol style="list-style-type: none"> <li>Obtain all necessary encroachment permits for 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 and the Kern County Public Works Department Development Review, prior to the commencement of construction or decommissioning activities.</li> <li>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.</li> <li>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 9, as appropriate, for approval. The Construction Traffic Control Plan must</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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:</p> <ol style="list-style-type: none"> <li>1. Timing of deliveries of heavy equipment and building materials;</li> <li>2. Directing construction traffic with a flag person;</li> <li>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;</li> <li>4. Ensuring access for emergency vehicles to the project site;</li> <li>5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;</li> <li>6. Maintaining access to adjacent property; and,</li> <li>7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.</li> </ol> <p>d. Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.</p> <p>e. Identifying vehicle safety procedures for entering and exiting site access roads.</p> <p>f. 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.</p> <p>g. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and</p>	

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		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.  <b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.14-1KC</b> .	
<b>Impact 4.14-2:</b> The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	
<b>Impact 4.14-3:</b> 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	<b>Kern County</b> Implementation of Mitigation Measure <b>MM 4.14-1KC</b> would be required.  <b>Gen-Tie</b> Implementation of Mitigation Measure <b>MM 4.14-1KC</b> would be required.	Less than significant
<b>Impact 4.14-4:</b> The project would result in inadequate emergency access.	Potentially significant	<b>Kern County</b> Implementation of mitigation measure <b>MM 4.14-1KC</b> would be required.  <b>Gen-Tie</b> Implementation of Mitigation Measure <b>MM 4.14-1KC</b> would be required.	Less than significant
Cumulative Impacts	Potentially significant	<b>Kern County</b> Implementation of mitigation measure <b>MM 4.14-1KC</b> would be required.  <b>Gen-Tie</b> Implementation of Mitigation Measure <b>MM 4.14-1KC</b> would be required.	Less than significant
<b>4.15 Tribal Cultural Resources</b>			
<b>Impact 4.15-1a:</b> The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.5-1KC, MM 4.5-2KC, MM 4.5-5KC, and MM 4.5-11KC</b> (see <b>Section 4.5, Cultural Resources</b> for full Mitigation Measure text).	Less than significant



<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register of Historic Places, or in a local register of historical resources as defined in Public Resources Section 5020.1(k).		<b>Gen-Tie:</b> Implement Mitigation Measures <b>MM 4.5-1KC</b> , <b>MM 4.5-2KC</b> , <b>MM 4.5-5KC</b> , <b>MM 4.5-11KC</b> , and <b>MM 4.5-12KC</b> (see <b>Section 4.5</b> , <i>Cultural Resources</i> for full Mitigation Measure text).	
<b>Impact 4.15-1b:</b> The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.5-1</b> , <b>MM 4.5-2</b> , <b>MM 4.5-5</b> , and <b>MM 4.5-11</b> (see <b>Section 4.5</b> , <i>Cultural Resources</i> for full Mitigation Measure text).  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.5-1</b> , <b>MM 4.5-2</b> , <b>MM 4.5-5</b> , and <b>MM 4.5-11</b> (see <b>Section 4.5</b> , <i>Cultural Resources</i> for full Mitigation Measure text). .	Less than significant
Cumulative Impacts	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.5-1KC</b> , <b>MM 4.5-2KC</b> , <b>MM 4.5-5KC</b> , and <b>MM 4.5-11KC</b> (see <b>Section 4.5</b> , <i>Cultural Resources</i> for full Mitigation Measure text).  <b>Gen-Tie</b> Implement Mitigation Measures <b>MM 4.5-1KC</b> , <b>MM 4.5-2KC</b> , <b>MM 4.5-5KC</b> , and <b>MM 4.5-11KC</b> (see <b>Section 4.5</b> , <i>Cultural Resources</i> for full Mitigation Measure text).	Less than significant
<b>4.16 Utilities and Service Systems</b>			
<b>Impact 4.16-1:</b> 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 telecommunication facilities, the construction or	Potentially significant	<b>Kern County</b> Implement Mitigation Measure <b>MM 4.10-2KC</b> . (See <b>Section 4.10</b> , <i>Hydrology and Water Quality</i> , for full Mitigation Measure text.)	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
relocation of which could cause significant environmental effects.		<b>Gen-Tie</b> No mitigation would be required.	
<b>Impact 4.16-2:</b> The project would have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	Less than significant	<b>Kern County</b> No mitigation measures are required.  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>Impact 4.16-3:</b> 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	<b>Kern County</b> <b>MM 4.16-1KC:</b> During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.  a. An on-site Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, 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 on-site Recycling Coordinator shall also be responsible for ensuring waste requiring special disposal are handled according to state local 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.  <b>Gen-Tie</b> Implement Mitigation Measure <b>MM 4.16-1KC</b> .	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
<b>Impact 4.16-4:</b> The project would comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	<b>Kern County</b> Implement Mitigation Measure <b>MM 4.16-1KC</b> .  <b>Gen Tie</b> Implement Mitigation Measure <b>MM 4.16-1KC</b> .	Less than significant
Cumulative Impacts	Potentially significant	<b>Kern County</b> Implement Mitigation Measures <b>MM 4.10-1KC</b> , <b>MM 4.10-2KC</b> (See <b>Section 4.10, Hydrology and Water Quality</b> , for full Mitigation Measure text), and <b>MM 4.16-1KC</b> .  <b>Gen Tie</b> Implement Mitigation Measure <b>MM 4.16-1KC</b> .	Less than significant
<b>4.17 Wildfire</b>			
<b>Impact 4.17-1:</b> The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	<b>Kern County</b> Implementation of Mitigation Measure <b>MM 4.14-1KC</b> would be required (see <b>Section 4.14, Traffic and Transportation</b> , for full Mitigation Measure text).  <b>Gen-Tie</b> No mitigation measures are required.	Less than significant
<b>Impact 4.17-2:</b> The project would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.	Potentially significant	<b>Kern County</b> Implementation of Mitigation Measure <b>MM 4.13-1KC</b> would be required (see <b>Section 4.13, Public Services</b> , for full Mitigation Measure text).  <b>Gen-Tie</b> Implementation of Mitigation Measure <b>MM 4.13-1KC</b> would be required (see <b>Section 4.13, Public Services</b> , for full Mitigation Measure text).	Less than significant
<b>Impact 4.17-3:</b> 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	<b>Kern County</b> Implementation of Mitigation Measure <b>MM 4.13-1KC</b> would be required (see <b>Section 4.13, Public Services</b> , for full Mitigation Measure text).	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<b>Gen-Tie</b> Implementation of Mitigation Measure <b>MM 4.13-1KC</b> would be required (see <b>Section 4.13, Public Services</b> , for full Mitigation Measure text).	
Cumulative Impacts	Significant and unavoidable	<b>Kern County</b> Implementation of Mitigation Measure <b>MM 4.13-1KC</b> would be required (see <b>Section 4.13, Public Services</b> , for full Mitigation Measure text).  <b>Gen-Tie</b> Implementation of Mitigation Measure <b>MM 4.13-1</b> would be required (see <b>Section 4.13, Public Services</b> , for full Mitigation Measure text).	Significant and unavoidable

**Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance – California City**

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>4.1 Aesthetics</b>			
<b>Impact 4.1-1:</b> Have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.1-2:</b> 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 measures are required.	Less than significant
<b>Impact 4.1-3:</b> Substantially degrade the existing visual character or quality of public views of the site and its surroundings.	Significant and unavoidable	<b>MM 4.1-1CC:</b> 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 City of California City Community Development Department. The program shall include, but not be limited to the following: <ul style="list-style-type: none"> <li>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.</li> <li>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 City of California City Community Department. Maintenance staff shall</li> </ul>	Significant and unavoidable

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the City of California City Community Development Department.</p> <p>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.</p> <p>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.</p> <p><b>MM 4.1-2(CC):</b> The project proponent shall install metal fence slats or similar view-screening materials, as approved by the City of California City Community Development Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, unless the adjacent property is owned by the project proponent (to be verified by the City of California City Community Development Department) or a public or private agency that has submitted correspondence to the City of California City Community Development Department requesting this requirement be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.</p> <p><b>MM 4.1-3CC:</b> 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 City of California City Community Development Department, that will ensure all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy finishes.</p> <p><b>MM 4.1-4CC:</b> Wherever possible, within the proposed project boundary, the natural 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 as permitted by Fire Code. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Revegetation and Restoration Plan for the project site to the City of California City Community Development Department for review and approval. The plan shall include the measures detailed below.</p> <ul style="list-style-type: none"> <li>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 native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to revegetate with the existing native seed bank in the topsoil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.</li> <li>b. The plan must include but is not limited to: (1) the approved California native seed mix that will be used on-site; (2) a timeline for seeding the site; (3) the details of which areas are to be revegetated; (4) a list of the consultation efforts completed; (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations; and (6) a clear prohibition of the use of toxic rodenticides.</li> <li>c. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish revegetation. 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 City of California City Community Development 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).</li> <li>d. Vegetation/ground cover shall be continuously maintained on the site by the project operator.</li> <li>e. The revegetation 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 City of California City Community Development 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, re-evaluation of revegetation methods shall be made in consultation with the City of California City Community Development Department and an additional year shall be added to the</li> </ul>	

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		monitoring program to ensure coverage is achieved. 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.	
<b>Impact 4.1-4:</b> Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Potentially significant	<p><b>MM 4.1-5CC:</b> Prior to final activation of the solar facility, the project proponent shall demonstrate to the City of California City Community Development Department that the project site complies with the applicable standards regarding project lighting within the City 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.</p> <p><b>MM 4.1-6CC:</b> 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 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 City of California City Community Development Department for review and final approval.</p> <p><b>MM 4.1-7CC:</b> Prior to final activation of the solar facility, the project operator shall demonstrate that the O&amp;M building, energy storage facilities, gen-tie facilities, and collector facilities utilize materials that minimize glare all on-site buildings utilize non-reflective materials, as approved by the City of California City Community Development Department.</p>	Less than significant
Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures <b>MM 4.1-1CC through MM 4.1-7CC.</b>	Significant and unavoidable
<b>4.2 Agriculture and Forestry Resources</b>			
<b>Impact 4.2-1:</b> Conflict with existing zoning for agricultural use or a Williamson Act Contract.	Less than significant	No mitigation measures are required.	Less than significant
Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>4.3 Air Quality</b>			
<p><b>Impact 4.3-1:</b> The project would conflict with or obstruct implementation of the applicable air quality plan.</p>	Potentially significant	<p><b>MM 4.3-ICC:</b> The project operator shall ensure that construction, operation, and decommissioning of the proposed project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District (EKAPCD). The project operator shall develop a fugitive dust control plan (Plan) for the project. The Plan shall address short-term construction and long-term operational activities. The Plan shall be endorsed by the EKAPCD prior to the start of any earthmoving activity. The project operator shall also develop a decommissioning fugitive dust control plan (Decommissioning Plan) for the project if a decision is made to decommission and remove the solar facilities in the future. The Decommissioning Plan shall be endorsed by the EKAPCD prior to any decommissioning activities.</p> <p>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:</p> <p>a. The following dust control measures shall be implemented during land preparation, excavation, and/or demolition:</p> <ol style="list-style-type: none"> <li>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 three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative.</li> <li>2. All disturbed areas on the project site and proposed transmission corridor shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods. The frequency of watering can be reduced or eliminated during period of precipitation.</li> </ol>	Less than significant



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> <li>3. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.</li> <li>4. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures or neighboring property, or as identified in a plan approved by the EKAPCD.</li> <li>5. All trucks entering or leaving the project site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of six inches.</li> <li>6. Areas disturbed by clearing, earth-moving, or excavation activities shall be minimized at all times.</li> <li>7. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.</li> <li>8. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.</li> <li>9. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.</li> <li>10. Where acceptable to the Kern County Fire Department and California City Fire Department, weed control shall be accomplished by mowing instead of discing, thereby, leaving the ground undisturbed and with a mulch covering.</li> <li>b. After clearing, grading, earth moving and/or excavating is completed within any portion of the project site, the following dust control practices shall be implemented: <ol style="list-style-type: none"> <li>1. Once initial leveling has ceased, all inactive soil areas within the construction site shall be immediately treated with a dust palliative.</li> </ol> </li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> <li>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.</li> <li>3. All unpaved road areas shall be treated with a dust palliative or graveled to prevent excessive dust.</li> <li>c. During all phases of construction, the following vehicular control measures shall be implemented: <ol style="list-style-type: none"> <li>1. No vehicle shall exceed 10 miles per hour on unpaved areas within the project site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.</li> <li>2. Visible speed limit signs shall be posted at the project site entrance(s).</li> <li>3. All areas with vehicle traffic, especially the main entrance roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.</li> <li>4. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.</li> <li>5. Streets adjacent to the project site shall be kept clean and project related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.</li> <li>6. Access to the project site shall be by means of an apron into the facility site from adjoining surfaced roadways. The apron 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 facility site, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires.</li> </ol> </li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p><b>MM 4.3-2CC:</b> The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project on the project site:</p> <ul style="list-style-type: none"> <li>a. All equipment shall be maintained in accordance with the manufacturer's specifications.</li> <li>b. Equipment shall be shut down when not in use for extended periods of time.</li> <li>c. No individual piece of construction equipment shall operate no longer than eight cumulative hours per day.</li> <li>d. Electric equipment shall be used whenever feasible in lieu of diesel or gasoline-powered equipment.</li> <li>e. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO<sub>x</sub> emissions.</li> <li>f. On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.</li> </ul> <p><b>MM 4.3-3CC:</b> The project operator shall continuously comply with the following measures during construction and operation to control NO<sub>x</sub> emissions from on-road heavy-duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and materials for the proposed project:</p> <ul style="list-style-type: none"> <li>a. 2006 engines or pre-2006 engines with California Air Resources Board certified Level 3 diesel emission controls will be used to the extent possible.</li> <li>b. All on-road construction vehicles, except those meeting the 2006/California Air Resources Board certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards to the greatest extent possible. This does not apply to worker personal vehicles.</li> <li>c. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications.</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p><b>MM 4.3-4CC:</b>The project operator shall continuously comply with the following measures during operation to control fugitive dust emissions:</p> <ul style="list-style-type: none"> <li>a. The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation</li> <li>b. The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.</li> <li>c. Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.</li> </ul>	
<p><b>Impact 4.3-2:</b> The project would expose sensitive receptors to substantial pollutant concentrations.</p>	<p>Significant and unavoidable</p>	<p>Implement Mitigation Measure <b>MM4.1-4CC</b> (see Section 4.1, <i>Aesthetics</i> for full text), Mitigation Measures <b>MM 4.3-1CC</b> through <b>MM 4.3-4CC</b>, and:</p> <p><b>MM 4.3-5CC:</b> At the time of project implementation, the Kern County Public Health and Service Department shall determine if the COVID-19 pandemic is still present at a level where spread to sensitive receptors could occur. If determined necessary by the Kern County Public Health and Service Department, a COVID-19 Health and Safety Plan shall be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy shall be submitted to the California City Community Development Department for review and approval.</p>	<p>Significant and unavoidable</p>

		<p><b>MM 4.3-6CC:</b> 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:</p> <ol style="list-style-type: none"> <li>Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.</li> <li>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.</li> <li>The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.</li> <li>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.</li> <li>To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.</li> <li>Workers shall receive training in procedures to minimize activities that may result in the release of airborne <i>Coccidioides immitis</i> 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.</li> <li>A Valley Fever informational handout shall be provided to all on-site 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.</li> <li>On-site 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 on-site personnel, upon request. When exposure to dust is unavoidable, provide appropriate National Institute for Occupational Safety and Health–approved respiratory protection to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection</li> </ol>	
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<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		<p>program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144).</p> <p><b>MM 4.3-7CC:</b> Prior to the issuance of grading permits, the California City Community Development Department shall verify that 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.</p>	
<b>Impact 4.3-3:</b> 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 measures are required.	Less than significant
<b>Impact 4.3-4:</b> The project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.	Significant and unavoidable	Implementation of Mitigation Measures <b>MM 4.3-1CC</b> through <b>MM 4.3-7CC</b> .	Significant and unavoidable
Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures <b>MM 4.3-1CC</b> through <b>MM 4.3-7CC</b> .	Significant and unavoidable
<b>4.4 Biological Resources</b>			
<b>Impact 4.4-1:</b> 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 CDFW or USFWS.	Potentially significant	<p>Implement Mitigation Measure <b>MM 4.1-5CC</b> (see <b>Section 4.1, Aesthetics</b>, for full Mitigation Measure text), regarding compliance with the Kern County Dark Skies Ordinance.</p> <p><b>MM 4.4-1CC:</b> Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by United States Fish and Wildlife Service and California Department of Fish and Wildlife to oversee compliance with protection measures for all listed and other special-status species. The project Lead Biologist shall be on-site during all fencing and ground disturbance activities throughout the construction phase. The project Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures described herein. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The project Lead Biologist shall have in</p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>her/his possession a copy of all the compliance measures while work is being conducted on-site.</p> <p><b>MM 4.4-2CC:</b> Prior to the issuance of grading or building permits, and for the duration of construction activities, all new construction workers at the project site shall attend a Worker Environmental Awareness Program (WEAP), developed and presented by the project Lead Biologist. As part of the WEAP training, the project Lead Biologist shall perform the following training-related tasks:</p> <ul style="list-style-type: none"> <li>a. Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, nighttime construction limitations), and applicable fire protection measures. WEAP training shall also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered.</li> <li>b. Send a copy of all WEAP training materials to the California City Community Development Department.</li> <li>c. Maintain a list on-site of all employees who have undergone WEAP training. A copy of this list shall be provided to the California City Community Development Department as necessary.</li> </ul> <p><b>MM 4.4-3CC:</b> The Worker Environmental Awareness Program (WEAP) shall be presented by the Lead Biologist and shall include information on the life history of each federal and state-listed species, as well as other special-status wildlife, natural communities, and plant species that may be encountered during construction activities, their legal protections, the definition of “take” under the federal and State Endangered Species Acts, measures the project operator is implementing to protect special-status species, reporting requirements, specific measures that each worker shall employ to avoid take of special-status wildlife species, and penalties for violation of the acts. Training shall be documented as follows:</p> <ul style="list-style-type: none"> <li>a. An acknowledgement form signed by each worker indicating that environmental training has been completed.</li> <li>b. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>unless they have attended the training and are wearing hard hats with the required sticker.</p> <p>c. A copy of the training transcript/training video and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgements forms shall be submitted to the California City Community Development Department.</p> <p><b>MM 4.4-4CC:</b> During construction and decommissioning the anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided. The construction crews and contractor(s) shall be held responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.</p> <p><b>MM 4.4-5CC:</b> New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, a biological resources survey shall be conducted by the Lead Biologist or by biological monitor(s) under the Lead Biologist's supervision to determine if listed or special-status species would be impacted. Impacts shall be avoided to the maximum extent practicable or shall be fully mitigated for. Construction shall not begin until the route is cleared for biological resources. The route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction and use.</p> <p><b>MM 4.4-6CC:</b> Spoils shall be stockpiled in disturbed areas. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project-related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.</p> <p><b>MM 4.4-7CC:</b> All ground disturbance construction and decommissioning activities shall be monitored by the qualified Lead Biologist or by biological monitors under the Lead Biologist's supervision to ensure compliance with avoidance and minimization measures.</p>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p><b>MM 4.4-8CC:</b> The project operator and/or contractor shall implement the following during project decommissioning:</p> <ul style="list-style-type: none"> <li>a. All applicable construction phase general protection measures shall be implemented during decommissioning.</li> <li>b. A 25-mile-per-hour speed limit on paved or stabilized unpaved roads shall be applied for travel during decommissioning activities. Travel shall be confined to existing roads and previously disturbed areas.</li> <li>c. If any special-status wildlife is detected in the work area during decommissioning activities, no work shall be conducted until the individual moves on its own outside of the work area.</li> <li>d. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours.</li> </ul> <p><b>MM 4.4-9CC:</b> During construction and decommissioning the project operator and/or contractor shall implement the following general avoidance and protective measures:</p> <ul style="list-style-type: none"> <li>a. Prior to issuance of grading or building permits but after consulting with the United States Fish and Wildlife Service and California Department of Fish and Wildlife, the solar facility project site shall be fenced with a permanent desert tortoise exclusion fence to keep any desert tortoises and Mohave ground squirrels that may be using habitat adjacent to the facility from entering during construction, operations and maintenance, and dismantling and restoration (decommissioning) phases. The project proponent shall submit a fencing plan that outlines the location, type of fence, and construction methods to United States Fish and Wildlife Service and California Department of Fish and Wildlife for review. The fencing type shall follow current fence specifications established by the United States Fish and Wildlife Service. Desert tortoise-proof gates shall be established at all photovoltaic solar facility entry points, unless otherwise approved by United States Fish and Wildlife Service and California Department of Fish and Wildlife. Workers installing the exclusion fencing shall have undergone the worker training program mandated in Mitigation Measure MM 4.4-2CC and a biological monitor under the authority of the project Lead Biologist shall be present during exclusion fencing installation.</li> <li>b. The fencing shall be routinely inspected with inspections after precipitation events of more than 1 inch at each ephemeral drainage</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>crossing. Any damage to the fencing shall be repaired immediately or no later than 2 days following the observation.</p> <p>c. Following the construction of exclusion fencing around the solar facility perimeters, clearance surveys shall be conducted by the Lead Biologist to ensure that no desert tortoises, Mohave ground squirrels, or other listed wildlife species are trapped within the fenced area. The Lead Biologist may be assisted by biological monitors under the supervision of the Lead Biologist. The clearance surveys shall be conducted no more than 30 days prior to ground disturbing activities associated with construction, O&amp;M, or decommissioning. Clearance surveys shall adhere to the current United States Fish and Wildlife Service clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes to be completed after desert tortoise-proof fencing is installed, which shall coincide with heightened desert tortoise activity from late March through May and September through October. The Designated Biologist(s) shall perform pre activity surveys for desert tortoise and shall remain on-site daily until the construction period ends or exclusion fencing has been installed to preclude desert tortoises from entering a given work area (work area is completely enclosed with exclusionary fence). United States Fish and Wildlife Service and California Department of Fish and Wildlife may impose modified or additional fencing requirements in the project's final 2081 Permit and/or Habitat Conservation Plan, if required.</p> <p>d. If a desert tortoise or Mohave ground squirrel is found on the site during project construction, operation, or decommissioning, activity shall cease in the vicinity of the animal and the desert tortoise and/or Mohave ground squirrel shall be passively restricted to the area encompassing its observed position on the construction site and its point of entry shall be determined if possible. The Lead Biologist shall install a temporary tortoise-proof fence around this area. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the desert tortoise and/or Mohave ground squirrel is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the activities of the desert tortoise and/or Mohave ground squirrel within the site; all fence construction, modification, and repair efforts; and movements of the desert tortoise and/or Mohave ground squirrel once again outside the</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>permanent tortoise-proof fence. This report shall be submitted to wildlife and resource agency representatives and the California City Community Development Department. If passive relocation is not possible, desert tortoise and/or Mohave ground squirrel may also be translocated in accordance with a United States Fish and Wildlife Service and/or California Department of Fish and Wildlife approved Translocation Plan.</p> <p>e. Outside permanently fenced desert tortoise exclusion areas where desert tortoise may be present, the project operator shall limit the areas of disturbance in desert tortoise and Mohave ground squirrel habitat. Parking areas, new roads, pulling sites, and locations for staging, storage, excavation, and disposal shall be confined to the smallest areas possible. These areas shall be flagged, and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.</p> <p>f. The Lead Biologist or biological monitor shall monitor any ground-disturbance activities that occur outside the desert tortoise exclusion fencing. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours where desert tortoise are determined to be present.</p> <p><b>MM 4.4-10CC:</b> During construction the project operator and/or contractor shall implement the following general avoidance and protective measures:</p> <p>a. The Lead Biologist or biological monitor shall monitor all ground-disturbance activities. Work shall only occur during daylight hours as practicable. Specialized testing activities, work on the project gen-tie line, and/or continuous operations (i.e., well drilling) may be conducted at night when necessary. Prior to conducting vegetation removal or grading activities inside the fenced area, a Lead Biologist or biological monitor under the supervision of a Lead Biologist shall survey the area immediately prior to conducting these activities to ensure that no listed or special-status animals or plants are present. The project Lead Biologist shall have the right to halt all activities that are in violation of the special species protection measures. Work shall proceed only after hazards to special species are removed and the species is no longer at risk. The project biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.</p> <p>b. At the end of each work day, the Lead Biologist shall ensure that all trenches, bores, and other excavations outside the permanently fenced</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>area in suitable habitat for desert tortoise have been inspected for the presence of desert tortoise and backfilled, if no tortoise is present. If backfilling is not feasible, these excavations shall be modified to ensure that they cannot potentially entrap desert tortoises (e.g., equipped with desert tortoise escape ramps, covered to prevent desert tortoise access, enclosed with a desert tortoise exclusion fence). All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods and with a diameter of four inches or greater shall be thoroughly inspected for listed and special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe that section of pipe shall not be moved until the animal has moved off on its own. If the animal does not move in a timely manner, then the appropriate resource agency shall be consulted.</p> <p>c. Any construction pipe, culvert, or similar structure stored within desert tortoise habitat (i.e., outside areas with desert tortoise exclusion fencing) shall be inspected for desert tortoise before the material is moved, buried, or installed.</p> <p>d. Water used for dust abatement shall be minimized, as allowed by California City Community Development Department, or managed in such a manner as to prevent the formation of puddles that could attract common ravens, predators, and other wildlife species to or near the site.</p> <p>e. No vehicle or equipment parked outside the fenced areas shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of desert tortoise. If present, the desert tortoise shall be left to move on its own.</p> <p>f. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited. Vehicle speeds within the project site shall not exceed 25 miles per hour on roads within desert tortoise habitat.</p> <p>g. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills immediately</p>	

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		<p>and hazardous spills shall be cleaned up as soon as practical and the contaminated soil shall be properly disposed of at a licensed facility.</p> <ul style="list-style-type: none"> <li>h. A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.</li> <li>i. Workers shall be prohibited from bringing pets and firearms to the project and from feeding wildlife.</li> <li>j. Intentional killing or collection of either plant or wildlife species, including listed species, in the project site and surrounding areas shall be prohibited. The Lead Biologist, wildlife and resource agency representatives and California City Community Development Department shall be notified of any such occurrences within 24 hours.</li> <li>k. Construction monitoring shall be conducted by either the Lead Biologist or by biological monitors under the Lead Biologist's supervision. The biological monitors shall have experience in monitoring for special-status wildlife.</li> <li>l. During construction, daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report for the wildlife and resource agencies and Kern County Planning and Natural Resources Department on a monthly basis, 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 biological resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities.</li> </ul> <p><b>MM 4.4-11CC:</b> The introduction of exotic plant species shall be avoided and controlled wherever possible and may be achieved through physical or chemical removal and prevention. Preventing exotic plants from entering the site via vehicular sources shall include measures such as implementing Trackclean or other method of vehicle cleaning for vehicles coming and going from the site. Earthmoving equipment shall be cleaned prior to transport to the project site. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced</p>	

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		<p>into the site during construction shall be eliminated by chemical and/or mechanical means</p> <p><b>MM 4.4-12CC:</b> In the event ground disturbance does not commence within two years of the last rare plant surveys, the project operator and/or contractor shall conduct preconstruction special-status plant survey(s) during the appropriate blooming period in accordance with the guidelines established by California Department of Fish and Wildlife (2009). Copies of these preconstruction surveys shall be provided to the appropriate wildlife agency and to the California City Community Development Department.</p> <p>If any botanical species with a California Native Plant Society rank of 1.B-2 or higher is found during the preconstruction surveys, the project operator and/or contractor shall delay ground disturbance activities and contact California Department of Fish and Wildlife for consultation. If required, in consultation with California Department of Fish and Wildlife, a Habitat Mitigation Plan shall be prepared that includes, at a minimum, the following:</p> <ul style="list-style-type: none"> <li>a. Wherever feasible, if special-status plant species are observed within the proposed project footprint, the proposed project shall be designed by the Lead Biologist, to reduce impacts to the species through the establishment of preservation areas and buffers. If avoidance or minimization measures are implemented on-site, a Habitat Mitigation Plan shall be developed to ensure adequate management and conservation of botanical resources on-site over the long term. A copy of the Habitat Mitigation Plan shall be submitted to the California City Community Development Department.</li> <li>b. If the project would eliminate more than 10 percent of a local special-status plant population, the Habitat Mitigation Plan would also include the following: <ul style="list-style-type: none"> <li>1. A figure illustrating the area of the population to be preserved, and the area of the population to be removed;</li> <li>2. Identification of on-site or off-site preservation, restoration, or enhancement location(s);</li> <li>3. Methods for preservation, restoration, enhancement, and/or population translocation;</li> </ul> </li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>4. A replacement ratio and success standard of 1:1 for occupied habitat lost unless a lower mitigation ratio and/or alternative mitigation is agreed to in coordination with California Department of Fish and Wildlife;</p> <p>5. A five-year monitoring program to ensure mitigation success;</p> <p>6. Adaptive management and remedial measures in the event that performance standards are not achieved; and</p> <p>7. Financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.</p> <p><b>MM 4.4-13CC:</b> Prior to the issuance of grading or building permits, the project operator shall:</p> <p>a. Provide evidence to the California City Community Development Department that consultation with the Kern County Agricultural Commissioner has taken place regarding removal of plants protected under the California Desert Native Plant Act;</p> <p>b. If the Agricultural Commissioner determines that a permit is not required, the project operator shall provide a letter describing the consultation process and Commissioner's determinations, indicating that such authorization is not required. The letter shall also identify the Commissioner's points of contact and contact information;</p> <p>c. If required by the Agricultural Commissioner, the project operator shall provide evidence to the California City Community Development Department that a California Desert Native Plant Act removal permit has been obtained.</p> <p><b>MM 4.4-14CC:</b> The following measures shall be implemented to reduce direct impacts to Sensitive Natural Communities, with the exception of western Joshua tree, for which the project has an approved 2084 permit. To the extent feasible, the following avoidance and minimization measures shall be implemented:</p> <p>a. Where feasible, the project shall be designed to avoid disturbance of spinescale scrub (<i>Atriplex spinifera</i> Shrubland Alliance) and winter fat scrubland (<i>Krascheninnikovia lanata</i> Shrubland Alliance)</p> <p>b. Where it is not feasible to avoid direct impacts to the spinescale scrub (<i>Atriplex spinifera</i> Shrubland Alliance) and winter fat scrubland (<i>Krascheninnikovia lanata</i> Shrubland Alliance) identified within the</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>project site the project operator shall implement the following measures:</p> <ol style="list-style-type: none"> <li>1. Compensatory mitigation for impacts to Sensitive Natural Communities shall occur either on-site or off-site and would occur at a ratio no less than 1:1 for each Sensitive Natural Community impacted. A Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the California Department of Fish and Wildlife.</li> <li>2. If on-site mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site that contain suitable characteristics for restoration or enhancement of sensitive habitat. Determination of mitigation adequacy shall be based on comparison of the restored or enhanced habitat with similar, undisturbed habitat in the vicinity of the development site. If mitigation is implemented off-site, compensatory lands shall contain similar or more well-developed habitat and preferably be located in the vicinity of the site or watershed. Off-site land shall be preserved through a conservation easement and the Plan shall identify an approach for funding assurance for the long-term management of the compensatory land.</li> </ol> <p>c. Where direct impacts to western Joshua trees are unavoidable, if western Joshua tree is listed as a ‘candidate,’ ‘threatened,’ or ‘endangered’ species under the California Endangered Species Act at the time of issuance of a building or grading permit in areas that would involve the removal of western Joshua trees, the project proponent may pursue one of the following mitigation options:</p> <ol style="list-style-type: none"> <li>1. The project operator shall provide evidence to the California Community Development Department demonstrating that that impacts to western Joshua tree have been mitigated in accordance with Section 2084 of the California Fish and Game Code; or</li> <li>2. The project operator shall mitigate for permanent impacts to western Joshua tree, should an Incidental Take Permit be required from California Department of Fish and Wildlife, through an approved mitigation bank, in-lieu fee program, or other California Department of Fish and Wildlife -approved process. Compensatory mitigation for permanent impacts to western Joshua tree shall be determined and acquired in consultation with the wildlife or resource agency. Verification of compliance shall</li> </ol>	



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		<p>be submitted to the California City Community Development Department prior to project construction in areas that would involve removal of western Joshua trees.</p> <p><b>MM 4.4-15CC:</b> The measures listed below shall be implemented prior to and during construction, operations, and decommissioning at the project site.</p> <ol style="list-style-type: none"> <li>a. The project operator has filed for an Incidental Take Permit for Mohave ground squirrel and desert tortoise with California Department of Fish and Wildlife, and a Habitat Conservation Plan with the United States Fish and Wildlife Service for desert tortoise. The project proponent shall mitigate for permanent impacts to suitable desert tortoise and Mohave ground squirrel habitat, through an approved mitigation bank, in-lieu fee program, or other mechanism accepted by California Department of Fish and Wildlife and/or United States Fish and Wildlife Service, as outlined in each agencies respective permit. Compensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined and acquired in consultation with the wildlife or resource agency and may be mitigated alongside impact on covered species. Compensatory mitigation would provide habitat for desert tortoise, Mohave ground squirrel, and/or burrowing owl, as well as rare plants, State Waters (only if impacted by the project), and features covered under the Project's Lake and Streambed Alteration Agreement. The Final Interim Take Permit and approved Habitat Conservation Plan shall be submitted to California City Community Development Department prior to the onset of activities that have the potential to impact covered species.</li> <li>b. Prepare a Habitat Mitigation and Monitoring Plan (if required, should an incidental take permit be required for the project) or provide a copy of the project's incidental take permit that outlines all project compensatory mitigation for desert tortoise, Mohave ground squirrel, and burrowing owl, in coordination with the California Department of Fish and Wildlife and the Regional Water Quality Control Board.</li> <li>1. Compensatory mitigation shall provide ecological benefits to covered species that are similar to or better than the projects impacts on covered species. Mitigation sites in the vicinity of the</li> </ol>	

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		<p>project (eastern Kern County or western San Bernardino County) are preferable.</p> <ol style="list-style-type: none"> <li>2. Mitigation shall meet California Department of Fish and Wildlife's durability requirements.</li> <li>3. The plan, or Interim Take Permit, shall identify conservation actions, where applicable, to demonstrate that the compensatory lands are managed to provide durable environmental benefits to the covered species.</li> <li>4. The plan or Interim Take Permit shall identify an approach for funding assurance for the long-term management of the conserved land.</li> </ol> <p><b>MM 4.4-16CC:</b> The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls.</p> <ol style="list-style-type: none"> <li>a. A project Lead Biologist shall be on-site during all construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows not more than 14 days prior to construction and/or prior to desert tortoise exclusion fencing installation. The survey methodology shall be consistent with the methods outlined in the Staff Report on Burrowing Owl Mitigation (CDFG 2012), and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with other pre-construction surveys). As burrows are searched, biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the California City Community Development Department.</li> <li>b. If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted within the distances specified in Table 2 of the Staff Report from an active burrow during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively).</li> </ol>	

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		<p>unless otherwise authorized by California Department of Fish and Wildlife. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with the table provided in Mitigation Measure MM 4.4-17c), below, and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by California Department of Fish and Wildlife, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).</p> <p>c. During the nonbreeding (winter) season (October 16 to March 31), consistent with the table below (<i>Western Burrowing Owl Burrow Buffers</i>), all ground-disturbing work shall maintain a distance ranging from 164 feet to 1,640 feet from any active burrows depending on the level of disturbance. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be displaced from winter burrows according to recommendations made in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).</p> <p style="text-align: center;"><b>Western Burrowing Owl Burrow Buffers</b></p> <table><tr><th rowspan="2">Location</th><th rowspan="2">Time of Year</th><th colspan="3">Level of Disturbance (in feet)</th></tr><tr><th>Low</th><th>Medium</th><th>High</th></tr><tr><td>Nesting Sites</td><td>April 1 - Aug 15</td><td>656</td><td>1,640</td><td>1,640</td></tr><tr><td>Nesting Sites</td><td>Aug 16 - Oct 15</td><td>656</td><td>656</td><td>1,640</td></tr><tr><td>Any occupied burrow</td><td>Oct 16 - Mar 31</td><td>164</td><td>328</td><td>1,640</td></tr></table> <p>Source: CDFG 2012</p> <p>d. Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the Lead Biologist</p>	Location	Time of Year	Level of Disturbance (in feet)			Low	Medium	High	Nesting Sites	April 1 - Aug 15	656	1,640	1,640	Nesting Sites	Aug 16 - Oct 15	656	656	1,640	Any occupied burrow	Oct 16 - Mar 31	164	328	1,640	
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		<p>and approved by the applicable local California Department of Fish and Wildlife office and submitted to the California City Community Development Department. The plan shall include, at a minimum:</p> <ol style="list-style-type: none"> <li>1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;</li> <li>2. Type of scope to be used and appropriate timing of scoping to avoid impacts;</li> <li>3. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door).</li> <li>4. How the burrow(s) shall be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);</li> <li>5. Removal of other potential owl burrow surrogates or refugia on-site;</li> <li>6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;</li> <li>e. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;</li> <li>f. How the impacted site shall continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.</li> <li>g. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion shall occur immediately after the end of the breeding season.</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>h. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).</p> <p>i. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or heavy material shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.</p> <p>j. During construction and decommissioning activities, monthly and final compliance reports shall be provided to California Department of Fish and Wildlife, California Community Development Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.</p> <p><b>MM 4.4-17CC:</b> The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls:</p> <p>a. Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented off-site in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) and in consultation with California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including de-compacting soil and revegetating.</li> <li>2. 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:</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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.</p> <p>3. Permanently protect or enhance mitigation land through coordination with California Department of Fish and Wildlife. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.</p> <p>b. Develop and implement a mitigation land management plan in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.</p> <p>1. Fund the maintenance, management, or enhancement of mitigation land.</p> <p>2. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.</p> <p>3. Mitigation lands or California Department of Fish and Wildlife-approved habitat enhancement projects should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present.</p> <p>4. Consult with the California Department of Fish and Wildlife when determining off-site mitigation.</p>	

		<p><b>MM 4.4-18CC:</b> Prior to the issuance of grading or building permit the following shall be implemented:</p> <ol style="list-style-type: none"> <li>a. Preconstruction surveys shall be conducted by a qualified biologist for the presence of desert kit fox and American badger dens prior to installation of desert tortoise exclusion fencing. Copies of the completed surveys shall be submitted to California City Community Development Department.</li> <li>b. The survey shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes fallow agricultural land and scrub habitats. Surveys shall not be conducted for all areas of suitable habitat at one time; they shall be phased so that surveys occur within two weeks prior to disturbance of that portion of the site. If no potential American badger or desert kit fox dens are present, no further mitigation is required.</li> <li>c. If potential dens are observed, the following measures are required to avoid potential adverse effects to American badger and desert kit fox:</li> <li>d. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers or foxes from reuse during construction. <ol style="list-style-type: none"> <li>1. Passive relocation shall be prohibited during the pupping season, which is February 15 to June 1 for both species. If the qualified biologist determines that potential dens outside the breeding season may be active, the biologist shall notify the California Department of Fish and Wildlife. Entrances to the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three- to five-day period. After the qualified biologist determines that badgers and foxes have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction. The collapsing of active desert kit fox dens shall not occur without prior consultation with the California Department of Fish and Wildlife. A biologist shall remain on-call throughout construction in the event that badger or desert kit fox are present on the site.</li> <li>2. Construction activities shall not occur within 50 feet of active badger dens. The project operator shall contact California Department of Fish and Wildlife immediately if natal badger dens are detected to determine suitable buffers and other measures to avoid take.</li> </ol> </li> </ol>	
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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>3. Construction activities shall not occur within 100 feet of active kit fox dens. The project operator shall contact California Department of Fish and Wildlife immediately if pupping kit fox dens are detected to determine suitable buffers and other measures to avoid take.</p> <p><b>MM 4.4-19CC:</b> Not more than 14 days prior to site clearing and/or ground disturbance in a given area, a qualified biologist shall conduct a preconstruction avian nesting survey. Copies of the completed surveys shall be submitted to California City Community Development Department. The surveys shall be conducted as follows:</p> <ul style="list-style-type: none"> <li>a. Surveys shall not be conducted for an entire project site at one time; they shall be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey shall cover all reasonably potential nesting locations on and within 300 feet of the project site—this includes ground nesting species (e.g., western burrowing owl).</li> <li>b. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys for birds or additional measures are required.</li> <li>c. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before construction begins again.</li> <li>d. If active nests are found a 250-foot, no-disturbance buffer (or as otherwise determined in consultation with California Department of Fish and Wildlife) shall be created around the active nests. If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the birds have fledged or by relocating the project component(s) to avoid the area.</li> <li>e. All vertical tubes used in project construction, such as solar mounts and chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.</li> </ul>	



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p><b>MM 4.4-20CC:</b> Prior to issuance of a grading or building permit, the project operator shall Submit written documentation to the California City Community Development Department verifying that all power lines are designed in accordance with Avian Power Line Interaction Committee Guidelines. The project operator shall conform to the latest practices (as outlined in the Avian Power Line Interaction Committee Guidelines (2006) document) to protect birds from electrocution and collision.</p> <p><b>MM 4.4-21CC:</b> The project operator shall develop a site-specific Common Raven Management Plan in accordance with United States Fish and Wildlife Service guidelines and shall implement management measures for ravens in the project area. These measures may include but are not limited to designing structures to eliminate perches, waste management, road kill management, management of ponded water during construction and operations, and nest removal on structures within the photovoltaic solar facility site and along the transmission line.</p>	
<p><b>Impact 4.4-2:</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.</p>	Potentially significant	<p><b>MM 4.4-22CC:</b> Prior to issuance of any grading or building permit, the project proponent/operator shall submit a report detailing how all identified ephemeral drainages are avoided to the extent practicable and shall be continually complied with during the life of the project. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board and the California City Community Development Department. The report shall include information as shown below as a plan as necessary and shall outline compliance to the following:</p> <ul style="list-style-type: none"> <li>a. Potential jurisdictional features (ephemeral drainages) identified in the jurisdictional delineation report shall be avoided to the extent practicable. This may be shown in plan form.</li> <li>b. Any material/spoils from project activities should be located away from jurisdictional areas. Jurisdictional areas shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and/or straw bale barriers, as appropriate. Protection measures shall follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan and in the Hazardous Materials Business Plan.</li> <li>c. Prior to the start of construction activities, the project proponent/operator shall provide evidence that all fueling, hazardous materials storage areas, and operations and maintenance activities shall be sited at least 100 feet away from on-site drainages and other water</li> </ul>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>features, as identified in the project-specific delineation of wetlands and waters.</p> <p>d. Any spillage of hazardous material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.</p> <p><b>MM 4.4-23CC:</b> If it is determined during final siting that jurisdictional ephemeral drainages cannot be avoided, the project proponent shall notify the California Department of Fish and Wildlife of potentially jurisdictional features and, if necessary, obtain a Lake and Streambed Alteration Agreement. If waters of the State are impacted, the owner/operator shall notify the Lahontan Regional Water Quality Control Board, and obtain a Water Quality Certification pursuant to Section 401 of the Clean Water Act, if required.</p>	
<b>Impact 4.4-3:</b> 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	Implement Mitigation Measures <b>MM 4.9-1CC</b> (see Section 4.9, <i>Hazards and Hazardous Materials</i> for full Mitigation Measure text), <b>MM 4.10-1CC</b> , <b>MM 4.10-2CC</b> (see Section 4.10, <i>Hydrology and Water Quality</i> for full Mitigation Measure text), <b>MM 4.4-22CC</b> and <b>MM 4.4-23CC</b> .	Less than significant
<b>Impact 4.4-4:</b> 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 <b>MM 4.1-3CC</b> (see Section 4.1, <i>Aesthetics</i> , for full Mitigation Measure text ), <b>MM 4.4-1CC through MM4.4-7CC</b> , <b>MM 4.4-9CC through MM 4.4-11CC</b> , <b>MM 4.4-18CC</b> , and <b>MM 4.4-20CC</b> .	Less than significant
<b>Impact 4.4-5:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially significant	Implement Mitigation Measures <b>MM 4.4-1CC through MM 4.4-8CC</b> , and <b>MM 4.4-10CC through MM 4.4-14CC</b> .	Less than significant
Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures <b>MM 4.4-1CC through MM 4.4-23CC</b> .	Significant and unavoidable
<b>4.5 Cultural Resources</b>			
<b>Impact 4.5-1:</b> The project would cause a substantial adverse change in the significance of a historic or an archaeological resource, as defined in CEQA Guidelines Section 15064.5.	Potentially significant	<p><b>MM 4.5-1CC:</b> Prior to issuance of building or grading permits, the project proponent/operator shall:</p> <p>a. Retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards as</p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61) to carry out all Mitigation Measures related to archaeological and historical resources.</p> <p>b. The services of a qualified archaeological monitor and Native American monitor shall be retained by the project proponent/operator to monitor all ground-disturbing activities associated with the construction of the proposed project. The Native American monitor shall be selected from a list of Native American contacts with traditional ties to the project area, provided by the Native American Heritage Commission and/or consultation with Native American tribal groups who may have interest in the project area. The archaeological monitor shall work under the supervision of the qualified archaeologist.</p> <p>c. The qualified archaeologist, archaeological monitor and Native American monitor shall be provided all project documentation related to cultural resources prior to commencement of ground disturbance activities. Project 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 qualified archaeologist, archaeological monitor and Native American monitor.</p> <p><b>MM 4.5-2CC:</b> Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the project site, laydown area and/or transmission routes. The training shall be prepared and conducted by the qualified archaeologist and may include participation of the Native American monitor. The training may be in video format. The qualified archaeologist shall be available to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to:</p> <p>a. A discussion of applicable cultural resources statutes, regulations and related enforcement provisions;</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>b. An overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups, provided by the Native American Monitor or tribal leader;</li> <li>c. A summary of the effects of the proposed project on cultural resources;</li> <li>d. Samples or visuals of artifacts that might be found in the project area;</li> <li>e. A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed;</li> <li>f. A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction;</li> <li>g. Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified archaeologist, in consultation with the California City Community Development Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance;</li> <li>h. An informational guide that identifies the reporting procedures in the event of a discovery;</li> <li>i. Other information as deemed necessary by the qualified archaeologist or Native American Monitor;</li> <li>j. An acknowledgement form signed by each working indicating that environmental/ cultural training has been completed.</li> <li>k. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental/ cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;</li> <li>l. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>the signed acknowledgement forms shall be submitted to the California City Community Development Department.</p> <p><b>MM 4.5-3CC:</b> Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-066. If avoidance is feasible, the area within 100 feet of Site BEL-S-066 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</p> <p>If avoidance of Site BEL-S-066 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the California City Community Development Department.</p> <p>If avoidance of 100 feet of Site BEL-S-066 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</p> <p>Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the California City Community Development Department prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>If project phasing allows, multiple resources can be included in a single treatment plan document.</p> <p><b>MM 4.5-4CC:</b> In the event archaeological materials are encountered during the course of grading or construction for any project components, the project contractor shall cease any ground disturbing activities within 100 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 100-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrances to the area shall be avoided until the discovery is assessed by the qualified archaeologist, as well as the Native American monitor if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The qualified archaeologist in consultation with the Native American monitor, if appropriate, 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.</p> <p>Per California Environmental Quality Act Guidelines (CEQA) 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 Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the California City Community Development Department, which may include data recovery or other appropriate measures. The California City Community Development Department 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. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified 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 California City Community Development Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>Impact 4.5-2:</b> The project would cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5.	Potentially significant	Implement Mitigation Measures <b>MM 4.5-ICC</b> through <b>MM 4.5-4CC</b> .	Less than significant
<b>Impact 4.5-3:</b> The project would disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	<p><b>MM 4.5-5CC:</b> If human remains are uncovered during project construction, the project contractor shall immediately halt work and an Environmentally Sensitive Area physical demarcation/barrier shall be constructed. The California City Community Development Department shall also be notified of the discovery. The California City Community Development Department and the project proponent shall then immediately contact the Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the California Environmental Quality Act Guidelines. If the Coroner determines that the remains are Native American, the project operator shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). Per Public Resources Code Section 5097.98, the project operator 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, as prescribed in this section (Public Resources Code Section 5097.98), 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 (7100 et seq.) directing identification of the next-of-kin will apply.</p> <p>The Most Likely Descendant, identified by the Native American Heritage Commission, shall be allowed, under California Public Resources Code §5097.98(a), to: 1) inspect the site of the discovery; and 2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The Most Likely Descendant, California City Community Development Department, and project proponent shall agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The Most Likely Descendant shall complete its inspection and make recommendations within 48 hours of the site visit, as required by California Public Resources Code §5097.98.</p>	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		<p>Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code §5097.98 (a) and (b). The Most Likely Descendant in consultation with the project proponent, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties shall be aware that the Most Likely Descendant may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The project proponent shall accommodate on-site reburial in a location mutually agreed upon by the parties.</p> <p>It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, project proponent, and California City Community Development Department shall be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code §6254(r).</p>	
Cumulative Impacts	Potentially significant	Implement Mitigation Measures <b>MM 4.5-ICC</b> through <b>MM 4.5-5CC</b> .	Less than significant
<b>4.6 Energy</b>			
<b>Impact 4.6-1:</b> Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.6-2:</b> Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation measures are required.	Less than significant
Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
<b>4.7 Geology and Soils</b>			
<b>Impact 4.7-1:</b> 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	Less than significant	No mitigation measures are required.	Less than significant



Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.			
<b>Impact 4.7-2:</b> Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving strong seismic ground shaking.	Potentially significant	<p><b>MM 4.7-1CC:</b> Prior to the issuance of building or grading permits for the proposed project, the project proponent/operator shall conduct a final geotechnical study to confirm the findings of the preliminary geotechnical engineering report regarding soil conditions and geologic hazards on the project site.</p> <ol style="list-style-type: none"> <li>The final geotechnical study must be signed by a California-registered and licensed professional engineer and must include, but not limited to the following: <ol style="list-style-type: none"> <li>Location of fault traces and potential for surface rupture and ground-shaking potential;</li> <li>Maximum considered earthquake and associated ground acceleration;</li> <li>Potential for seismically induced liquefaction, landslides, differential settlement, and mudflows;</li> <li>Stability of any existing or proposed cut-and-fill slopes;</li> <li>Collapsible or expansive soils;</li> <li>Foundation material type;</li> <li>Potential for wind erosion, water erosion, sedimentation, and flooding;</li> <li>Location and description of unprotected drainage that could be impacted by the proposed development; and,</li> <li>Recommendations for placement and design of facilities, foundations, and remediation of unstable ground and any seismic hazards.</li> </ol> </li> <li>The project proponent/operator shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent/operator shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>least 100 feet from any mapped fault trace. Alternatively, a detailed fault trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting improvements on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, alternate setback distances may be proposed.</p> <p>3. The final geotechnical study shall be submitted for review and approval by the California City Public Works Department. The California City Public Works Department shall evaluate final facility siting design prior to the issuance of any building or grading permits to verify that geological constraints have been avoided. Final design requirements shall also be provided to the on-site construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the California City Community Development Department.</p>	
<b>Impact 4.7-3:</b> Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving seismic-related ground failure, including liquefaction.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.7-4:</b> Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving landslides.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.7-5:</b> Result in substantial soil erosion or the loss of topsoil.	Potentially significant	Implement mitigation measures <b>MM 4.7-1CC</b> , <b>MM 4.10-1CC</b> , and <b>MM 4.10-2CC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR).	Less than significant
<b>Impact 4.7-6:</b> 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.	Potentially significant	Implement Mitigation Measure <b>MM 4.7-1CC</b> .	Less than significant
<b>Impact 4.7-7:</b> Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	Potentially significant	Implement Mitigation Measure <b>MM 4.7-1CC</b> .	Less than significant
<b>Impact 4.7-8:</b> Have soils incapable of adequately supporting the use of septic tanks or alternative	Potentially significant	No mitigation would be required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.			
<b>Impact 4.7-9:</b> Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.	Potentially significant	<p><b>California City</b></p> <p><b>MM 4.7-2CC:</b> The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards to carry out all mitigation measures related to paleontological resources.</p> <ol style="list-style-type: none"> <li>1. Prior to the start of any ground-disturbing activities, the qualified paleontologist shall prepare 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.</li> <li>2. The Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.</li> <li>3. 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.</li> <li>4. The Paleontological Resources Awareness Training Guides shall be kept on-site and available for all personnel to review and be familiar with as necessary.</li> </ol> <p><b>MM 4.7-3CC:</b> A qualified paleontologist or designated monitor shall be on-site initially to spot-check excavations below a depth of 1 foot below the ground surface in a given area. If it is determined that sediments consist of older alluvium, then full-time paleontological monitoring shall ensue. If sediments are determined to consist of Holocene Quaternary alluvium,</p>	Less than significant

		<p>paleontological monitoring shall be suspended until an excavation depth of 5 feet below the ground surface is reached in the area.</p> <ol style="list-style-type: none"> <li>a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the California City Community Development Department and shall be based on a review of geologic maps and grading plans. <ol style="list-style-type: none"> <li>1. During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the California City Community Development Department, may adjust the level of monitoring to circumstances, as warranted.</li> </ol> </li> <li>b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. 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.</li> <li>c. Following the completion of construction, 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, recovery and curation efforts, and 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 California City Community Development Department and to an appropriate repository such as the Natural History Museum of Los Angeles County.</li> </ol> <p><b>MM 4.7-4CC:</b> If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment within 50 feet of the find until it is assessed for scientific significance and collected. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammals) require more extensive excavation and longer salvage periods. In this case, the paleontologist should have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.</p> <p>Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County) along with all pertinent field notes, photos, data, and maps. The cost of curation is assessed by the repository and is the responsibility of the project owner.</p>	
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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The final report shall be submitted to the California City Community Development Department. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.	
Cumulative Impacts	Potentially significant	<b>California City</b> Implement mitigation measures <b>MM 4.7-1CC through MM 4.7-5CC</b> , and <b>MM 4.10-2CC</b> (see <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR).	Less than significant
<b>4.8 Greenhouse Gas Emissions</b>			
<b>Impact 4.8-1:</b> 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 measures are required.	Less than significant
<b>Impact 4.8-2:</b> The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required.	Less than significant
Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
<b>4.9 Hazards and Hazardous Materials</b>			
<b>Impact 4.9-1:</b> Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	<b>MM 4.9-1CC:</b> During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, 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 at <a href="http://cers.calepa.ca.gov/">http://cers.calepa.ca.gov/</a> for review and acceptance by the City of California City.  a. The Hazardous Materials Business Plan shall:	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> <li>1. Delineate hazardous material and hazardous waste storage areas;</li> <li>2. Describe proper handling, storage, transport, and disposal techniques, including which routes will be used to transport hazardous materials;</li> <li>3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill;</li> <li>4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction;</li> <li>5. Establish public and agency notification procedures for spills and other emergencies including fires; and</li> <li>6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.</li> </ol> <ol style="list-style-type: none"> <li>b. The project proponent/operator shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.</li> <li>c. A copy of the approved Hazardous Materials Business Plan shall be submitted to the California City Community Development Department.</li> </ol>	
<p><b>Impact 4.9-2:</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.</p>	Potentially significant	<p>Implement Mitigation Measures MM 4.9-ICC and MM 4.16-ICC (see Section 4.16, <i>Utilities and Service Systems</i>, for full mitigation measure text).</p> <p><b>MM 4.9-2CC:</b> During project construction and operation, the project proponent/operator shall continuously comply with the following:</p> <ol style="list-style-type: none"> <li>a. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use.</li> <li>b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions.</li> <li>c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash</li> </ol>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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.</p> <p>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.</p> <p>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.</p> <p>f. A written record of all herbicide applications on the site, including dates and amounts shall be furnished to the California City Community Development Department.</p> <p><b>MM 4.9-3CC:</b> Prior to commencement of any on-site ground disturbing activities within 1,000 feet of the historical Munitions Response Site MRS-01 site (former Mojave Gunnery Range located in the northeastern portion of the solar facility site), the following measures shall be implemented:</p> <p>a. The project proponent shall implement all measures identified in the Construction Safety Plan prepared for the project (ECM Consultants 2020), including Unexploded Ordnance Awareness Training for site workers and construction support in any ground disturbing activities occurring within 1,000 feet of the historical MRS-01. The Unexploded Ordnance Awareness Training shall inform site workers of the potential munitions at the site and how to respond if such items are encountered.</p> <p>b. Where ground disturbance work is involved, a supervisor shall be Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response-trained in accordance with Standard 29 CFR 1910.120 and hold a current certification;</p> <p>c. Where ground disturbance work is involved, contractors shall be trained in identifying Unexploded Ordnance/Munitions and Explosives of Concern;</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>d. If suspected munitions are encountered on-site at any time by an individual, the “3R’s of Explosives Safety” shall be followed. The “3R’s” include:</p> <ol style="list-style-type: none"> <li>1. Recognize: when something may be a munition and the dangers involved;</li> <li>2. Retreat: do not touch the potential munition and carefully leave the area; and,</li> <li>3. Report: immediately report the finding to local law enforcement.</li> </ol> <p>e. The project proponent shall submit proof of compliance with this measure to the California City Community Development Department.</p> <p><b>MM 4.9-4CC:</b> During project construction, the project proponent/operator shall be required to abandon, in accordance with all applicable local, State, and federal regulations and protocols, including those implemented by the City of California City, any known and/or unknown (i.e., discovered during project ground disturbance activities) water wells located on-site, unless such wells are proposed for continued operation as part of the development.</p>	
<p><b>Impact 4.9-3:</b> Result in a safety hazard for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Compatibility Plan.</p>	Potentially significant	<p>Implement Mitigation Measures MM 4.1-6CC and MM 4.1-7CC (see Section 4.1, <i>Aesthetics</i>, for full mitigation measure text).</p> <p><b>MM 4.9-5CC:</b> Prior to issuance of building and grading permits for portions of the project that meet the Federal Aviation Administration’s noticing requirements, the project proponent/operator shall comply with the following:</p> <ol style="list-style-type: none"> <li>a. Submit Form 7460-1 (Notification of Proposed Construction or Alteration) to the Federal Aviation Administration, in the form and manner prescribed in Code of Federal Regulation 77.17.</li> <li>b. Obtain a Federal Aviation Administration issued “Determination of No Hazard to Air Navigation” or make the Federal Aviation Administration’s recommended changes to the project.</li> <li>c. Provide documentation to the California City Community Development Department demonstrating the project would comply with the Kern County Zoning Ordinance Figure 19.08.160 that all project components in the flight area would create no significant military mission impact and a copy of the site plan has been provided to the appropriate military authority responsible for operations in the flight area.</li> </ol>	Less than significant



<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		d. Provide documentation to the California City Community Development Department demonstrating that a copy of the final site plan has been provided to the operators of Mojave Air and Space Port.	
<b>Impact 4.9-4:</b> Impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.9-5:</b> Expose people or structures, either directly or indirectly, 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.	Potentially significant	Implement Mitigation Measure <b>MM 4.13-ICC</b> (see <b>Section 4.13, Public Services</b> , for full mitigation measure text).	Less than significant
Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures <b>MM 4.9-1CC; MM 4.9-2CC; MM 4.9-5CC; MM 4.13-ICC</b> (see <b>Section 4.13, Public Services</b> , for full mitigation measure text); and <b>MM 4.16-1CC</b> (see <b>Section 4.16, Utilities and Service Systems</b> , for full mitigation measure text).	Significant and unavoidable
<b>4.10 Hydrology and Water Quality</b>			
<b>Impact 4.10-1:</b> Violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.	Potentially significant	<p><b>Implement Mitigation Measure MM 4.9-1CC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b>, for mitigation measure text.)</p> <p><b>MM 4.10-1CC:</b> Prior to issuance of a grading permit, and prior to engagement of decommissioning activities, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Regional Water Quality Control Board—Lahontan Region. 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 off-site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:</p> <ul style="list-style-type: none"> <li>a. Minimization of vegetation removal.</li> <li>b. Implementing sediment controls, including silt fences as necessary.</li> <li>c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas.</li> </ul>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>d. Properly containing and disposing of hazardous materials used for construction on-site.</li> <li>e. Properly covering stockpiled soils to prevent wind erosion.</li> <li>f. Proper protections and containment for fueling and maintenance of equipment and vehicles.</li> <li>g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.</li> <li>h. Cleanup of silt and mud on adjacent street due to construction activity.</li> <li>i. Checking all lined and unlined ditches after each rainfall.</li> <li>j. Restoring all erosion control devices to working order to the satisfaction of the Lahontan Regional Water Quality Control Board after each rainfall runoff.</li> <li>k. Installing additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.</li> </ul> <p><b>MM 4.10-2CC:</b> Prior to the issuance of a grading permit, the project proponent/operator shall submit a final hydrologic study and drainage plan for review and approval by the California City Public Works Department. The final hydrologic study and drainage plan shall be designed to evaluate and minimize potential increases in runoff from the project site. The final hydrologic study and drainage plan shall include, but not be limited to the following:</p> <ul style="list-style-type: none"> <li>a. Numerical stormwater model for the project site, which would evaluate existing and proposed (with project) drainage conditions during storm events ranging up to the 100- year event.</li> <li>b. Consideration of the potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation.</li> <li>c. Engineering recommendations to be incorporated into the project 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</li> </ul>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>or velocity so as to minimize erosion, sedimentation, and flooding on-site or off-site.</p> <p>d. The final design of the solar arrays shall include 1 foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar module sites located within a 100-year floodplain shall be graded to direct potential floodwaters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.</p> <p>e. The hydrologic study and drainage plan shall be prepared in accordance with the California City Grading Code, and approved by the California City Public Works Department prior to the issuance of grading permits.</p> <p><b>MM 4.10-3CC:</b> Prior to issuance of a building permit for any on-site water treatment facilities, the project proponent/project operator shall provide evidence of compliance with any applicable Waste Discharge Requirements established by the Lahontan Regional Water Quality Control Board to the California City Public Works Department – Building and Safety Division.</p>	
<b>Impact 4.10-2:</b> 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	No mitigation measures are required.	Less than significant
<b>Impact 4.10-3:</b> 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 which would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially significant	Implementation of Mitigation Measures <b>MM 4.10-1CC</b> and <b>MM 4.10-2CC</b> .	Less than significant
<b>Impact 4.10-4:</b> 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 which would substantially	Potentially significant	Implement Mitigation Measures <b>MM 4.10-1CC</b> and <b>MM 4.10-2CC</b> .	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
increase the rate or amount of surface runoff which would result in flooding on- or off-site.			
<b>Impact 4.10-5:</b> 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 which would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Potentially significant	Implement Mitigation Measures <b>MM 4.10-1CC</b> through <b>MM 4.10-3CC</b> .	Less than significant
<b>Impact 4.10-6:</b> 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 which would impede or redirect flood flows.	Potentially significant	Implement Mitigation Measure <b>MM 4.10-2CC</b> .	Less than significant
<b>Impact 4.10-7:</b> Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	Potentially significant	Implement Mitigation Measures <b>MM 4.9-1CC</b> , <b>MM 4.10-1CC</b> , and <b>MM 4.10-2CC</b> .	Less than significant
<b>Impact 4.10-8:</b> Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially significant	Implement Mitigation Measures <b>MM 4.10-1CC</b> and <b>MM 4.10-2CC</b> .	Less than significant
Cumulative Impacts	Potentially significant	Implement Mitigation Measures <b>MM 4.9-1CC</b> and <b>MM 4.10-1CC</b> through <b>MM 4.10-3CC</b> .	Less than significant
<b>4.11 Land Use and Planning</b>			
<b>Impact 4.11-1:</b> The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation for the purpose of avoiding or mitigating an environmental effect.	Potentially significant	<p><b>MM 4.11-1CC:</b> Prior to the issuance of any building permit, the project proponent/operator shall provide the California City Community Development Department with a Decommissioning Plan for review and approval. The plan shall be carried out by the proposed operator or a City-contracted consulting firm(s) at a cost to be borne by the project proponent/operator.</p> <p>a. The Decommissioning Plan shall include, but is not limited to, the following:</p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> <li>1. Factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from the removal of support structures (including all underground equipment), and control of fugitive dust on the remaining undeveloped land.</li> <li>2. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations.</li> <li>3. The assumption, when preparing the estimate, is that the project proponent/operator is incapable of performing the work or has abandoned the solar facility, thereby resulting in the City hiring an independent contractor to perform the decommission work.</li> <li>b. In addition to submittal of a Decommissioning Plan, the project proponent/operator shall post or establish and maintain with California City financial assurances related to the deconstruction of the site as identified on the approved Decommissioning Plan should at any point in time the project proponent/operator determine it is not in their best interest to operate the facility. The financial assurances required prior to issuance of any building permit shall be established using one of the following: <ol style="list-style-type: none"> <li>1. An irrevocable letter of credit;</li> <li>2. A surety bond;</li> <li>3. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommissioning plan; or</li> <li>4. Other financial assurances as reviewed and approved by the California City Community Development Department.</li> </ol> </li> <li>c. The financial assurances documents shall include the following verbiage, including any required verbiage through California City Community Development Department's consultation and review with City Counsel: <ol style="list-style-type: none"> <li>1. Financial institution or surety company shall give the California City a minimum of 120 days' notice of intent to terminate the letter of credit or bond.</li> <li>2. Financial assurances shall be reviewed annually by the respective City-contracted consulting firm(s) at a cost to be borne by the project proponent/operator to substantiate that those adequate</li> </ol> </li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommissioning Plan.</p> <p>3. Should the project proponent/operator deconstruct the site on their own, the City will not pursue forfeiture of the financial assurance.</p> <p>4. Financial institution or surety company shall be licensed to conduct business in the state of California.</p> <p>d. Once deconstruction has occurred, financial assurances for that portion of the site will no longer be required and any financial assurance posted will be adjusted or returned accordingly. Any funds not utilized through decommissioning of the site by California City shall be returned to the project proponent/operator.</p> <p>e. Should any portion of the solar field not be in operational condition for a consecutive period of twenty-four (24) 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 proponent/operator, by California City. Within this sixty (60) day period, the property owner, solar field owner, or project proponent/operator may provide California City a written request and justification for an extension for an additional twelve (12) months.</p> <p>f. In no case shall a solar field which 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.</p> <p><b>MM 4.11-2CC:</b> Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.</p>	
Cumulative Impacts	Potentially significant	Implement Mitigation Measures <b>MM 4.11-1CC</b> and <b>MM 4.11-2CC</b> .	Less than significant
<b>4.12 Noise</b>			
<b>Impact 4.12-1:</b> The project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local	Potentially significant	<p><b>MM 4.12-1CC:</b> To reduce temporary construction-related noise impacts, the following shall be implemented by the project proponent/operator:</p> <p>a. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-</p>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>general plan or noise ordinance, or applicable standards of other agencies.</p>		<p>sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible.</p> <p>b. 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.</p> <p>c. During all construction or decommissioning phases of the proposed project located within the limits of California City, the construction contractor shall limit all on-site noise-producing activities to the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 of each year or between the hours of 7:00 a.m. and 8:00 p.m. during the remainder of the year or as required through Section 5-1.407 of the California City Municipal Code.</p> <p>d. If construction-related activities must occur outside of permitted hours per Section 5-1.407 of the California City Municipal Code, the project proponent/operator shall file an application with the Health Officer for a variance. The project proponent/operator shall set forth actions taken to comply with the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for accomplishment. The application shall be accompanied by a fee in the amount established from time to time by resolution. A separate application shall be filed for each noise source. Several mobile sources under common ownership, or several fixed sources on a single property may be combined into one application. Upon receipt of the application and fee, the Health Officer shall refer it with a recommendation within 30 days to the Planning Commission.</p> <p>e. 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).</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>f. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).</p> <p>g. 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.</p> <p><b>MM 4.12-2CC:</b> The construction contractor shall establish a Noise Disturbance Coordinator for the proposed 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 California City Community Development Department prior to commencement of any ground disturbing activities.</p> <p><b>MM 4.12-3CC:</b> Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include:</p> <p>a. The mailing notice shall be to all residences within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include: the construction schedule, telephone number and email address where complaints and questions can be registered with the Noise Disturbance Coordinator.</p> <p>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.</p> <p>c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the California City Community Development Department.</p>	



<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
<b>Impact 4.12-2:</b> The project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.12-3:</b> 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 measures are required.	
<b>Impact 4.12-4:</b> The project would expose people residing or working in the project area to excessive noise levels, for a project located within the Kern County Airport Land Use Compatibility Plan.	Potentially significant	Implement Mitigation Measure <b>MM 4.9-45CC</b> (see <b>Section 4.9, Hazards and Hazardous Materials</b> , for full text).	Less than significant
Cumulative Impacts	Potentially significant	Implement Mitigation Measures <b>MM 4.9-45CC</b> and <b>MM 4.12-1CC</b> through <b>MM 4.12-3CC</b> .	Less than significant
<b>4.13 Public Services</b>			
<b>Impact 4.13-1:</b> 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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services.	Potentially significant	<p><b>MM 4.13-1CC:</b> 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.</p> <p>The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the California City Fire Department for review and approval. A copy of the approved fire safety plan shall be submitted to the California City Community Development Department prior to the issuance of any building permit or grading permits. The fire safety plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following:</p> <ul style="list-style-type: none"> <li>a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.</li> <li>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 shall maintain their factory-installed (type) mufflers in good condition.</li> <li>c. Fire rules shall be posted on the project bulletin board at the contractor's field office and in areas visible to employees.</li> </ul>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.</p> <p>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.</p> <p>f. The project proponent/operator shall 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.</p> <p>g. Building plans shall be included for the energy storage system to verify adherence to City and California Building Code standards.</p> <p><b>MM 4.13-2CC:</b> The following Cumulative Impact Charge (CIC) shall be implemented as payment on approved Conditional Use Permit acreage.</p> <p>a. Submittal of Building Permit and Phasing</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows: <ol style="list-style-type: none"> <li>A. Total gross acreage (Phase)</li> <li>B. Total acres for Operations and Maintenance building permanent accessory improvements</li> <li>C. Total acres for Energy Storage structure and permanent accessory improvements</li> <li>D. Total acres of recorded easements</li> </ol> </li> <li>3. Formula: Net Acreage = (2)A minus the sum of [(2)B + (2)C + (2)D].</li> <li>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.</li> </ol>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ol style="list-style-type: none"> <li>5. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map.</li> <li>6. Any property included in the approved Conditional Use Permit that is not included in a phase must be included in the last phase or a formal modification processed to remove it from the Conditional Use Permit.</li> </ol> <p>b. Calculation and Payment of Cumulative Impact Charge (CIC)</p> <ol style="list-style-type: none"> <li>1. A payment of \$620 per net acre for the map shown with the building permit submittal shall be paid upon issuance of the first building permit. If it is not paid within 30 days after the issuance of the first building permit for the phase regardless of the total number of building permits or type of building permit issued, all such permits shall be suspended until the fee is paid in full.</li> <li>2. Payments shall be made to the California City Finance Department and labeled Cumulative Impact Charge (CIC) with the project name and phase number.</li> <li>3. 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)</li> </ol> <p><b>MM 4.13-3CC:</b> Written verification of ownership of the project shall be submitted to the California City Community Development 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 California City Finance Department by April 30 of each calendar year.</p> <p><b>MM 4.13-4CC:</b> The project proponent/operator shall work with the City 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 incorporated territory of California City 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 California City for a</p>	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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 California City. The project proponent/operator shall allow the City to use this sales tax information publicly for reporting purposes.</p> <p><b>MM 4.13-5CC:</b> 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, 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.</p>	
Cumulative Impacts	Potentially significant	Implement Mitigation Measures <b>MM 4.13-ICC through MM 4.13-5CC.</b>	Less than significant
<b>4.14 Transportation</b>			
<p><b>Impact 4.14-1:</b> Conflict with an applicable plan, ordinance or policy establishing the circulation system, including transit, roadway, bicycle and pedestrian facilities.</p>	Potentially significant	<p><b>MM 4.14-ICC:</b> Prior to the issuance of construction or building permits, the project proponent/operator shall:</p> <ul style="list-style-type: none"> <li>a. Obtain all necessary encroachment permits for work within the road right-of-way or use of oversized/overweight vehicles that will utilize California City-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 California City Community Development Department and California City Public Works Department, prior to the commencement of construction or decommissioning activities.</li> <li>b. Enter into a secured agreement with the City of California City to ensure that City 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 the City of California City.</li> <li>c. Prepare and submit a Construction Traffic Control Plan to the California City Public Works Department and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in</li> </ul>	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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:</p> <ol style="list-style-type: none"> <li>1. Timing of deliveries of heavy equipment and building materials;</li> <li>2. Directing construction traffic with a flag person;</li> <li>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;</li> <li>4. Ensuring access for emergency vehicles to the project site;</li> <li>5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;</li> <li>6. Maintaining access to adjacent property; and,</li> <li>7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.</li> </ol> <p>d. Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.</p> <p>e. Identifying vehicle safety procedures for entering and exiting site access roads.</p> <p>f. 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 City of California City Community Development Department and California City Public Works Department.</p> <p>g. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and</p>	

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		inspection report to the City of California City. This information shall be submitted in DVD format. The City of California City, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.	
<b>Impact 4.14-2:</b> Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.14-3:</b> 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 <b>MM 4.14-1CC</b> would be required.	Less than significant
<b>Impact 4.14-4:</b> Result in inadequate emergency access.	Potentially significant	Implementation of Mitigation Measure <b>MM 4.14-1CC</b> would be required.	Less than significant
Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure <b>MM 4.14-1CC</b> would be required.	Less than significant
<b>4.15 Tribal Cultural Resources</b>			
<b>Impact 4.15-1a:</b> Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 Historic Places, or in a local register of historical resources as defined in Public Resources Section 5020.1(k).	Potentially significant	Implement Mitigation Measures <b>MM 4.5-1CC, MM 4.5-2CC, MM 4.5-4CC, and MM 4.5-5CC.</b>	Less than significant
<b>Impact 4.15-1b:</b> Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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	Potentially significant	Implement Mitigation Measures <b>MM 4.5-1CC, MM 4.5-2CC, MM 4.5-4CC, and MM 4.5-5CC.</b>	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
Cumulative Impacts	Potentially significant	Implement Mitigation Measures <b>MM 4.5-1CC</b> , <b>MM 4.5-2CC</b> , <b>MM 4.5-4CC</b> , and <b>MM 4.5-5CC</b> .	Less than significant
<b>4.16 Utilities and Service Systems</b>			
<b>Impact 4.16-1:</b> Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects.	Potentially significant	Implement Mitigation Measure <b>MM 4.10-2CC</b> . (See Section 4.10, <i>Hydrology and Water Quality</i> , for full text.)	Less than significant
<b>Impact 4.16-2:</b> Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	Less than significant	No mitigation measures are required.	Less than significant
<b>Impact 4.16-3:</b> 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	<p><b>MM 4.16-1CC:</b> During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.</p> <ul style="list-style-type: none"> <li>a. An on-site Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement, and Pest Management Program.</li> <li>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.</li> <li>c. The on-site Recycling Coordinator shall also be responsible for ensuring waste requiring special disposal are handled according to state local regulations that are in effect at the time of disposal.</li> <li>d. Contact information of the coordinator shall be provided to the California City Community Development Department prior to issuance of building permits.</li> <li>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</li> </ul>	Less than significant

<b>Impact</b>	<b>Level of Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
		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.	
<b>Impact 4.16-4:</b> Comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	Implement Mitigation Measure <b>MM 4.16-1CC</b> .	Less than significant
Cumulative Impacts	Potentially significant	<b>City of California City</b> Implement Mitigation Measures <b>MM 4.10-1CC</b> , <b>MM 4.10-2CC</b> , and <b>MM 4.16-1CC</b>	Less than significant
<b>4.17 Wildfire</b>			
<b>Impact 4.17-1:</b> Substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	Implementation of Mitigation Measure <b>MM 4.14-1CC</b> would be required (see Section 4.14, <i>Traffic and Transportation</i> , for full Mitigation Measure text).	Less than significant
<b>Impact 4.17-2:</b> Expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.	Potentially significant	Implementation of Mitigation Measure <b>MM 4.13-1CC</b> would be required (see <b>Section 4.13</b> , <i>Public Services</i> , for full Mitigation Measure text).	Less than significant
<b>Impact 4.17-3:</b> 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 <b>MM 4.13-1CC</b> would be required (see <b>Section 4.13</b> , <i>Public Services</i> , for full Mitigation Measure text).	Less than significant
Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measure <b>MM 4.13-1CC</b> would be required (see <b>Section 4.13</b> , <i>Public Services</i> , for full Mitigation Measure text).	Significant and unavoidable



## 2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department, as lead agency, has determined that an EIR must be prepared for the proposed Bellefield Solar Project (project). The project proponent proposes to develop a photovoltaic solar facility and energy storage system capable of producing up to 1,500 megawatts (MW) of alternating current (AC) power and up to 1,500 MW hours of storage capacity on approximately 8,371 acres of privately owned land. The project would be supported by a 230 kV overhead and/or underground electrical transmission line(s) (gen-ties) originating from one or more on-site substations and terminating at Southern California Edison's Windhub Substation. The project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance facilities.

The project would require approval of the following requests from Kern County: General Plan Amendment to change the General Plan Map Code designation from 1.1 (State or Federal Land) to 8.5 (Resource Management) on an incorrectly coded parcel; General Plan Amendments to the Circulation Elements of the Kern County General Plan and Mojave Specific Plan; zone changes in Zone Classifications for the project site from A-1 (Limited Agriculture) and A-1 MH (Limited Agriculture, Mobile Home Combining) to A (Exclusive Agriculture) within the Kern County General Plan planning boundaries; changes in Zone Classifications for the project site from M-2 PD (Medium Industrial, Precise Development Combining) and M-3 PD (Heavy Industrial, Precise Development Combining) to M-1-PD (Light Industrial, Precise Development) within the Mojave Specific Plan planning boundaries; and multiple conditional use permits (CUPs) from the County of Kern and California City to allow the construction and operation of a solar energy electrical facility and energy storage system. The project is described in detail in **Chapter 3, Project Description**.

This EIR has been prepared pursuant to the following:

- CEQA (Public Resources Code, Section 21000 et seq.);
- *CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15000 et seq.); and,
- Kern County CEQA Implementation Document

The overall purpose of the CEQA process is to:

- Identify the significant effects to the environment of a project, identify alternatives, and indicate the manner in which those significant effects can be avoided or mitigated;
- 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; and,

- 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. The Kern County Planning Commission, Kern County Board of Supervisors, and California City (acting as a CEQA responsible agency) will consider the information in the EIR, including the public comments and staff response to those comments, during the public hearing process. As a legislative action, 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 proposed 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.

## Issues to be Resolved

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

- Determine whether the Draft EIR adequately describes the environmental impacts of the project;
- Identify the 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 proposed project.

## 2.3 Terminology

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

- *Project* means the whole of an action that has the potential for resulting in a physical change in the environment, directly or indirectly.
- *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 proposed project and would occur at the same time and place; or
  - Indirect or secondary impacts that would be caused by the proposed 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 proposed 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 proposed 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 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 proposed project and with an opportunity to provide comments. In accordance with CEQA, the following is the process for public participation in the decision-making process:

- **Notice of Preparation (NOP)/Initial Study (IS).** Kern County prepared and circulated an NOP/IS for 30 days to responsible, trustee, and local agencies for review and comment beginning on January 15, 2021, and ending on February 15, 2021.
- **Draft EIR Preparation.** 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 and all public comments, 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. California City will be a CEQA responsible agency pursuant to *CEQA Guidelines* Section 15381 for approvals of those portions of the project located within California City jurisdictional boundaries.

## Notice of Preparation/Initial Study

Pursuant to Section 15082 of the *CEQA Guidelines*, as amended, the Kern County Planning and Natural Resources Department circulated a NOP/IS to the State Clearinghouse, public agencies, special districts, and members of the public for a public review period beginning January 15, 2021, and ending on February 15, 2021. 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.

## 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. In compliance with the Governor's Executive Order, the California Department of Public Health's guidelines on gatherings regarding COVID-19, and Kern County Local Emergency Declaration, the scoping meeting required by the CEQA Guidelines, Kern County hosted a virtual scoping meeting at 1:30 p.m. on Friday, February 5, 2021, through the TEAMS online application.

## Notice of Preparation/Initial Study and Scoping Meeting Results

Seven comments were received at the February 5, 2021, scoping meeting from landowners and representatives, which demonstrated concerns regarding the extent of solar field development, battery storage system, glare effects, and agencies with jurisdiction over the project. 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, along with the Summary of Proceedings from the scoping meeting.

## Notice of Preparation/Initial Study Written Comments

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

**Table 2-1. Summary of Notice of Preparation/Initial Study Comments**

<b>Commenter/Date</b>	<b>Summary of Comment</b>
<b>State Agencies</b>	
<b>Native American Heritage Commission</b> <b>January 19, 2021</b>	<p>The commenter recommends consultation with the California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project as early as possible. In addition to compliance with AB 52 and SB 18, the commenter recommends contacting the appropriate regional California Historical Research Information System Center for an archaeological records search. If an archaeological inventory survey is required, the commenter recommends the final report be submitted immediately to the Planning Department, all information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure, and the final written report should be submitted within 3 months after completion to the appropriate regional CHRIS center. The commenter recommends that NAHC should be contacted for a Sacred Lands File search and a Native American Tribal Consultation List, but it is noted that tribes do not always record their sacred sites in the Sacred Lands File and they are not required to do so.</p> <p>It should be remembered that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence. The commenter recommends that this be remembered and be considered in developing a mitigation and monitoring report. Lead agencies are recommended to include provisions for the identification and evaluation of inadvertently discovered archaeological resources, the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans, and the treatment and disposition of inadvertently discovered Native American human remains in the mitigation and monitoring reporting program plan.</p>
<b>California Department of Transportation</b> <b>District 9</b> <b>January 28, 2021</b>	<p>The commenter requests a map or aerial figure to clarify the proposed project's access points from State Route 58. If feasible, this should be analyzed in the DEIR's construction traffic analysis for geometrics, queuing, etc. The commenter advises that auxiliary lanes and other widening or paving could be merited. The commenter also recommends that a construction phase Traffic Management Plan would likely be beneficial.</p> <p>The commenter identifies that no additional stormwater run-off is allowed onto State highway right-of-way and will review the DEIR's Hydrology Report.</p> <p>The commenter states that any project security fence placed along SR 58's right-of-way should be on project property at a sufficient distance from the right-of-way as to allow for its maintenance from within project property.</p> <p>The commenter expresses the assumption that all connector lines are outside of state highway right-of-way and states that gen-tie crossings of SR 58 and SR 14 would require encroachment permits, which can be found in Section 600 Utility Permits of the Encroachment Permit Manual.</p>
<b>California Highway Patrol</b> <b>Mojave Area</b> <b>February 11, 2021</b>	<p>The commenter states that no impacts to their local operations and/or public safety by the proposed project were identified.</p>

Commenter/Date	Summary of Comment
<b>California Department of Fish and Wildlife</b> <b>February 22, 2021</b>	<p>The commenter states that there are special-status species documented in the project vicinity that may need to be evaluated and addressed prior to any approvals that would allow ground-disturbing activities or land use changes. The commenter expresses concern regarding potential impacts to special-status species and recommends that the County require species-specific surveys to be conducted according to acceptable protocols. These surveys will help inform the EIR analysis of potential project-related impacts to these and other species found on the project site. The commenter also recommends that the County include a cumulative impacts analysis to determine how this project along with recently approved or reasonably foreseeable projects in the vicinity with similar impacts will affect biological resources and impair connectivity.</p> <p>The commenter provides specific comments and recommendations for several aspects of the project:</p> <ul style="list-style-type: none"> <li>- The commenter states that potentially significant impacts may result from project-related activities on the desert tortoise, the Mohave ground squirrel (MGS), the Swainson's hawk, the burrowing owl, special-status plant species, and other species of special concern. The commenter provides recommended mitigation measures to reduce the impacts to each of these species/groups.</li> </ul> <p>The commenter recommends that the DEIR include measures to help ensure the project avoids the take of desert kit fox and further recommends the County require a qualified biologist conduct surveys for desert kit fox.</p> <p>The commenter recommends consulting with USFWS on potential impacts to federally listed species.</p> <p>The commenter states that CDFW must be notified prior to any activity that may substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream, or lake.</p> <p>The commenter encourages project implementation at individual project sites occur during the bird non-nesting season if suitable nesting bird habitat is present. If ground-disturbing activities must occur during breeding season, the applicant is responsible for ensuring the implementation of the project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes. The commenter recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance. These surveys should cover a sufficient area around the work site to identify nests and determine their status. The commenter further recommends a qualified biologist continuously monitor nests to detect behavioral changes resulting from the project. If changes were to occur, it is recommended that the work causing said changes cease and CDFW be consulted. If continuous monitoring is not feasible, it is recommended that a minimum no-disturbance buffer of 250 feet be established around non-listed bird species nests and a 500-foot buffer around active nests of non-listed raptors.</p> <p>The commenter requests a report on any special-status species and natural communities detected during the project surveys to the California Natural Diversity Database.</p> <p>The commenter states that, if the project has the potential to impact biological resources, an assessment of filing fees will be necessary.</p>

Commenter/Date	Summary of Comment
<b>Local Agencies</b>	
<b>Kern County Public Works Department – Floodplain Management Section January 22, 2021</b>	<p>The commenter states that the runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development and the proposed project site is subject to flooding. The commenter recommends the following to be included as conditions of approval for the project:</p> <ul style="list-style-type: none"> <li>- The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Public Works Department</li> <li>- Associated flood hazard requirements will need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.</li> </ul>
<b>Kern County Public Works Department - Survey February 1, 2021</b>	<p>The commenter recommends the following conditions be placed on the Conditional Use Permits:</p> <p>Prior to issuance of a building or grading permit: all survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act.</p> <p>Prior to Final Inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the PLS Act.</p> <p>Upon completion of the project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5(a).</p>
<b>East Kern Airport District Mojave Air and Space Port February 1, 2021</b>	<p>The commenter identifies that the project boundary would touch the northeast corner of the Mojave Air and Space Port (MASP) and the transmission line would abut the southern MASP boundary. The commenter then further identifies the components of the project.</p> <p>The commenter identified several areas that they feel should be evaluated in the EIR. The IS/NOP does not discuss the potential for glint and glare from the panels that could affect aircraft. The project should be analyzed to identify whether the proposed project will produce glint and glare for pilots at MASP, submit the results of the analysis to the Federal Aviation Administration, and provide a discussion of the analytical results in the EIR.</p> <p>The commenter states that the project's general route identified for the gen-tie line could have the potential to penetrate navigable airspace and affect aircraft operations at MASP. It is strongly recommended that the portions of the gen-tie line within the AIA be placed underground to avoid conflicts with navigable airspace. The commenter also identifies that the project will require an airspace analysis in accordance with Title 14 of the Code of Regulations, Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, to identify potential airspace conflicts. Based on the results of this analysis, the gen-tie route and pole locations might need to be modified and obstruction lighting requirements should be considered to avoid and minimize potential conflicts.</p> <p>The commenter notes that the proposed project is considered a major land use change that requires rezoning and, as such, will be subject to an ALUCP consistency review prior to project approvals.</p> <p>The commenter states that numerous wind turbines and solar facilities are present in the MHV vicinity, so cumulative effects of these projects and others on MASP airspace must be considered.</p>



Commenter/Date	Summary of Comment
<b>Kern County Fire Department</b> <b>Office of the Fire Marshal</b> <b>February 8, 2021</b>	<p>The commenter states that the applicant will need to contact the Kern County Fire Department prior to applying for a build permit in order to determine plan review and inspection fees. Total megawatts and the duration of the project must be provided to the Fire Department. All battery energy storage systems will require a separate permit from the Fire Department.</p>
<b>Antelope Valley-East Kern Water Agency (AVEK)</b> <b>March 15, 2021</b>	<p>The commenter states that they own properties near and within the project area, including underground pipelines. Additionally, the commenter notes that the project will require future easements on these properties, and requests that the applicant contact them to discuss.</p>
<b>Interested Parties</b>	
<b>Desert Tortoise Council</b> <b>February 15, 2021</b>	<p>The commenter requests focused surveys for special status species in the project area using appropriate methodologies for each taxa as specified by USFWS and CDFW. The commenter also notes that the California Fish and Game Commission accepted a petition to list Joshua trees as an endangered species and, as such, must be treated as an endangered species until the Commission decides whether to list Joshua trees or not. The commenter states that these focused surveys should be reported in the DEIR and included in the impact analysis for these resource issues.</p> <p>The commenter states that the alternatives addressed in the DEIR should include placing energy production at a location close to the energy demand, and the location of where the energy is to be used should be identified in the DEIR. If the electricity generated is for the Mojave/California City area, the commenter requests that alternatives analyzed in the DEIR include locations west and southwest of the Town of Mojave, where at least two solar facilities are located. The commenter also requests that areas previously used for agriculture or developed areas should be included as viable alternatives and evaluated to provide alternatives that avoid large areas of undeveloped desert land with native vegetation.</p> <p>The commenter states their presumption that all connector and gen-tie lines will be constructed so common ravens, known predators of the tortoise, will not use them for nest or perch sites.</p> <p>The commenter states that the information on the environmental setting should include all areas to be affected directly or indirectly by the proposed project, and not just the footprint of the proposed project.</p> <p>The commenter states that the DEIR should provide current information on the status and trend of the Mojave desert tortoise in the project area, the nearest Tortoise Conservation Areas, and in the Western Mojave Recovery Unit. The DEIR should also include similar status and trend information for other species of special concern that occur in the project area. The commenter suggests referring to the Environmental Assessment and Habitat Conservation Plan for the Hyundai Automotive Test Course Facility.</p> <p>The commenter states that specific resource issues/topics should be analyzed in the DEIR with respect to direct and indirect impacts of the proposed project to the Mojave desert tortoise and other special status species. This includes Vegetation and Soils, Special Status Species, Hazardous Materials, Fire, Noise, and Surface Hydrology.</p>

Commenter/Date	Summary of Comment
<b>Desert Tortoise Council (continued) February 15, 2021</b>	<p>The commenter contends that the proposed project is located within the Western Mojave Recovery Unit of the desert tortoise and, if the proposed project is located within the distribution of the tortoise and/or within tortoise habitat, the project should fully mitigated for the degraded/lost functions and values of the tortoise population/tortoise habitat from the direct, indirect, and cumulative impacts of the proposed project.</p> <p>The commenter states that the DEIR should include a series of mitigation plans for the Mojave desert tortoise and other species of special concern and provides specific examples for both plans and specific criteria within said plans.</p> <p>The commenter recommends that, prior to ground disturbance, the Authorized Biologist should identify the nearest qualified veterinarian capable of treating and rehabilitating any injured tortoises, that any injured tortoises be transported immediately to that office, and that associated veterinary bills and care be paid by the project proponent.</p> <p>The commenter requests to be identified as an Affected Interest for this and all other projects in the County and City that may affect desert tortoises.</p>
<b>Kern Audubon Society February 15, 2021</b>	<p>The commenter states that the DEIR should identify and evaluate potential adverse impacts to protected species that may utilize the disturbed and undeveloped Joshua tree and desert saltbrush scrub areas proposed for the project activities. A biological site evaluation should be performed by qualified biological consultants, using the appropriate survey protocols as established by both state and federal wildlife agencies, including being performed during the appropriate time of year.</p>
<b>Defenders of Wildlife February 18, 2021</b>	<p>The commenter states their pleasure that the IS establishes a potentially significant adverse impact on five of six standard categories of biological resources.</p> <p>The commenter states that the IS is deficient regarding native species on project area. The commenter states that, although native species may traverse project area during dispersal events, it is also highly likely certain species reside in the project area as seasonal or permanent residents. The commenter refers to the assessments completed for the Hyundai Motor American automotive test course facility, located near the project site, which identified the occurrence of desert tortoises and Mohave ground squirrels to support the contention that species reside in the project area. The commenter also recommends protocol surveys for rare plants, burrowing owl, and desert kit fox be performed on the project area.</p> <p>The commenter identifies that the western Joshua trees are under consideration for listing as a threatened or endangered species under California law and pointed to a Special Order regarding incidental take of western Joshua trees which specifically identifies the proposed project, amongst others. This order requires the project to perform a census of all Joshua trees within the project area that meets certain requirements. The commenter recommends that County and City staff involved in the project permitting process and the project's applicant's environmental consultant contact the CDFW office to discuss the regulatory process allowing for the incidental take of western Joshua trees and to obtain complete instructions regarding the Special Order. The commenter identifies that the Special Order specifies compensatory mitigation for loss of western Joshua trees is required at a ratio of 1.5:1 (acres protected to acres lost).</p>

Commenter/Date	Summary of Comment
<b>Defenders of Wildlife (continued) February 18, 2021</b>	The commenter recommends that the applicant be required to obtain recommended measures for impact avoidance, minimization and compensatory mitigation from CDFW and that these should be submitted to the County for inclusion in the DEIR and as stipulations if a notice to proceed or a project area grading permit is issued by the County. The commenter recommends that the County and City rely on the expertise, findings, and recommendations from CDFW and incorporate all recommended measures to avoid, minimize, and compensate for significant adverse impacts to species and their habitats in the FEIR. The commenter further recommends that the County and City refrain from substituting their opinions or the opinions of an applicant's environmental consultant for those of CDFW.
<b>Suhas Babtiwale January 21, 2021</b>	The commenter states that they are pleased to see the Project in reference and that they have a lot with an APN of 235-360-02-00-3
<b>Chie Huei Wu and Yu Jen Wu January 24, 2021</b>	The commenters state that they are owners of property within 1,000 feet of the project boundaries and are concerned with long-term water contamination and drought impact due to the solar project facility. The commenter also states concerns that the project will possibly devalue their property.
<b>Joey Fulco January 25, 2021</b>	<p>The commenter expresses concern regarding road easements and legal road access as the project, if it blocks or removes portions of 20<sup>th</sup> Street, could remove his access to properties he is in the process of purchasing.</p> <p>The commenter also offers general concerns regarding the projects impacts to the community, the “splendor of the land,” the view, and the betterment of Mojave and California City. The commenter believes that solar panels are a deterrent and eyesore for other private properties and that local jurisdictions should consider that properties zoned A-1 and M-1 have other benefits to a community that should be considered. The commenter states that land value, the look and feel of the community, and commerce should also be considered. The commenter points out their opinion that the project area would be better if development was geared towards families, recreation, and agricultural, though not track housing and points to Bakersfield as a positive example.</p> <p>The commenter states their opposition to the project and that the California Environmental Quality Act would be seriously affected and tainted and that property values would decrease. The commenter also expresses their belief that there would be impacts to aesthetics due to the appearance of the solar panels and the elimination of sceneries, colors, and views.</p>
<b>Slickforce Studio Nick Saglimbeni February 8, 2021</b>	<p>The commenter expresses concern for the proposed project due to the commenter's 350-acre parcel of land being adjacent to the project site. The commenter notes that numerous production trucks and vehicles access their property from Highway 58 via 55th Street, which is set to be blocked by the proposed project. The commenter states that larger trucks cannot handle more circuitous pathways, nor roads that haven't been properly graded.</p> <p>The commenter also expresses concern about the potential reflections from the solar panels, which will interfere with the commenter's client's ability to film.</p> <p>The commenter states that there are numerous environmental concerns on their property and the surrounding area, including the protected desert tortoises and Joshua trees.</p>

Commenter/Date	Summary of Comment
<b>Debra Second</b> <b>February 10, 2021</b>	<p>The commenter states that she is unable to identify whether the gen-tie line running adjacent to her property will be above or below ground, nor a physical description of the Alternative Collector Line. She requests information on the impacts these parts of the project would have on the parcels owned by the commenter and whether an easement will be needed.</p> <p>The commenter also expresses concern about the deletion of certain future road reservations as there exists the possibility that the commenter's parcels would be blocked from having any road access.</p> <p>The commenter also requests information on how the proposed project will impact the value of her parcels.</p>
<b>Mary-Anne Hernandez</b> <b>February 14, 2021</b>	<p>The commenter expresses her concern for the environmental impact the project will have on the desert and its community and for property owned by the commenter, specifically the property value and prospects of selling her property.</p>
<b>Dr. Ranajit Sahu</b> <b>February 14, 2021</b>	<p>The commenter requests additional detail on the gen-tie configuration of the project for all gen-ties in the vicinity of Arroyo Avenue, generally northwest of the proposed project.</p> <p>The commenter further requests a more detailed construction schedule and, if this is unavailable, to know when this schedule will be available.</p> <p>The commenter would like to know the frequency and method of cleaning for the solar panels along with typical durations of cleaning. He would further like to know how these cleaning activities may affect adjacent landowners.</p> <p>The commenter would like to know the frequency that solar panels would be expected to be replaced.</p> <p>The commenter requests any and all documentation that supports the NOP's finding of a less than significant impact beyond what is noted in the NOP – this includes the aesthetics, air quality, and hazards and hazardous materials sections.</p>

## 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, are available for review during normal business hours Monday through Friday at the Kern County Planning and Natural Resources Department, located at:

**Kern County Planning and Natural Resources Department**  
 2700 "M" Street, Suite 100  
 Bakersfield, CA 93301-237  
 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 Draft EIR is available at the following library:

**Kern County Library/Beale**

Local History Room  
701 Truxtun Avenue  
Bakersfield, CA 93301

## 2.5 Format and Content

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

- 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
- Noise
- Public Services
- Traffic and Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

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 this EIR:

- Mineral Resources

- Population and Housing
- Recreation

The NOP/IS determined that the proposed project area does not contain mineral resources of regional or Statewide significance, nor is the project site designated by the Kern County General Plan, the Mojave Specific Plan, or the California Department of Conservation, Geologic Energy Management Division for mineral resources activities; therefore, the project would not have an impact on mineral resources. The proposed project would only require up to 20 full-time equivalent (FTE) personnel, which the local housing stock would be adequate to accommodate should they relocate to the area. The proposed project would not directly or indirectly induce substantial unplanned growth and it would not displace any persons or housing as the project site does not contain any existing housing units. Even if the 20 FTE personnel were hired from out of the area and relocated to eastern 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 and would not cause a substantial increase in the number of users at local parks or recreational facilities; therefore, it would not cause substantial physical deterioration of recreational facilities. Additionally, no comments were received during circulation of the NOP/IS indicating that the lead agency's determination of no impact to those identified resources was inappropriate. No further discussion of these topics is warranted. For a complete analysis of these impacts, please refer to Appendix A of this EIR.

## 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
Introduction (Section 15132)	Chapter 2
Project description (Section 15124)	Chapter 3
Significant environmental impacts (Section 15126.2)	Sections 4.1 - 4.17
Environmental setting (Section 15125)	Sections 4.1 - 4.17
Mitigation measures (Section 15126.4)	Sections 4.1 - 4.17
Cumulative impacts (Section 15130)	Sections 4.1 - 4.17
Growth-inducing impacts (Section 15126.2)	Chapter 5
Effects found not to be significant (Section 15128)	Chapters 1 and 5
Significant irreversible changes	Chapter 5

<b>Requirement (CEQA Guidelines Section)</b>	<b>Location in EIR</b>
Unavoidable significant environmental impacts (Section 15126.2)	Chapter 5
Alternatives to the project (Section 15126.6)	Chapter 6
Responses to Comments (Section 15132)	Chapter 7
Organizations and Persons Consulted (Section 15129)	Chapter 8
List of preparers (Section 15129)	Chapter 9
Bibliography (Section 15129)	Chapter 10

The content and organization of this Draft 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 Draft EIR is organized into the following sections:

- Chapter 1, *Executive Summary*, provides a 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, objectives, and the relationship of the project to other plans and policies.
- Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a detailed environmental analysis of the existing conditions, project impacts, mitigation measures, and cumulative impacts.
- Chapter 5, *Consequences of Project Implementation (Mandatory CEQA Sections)*, 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 project that could reduce the significant environmental effects that cannot be avoided.
- Chapter 7, *Responses to Comments*, is reserved for responses to comments on this Draft 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.
- *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 regard 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 project 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, 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 include, but are not limited to, the following:

### Federal Agencies

- U.S. Fish and Wildlife Service
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- Bureau of Land Management
- Federal Aviation Administration

### State Agencies

- Governor’s Office of Planning and Research
- California Air Resources Board
- California Department of Fish and Wildlife



- California Department of Transportation (Caltrans), District 9
- California Energy Commission
- California Public Utilities Commission
- California Native American Heritage Commission
- Lahontan Regional Water Quality Control Board

## Local Agencies

- California City (see below)
- Eastern Kern Air Pollution Control District
- Kern Council of Governments

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

## Kern County

- Planning and Natural Resources Department
- Public Works Department
- Public Works Department, Operations & Maintenance Division Recycling Programs
- Public Health Services Department, Environmental Health Division
- Fire Department
- Sheriff's Department

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

## City of California City

The City of California City will be a CEQA responsible agency pursuant to *CEQA Guidelines* Section 15381 for approvals of those portions of the project located within California City jurisdictional boundaries. This EIR has identified mitigation measures specific to the City of California City, which have been denoted with the suffix, "CC". The proposed project will require permits or approvals from the following California City departments:

- Community Development Department
- Public Works Department
- Fire Department
- Police Department

Other additional permits or approvals from City of California City 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 Draft 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.

### Kern County General Plan and Program EIR

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. A Recirculated Program EIR was certified for the General Plan in 2004.

### Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. This document was adopted in October 2003 and states goals, objectives, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental resources. The Mojave Specific Plan covers approximately 31,000 acres of eastern Kern County in the Antelope Valley area.

### Kern County Zoning Ordinance

According to Chapter 19.02.020, *General Provisions - 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, *General Provisions*.

## Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments, and was adopted on August 16, 2018. The 2018 RTP is a 26-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 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, ensuring consistency between low-income housing need and transportation planning.

## Kern County Airport Land Use Compatibility Plan and Mojave Air and Spaceport

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, and D, ranging from the most restrictive (A – airport property-runway protection zone) to the least restrictive (D – disclosure to property owners only). The proposed project is partially located within two of these zones – B2 and C. 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.

## California City General Plan

The California City General Plan projects conditions and needs into the future in order to determine the long-term goals and policies that would provide the basis for decision-making related to the growth and development of the city and within its existing coterminous sphere of influence. The General Plan implements the city's vision through its goals, policies, and implementation measures.

Pursuant to Government Code Section 65300, the California City General Plan consists of the following General Plan elements: Land Use, Circulation, Housing, Noise, Safety, and Conservation/Open Space. Each element establishes goals, policies, and implementation measures that guide planning decisions in the city.

## California City Zoning Regulations

Title 9, Chapter 2 of the California City Municipal Code provides a description of permitted and conditional uses for the various zoning classifications within the city. The intent of the Zoning Regulations is to preserve, protect, and promote the public health, safety, peace, comfort, convenience, prosperity and general welfare.

## 2.8 Sources

This Draft EIR is dependent upon information from many sources. Some sources are studies or reports that have been prepared specifically for this document. 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 Draft 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**  
2700 “M” Street, Suite 100  
Bakersfield, CA 93301-237

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

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### 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 environmental impacts associated with implementation of the Bellefield Solar Farm Project (project) by 50LW 8ME LLC (project proponent). The project proponent proposes to develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate up to 1,500 megawatts (MW) of alternating current (AC) power with an up to 1,500 megawatt-hour (MWh)-AC energy storage system on approximately 8,371 acres of privately owned land within unincorporated Kern County and the City of California City, California.

The project would be supported by a 230 kV gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at the Southern California Edison (SCE) Windhub Substation. The project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance (O&M) facilities.

### 3.2 Project Location

The project site is located within portions of unincorporated Kern County and the City of California City, as shown on **Figure 3-1, Site Vicinity**, and the project site boundaries are illustrated in **Figure 3-2, Project Site Boundaries**. The project site is located east of the community of Mojave and the Mojave Air and Space Port Airport (Mojave Airport), straddles State Route 58 (SR-58), is just west and south of the Hyundai-Kia Proving Ground, and is northwest of Edwards Air Force Base (**Figure 3-3, Aerial Photograph**). The nearest sensitive receptors consist of several scattered rural residences located approximately 1.2 miles southwest of the southwest corner of the project site in the unincorporated community of Sanborn. SR-58, a four-lane divided highway, which is eligible for listing as a scenic highway within the project area, provides regional access to the project site. Vehicular access to the site would be also be from Altus Avenue, Arroyo Avenue, Denise Avenue, Sunset Avenue, Silver Queen Road, and 20<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup> and 70<sup>th</sup> Streets. Many unmaintained dirt roads crisscross the project site.

According to the US Geological Survey (USGS), the majority of the project falls within the lower three-quarters portion of the Sanborn USGS 1:24,000 topographic map (7.5-minute quadrangle). The project extends east into the southwest portion of the California City South quadrangle and into the upper northern portion of the Bissell quadrangle, and into the eastern portion of the Mojave quadrangle. More specifically, the project is located as follows: Township 11N, Range 11W, all or portions of Sections 5, 6, 7, 17, 18, 19, 20, 21 (all), 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 and Township 11N, Range 12W, portions of Sections 1 and 2 (**Figure 3-2, Project Site Boundaries**).

As shown on **Figure 3-4, Parcel Map**, the project site consists of 90 parcels comprising approximately 8,371 acres located in unincorporated Kern County and California City. The project includes 82 parcels

(totaling approximately 6,269 gross acres) within unincorporated Kern County and 8 parcels (totaling approximately 2,102 gross acres) within the jurisdictional limits of California City. The parcels are listed in **Table 3-1**, *Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage*.

## 3.3 Environmental Setting

### Regional Setting

The project site is on the western edge of the Mojave Desert, which is characterized by broad alluvial fans that have formed along the transition of the ranges and valleys. The project lands gradually slope downward from the northwest to the south, with elevations across the project site ranging from approximately 2,798 feet above mean sea level (amsl) in the northwest portion of the site to approximately 2,532 feet amsl in the southern portion. Accordingly, the southern portion of the project drains southeast towards Rogers Dry Lake. The gen-tie line route ranges in elevation from 2,541 feet amsl near the southeastern portion of the project to 3,468 feet amsl at the northwestern corner of the SCE Windhub Substation. Cadastrally, the project site is located on the Sanborn, Bissell, and California City South USGS 7.5 minute quadrangles.

#### Local Setting and Surrounding Land Uses

The project site is located on lands within unincorporated Kern County, including within the Mojave Specific Plan Area, and lands within the municipal limits of the City of California City. Several unincorporated rural communities are located near the project site. The rural community of Mojave is adjacent to the northwestern corner of the project site; however, the nearest uses in this area consist of nonresidential and airport uses. Mojave generally consists of scattered single-family homes and the Mojave Air and Space Port. Additionally, the smaller, rural communities of Fleta, Sanborn, and Bissell are located to the southwest, south, and southeast of the project site, respectively. Existing land uses in the surrounding area are primarily undeveloped.

**Table 3-2**, *Existing On- and Off-site Land Use, General Plan Map Code Designations, and Zoning*, identifies the project site and surrounding land uses. The nearest sensitive receptors consist of several scattered rural residences located approximately 1.2 miles southwest of the southwest corner of the project site. The closest residences are located off Dalton Avenue, in the community of Sanborn. The Hyundai-Kia Proving Ground, which is a 3,840-acre testing site for Hyundai new automobile and powersports products, is adjacent to the project site to the north and east. Edwards Air Force Base is directly southeast of the project site. The BNSF railway is a single track through the gen-tie corridor that becomes a double track through the project area. The railroad generally parallels the east-west portion of SR-58 a little over a mile to the south. Refer to **Figure 3-2: Project Site Boundaries**, showing the locations of the communities near the project site.

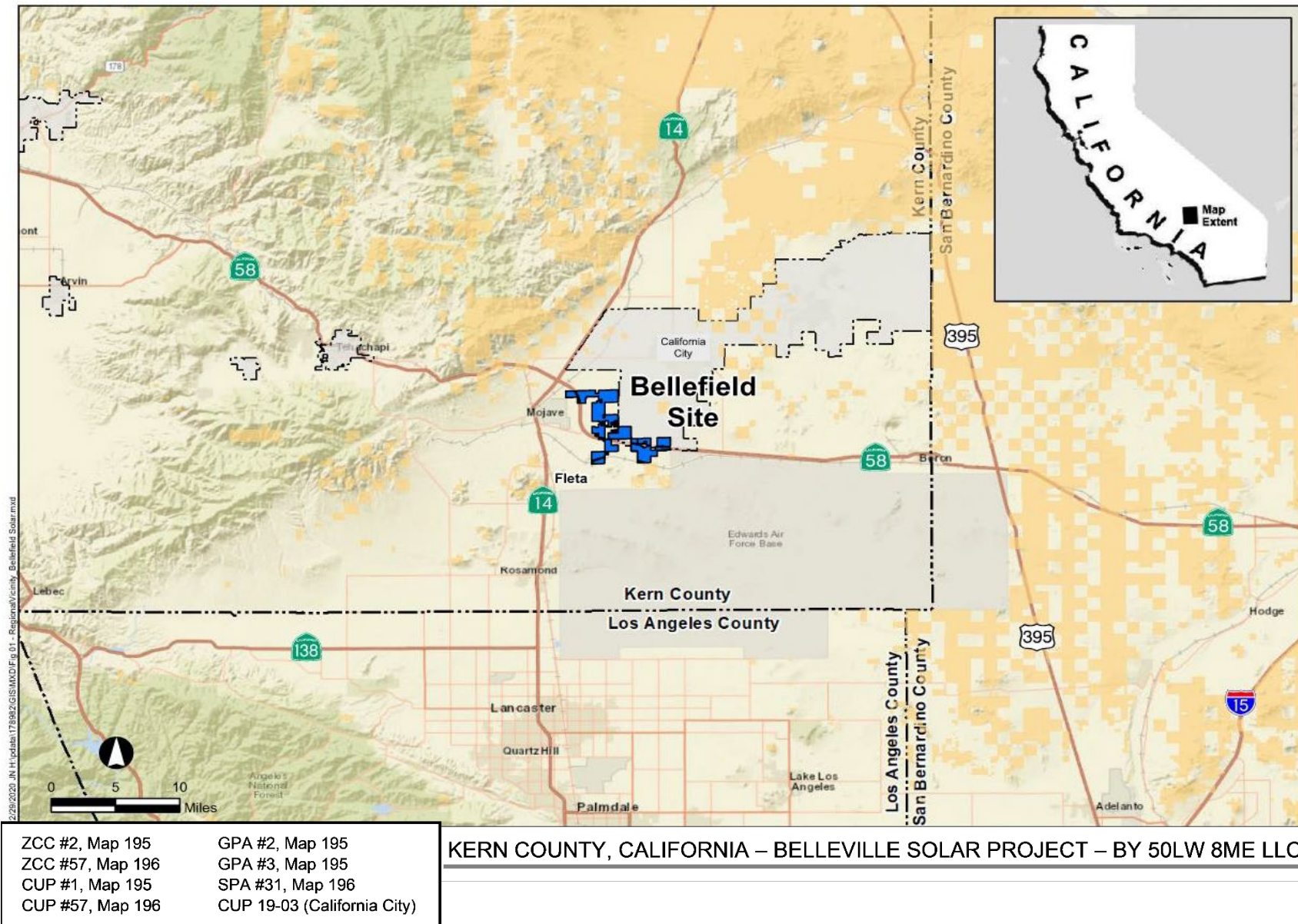
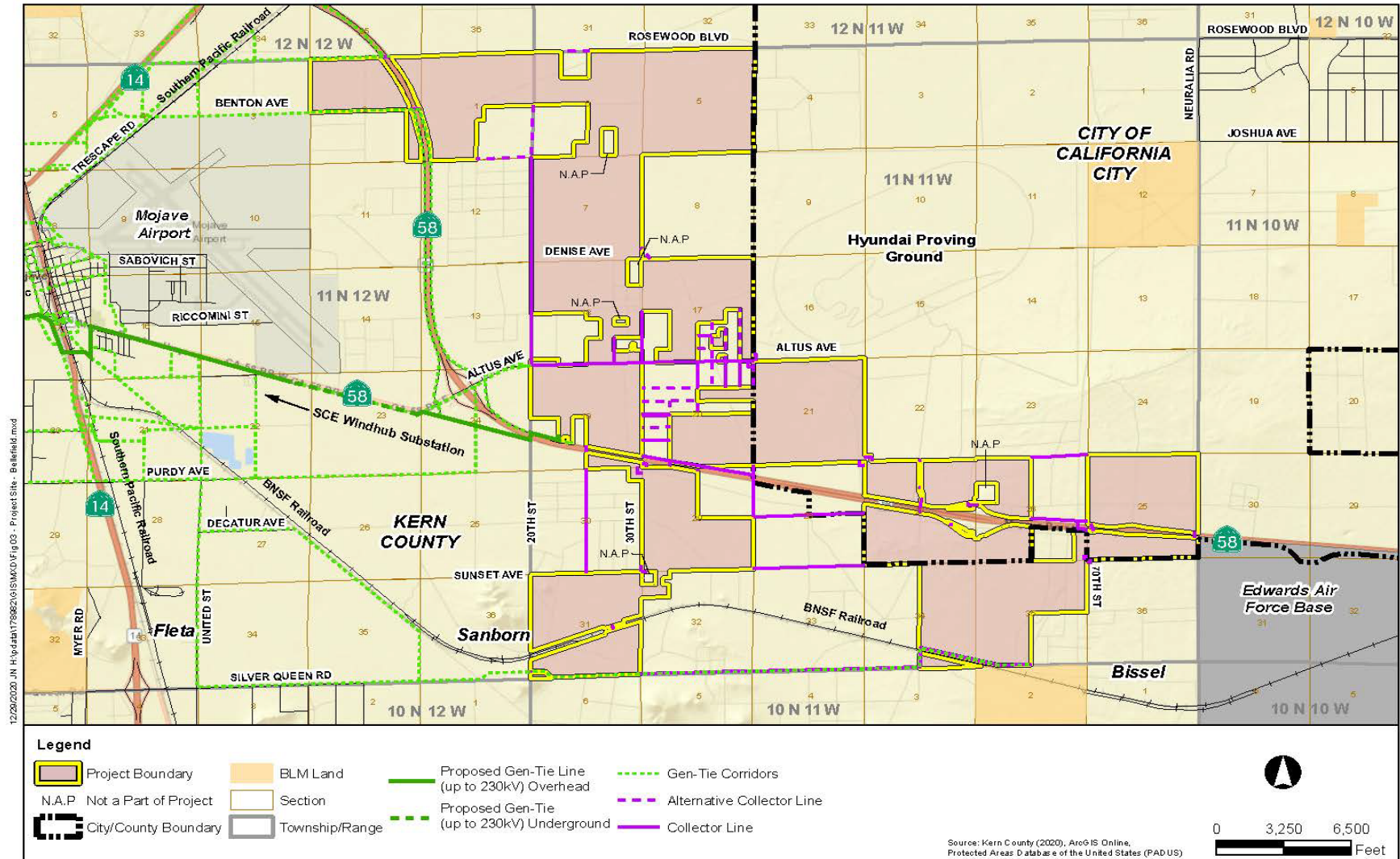
**Figure 3-1: Site Vicinity**



Figure 3-2: Project Site Boundaries



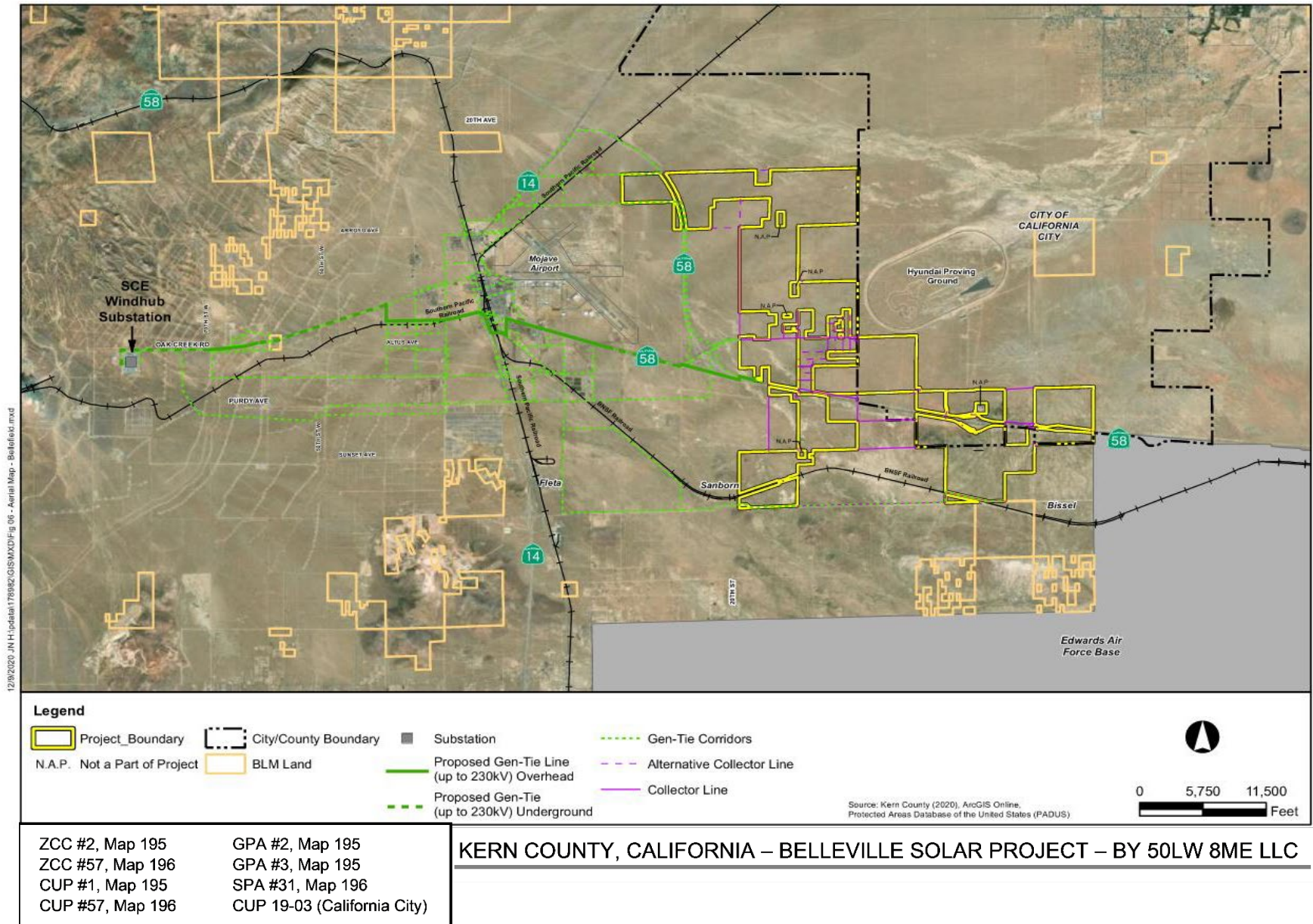
ZCC #2, Map 195  
 ZCC #57, Map 196  
 CUP #1, Map 195  
 CUP #57, Map 196

GPA #2, Map 195  
 GPA #3, Map 195  
 SPA #31, Map 196  
 CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



Figure 3-3: Aerial Photograph



12/31/2020 JN H:\pdaan178982\GIS\MXD\Fig 04 - Parcel Map - Belleville.mxd

**Legend**

- Project Boundary
- Table 1 Parcel Id's
- City/County Boundary
- BLM Land
- Section
- Township/Range
- N.A.P. Not a Part of Project
- Proposed Gen-Tie Line (up to 230kV) Overhead
- Proposed Gen-Tie (up to 230kV) Underground
- Gen-Tie Corridors
- Alternative Collector Line
- Collector Line

Source: Kern County (2020), ArcGIS Online, Protected Areas Database of the United States (PADUS)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**

**Table 3-1: Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
<b>Kern County</b>							
1	428-010-11	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-3 PD	M-1 PD	B2	263.77
2	428-010-10	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-3 PD	M-1 PD	B2	42.61
3	428-010-02	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-3 PD	M-1 PD	B2	171.11
4	428-010-03	7.3 (Mojave Specific Plan)	7.3 (Mojave Specific Plan)	M-3 PD	M-3 PD	--	170.94
5	235-024-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	120.51
5	235-024-01	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	--	2.94
6	428-052-15	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	4.32
7	428-052-17	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	7.20
8	428-053-18	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	9.35
9	428-053-16	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	10.19
10	428-041-38	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	15.69
11	428-042-35	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	7.36
12	428-041-02	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.51
13	428-042-02	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.43
14	428-041-03	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.56
15	428-042-03	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	A	A	B2	20.48
16	428-041-04	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	20.61
17	428-042-04	7.1 (Mojave Specific Plan)	7.1 (Mojave Specific Plan)	A	A	B2	20.53



Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
18	428-041-05	<b>7.1 (Mojave Specific Plan)</b>	7.1 (Mojave Specific Plan)	M-2 PD	M-1 PD	B2	5.21
19	235-024-42	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	26.95
19	235-024-42	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	--	14.04
20	235-024-43	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	26.05
20	235-024-43	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	--	15.41
21	235-024-14	1.1 (Kern County General Plan) <sup>1</sup>	8.5 (Kern County General Plan)	A	A	--	82.19
22	235-022-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	538.38
22	235-022-01	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	--	118.74
23	235-024-40	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.57
24	235-024-17	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	63.64
25	235-024-15	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	79.94
26	235-024-41	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	B2, C	654.99
27	235-351-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	B2, C	81.53
28	235-081-09	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	61.19
29	235-081-12	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.19
30	235-351-02	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.47
31	235-351-03	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.45
32	235-351-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	40.86
33	235-081-10	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.43

<b>Map ID</b>	<b>APN</b>	<b>Existing Map Code Designation</b>	<b>Proposed Map Code Designation</b>	<b>Existing Zoning</b>	<b>Proposed Zoning</b>	<b>ALUCP Designation</b>	<b>Acres</b>
34	235-081-11	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.19
35	235-081-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.20
36	235-081-05	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.21
37	235-081-03	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.19
38	235-081-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.20
39	235-064-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	332.71
40	235-082-25	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	2.56
41	235-082-24	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	2.56
42	235-082-19	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	10.22
43	235-082-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	5.10
44	235-082-06	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	25.53
45	235-082-18	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	5.11
46	235-082-17	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	5.12
47	235-082-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	5.11
48	235-340-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.30
49	235-340-09	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	82.69
50	235-340-10	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.38
51	235-340-11	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.39
52	235-340-28	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.60
53	235-340-36	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	2.59

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
54	235-340-19	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	--	10.37
55	235-340-29	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	2.59
56	235-353-22	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	0.89
56	235-353-22	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	C	1.69
57	235-353-21	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	1.59
57	235-353-21	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1 MH	A	C	0.98
58	235-353-11	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	5.15
59	235-082-16	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1 MH	A	C	40.99
60	235-082-15	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	20.48
61	235-082-12	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	1.28
62	235-065-18	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	398.53
62	235-065-18	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	C	44.11
63	235-065-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	15.50
64	235-065-05	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	0.99
65	235-065-07	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	1.49
66	235-065-17	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	C	33.49
67	235-064-12	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.38
69	235-064-29	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	77.86
70	235-064-26	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.39

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
71	235-064-25	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.40
72	235-064-28	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.37
73	235-064-27	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	41.40
74	235-191-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.32
75	235-134-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	391.03
75	235-134-01	8.5/2.5 (Kern County General Plan)	8.5/2.5 (Kern County General Plan)	A-1	A	--	98.78
76	235-132-16	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	601.25
76	235-132-16	8.5/2.4 (Kern County General Plan)	8.5/2.4 (Kern County General Plan)	A-1	A	--	0.22
77	235-410-04	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	8.04
78	235-410-02	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.16
79	235-410-06	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	10.08
86	235-101-29	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	23.55
88	235-102-02	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	305.10
89	235-102-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	11.58
90	235-221-01	8.5 (Kern County General Plan)	8.5 (Kern County General Plan)	A-1	A	--	489.82
<b>Subtotal – Kern County Acres</b>							<b>6,269.13</b>
<b>California City</b>							
68	235-061-02	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	658.81
80	235-282-22	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	2.55

Map ID	APN	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	ALUCP Designation	Acres
81	235-101-51	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	262.88
82	235-101-47	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	154.85
83	235-101-45	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	304.04
84	235-101-46	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	103.66
85	235-101-49	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	464.68
87	235-101-48	O/RA (California City General Plan)	O/RA (California City General Plan)	O/RA	O/RA	--	151.16
<b>Subtotal – California City Acres</b>							<b>2,102.63</b>
<b>Total Project</b>							<b>8,371.76</b>
<p><u>Notes:</u></p> <p><u>Kern County General Plan Map Code Designation</u></p> <p>1.1 (State or Federal Land)</p> <p>8.5 (Resource Management, Min. 20 Acre Parcel Size)</p> <p>8.5/2.5 (Resource Management, Min. 20 Acre Parcel Size/Flood Hazard)</p> <p><u>Mojave Specific Plan Map Code Designation</u></p> <p>7.1 (Light Industrial)</p> <p>7.3 (Heavy Industrial)</p> <p><u>Kern County Zone District Classification</u></p> <p>A (Exclusive Agriculture); A-1 (Limited Agriculture); A-1 MH (Limited Agriculture, Mobile Home Combining); M-2 PD (Medium Industrial, Precise Development Combining); M-3 PD (Heavy Industrial, Precise Development Combining)</p> <p>California City General Plan Designation:</p> <p>O/RA = Controlled Development, Public Parks and Recreation or Public Schools</p> <p><u>California City General Plan Designation</u></p> <p>O/RA = Controlled Development &amp; Open Space</p> <p><u>California City Zoning District</u></p> <p>O/RA = Open Space/Residential Agricultural</p> <p><u>Airport Land Use Compatibility Plan – Mojave Air and Spaceport</u></p> <p>B2: Zone B2, The Extended Approach/Departure Zone includes areas where aircraft are commonly below 800 feet above ground level on a straight-in approach or straight-out departure. The 60 CNEL contour should be encompassed within this zone.</p> <p>C: Zone C, the outer boundary of the Common Traffic Pattern Zone is defined as the area where aircraft are commonly below 1,000 feet above ground level (i.e., the traffic pattern and pattern entry points). This area is considered to extent 5,000 feet laterally from the runway centerline.</p>							



The Mojave Air and Space Port, which is operated by the East Kern Airport District (EKAD), is located approximately 1.3 miles west of the project site. The western portion of the project site is located within an area governed by the Kern County Airport Land Use Compatibility Plan (ALUCP), which establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. Specifically, as shown on **Figure 3-5: ALUCP Designations**, portions of the project site are located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern”. Refer to **Table 3-1, Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**.

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). Based on the FIRMs for the project area, portions of the solar facility site and gen-tie line are mapped in 100-year (Zone A) floodplains. Zone A is defined as areas subject to inundation by the 1-percent-annual-chance flood event, generally determined using approximate methodologies. The rest of the project site is mapped as Zone X, which is defined as areas of minimal flood hazard that are outside of the Special Flood Hazard Area and beyond the limits of the 0.2-percent-annual-chance (500-year) flood (refer to **Figure 3-6, FEMA Flood Zones**).

The project site is not designated by the California Department of Conservation as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The project site is designated as nonagricultural and natural vegetation. There are no lands designated as important farmland adjacent to or in the vicinity of the project site. Additionally, no lands affected by the project are subject to a Williamson Act Land Use contract, nor are they located within a Kern County Agricultural Preserve.

The project site is not within a mineral recovery area or within a designated mineral and petroleum resource site designated by the Kern County or California City General Plans, nor is it identified as a mineral resource zone by the Department of Conservation’s California Geologic Energy Management Division (CalGEM) State Mining and Geology Board.

The Kern County Fire Department and California City Fire Department would provide fire suppression and emergency medical services to the project area. The portion of the project site located within unincorporated Kern County would be served by Station #14 located at 1773-1999 Mojave-Barstow Highway in Mojave. The portion of the project site located within California City would be served by Station #85, located at 20890 Hacienda Boulevard in California City.

Law enforcement services in the project area are provided by the Kern County Sheriff’s Department and California City Police Department. The portion of the project site located within unincorporated Kern County would be served by the Kern County Sheriff’s Department - Mojave Substation located at 1771 Highway 58. The portion of the project site located within California City would be served by the station located at 21130 Hacienda Boulevard.

The nearest hospitals are the California City Medical Center, approximately 6 miles to the northeast of the project site, and the Tehachapi Hospital and Adventist Health Tehachapi Valley Hospital, in the City of Tehachapi, both approximately 18 miles to the northwest. The nearest schools in unincorporated Kern County are Mojave Elementary School and Mojave Jr/Sr High School, located approximately 2.5 miles west. The closest school in California City is California City High School, located approximately 6 miles northeast.

## 3.4 Land Use and Zoning

### Kern County

As discussed above under **Section 3.2, Project Location**, the project includes 82 parcels (totaling approximately 6,269 gross acres) located within unincorporated Kern County and within the administrative boundaries of the Mojave Specific Plan. The existing land use designations by the Kern County General Plan and Mojave Specific Plan are shown below in **Figure 3-7, Existing General Plan Designations - Kern County and Mojave Specific Plan**. The proposed General Plan Amendment showing the proposed map code change is shown in **Figure 3-8, Proposed General Plan Designations – Kern County**.

#### Kern County General Plan

Portions of the project site are designated Map Codes 8.5 (Resource Management, Minimum 20-acre Parcel Size) and 8.5/2.5 (Resource Management, Minimum 20-acre Parcel Size/ Flood Hazard) by the Kern County General Plan. Additionally, one parcel (APN 235-024-14) within the project site has the existing Kern County General Plan Map Code of 1.1 (State or Federal Land); however, the property is privately owned. The parcel map code will be changed to 8.5 (Resource Management) as part of the proposed project actions. The requested amendment to the Land Use Element will satisfy California Government Code Sections 65860 and 65862 which specify consistency be maintained between local Zoning Ordinances and the General Plans they implement.

#### Kern County Zoning Ordinance

The project parcels located in unincorporated Kern County are subject to the provisions of the Kern County Zoning Ordinance. These parcels have existing zone classifications of A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 MH (Limited Agriculture, Mobile Home Combining), M-2 PD (Medium Industrial, Precise Development Combining), and M-3 PD (Heavy Industrial, Precise Development Combining). The project site would be rezoned to A or M-1 PD, with the exception of those portions which are already in the A zone classification. According to Kern County Zoning Ordinance Sections 19.12.030.G and 19.36.030.G, solar energy electrical generators, when not accessory to a permitted or conditionally permitted use, are permitted within the A (Exclusive Agriculture), M-1 PD (Light Industrial – Precise Development Combining), and M-3-PD (Heavy Industrial, Precise Development Combining) zone districts subject to the approval of a conditional use permit (CUP). The proposed zoning classifications of the project site are consistent with the current Mojave Specific Plan Map Code designations, as solar energy-generating facilities are an allowable use under the 7.1 (Light Industrial) and 7.3 (Heavy Industrial) designations.

The existing and proposed zone classifications are specified in **Table 3-1, Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**, and depicted on **Figure 3-11, Existing Zoning - Kern County** and **Figure 3-12, Proposed Zoning – Kern County**.

#### Mojave Specific Plan

Portions of the project site are within the Mojave Specific Plan boundary containing Map Code designations of 7.1 (Light Industrial) and 7.3 (Heavy Industrial). While amendments to Land Use Element of the Mojave Specific Plan are not proposed in this project, Zone Classification Changes are proposed on 14 parcels in

order to achieve consistency between the underlying land use designations and zoning pursuant to California Government Code Sections 65860 and 65862 as discussed above.

### **Circulation Elements – Kern County General Plan and Mojave Specific Plan**

The proposed project also includes requests for amendments to the Circulation Elements of both the Kern County General Plan and the Mojave Specific Plan to remove future road reservations along section and midsection lines. This would allow solar panels to be placed throughout the project site to optimize the project area for the facility design, and no setbacks from midsection line future road reservations would be required. The proposed amendments would not affect property owner access to any other surrounding properties. Furthermore, it is unlikely that a road would ever be constructed once the project was in operation and the amendments would not impede traffic flow to and from the surrounding rural residential uses in the project vicinity. See below **Figure 3-9**, *Future Road Reservations Proposed to be Removed*.

### **Non-Summary Vacations of Public Access Easements**

The project proponents also requested 16 Non-summary Vacations of public access easements within the project boundary, as shown on **Figure 3-10**, *Proposed Non-summary Vacation of Public Access Easements*, and in **Table 3-3**, *Proposed Non-summary Vacation of Public Access Easements*, below. As demonstrated in **Figure 3-10**, access that is removed by the vacations of the public access easements would be replaced with 20' minimum private access easements or through the utilization of existing roadways.

**Table 3-2. Existing On- and Off-site Land Use, General Plan Map Code and Specific Plan Map Code Designations, and Zoning**

Location	Existing Land Use	Existing General Plan and Specific Plan Map Code Designations	Existing Zoning
<b>Kern County</b>			
<b>Project Site</b>	Undeveloped	<p>Kern County General Plan:</p> <p>1.1 (State and Federal Lands)</p> <p>8.5 (Resource Management, minimum 20-acre parcel size)</p> <p>8.5/2.5 (Resource Management, minimum 20-acre parcel size/ Flood Hazard)</p> <p>Mojave Specific Plan:</p> <p>7.1 (Light Industrial)</p> <p>7.3 (Heavy Industrial)</p>	<p>A (Exclusive Agriculture)</p> <p>A-1 (Limited Agriculture)</p> <p>A-1 MH (Limited Agriculture - Mobile Home Combining)</p> <p>M-2 PD (Medium Industrial - Precise Development Combining)</p> <p>M-3 PD (Heavy Industrial - Precise Development Combining)</p>
<b>North</b>	Undeveloped; California City; Hyundai-Kia Proving Ground	<p>Kern County General Plan:</p> <p>8.3 (Extensive Agriculture, min. 20-acre parcel size)</p> <p>8.3 (Extensive Agriculture, min. 20-acre parcel size/Flood Hazard)</p> <p>8.5 (Resource Management, min. 20-acre parcel size)</p> <p>8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)</p>	<p>A (Exclusive Agriculture)</p> <p>A-1 (Limited Agriculture)</p> <p>A-1 MH (Limited Agriculture - Mobile home Combining)</p> <p>E(2 ½) MH (Estate - 2.5 Acres - Mobile home Combining)</p>
<b>East</b>	Hyundai-Kia Proving Ground, Undeveloped; Unincorporated community of North Edwards	<p>Kern County General Plan:</p> <p>1.1 (State or Federal Land)</p> <p>1.2 (Incorporated Cities)</p> <p>8.5 (Resource Management, min. 20-acre parcel)</p>	<p>A (Exclusive Agriculture)</p> <p>A-1 (Limited Agriculture)</p> <p>A-1 H (Limited Agriculture - Airport Approach Height Combining)</p> <p>M-1 (Light Industrial)</p>
<b>South</b>	Edwards Air Force Base, Unincorporated communities of Sanborn and Fleta	<p><i>Kern County General Plan:</i></p> <p>1.1 (State or Federal Land)</p> <p>3.3 (Other Facilities)</p> <p>5.7 (Minimum 5 Gross Acres/Unit)</p> <p>8.5 (Resource Management, min. 20-acre parcel size)</p> <p>8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope)</p> <p>8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)</p>	<p>A-1 (Limited Agriculture)</p>

Location	Existing Land Use	Existing General Plan and Specific Plan Map Code Designations	Existing Zoning
<b>West</b>	Mojave Air and Space Port, Undeveloped, Unincorporated community of Mojave	<i>Kern County General Plan</i> 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)  <i>Mojave Specific Plan:</i> 7.1 (Light Industrial) 7.1/2.5 (Light Industrial/Flood Hazard) 7.2 (Service Industrial) 7.3 (Heavy Industrial)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 H (Limited Agriculture - Airport Approach Height Combining) M-1 (Light Industrial) M-1 PD (Light Industrial - Precise Development Combining) M-1 PD H (Light Industrial - Precise Development Combining - Airport Approach Height Combining) M-2 PD (Medium Industrial - Precise Development Combining) M-3 PD (Heavy Industrial - Precise Development Combining)
<b>California City</b>			
<b>Project Site</b>	Undeveloped	<i>California City General Plan:</i> O/RA (Controlled Development & Open Space)	O/RA (Open Space/Residential Agricultural)
<b>North</b>	Undeveloped; California City; Hyundai-Kia Proving Ground	<i>California City General Plan:</i> M1 (Light Industrial District)	M1 (Light Industrial District)
<b>East</b>	Hyundai-Kia Proving Ground, Undeveloped	<i>California City General Plan:</i> M1 (Light Industrial District)	M1 (Light Industrial District)
<b>South</b>	Unincorporated Kern County (see above descriptions)		
<b>West</b>	Unincorporated Kern County (see above descriptions)		

## City of California City

### California City General Plan

As shown on **Figure 3-13, Existing General Plan Designations - California City**, the project parcels located in California City are designated by the General Plan as O/RA (Controlled Development & Open Space). The existing California City General Plan designations are specified in **Table 3-1, Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**.

The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

### California City Zoning Ordinance

The project parcels located in California City are subject to the provisions of the California City Zoning Ordinance. As shown on **Figure 3-14, Existing Zoning - California City**, the project parcels located in California City have a zone classification of O/RA (Open Space/Residential Agriculture). The existing California City zone classifications are specified in **Table 3-1, Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage**.

On May 11, 2021, the City of California adopted Planning Commission Resolution No. 21-04, which updates Title 9, Chapter 2 Zoning, Article 4 of the California City Municipal Code to include solar and power generation as a conditional use in O/RA zoned districts.

**Table 3-3. Proposed Non-Summary Vacation of Public Access Easements**

<b>Easement Number on Figure 3-10</b>	<b>Survey Sheet No.</b>	<b>Sch. B Exception No.</b>	<b>Affects Parcel(s)</b>	<b>Recording Date</b>	<b>Recording No.</b>	<b>Description</b>	<b>Notes</b>
1	10	212	39, 40	4/19/1976	B 4951/P 257	Easement for road, ingress and egress	Easement and dedication for public access in various depths along the boundary lines, including corner triangle portions. Base on survey, only affects Northern 45'.
2	8	142, 148, 155, 163	30, 32, 33	6/15/1973	B 4790/P 782	Easement for ingress, egress and road	Easement and dedication for public access that, based on Survey, is Southern 45' and Eastern 45'.
3	10	184, 194, 204	36, 37, 38	8/29/1980	B 5310/P 767	Easement for ingress, egress and public utilities	Road and utility for use in common with others, along Western and Southern 30'. Easement is in gross but with public portion. The document also separately grants Grantee easement rights over adjacent parcels including the property under exception 184.
4	N/A	N/A	N/A	N/A	BK. 3292 PG 191	Public	Easement is set forth in Grant Deed - Road easement of 45' along the Southern boundary.
5	N/A	N/A	N/A	N/A	BK.6322 PG.1464	Public	Easement is set forth in Grant Deed - Road easement of 45' along the Southern boundary.
6	9	75, 83, 93, 104	21, 22, 23, 24	7/16/1980	B 5299/P228	Easement for ingress, egress and public utilities	Access and utility for use in common with others, along Northern and Western 32'. Easement is in gross but with public portion.
7	9	76, 84, 94, 105	21, 22, 23, 24	7/16/1980	B 5299/P 232	Easement for ingress, egress and public utilities	This easement is duplicative of exception 75 in both scope and size. Survey shows this easement encumbering the same locations.
8	10	177	35	6/24/1986	B 5897/P 602	Easement for ingress, egress and road	Easement for public access along Western and Eastern 30', coinciding with utility easements granted under exception 176.
9	12	67	20	11/12/1971	B 4598/P 929	Easement for road and public utilities	Access and utility for use in common with others, along Northern 45', Southern 45' and Western 45'. Easement is in gross but with public portion.

<b>Easement Number on Figure 3-10</b>	<b>Survey Sheet No.</b>	<b>Sch. B Exception No.</b>	<b>Affects Parcel(s)</b>	<b>Recording Date</b>	<b>Recording No.</b>	<b>Description</b>	<b>Notes</b>
10	9	86, 96, 107	22, 23, 24	7/16/1980	B 5299/P 240	Easement for ingress, egress and public utilities	Access and utility for use in common with others, along Eastern 55' and the Southern 45'. Easement is in gross but with public portion.
11	10	183, 193, 203, 211, 218	36, 37, 38, 39, 40	11/12/1968	B 4216/P 9	Easement for road and public utilities to be used in common with others	Road and utility for use in common with others, along 30' of all boundaries, including boundaries of adjacent parcels. Easement is in gross but with public portion.
12	N/A	N/A	N/A	N/A	BK. 5703 PG 171	N/A	Public with respect to (i) and County of Kern with respect to (ii)
13	9	125, 131	27, 28	11/9/1983	B 5604/P 1348	Easement for ingress, egress and road	Grant of access to the public in general of Northern 45' and Western 35'.
14	N/A	5	N/A	12/7/1967	B 4110/P 997	Easement as set forth in a Grant Deed	Access and utility for use in common with others, along Eastern 30', Southern 30' and Western 30'. Easement is in gross but with public portion.
15	N/A	6	N/A	25251	B 4243/P 488	Easement as set forth in a Grant Deed	Road and utility easement over the Eastern and Western 30'. Easement is in gross but with public portion.
16	N/A	N/A	N/A	N/A	BK. 4081/ P 818	Easement as set forth in a Grant Deed	N/A



Figure 3-5: ALUCP Designations

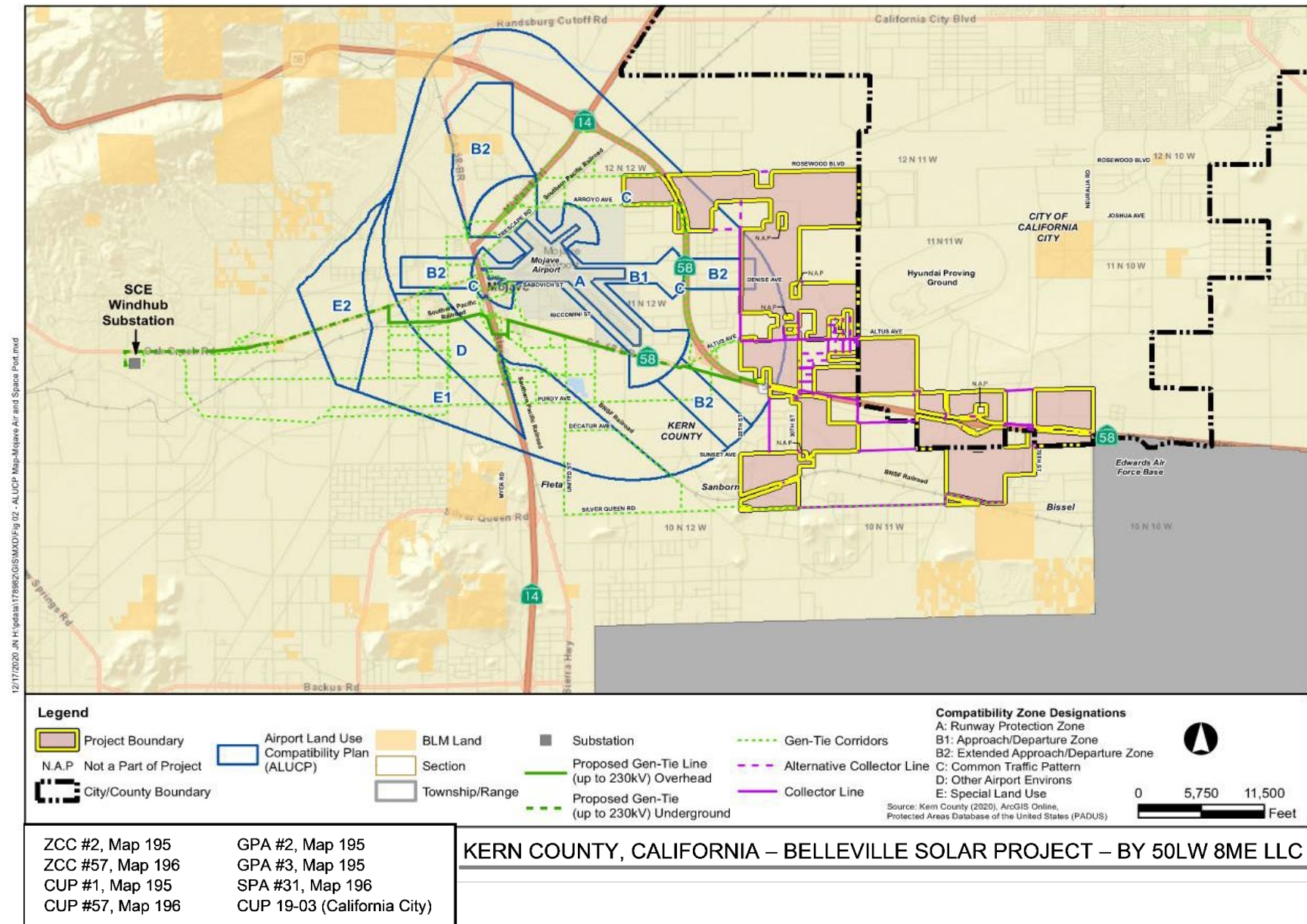


Figure 3-6: FEMA Flood Zones

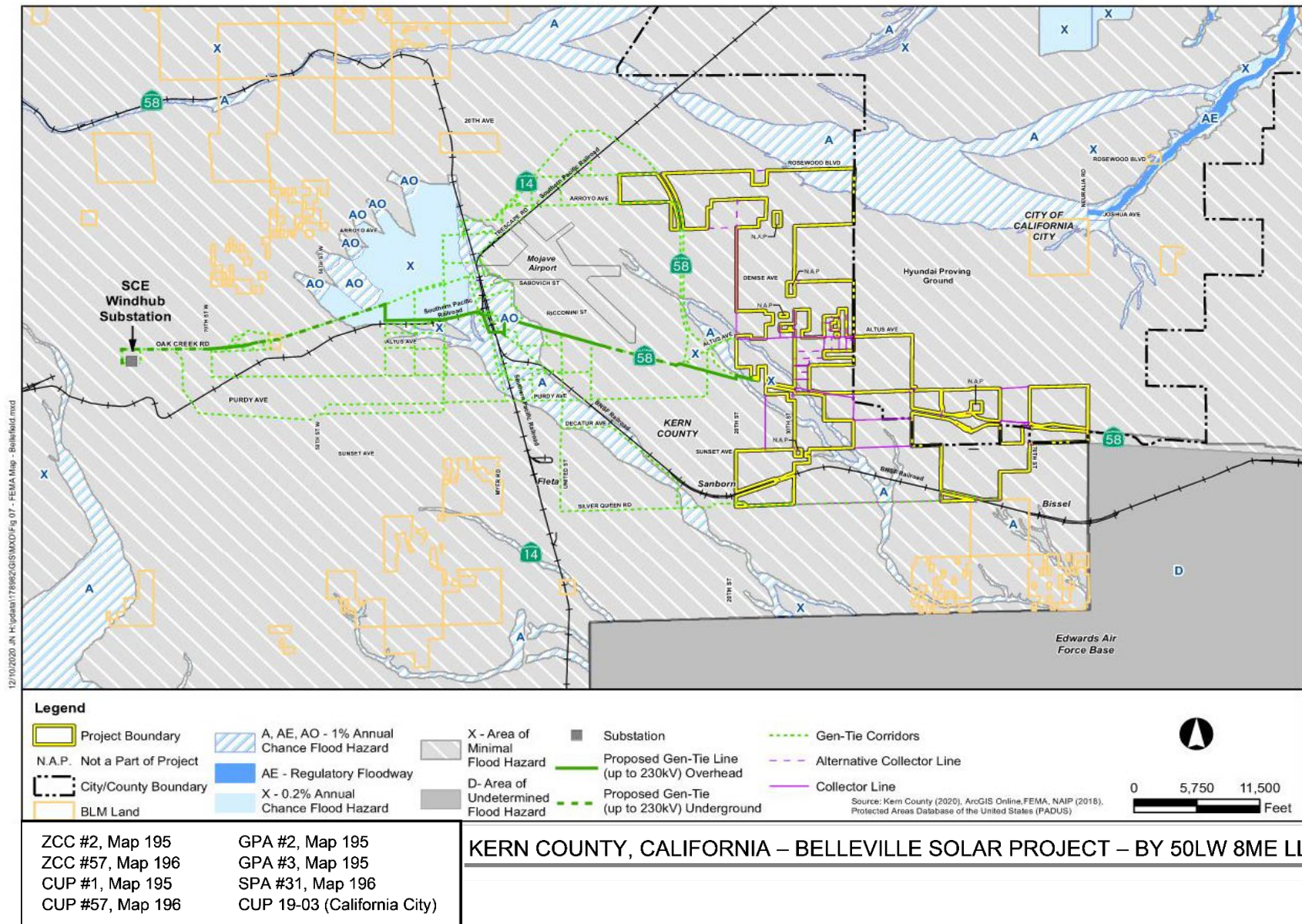




Figure 3-7: Existing General Plan Designations – Kern County and Mojave Specific Plan

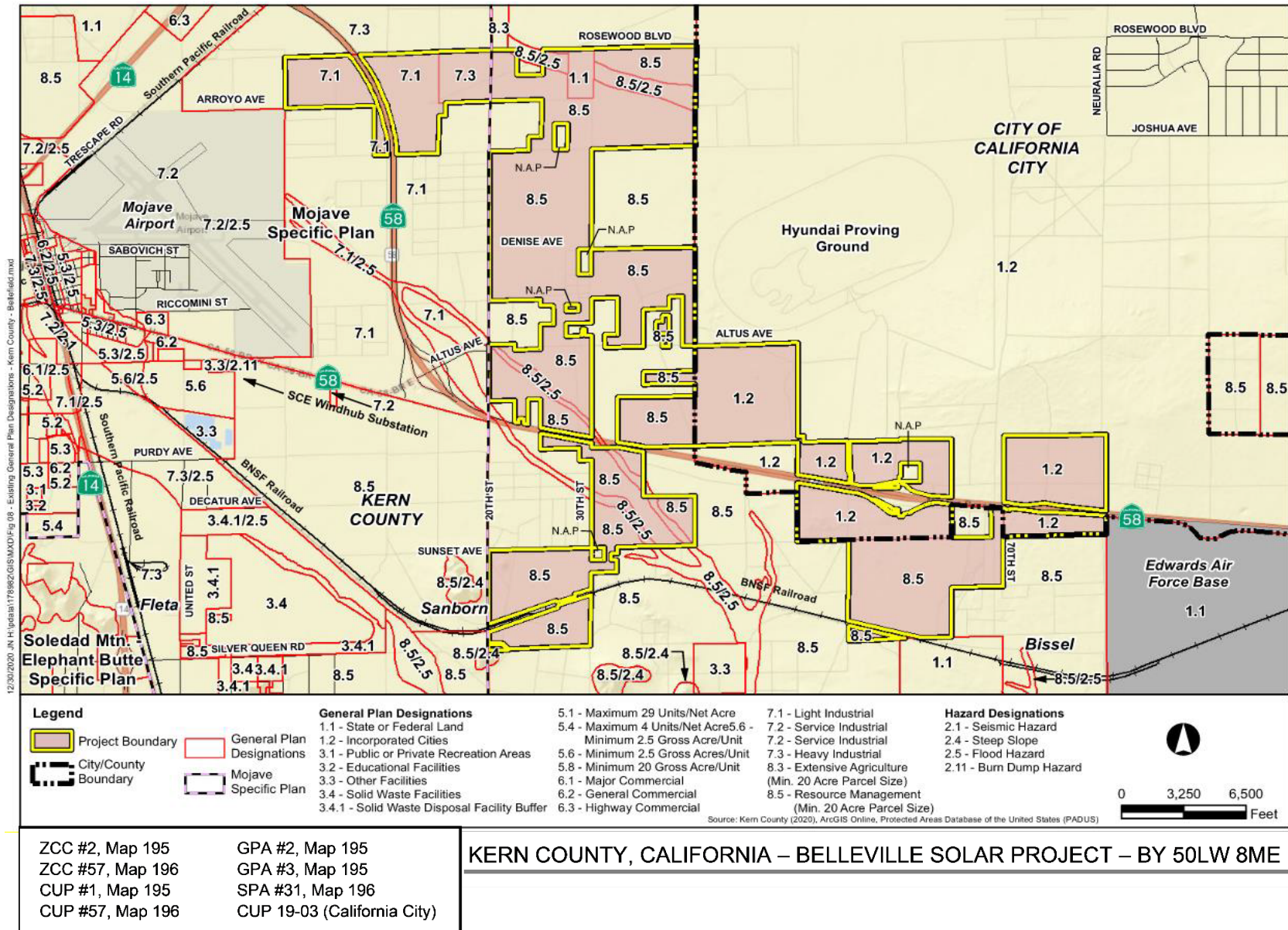
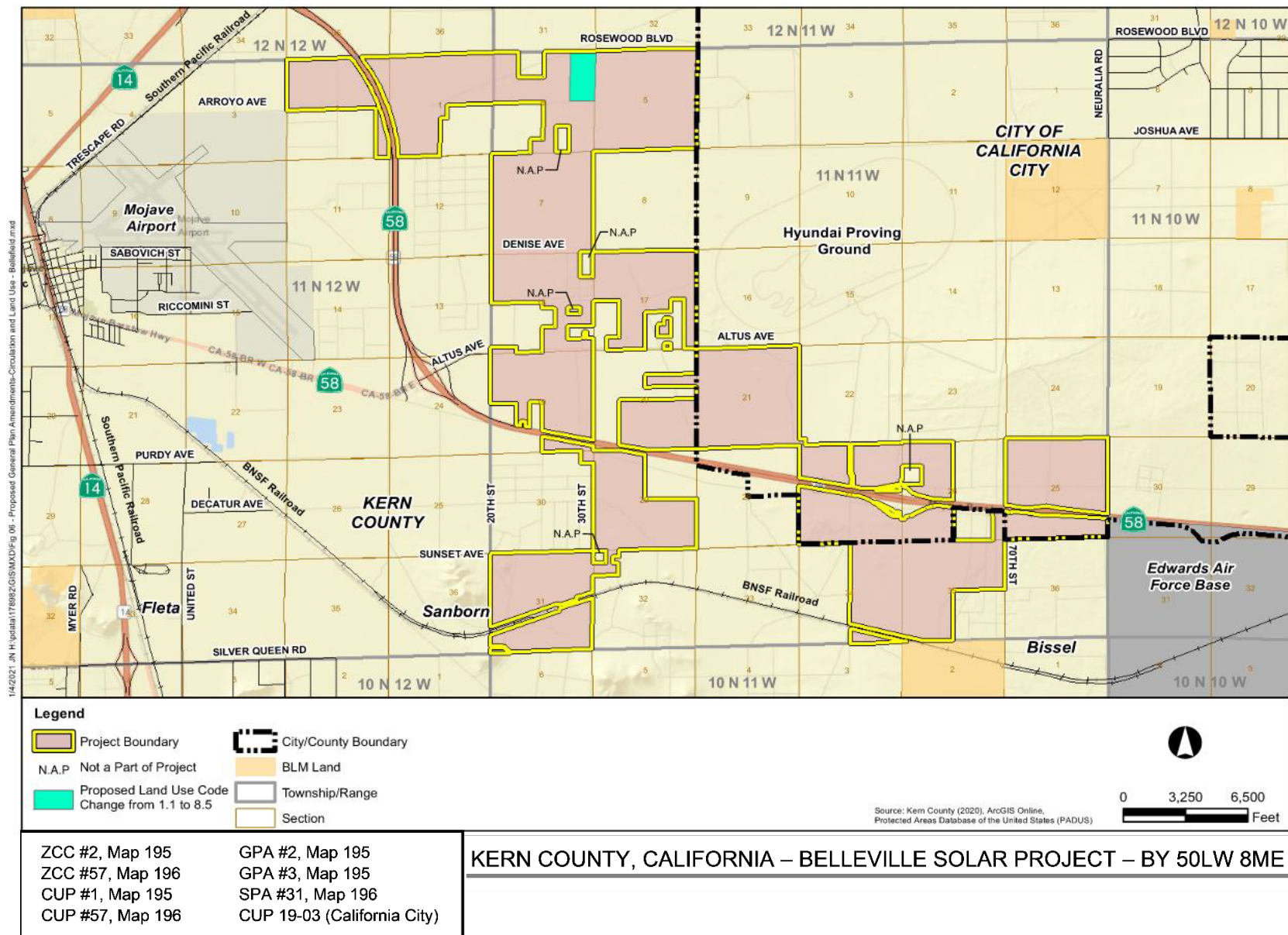
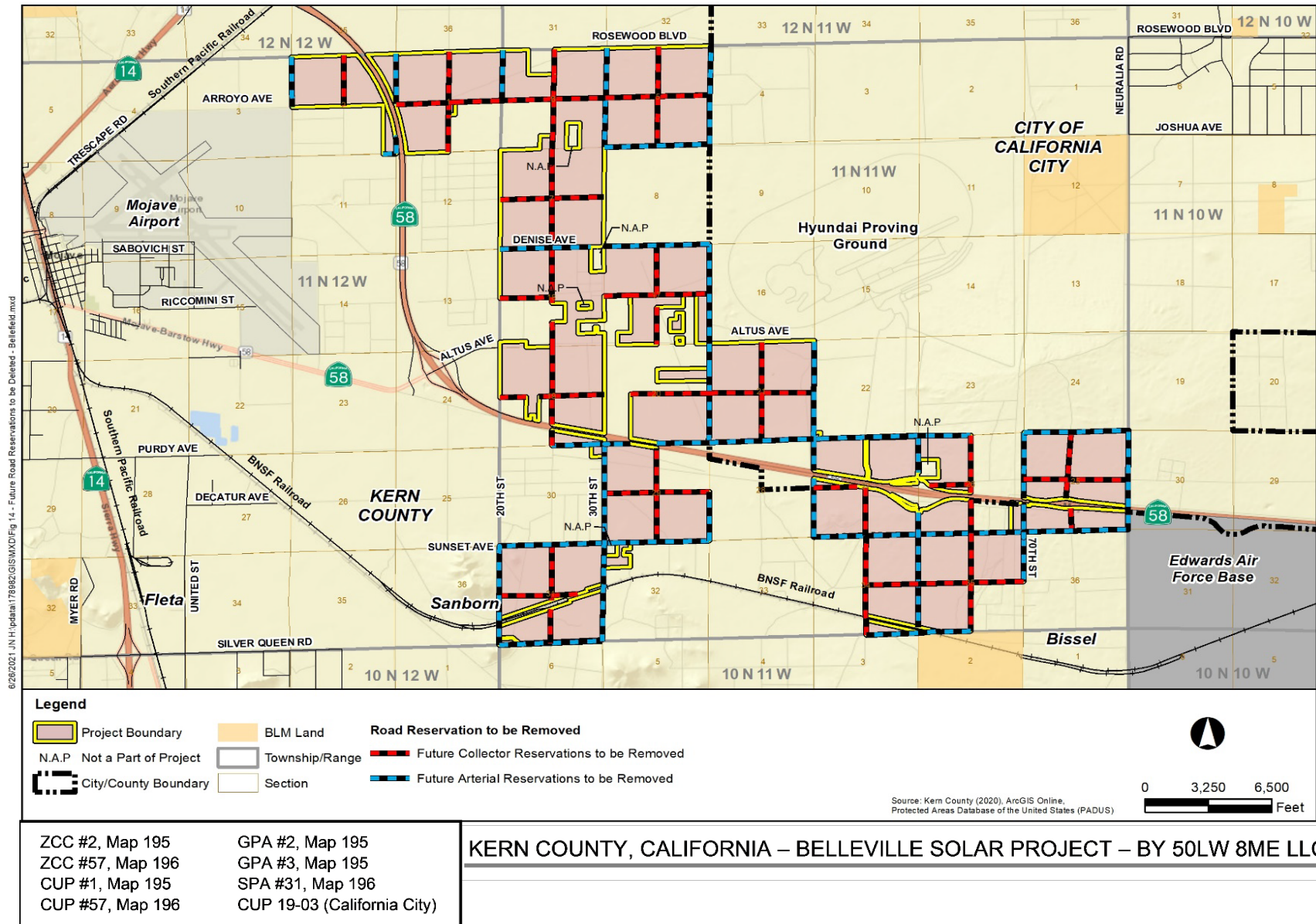
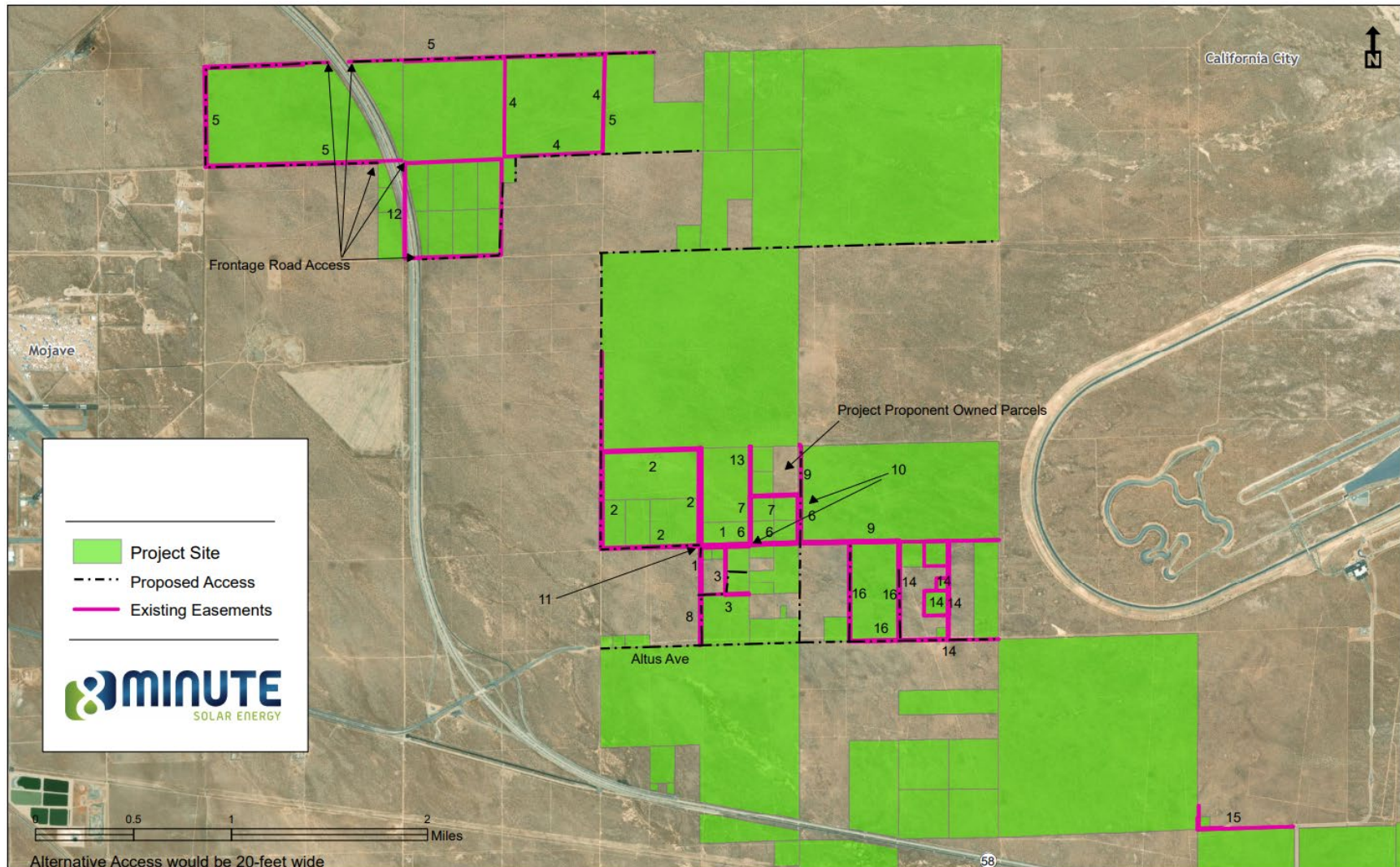


Figure 3-8: Proposed General Plan Designations - Kern County





**Figure 3-9: Future Road Reservations Proposed to be Removed**

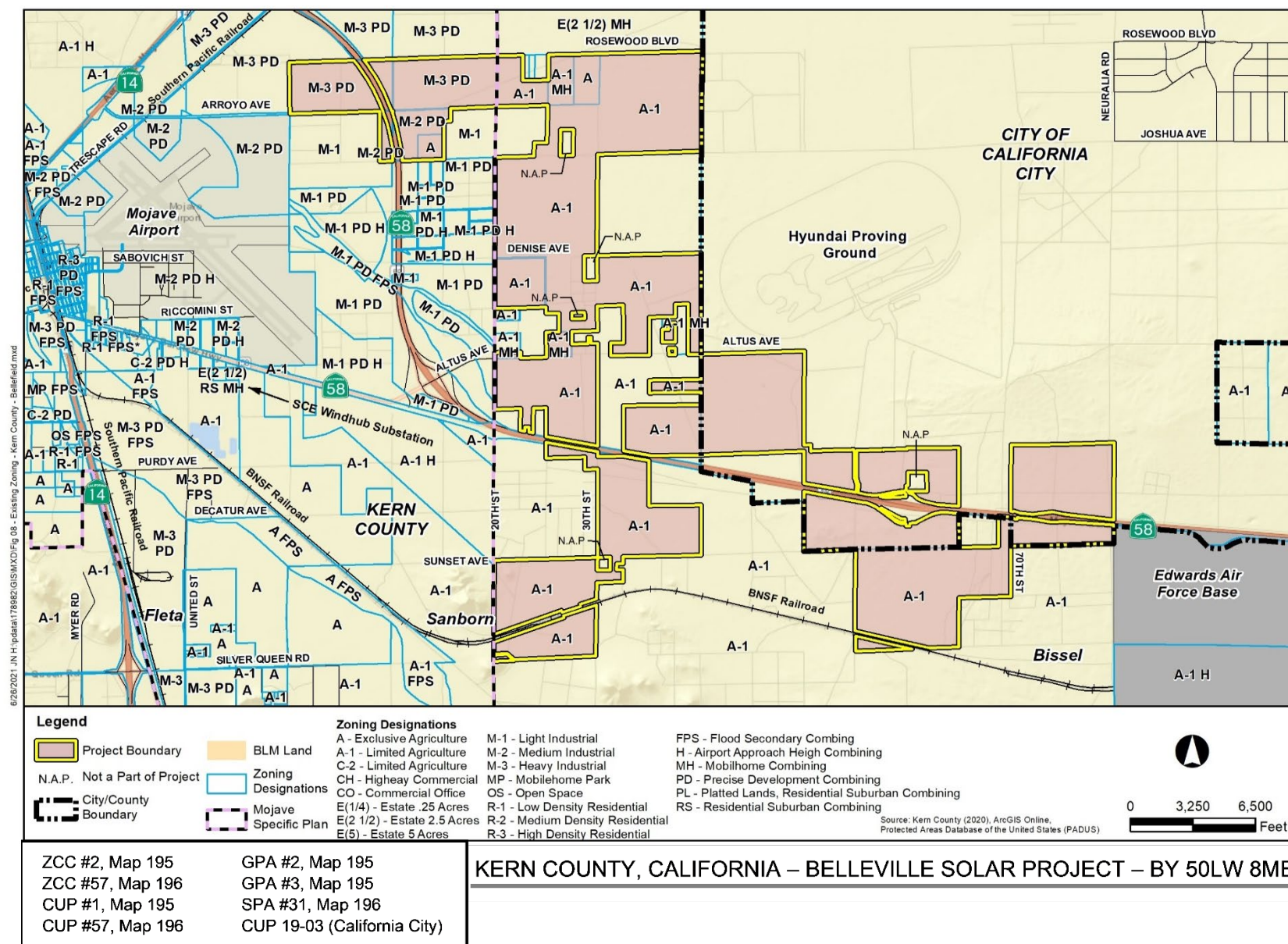
**Figure 3-10: Proposed Non-Summary Vacation of Public Access Easements**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

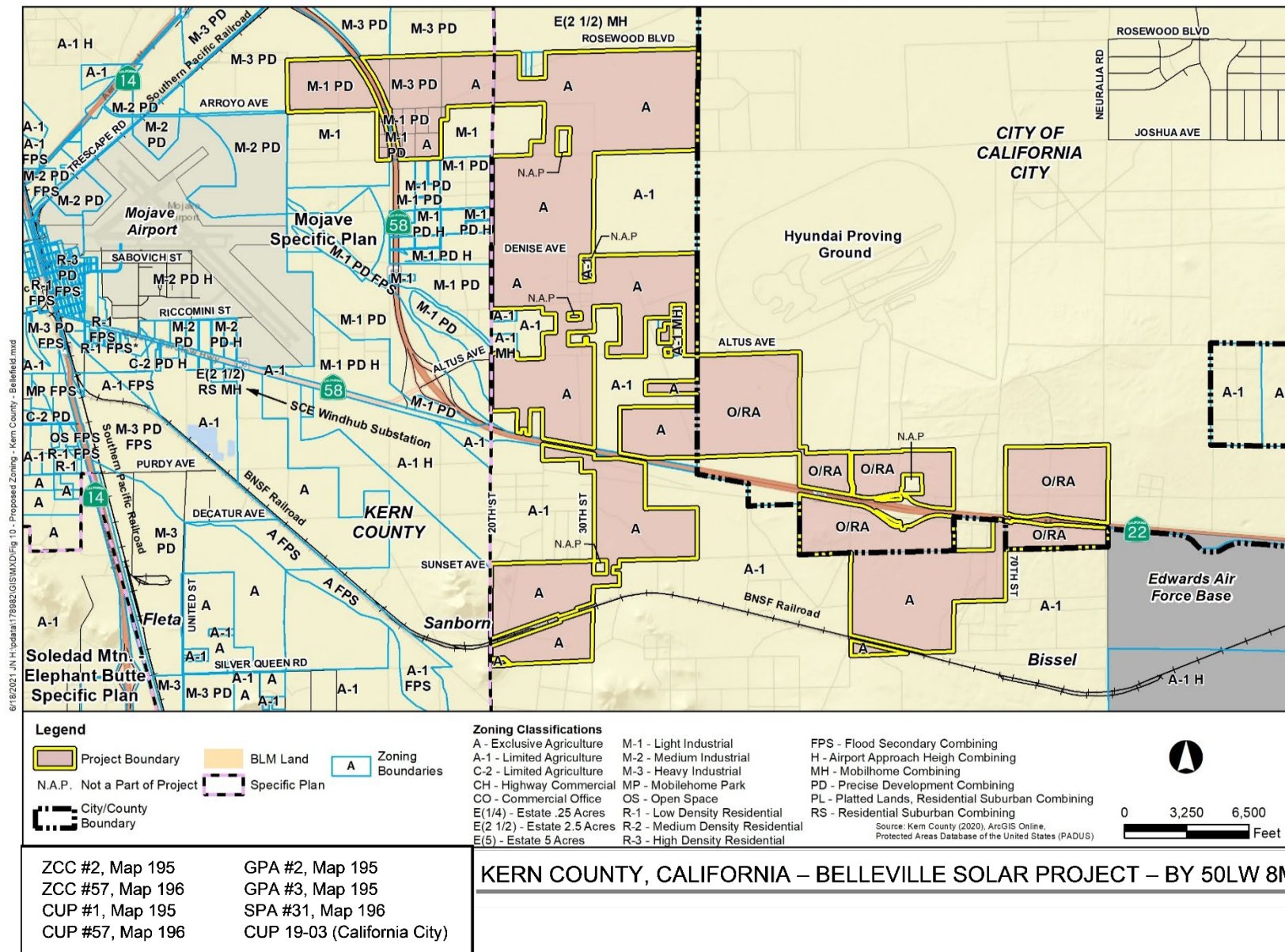
**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



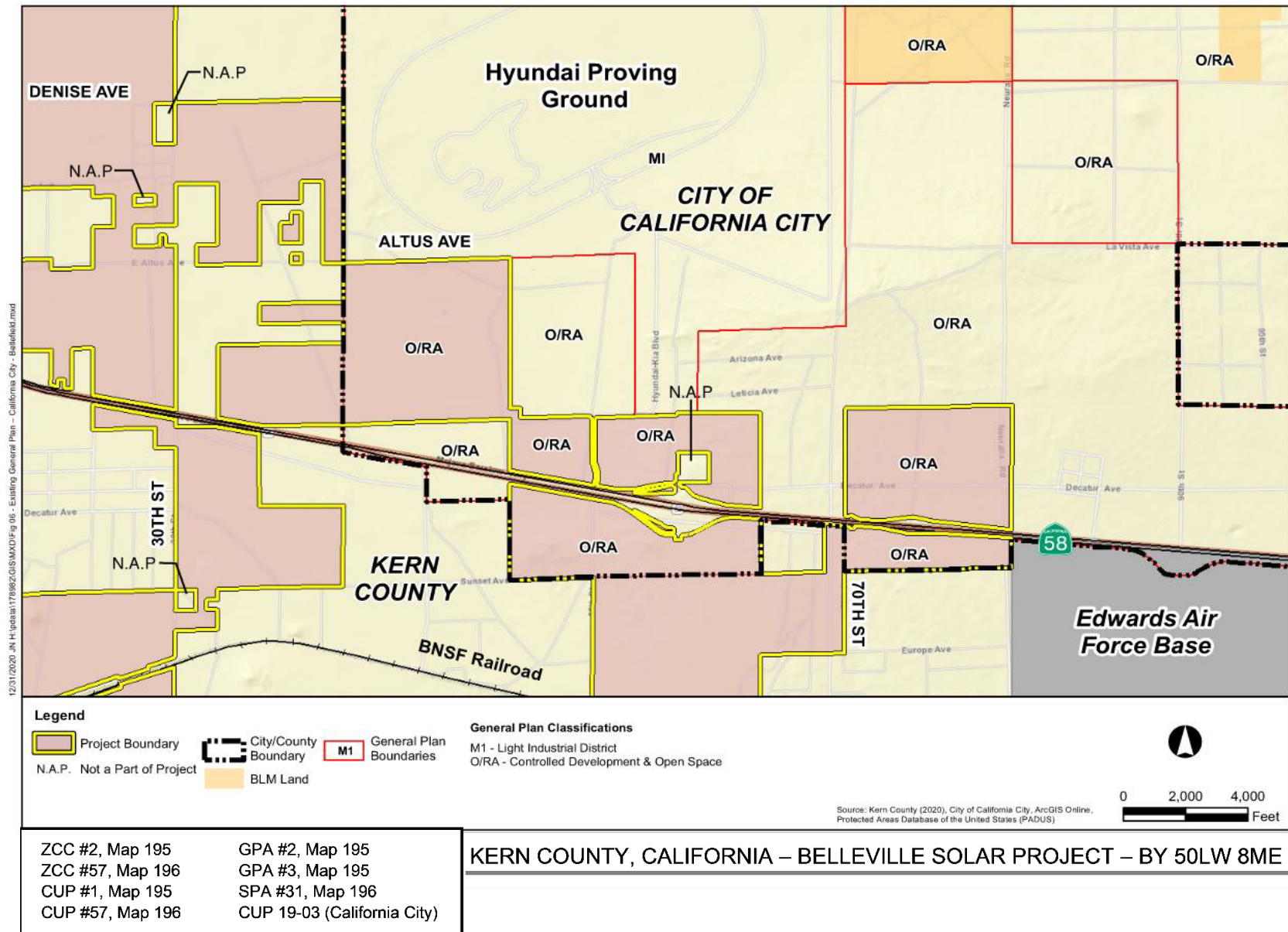
**Figure 3-11: Existing Zoning – Kern County**

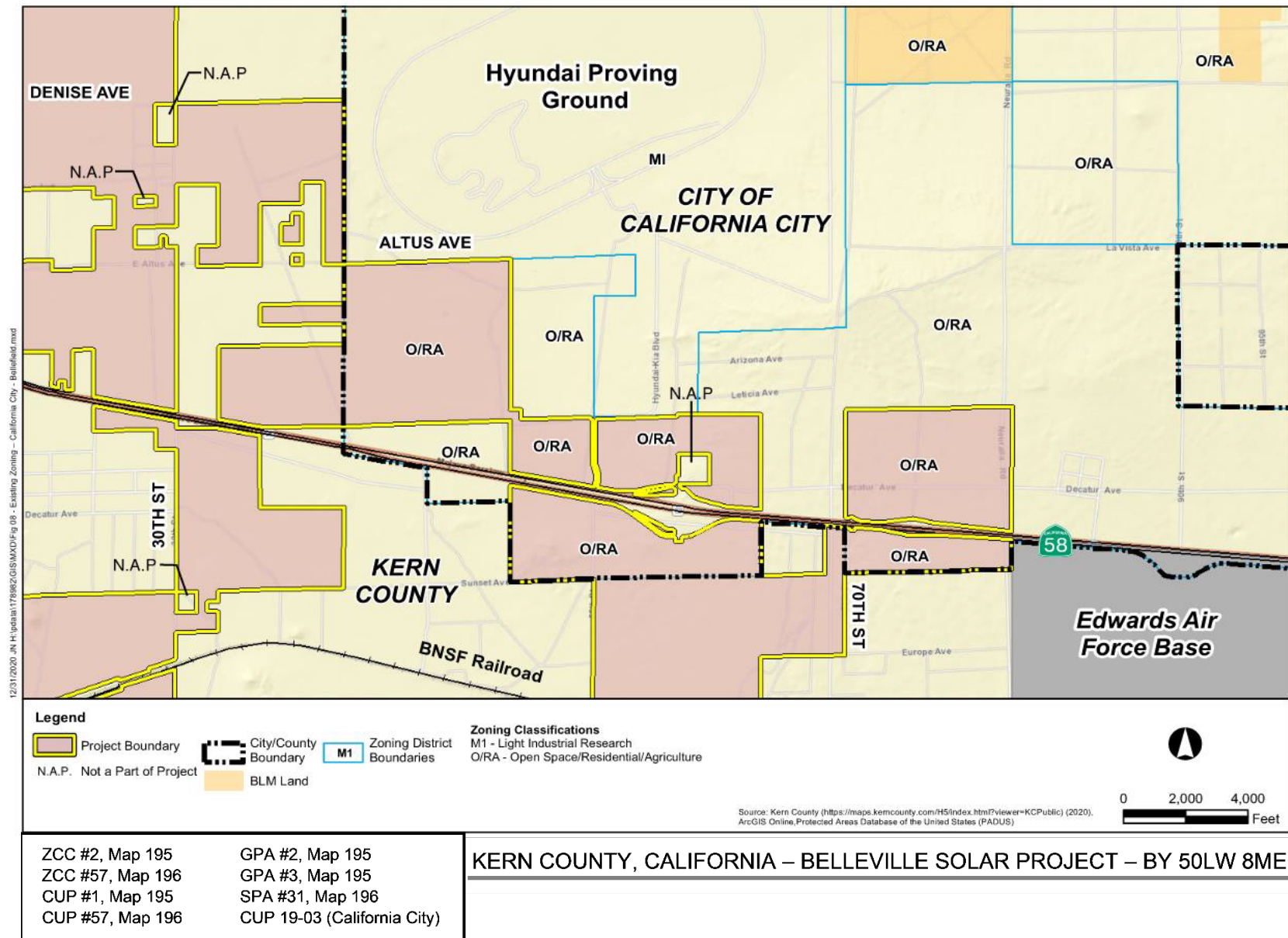


**Figure 3-12: Proposed Zoning – Kern County**





**Figure 3-13: Existing General Plan Designation – California City**

**Figure 3-14: Existing Zoning – California City**

## 3.5 Proposed Project

The proposed project would develop a photovoltaic solar facility and associated infrastructure necessary to generate up to 1,500 megawatts of renewable energy on approximately 8,371 acres of privately owned land. The project would be supported by a 230 kV gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at the SCE Windhub Substation. The project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and O&M facilities. Refer to **Figure 3-15A**, *Overall Site Plan - Key Map*, and **Figures 3-15B to 3-15E**, *Plan View*.

The proposed project consists of the following requests:

General Plan Amendment #2, Map 195:

- From 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres.

Zone Change Case # 2, Map 195:

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres; and
- From A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.

Zone Change Case #57, Map 196

- From M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres; and
- From M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres.

Issuance of Conditional Use Permit #1, Map 195

- To allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MWh of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.

Issuance of Conditional Use Permit #57, Map 196

- To allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MWh of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G, and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance.

**General Plan Amendment #3, Map 195:**

- Amendment to the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.

**Specific Plan Amendment #31, Map 196**

- Amendment to the Circulation Element of the Mojave Specific Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.

**Non-Summary Vacations of Public Access Easements within the Project Boundaries****California City (Responsible Agency):**

- The City of California City is a Responsible Agency under CEQA. For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) zone (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MWh of storage capacity. The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.



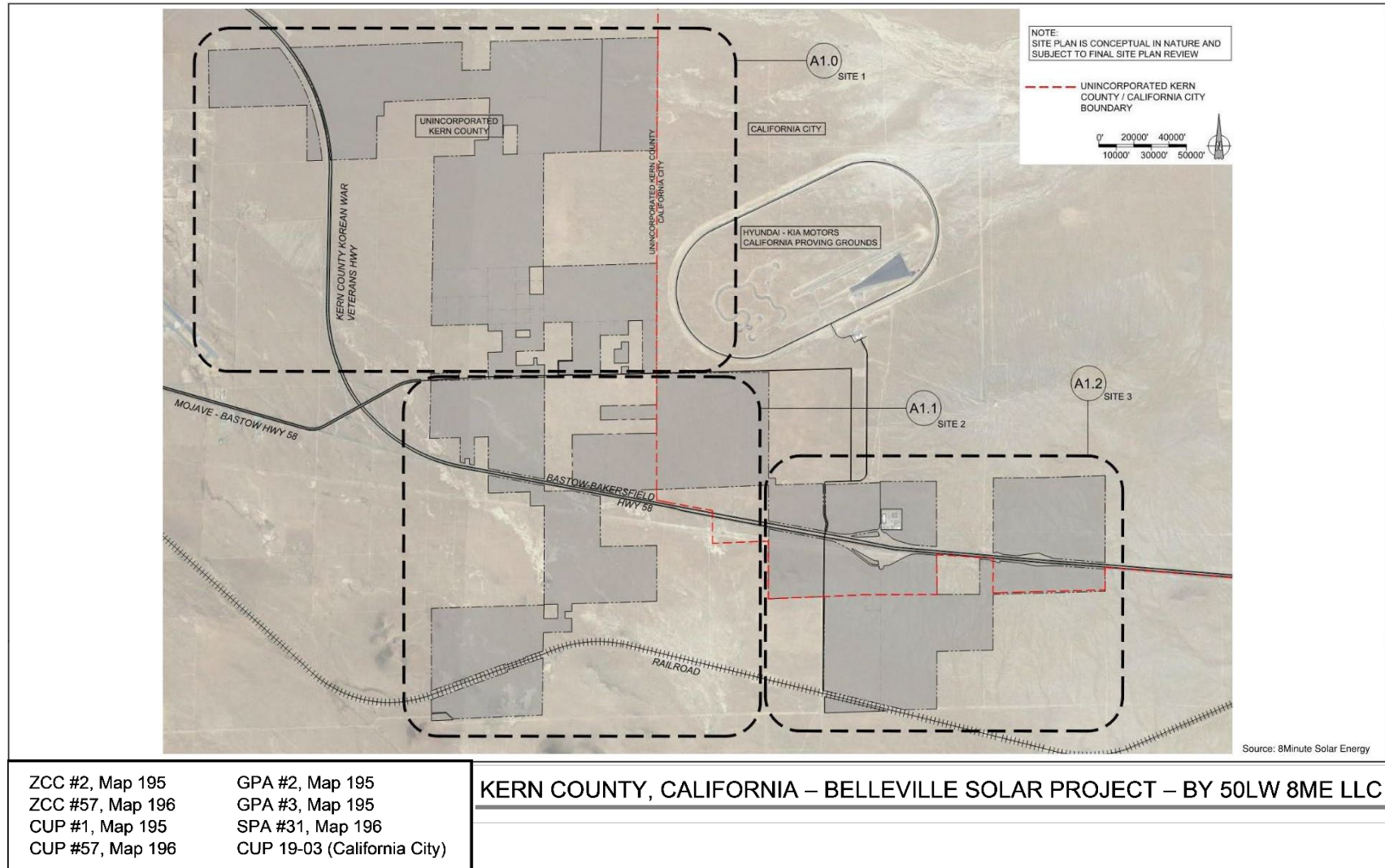
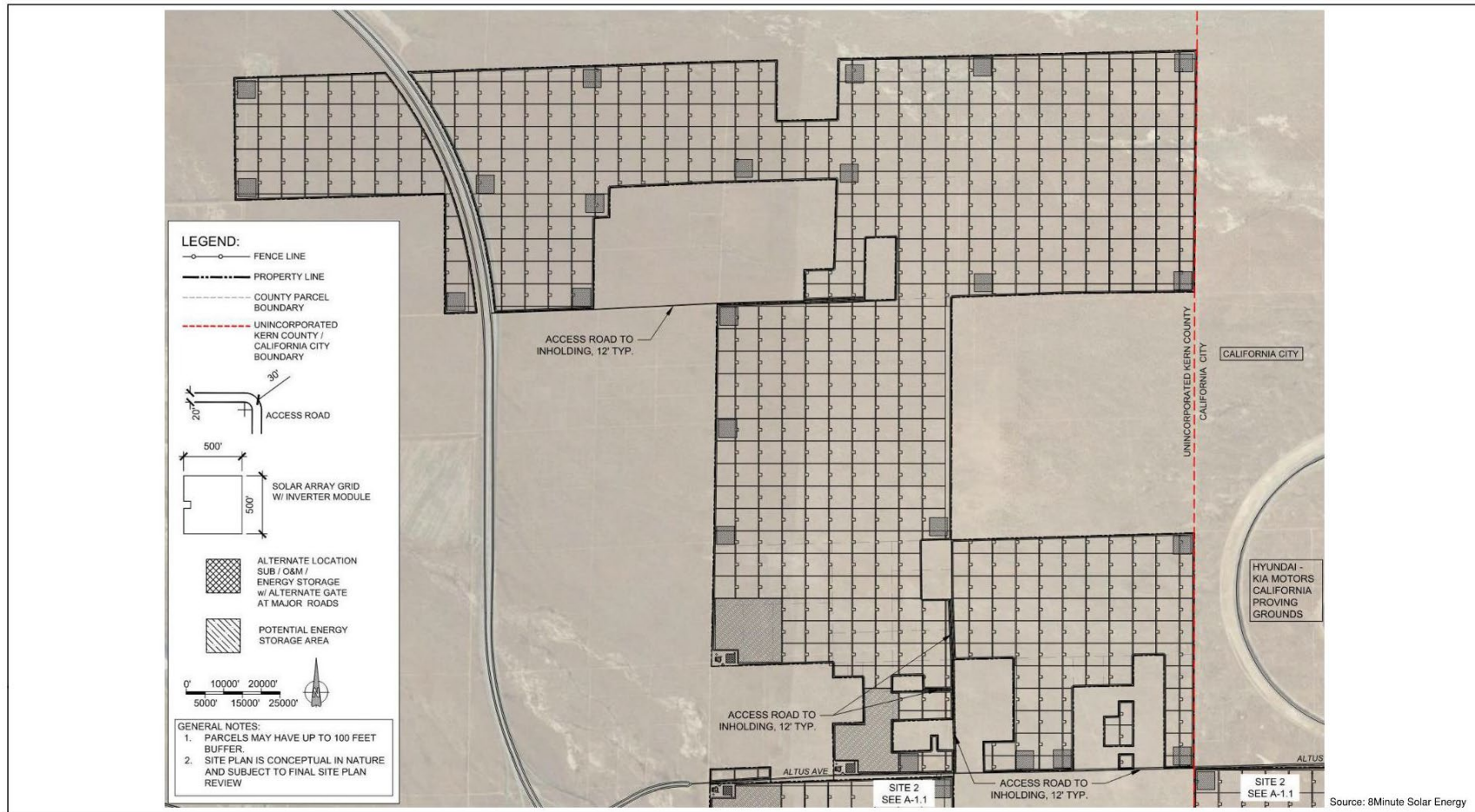
**Figure 3-15A: Overall Site Plan – Key Map**

Figure 3-15B: Plan View – Part 1



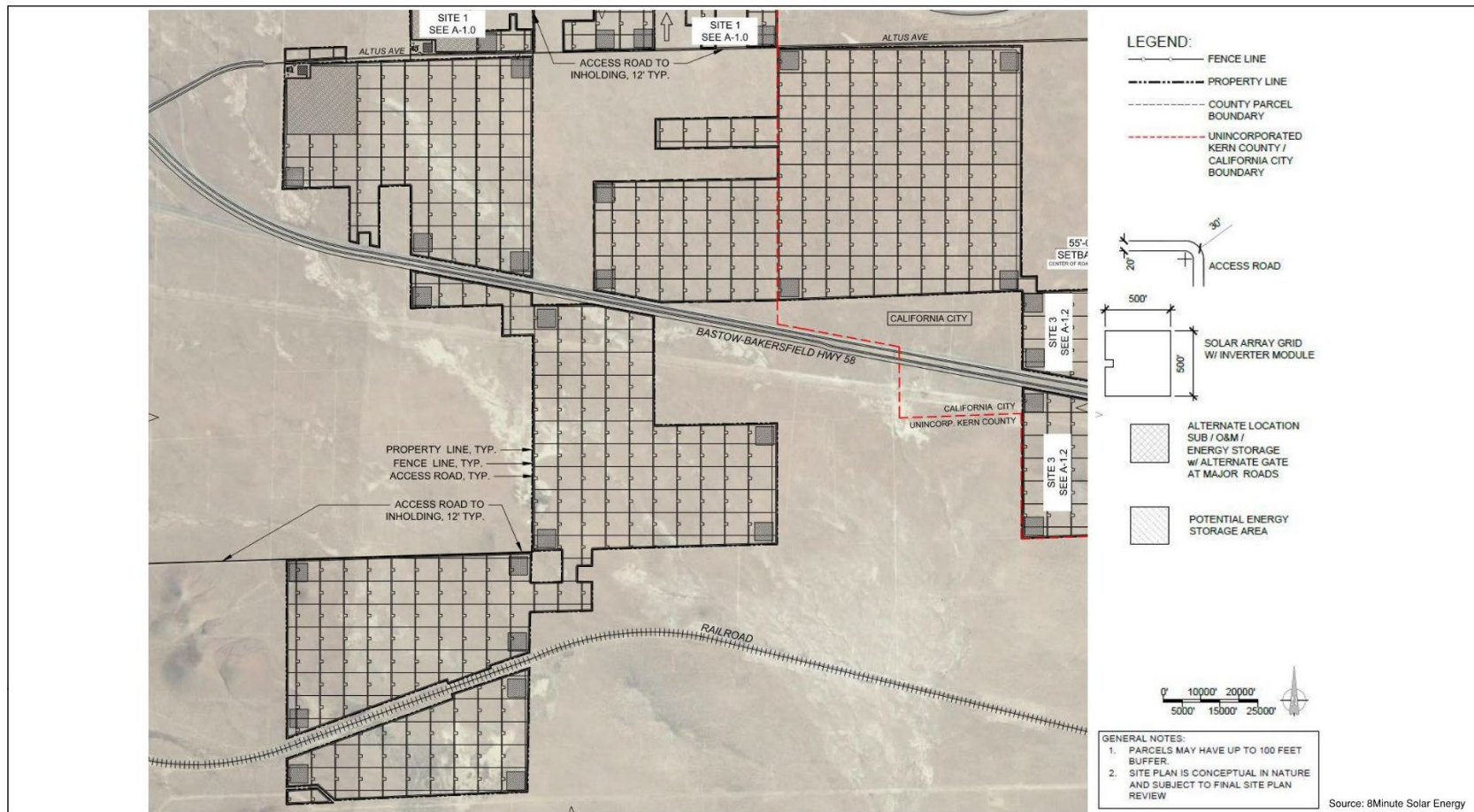
ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

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Figure 3-15C: Plan View – Part 2



ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

### KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC

Figure 3-15D: Plan View – Part 3

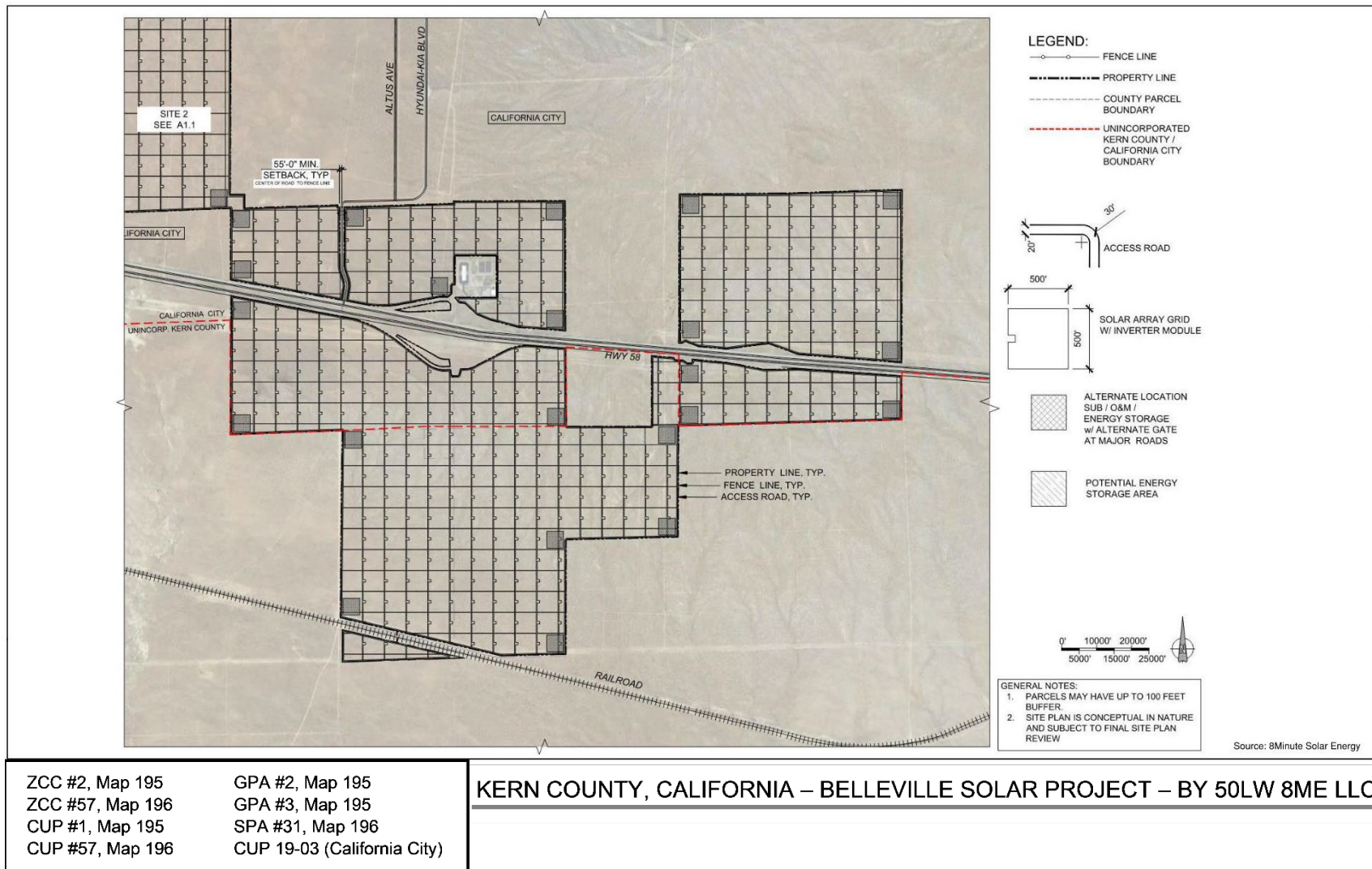
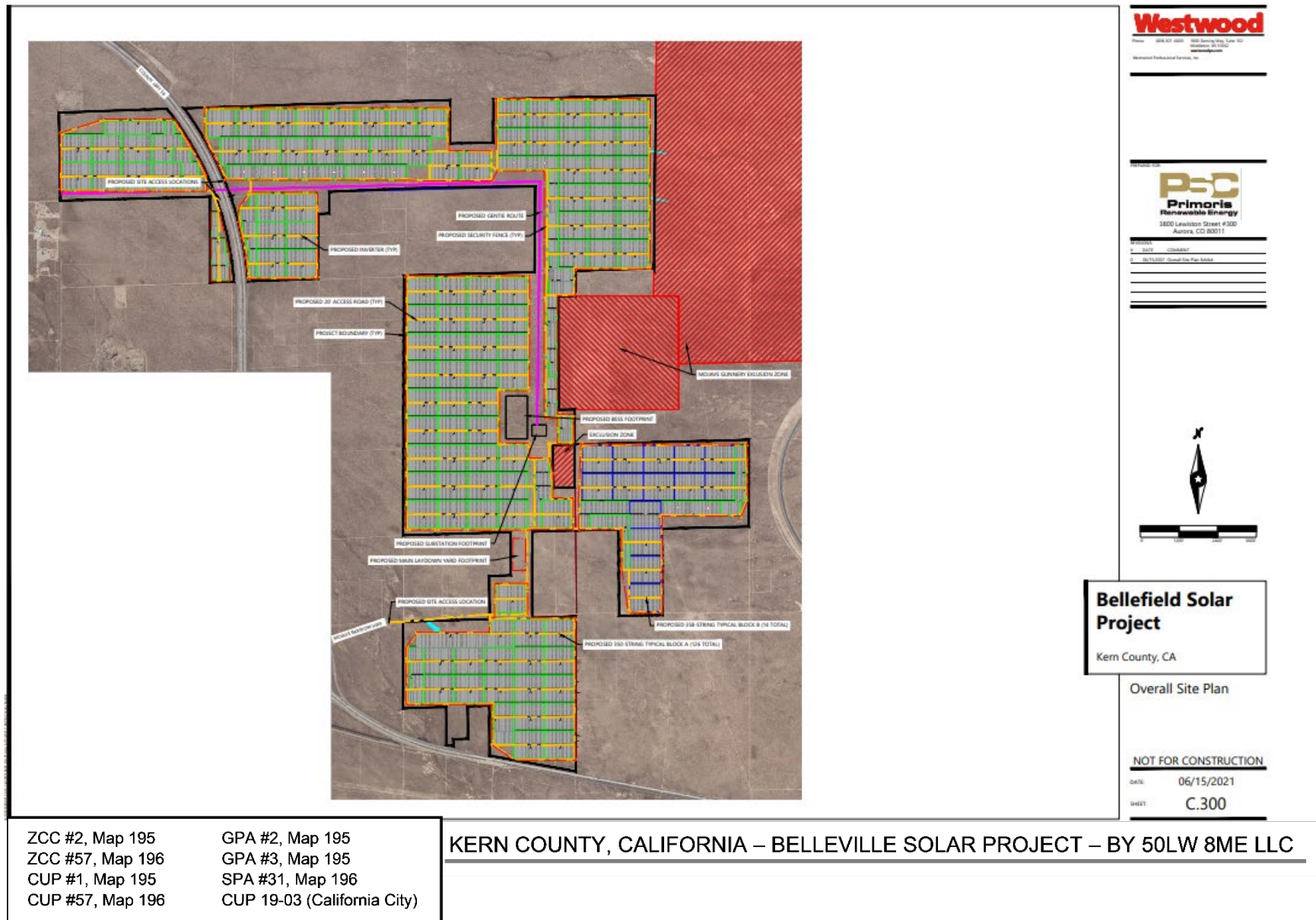




Figure 3-15E. Overall Site Plan



## 3.6 Project Characteristics

The proposed project includes the development of a 1,500 MW PV solar energy-generating facility and associated infrastructure. The project site is shown in **Figure 3-2, *Project Site Boundaries***, of this EIR. Conceptual site plans for the project site is shown in **Figure 3-15A, *Overall Site Plan – Key Map*** along with more detailed plans in **Figures 3-15B, 3-15C, 3-15D, and 3-15E**. The project would include the following components:

- Installation of up to a total combined 1,500 MW of solar PV modules, mounted in either a fixed-tilt configuration, with the panels oriented toward the south, or using tracker mount systems (either single- or dual-axis). The modules are expected to remain between 6 and 8 feet high;
- Installation of an energy storage facility and accessories that would provide energy storage capacity of up to 1,500 MWh for the electrical grid;
- A collection system of cables for delivering photovoltaic energy to inverter stations generally consisting of one or more inverter modules, a unit transformer, and voltage switch gear;
- One or more on-site substation(s) or switchyard(s) which would receive electricity from inverter stations through overhead and/or underground collector lines. Each substation would occupy an area of approximately 5 acres;
- 230 kV overhead and/or underground gen-tie lines;
- An O&M facility is possible for the project site, though the proposed project may share O&M facilities with one or more nearby solar projects and/or may be remotely operated;
- Telecommunications equipment, including underground and overhead fiber optics, and an on-site meteorological station;
- Onsite access roads; and
- Perimeter security fencing and shielded nighttime directional lighting.

The components listed above are described in more detail below.

### PV Module Configuration

The proposed project would use photovoltaic panels or modules (including but not limited to concentrated photovoltaic technology) on mounting frameworks to convert sunlight directly into electricity. Individual panels would be installed on either fixed-tilt or tracker mount systems (single- or dual-axis, using galvanized steel or aluminum). If the panels are configured for fixed-tilt, the panels would be oriented toward the south. For tracking configurations, the panels would rotate to follow the sun over the course of the day. Although the panels could stand up to 20 feet high, depending on the mounting system used and on County building codes, panels are expected to remain between 6 and 8 feet high. The conceptual site plan exhibits showing the proposed project facilities, including solar block and solar panel layout, O&M building, project substation, and electrical infrastructure are shown on **Figure 3-15A to Figure 3-15E**. Refer to **Figure 3-16, *Panel Tracker and O&M Building Details***, and **Figure 3-17, *Representative***

*Examples of Photovoltaic Panel/Mounting Configuration*, depicts representative examples of photovoltaic panel/mounting configurations.

The foundations for the mounting structures can extend up to 10 feet below ground, depending on the structure, soil conditions, and wind loads, and may be encased in concrete or utilize small concrete footings. A light-colored ground cover or palliative may be used throughout the solar arrays to increase electricity production from the panels. Final solar panel layout and spacing would be optimized for project area characteristics and the desired energy production profile.

The solar array fields would be arranged in groups called “blocks” with inverter stations generally located centrally within the blocks. Blocks would produce direct electrical current (DC), which is converted to alternating electrical current (AC) at the inverter stations.

## Site Access

Construction and operation traffic would access the project site from SR-58, Altus Avenue, Silver Queen Road, 50<sup>th</sup> Street 55<sup>th</sup> Street, 140<sup>th</sup> Street, Hyundai-Kia Boulevard, and Sunset Avenue, depending on the portion of the project site to access. Driveways and parking lot entrances would be constructed in accordance with Kern County and California City improvement standards. Any off-site roadway improvements would be constructed in conformance with Caltrans and/or County and/or City code and regulations, as necessary and applicable.

## Collection, Inverter, and Transformer Systems

Photovoltaic energy is delivered via cable to inverter stations, generally located near the center of each block of solar panels, to convert the DC energy to AC energy which can be dispatched to the transmission system. Inverter stations typically comprise one or more inverter modules with a rated power of up to 7.5 MW each, a unit transformer, and voltage switch gear. The unit transformer and voltage switch gear are housed in steel enclosures, while the inverter module(s) are housed in cabinets. Depending on the vendor selected, the inverter station may lie within an enclosed or canopied metal structure, typically on a skid or concrete mounted pad. **Figure 3-18, *Representative Examples of Typical Inverter Stations***, depicts representative examples of typical inverter stations.

## Energy Storage System

The proposed project may include one or more energy storage systems (ESS), located at or near a substation/switchyard (on-site or shared) and/or at the inverter stations, but possibly elsewhere on-site. Such large-scale ESSs would be up to 1,500 MWh-AC in capacity and up to 50 acres in total area. ESSs consist of modular and scalable battery packs and battery control systems that conform to U.S. national safety standards.

The ESS modules, which could include commercially available lithium or flow batteries, typically consist of standard International Organization for Standardization containers (approximately 40 feet in length by 8 feet in width by 8 feet in height) housed in pad- or post-mounted, stackable metal structures, but may also be housed in a dedicated building(s) in compliance with applicable regulations. The maximum height of a dedicated structure is not expected to exceed 25 feet. The actual dimensions and number of energy storage modules and structures vary depending on the application, supplier, and configuration chosen, as well as on off-taker/Power Purchase Agreement requirements and on County building standards. **Figure 3-19,**

*Representative Examples of Typical Battery Storage Energy Systems*, depicts representative examples of typical ESSs.

The ESS would be remotely controlled containers and routinely inspected for maintenance purposes. The ESS would have a fire rating in conformance with Kern County, California City, and national ESS fire standard NFPA 855 and specialized fire suppression systems would be installed for each of the battery compartments, where required by NFPA 855 and UL9540A standards.

## On-Site Meteorological Station

A solar meteorological station would be on-site, the location of which would be determined at final project design. The meteorological station would include solar energy (irradiance) meters, in addition to an air temperature sensor and wind anemometer. It is anticipated that the maximum height of this equipment would be 20 feet.

## Substation

Output from the inverter stations would be transferred via electrical conduits and electrical conductor wires to one or more on-site substation(s) or switchyard(s) (collectively referred to as a “substation” herein). Generally, the collectors would originate at each inverter and be “bundled” together as they approach the substation(s). Underground and/or overhead collector lines would cross SR-58 in several locations, depending on the final substation location(s). Each substation may contain several components, including auxiliary power transformers, distribution cabinets, revenue metering systems, microwave transmission tower, and voltage switch gear. Each substation would occupy an area of approximately 5 acres, secured separately by an additional chain-link fence, and typically located along the perimeter of the project. The final location(s) would be determined before issuance of building permits.

Substations typically include a small control building (roughly 500 square feet) standing approximately 10 feet tall. The building is either prefabricated concrete or steel housing with rooms for the voltage switch gear and the metering equipment, a room for the station supply transformer, and a separate control technology room in which the main computer, the intrusion detection system, and the main distribution equipment are housed. Components of this building (e.g., control technology room and intrusion detection system) may alternatively be located at the O&M building(s). **Figure 3-20, Representative Example of Typical Substation Design**, depicts a representative example of a typical substation.

## Generation-Transmission Line

From the proposed project’s substation(s), power would be transmitted to the SCE Windhub Substation via up to 230 kV overhead and/or underground gen-tie line(s). The preferred and alternative gen-tie alignments are shown on **Figure 3-3, Aerial Photograph**. The combined linear distance of the gen-tie alternatives are 89.6 miles with a width of 200 feet. The overhead lines would be mounted on monopoles no higher than 100 feet tall as designated in Figure 19.08.160 (*Military Review Requirements Map*) of the Kern County Zoning Ordinance. Along Oak Creek Road, the gen-tie would be sited within a 600-foot-wide corridor. Portions of the gen-tie line may be undergrounded to avoid conflict with operation of the Mojave Air and Space Port and allow the line to avoid conflicts with other existing infrastructure, and where aboveground, the gen-tie line would be subject to height limitations as provided in Section 19.38.080 (*Medium Industrial (M-2) District - Height Limits*) of the Kern County Zoning Ordinance, which prescribes a height limit of ten (10) stories or one hundred and thirty-five (135) feet. Kern County and California City may accept

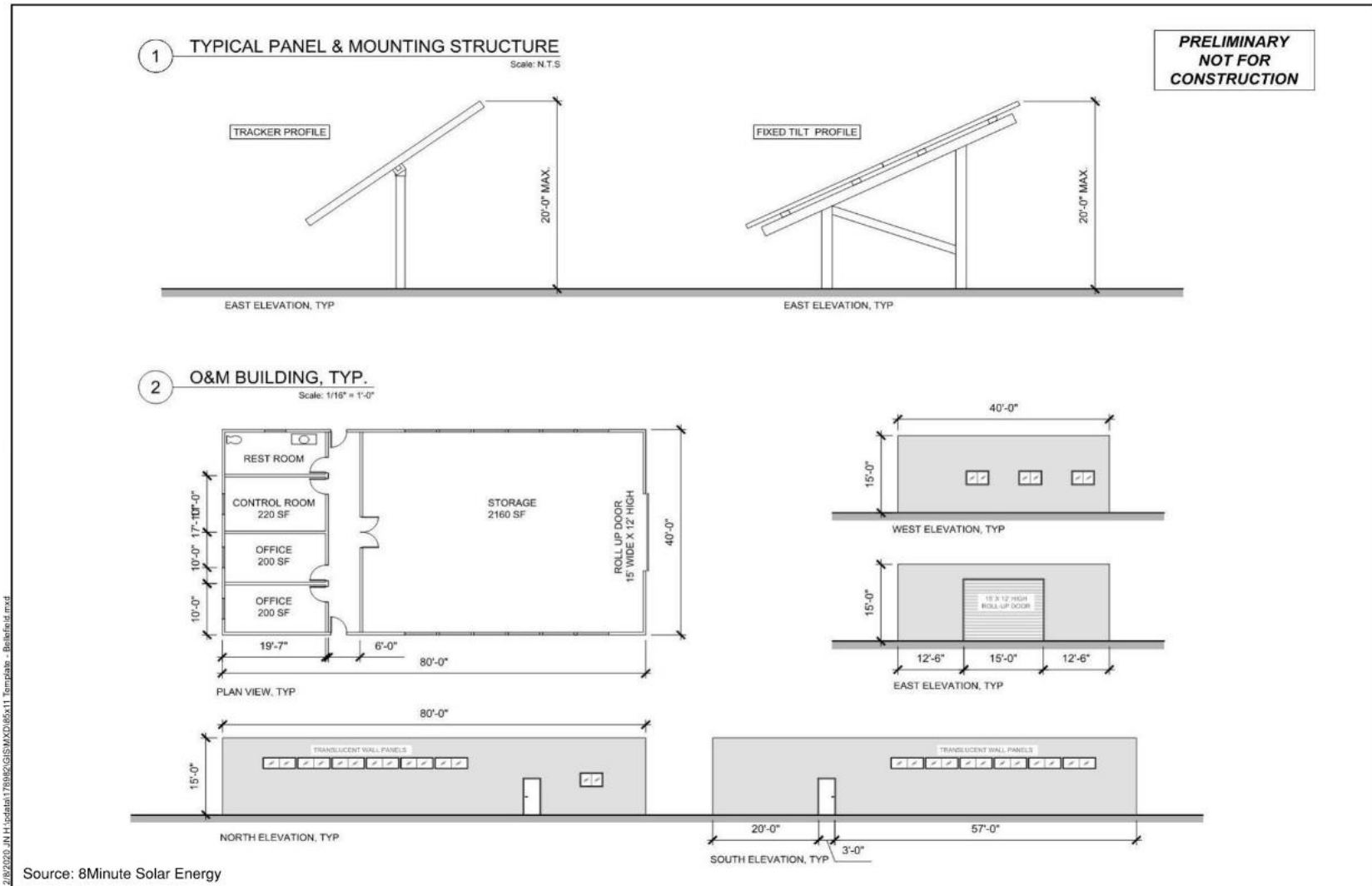
Irrevocable Offers of Dedication, or grant a franchise, license, and/or encroachment agreement for portions of the gen-tie, while other portions would be sited within private easements.

Construction of the gen-tie line may require one lane of traffic along Oak Creek Road to be closed for up to 12 months. Several small single-lane shutdowns or one longer shutdown would be used to allow construction personnel to safely construct the gen-tie line. Additionally, equipment and components may be temporarily staged within the single lane shutdown or adjacent to the road during construction. Depending on the final design, a full closure of Oak Creek Road between Koch Street and the western side of the Windhub Substation for 4-6 weeks may be necessary.

Three staging areas up to 20 acres each would support construction of the project gen-tie. The first staging area would be located at the intersection in Benton and Treescape Roads, the second staging area would be located at the intersection of Oak Creek and Holt Street, and the third would be adjacent to Oak Creek Road, east of Windhub Substation. Staging areas would be cleared, graveled, and fenced. Gates and road aprons would be constructed to facilitate ingress and egress of construction equipment and personnel. No permanent structures would be constructed in the staging areas as part of the project.

The collector lines are generally located within or adjacent to the Kern County and/or California City project parcels, while the gen-tie alternatives generally originate from the central portion of the project heading west around Mojave, before reaching Oak Creek Road and SCE's Windhub Substation. The project may require the acquisition of up to 200 feet of privately owned land abutting the Oak Creek Road right-of-way, for gen-tie routing purposes.

SCE may relocate approximately 400 feet of overhead distribution and telecommunication line from the north side of Oak Creek Road to the south side of Oak Creek Road to create an open space for the project proponent to construct 230kV transmission riser pole(s) on the north side of Oak Creek Road at Windhub Substation. Relocated overhead facilities would consist of up to five new wood poles and/or lightweight steel poles that range in height from 35 feet to 60 feet. Final heights and structure types are subject to change pending final engineering.

**Figure 3-16: Panel Tracker and O&M Building Details**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 3-17: Representative Examples of Photovoltaic Panel/Mounting Configuration****Typical Fixed-Tilt Solar Panel Rows****Typical Single-Axis Tracking Solar Panels****Typical Dual-Axis Tracking Solar Panels****Typical Fixed-Tilt Mounting Structure****Typical Dual-Axis Mounting Structure**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

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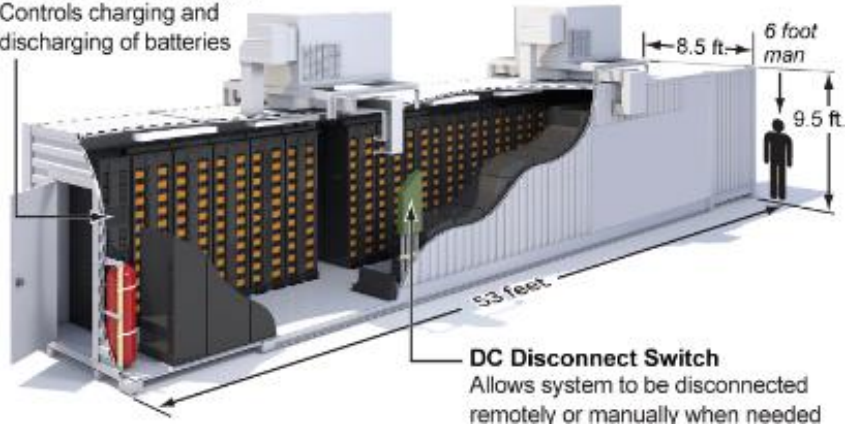
**Figure 3-18: Representative Examples of Typical Inverter Stations**





**Figure 3-19: Representative Examples of Typical Battery Storage Energy Systems****ESS Installed in Dedicated Structure****Modular ESS Installed on Concrete Pad****Modular ESS Installed on Multiple Concrete Pads****Typical ESS**

**Energy Control System**  
Controls charging and  
discharging of batteries

**Typical ESS Module Configuration**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

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**Figure 3-20: Representative Example of Typical Substation Design**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC

## Water Usage

Water demand for panel washing and O&M domestic use is not expected to exceed 200.8 acre-feet per year. Water is anticipated to be obtained from on-site wells, or delivered via truck or pipeline from an off-site source(s). A small water treatment system with a footprint of up to 30 feet by 30 feet may be installed to provide deionized water for panel washing. It is anticipated that water would be obtained from new or existing on-site wells. Alternatively, water may be obtained from one or more off-site source(s) and delivered to the project site via truck. If off-site water is used, it would likely be obtained from one of the nearby Springbok projects, the Eland Project, or from a commercial source.

## Water Storage Tank(s)

One or more plastic or steel aboveground water storage tanks with a total capacity of up to 80,000 gallons (greater if required by Fire Department regulations) may be placed on-site near the O&M building(s). The storage tank(s) near the O&M building(s) would have the appropriate fire department connections to be used for fire suppression purposes.

## Operations and Maintenance Building

The proposed project may include an O&M building(s) of approximately 40 feet by 80 feet in size, with associated on-site parking. The O&M building would be steel framed, with metal siding and roof panels. The O&M building may include the following:

- Office

- Repair building/parts storage
- Control room
- Restroom
- Septic tank and leach field

The septic tank and leach field, roads, driveways, and parking lot entrances would be constructed in accordance with Kern County and California City improvement standards. Parking spaces and walkways would be constructed in accordance with all California accessibility regulations. As previously mentioned, the proposed project may share O&M facilities with one or more nearby solar projects in the area and/or may be remotely operated. Any unused O&M areas on-site may be covered by solar panels.

## **Project Site Security and Fencing**

The project site would be enclosed within a chain-link fence with barbed wire measuring up to 8 feet in height (from finished grade). An intrusion alarm system composed of sensor cables integrated into the perimeter fence, intrusion detection cabinets placed approximately every 1,500 feet along the perimeter fence, and an intrusions control unit, located either in the substation control room or at the O&M building, or similar technology, would be installed. The proposed project may include additional security measures including, but not limited to, barbed wire, low voltage fencing with warning reflective signage, controlled access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespassing and/or unauthorized activities that could interfere with operation of the proposed project.

Controlled access gates would be maintained at the main entrances to the project site. Project access would be provided to off-site emergency response teams that respond in the event of an “after-hours” emergency. Enclosure gates would be manually operated with a key provided in an identified key box location.

## **Project Site Lighting**

Proposed nighttime lighting on-site would be minimal and is anticipated to be installed at the access gates, substation(s), O&M building(s), and inverters to allow for access and emergency maintenance. Nighttime lighting would provide O&M personnel with illumination for both normal and emergency operating conditions. The minimum illumination needed to ensure worker safety and security on-site would be provided. All nighttime lighting installed would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as required by Kern County Ordinance (Chapter 19.81) - Outdoor Lighting-Dark Skies requirements. Additionally, motion-sensitive cameras would be installed within the solar fields in proximity to the inverters for purposes of security.

## **Construction Activities**

The construction period for the proposed project from site preparation through construction, testing, and commercial operation is expected to commence as early as Q4 2021 and would extend for approximately 18 to 24 months.

Construction of the proposed project would include the following activities:

- Site preparation

- Access and internal circulation roads
- Grading and earthwork
- Concrete foundations
- Structural steel work
- Panel installation
- Electrical/instrumentation work
- Collector line installation
- Stormwater management facilities
- Architecture and landscaping
- Gen-tie line(s)

No roadways would be affected by the proposed project, except during the construction period. Construction traffic would access the project site from Highway 58, Altus Avenue, Silver Queen Road, and 50<sup>th</sup> Street. It is estimated that up to 1,000 workers per day (during peak construction periods) would be required during construction of the proposed project.

Construction activities would comply with Kern County and California City noise ordinances. Heavy construction is expected to occur between 6:00 am and 5:00 pm, Monday through Friday. If weekend work is required, construction will occur between 8:00 am and 9:00 pm. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Some activities may continue 24 hours per day, seven days per week. Low level noise activities may potentially occur between the hours of 10:00 pm and 7:00 am. Nighttime activities could potentially include, but are not limited to, refueling equipment, staging material for the following day's construction activities, quality assurance/control, and commissioning.

Materials and supplies would be delivered to the project site by truck. Truck deliveries would normally occur during daylight hours. However, there would be offloading and/or transporting to the project site on weekends and during evening hours.

Earthmoving activities are expected to be limited to the construction of the access roads, O&M building(s), substation(s), water storage tank, construction of solar panel foundation supports, ESSs, and any stormwater protection or storage (detention) facilities. Final grading may include revegetation with low-lying grass or applying earth-binding materials to disturbed areas.

## **Work Force**

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

It is expected that the proposed project could require an operational staff of up to 20 full-time employees. As previously mentioned, it is possible that the proposed project could share O&M, substation, and/or transmission facilities with each other, or with any future energy projects nearby. In such a scenario, the projects would share personnel, thereby potentially reducing the project's on-site staff.

The facility would operate seven days a week, 24 hours a day, generating electricity during normal daylight hours when the solar energy is available. The ESS could dispatch energy at any time during the day or night. Maintenance activities may occur seven days a week, 24 hours a day to ensure ESS output and PV panel output when solar energy is available.

## **Construction Water Use**

During construction, water would be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Total water usage during construction is not expected to exceed 900 acre-feet (450 acre-feet per year). Water demand would be the same during normal or dry years. As previously mentioned, it is anticipated that water would be obtained from new or existing on-site wells. Alternatively, water may be obtained from one or more off-site source(s) and delivered to the project site via truck. If off-site water is used, it would likely be obtained from one of the nearby Springbok projects, the Eland Project, or from a commercial source.

Temporary, portable water tanks may be placed on-site to store water for construction purposes. If the project proponent determines that off-site water would be used, the project proponent would submit evidence of an agreement to provide sufficient water quantities from the proposed off-site water purveyor(s). Portable restroom facilities would be provided to the workers during construction.

## **Project Features and Best Management Practices**

The following sections describe 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.

### **Waste and Hazardous Materials Management**

The proposed project would have minimal levels of materials on-site that have been defined as hazardous under 40 Code of Federal Regulations, Part 261. The following hazardous materials are expected to be used during the construction, operation, and long-term maintenance of the proposed project:

- Insulating oil – used for electrical equipment
- Lubricating oil – used for maintenance vehicles
- Various solvents/detergents – equipment cleaning
- Gasoline – used for maintenance vehicles

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.

### **Spill Prevention and Containment**

During construction, aboveground storage tanks will be used as temporary fueling stations. Temporary tanks will have double containment. Less than 55 gallons of hazardous materials would be stored on-site during operations. Spill prevention and containment for construction and operation of the proposed project will adhere to the US Environmental Protection Agency's guidance on Spill Prevention Control and Countermeasures.

### **Wastewater/Septic System**

A standard on-site septic tank and leach field may be used at the O&M building(s) to dispose sanitary wastewater, designed to meet operation and maintenance guidelines required by Kern County laws, ordinances, regulations, and standards. If no O&M buildings are installed on-site, no septic systems would be installed.

### **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. Nonrecyclable items include insulation, other plastics, food waste, vinyl flooring and base, carpeting, paint containers, packing materials, and other construction wastes. A Construction Waste Management Plan will 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.

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 will be stored (in an approved storage facility/shed/structure) and disposed of as required by local and state regulations. Hazardous wastes exceeding threshold quantities (one 55-gallon drum) are not expected.

### **Health and Safety**

Safety precautions and emergency systems will be implemented as part of the design and construction of the proposed project to ensure safe and reliable operation. Administrative controls will include classroom and hands-on training in operating and maintenance procedures, general safety items, and a planned maintenance program. These will work with the system design and monitoring features to enhance safety and reliability.

The proposed project will have an Emergency Response Plan (ERP). The ERP will address potential emergencies including chemical releases, fires, and injuries. All employees will be provided with communication devices, cell phones, or walkie-talkies, to assist in aiding in the event of an emergency.

## Decommissioning

Solar equipment typically has a lifespan of over 30 years. The proposed project expects to sell the renewable energy produced by the project under the terms of a long-term Power Purchase Agreement (PPA) with a utility or other power off-taker. Upon completion of the PPA term, the project operator may, at its discretion, choose to enter into a subsequent PPA or decommission and remove the system and its components. Upon decommissioning, the solar facility could be converted to other uses in accordance with applicable land use regulations in effect at that time.

It is anticipated that during project decommissioning, project structures that would not be needed for subsequent use would be removed from the project site. Aboveground equipment that may be removed would include module posts and support structures, on-site transmission poles that are not shared with third parties and the overhead collection system within the project site, inverters, substation(s), transformers, electrical wiring, equipment on the inverter pads, and related equipment and concrete pads.

Equipment would be de-energized prior to removal, salvaged (where possible), and shipped off-site to be recycled or disposed of at an appropriately licensed disposal facility. Once the solar modules are removed, the racks would be disassembled, and the structures supporting the racks would be removed. Site infrastructure would be removed, including fences, and concrete pads supporting the inverters, transformers and related equipment would also be removed. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried by standard construction equipment. The fencing and gates would be removed, and all materials would be recycled to the extent practical. Project roads would be restored to their preconstruction function unless they may be used for subsequent land use. The area would be thoroughly cleaned and all debris removed. Materials would be recycled to the extent feasible, with the remainder disposed of in landfills in compliance with all applicable laws.

## 3.7 Entitlements Required

The anticipated approvals needed for the project include changes in zone classification, adoption of CUPs, and amendments to the Kern County General Plan land use designation and to the Circulation Elements of the Kern County General Plan, Mojave Specific Plan, and California City General Plan. 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, but not limited to, those listed below:

### Kern County (Lead Agency)

- Consideration and certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Adoption of proposed Mitigation Measure Monitoring Program
- Approval by the Kern County Board of Supervisors for proposed change in General Plan designation
- Approval by the Kern County Board of Supervisors for proposed changes in zone classification



- Approval by the Kern County Board of Supervisors for proposed CUPs for the project site
- Approval by the Kern County Board of Supervisors for proposed General Plan Amendment and Specific Plan Amendment to the Circulation Element
- Approval by the Kern County Board of Supervisors for the proposed non-summary vacation requests
- Kern County grading and building permits
- Kern County encroachment permits
- Kern County franchise agreements
- Kern County easements and licenses
- Kern County Fire Safety Plan

## **City of California City (Responsible Agency)**

- Consideration of a previously certified Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Adoption of proposed Mitigation Measure Monitoring Program
- Approval by the Planning Commission for proposed changes in zone classification (if required)
- Approval by the Planning Commission for proposed CUPs for the project site
- California City grading and building permits
- California City franchise agreements/business license
- California City encroachment permit
- California City public road(s) and easement(s) vacation(s) (if required)
- California City Fire Strategic Plan
- Development agreement (if required)

## **Other Responsible Agency Approvals**

- Federal Aviation Administration review
- US Fish and Wildlife Service consultation, if required
- US Fish and Wildlife Service Habitat Conservation Plan (if required)
- Bureau of Land Management Right of Way Agreement for Limited Improvements for Access Roads and Gen-tie Line (if required)
- California Department of Fish and Wildlife, Lake and Streambed Alteration Agreement or Incidental Take Permit or Habitat Conservation Plan (if required)



- State Water Resources Control Board, National Pollutant Discharge Elimination System Construction General Permit
- California Department of Transportation Right-of-Way Encroachment Permit, Permit for Transport of Oversized Loads, and scenic roadway eligibility requirements, if required
- California State Lands Commission, approval of lease
- Union Pacific, BSNF Railroad Wireline Crossing Agreement
- SCE, Rights-of-Way Crossing Permits
- Los Angeles Department of Water and Power Crossing Agreement
- Eastern Kern County Air Pollution Control District, Authority to Construct/Permit to Operate/Fugitive Dust Control Plan

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.

## 3.8 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" (CCR, Title 14, Division 6, Chapter 3, Section 15355).*

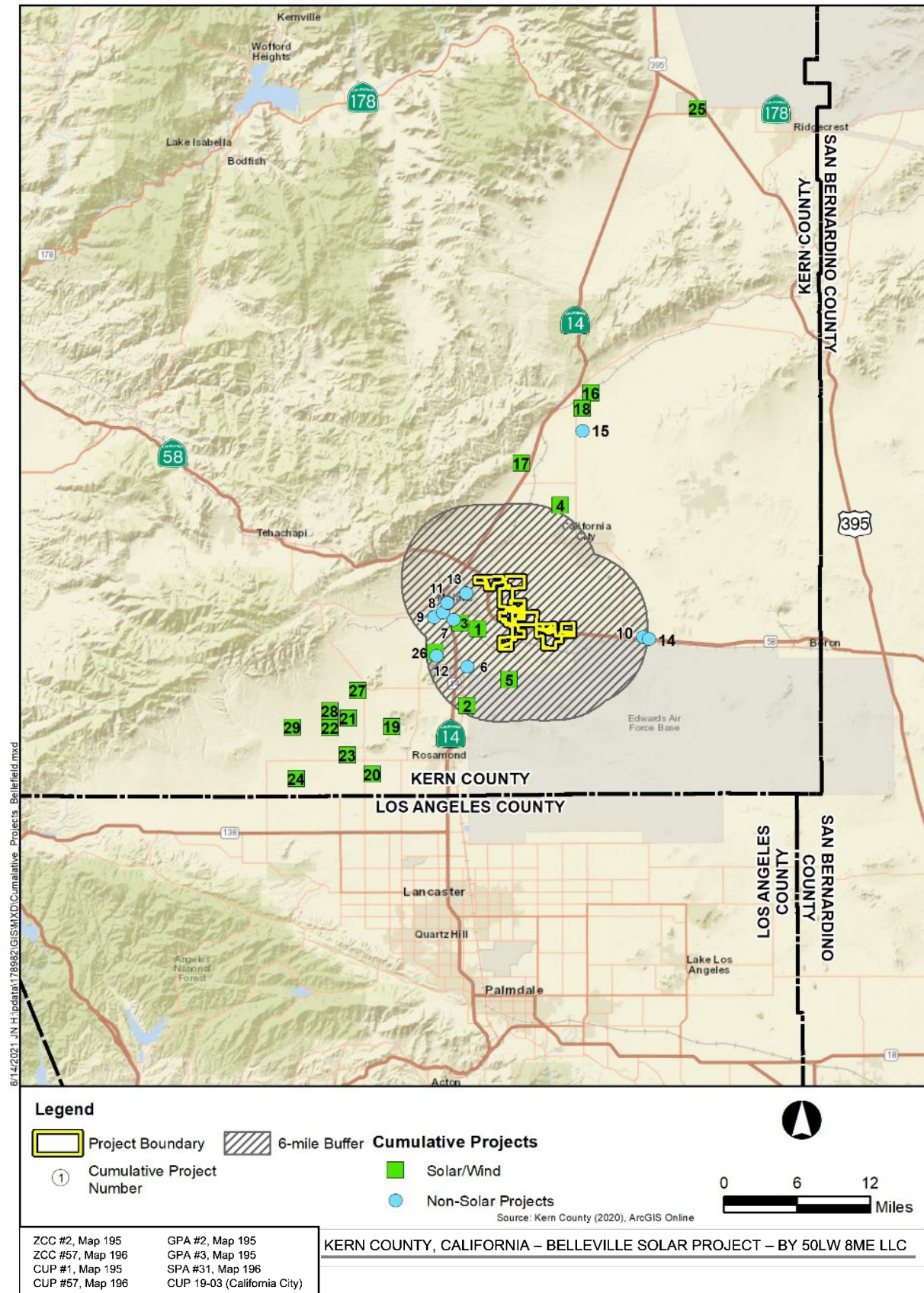
In addition, as stated in CEQA Guidelines, it should be noted that:

*"The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed 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 reasonable 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).

Unless otherwise noted in each chapter, the geographic scope for the cumulative impact analysis is the western Antelope Valley. The western Antelope Valley includes portions of the southeast corner of Kern County and portions of northern Los Angeles County. The valley is formed by the Tehachapi Mountains to the northwest and San Gabriel Mountains to the southwest. SR-14 is considered the eastern boundary of this area. The western Antelope Valley is triangularly shaped and is about 35 miles from west to east and 40 miles from north to south at its widest points. This geographic scope is selected because of its relatively uniform terrain, soil conditions, climate, and habitat value; its low population and development density relative to areas east of SR-14; and the region’s common groundwater basin and water supply considerations. SR-14 is a major north-south route in the area, dividing the western Antelope Valley from the rest of the Mojave Desert. The Mojave Desert broadens considerably east of SR-14 as the Tehachapi Mountains run north and the San Gabriel Mountains run southeast. East of SR-14, the valley does not feature the same mountain viewsheds found in the western Antelope Valley, and includes more densely developed areas, including the community of Rosamond, the cities of Lancaster and Palmdale, Mojave Air & Space Port, Edwards Air Force Base, and U.S. Air Force Plant 42. Projects within Lancaster and Palmdale’s urban cores are not considered to be part of the Western Antelope Valley. These projects are of a distinctly urban character, and in many respects would not have the same type of potential impacts as the project and others in the western Antelope Valley. Further, inclusion of urban projects could dilute, improperly magnify, or otherwise impair analysis of certain project impact areas. However, when appropriate (as determined by the impact being analyzed), a smaller or larger geographic scope was selected.

**Table 3-4**, *Cumulative Projects List*, shows the related projects considered in the cumulative analysis. **Figure 3-21**, *Cumulative Projects Map*, shows the approximate location of the proposed, approved, constructed, and operational solar projects, as well as other non-solar projects considered in the cumulative analysis.

**Figure 3-21: Cumulative Projects**

**Table 3-2. Cumulative Projects List**

No.	Project Name/Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
<b>1-MILE RADIUS PROJECTS</b>								
1	Sanborn Solar	South of SR-58 and east of SR-14	300 MW solar facility	ZCC, CUP	ZCC 56, Map 196; ZCC 2, Map 212; ZCC 59, Map 213; CUP 45, Map 196; CUP 5, Map 212; CUP 66, Map 213	multiple	2,006	Approved
<b>6-MILE RADIUS PROJECTS</b>								
<b>SOLAR PROJECTS</b>								
2	FRV MOJAVE SOLAR, LP	SEC/ SIERRA HWY & SOPP RD	CUP and ZCC to A FOR 20 MW PV SOLAR FACILITY incidental to Steel Mill Factory	CUP, ZCC	ZCC, CUP Map 213	431-030-02 431-010-02	63-acre portion	In process
3	HIGH DESERT SOLAR/ELEMENT POWER, INC	NWC/INTSEC PURDY AV & UNITED ST	CUP FOR 18 MW SOLAR PV FACILITY	MOD PD Plan	MOD 1, PD 15, Map 196	427-020-46 427-020-45	155	In process
4	Kudu Solar Farm	Unincorporated Kern County and City of California City	500 MW solar facility and 600 MW energy storage system	CUP, ZCC, GPA	GPA 10, Map 152; ZCC 14, Map 152; CUP 25, Map 152	multiple	1,955	In process
5	Edwards AFB Solar	Northwest corner of Edwards Air Force Base, at the intersection of Lone Butte Road and East Trotter Avenue	750 MW solar facility on Edwards Air Force Base and	Franchise Agreements	Franchise Agreements	multiple	4,000 acres	Approved

No.	Project Name/Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
<b>NON-SOLAR PROJECTS</b>								
6	McIntosh and Assoc for Duy Ton	Lone Butte Road in Rosamond	Vehicle wrecking yard	CUP	CUP, Map 213	429-010-04	40	In process
7	Western Emulsions, Inc	Vacant land east of Holt St, Mojave	Zone change to R-2 to permit site development to max 16du/acre. Amend MSP to designate 5.2 max 16 du.	ZCC	ZCC, Map 196	427-020-42	94.9	In process
8	Swanson Engineering	½ mile W of Sierra Hwy & Hwy 58 T-intersection	Zone change from MP to R-2 and SPA to 5.3/2.5 (5.2 (16 du/acre).	GPA, ZCC	GPA & ZCC, Map 196	236-080-099	19.22	In process
9	Speedy Fuel, INC.	NW of Holt Street, Mojave, 93501	Storage of Liquid Nitrogen Gas	CUP	Map 196	427-111-11	10.52	In process
10	Mike Singh	0 DESERT SAGE AV, COUNTY, CA	Truck Stop & Auto Fueling Facilities.	CUP	CUP Map 194	234-350-01, 234-350-12	58.62	In process
11	Marvin J Mazariego Vasquez	15946 K ST, MOJAVE, CA	Zone from C-2 PD H FPS to M-2 PD H FPS for storage yard.	ZCC	ZCC Map	236-212-130	0.18	In process
12	Golden Queen Mining Company, LLC	2850 SILVER QUEEN RD, MOJAVE, CA	Proposed addendum to an EIR approved for a surface mining and reclamation plan	EIR addendum	CUP 27, Map 196; CUP 41, Map 213; CUP 22, Map 214	429-190-069	44.18	In process

No.	Project Name/Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
13	Environmental Recycling Services, LLC	1434 Flightline St., Mojave, CA 93501; 500 BURM RD, MOJAVE, CA	Aircraft wrecking facility and yard. Previous CUP #37, Map #196 expired without an extension of time.	CUP	CUP, Map 196	428-010-05	496.56	In review
14	CVEAS, INC.	Hwy 58 and Northgate Blvd. Edwards, CA	Precise Development Plan for the construction of a new gas station/convenience store	PD Plan	PD Plan Map 194	234-350-07		In process
15	Sprint by Eukon Group	Two miles south of Munsey Road and Neuralia Road intersection	80 foot monopole tower	CUP	CUP 27, Map 152	469-010-04	2,500 square feet	Approved
<b>Other Solar Projects in Antelope Valley</b>								
16	Nautilus Solar Energy (Cantil Site)	Southeast corner of the Valley Road and Cantil Road intersection	9 MW solar facility	ZCC, CUP	ZCC 12, Map 133; CUP 12, Map 133	181-040-01	77	In suspense
17	Eland 1 Solar	South of Munsey Road, east and west of Neuralia Road, east of SR-14, and north and south of Phillips Road	500 MW solar facility	GPA, ZCC, CUP	GPA 9, Map 152; GPA 1, Map 152-28; ZCC 11, Map 152; ZCC 12, Map 152; ZCC 1, Map 152-28; ZCC 13, Map 152; CUP 23, Map 152; CUP 24, Map 152; CUP 25, Map 152; CUP 26, Map 152; CUP 3, Map 152-28	multiple	2,652.7	Approved 2019; not constructed
18	Solar CA, LLC	North of Munsey Road and east of Neuralia Road	135 MW solar facility	CUP		multiple	723	

No.	Project Name/Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
19	RE Rosamond	Northwest Favorito Ave and 65 <sup>th</sup> Street	20 MW solar facility	SPA, ZCC, CUP	CUP 3, Map 231-3; ZCC 1, Map 231-3; SPA 1, Map 231-3.	252-013-01	320	In process
20	Raceway 2.0 Solar	Western extent of the Mojave Desert near Rosamond, between Rosamond Boulevard and Avenue A, and between 70th Street West and 90th Street West	291 MW solar facility	GPA, ZCC, CUP	SPA 33, Map 231; ZCC 154, Map 231; CUP 116 Map 231; SPA 34, Map 231; SPA 35, Map 231; ZCC 155, Map 231; CUP 117, Map 231; SPA 36, Map 231; SPA 37, Map 231; ZCC 156, Map 231; CUP 118, Map 231; SPA 38, Map 231; CUP 119, Map 231; CUP 4, Map 231-20; SPA 39, Map 231; SPA 3, Map 231-20; Cancellation of a Williamson Act Contract; SPA 5, Map 231-21; SPA 5, Map 231-28; ZCC 3, Map 231-21; ZCC 3, Map 231-28; CUP 3, Map 231-21; CUP 7, Map 231-28; SPA 6, Map 231-21; SPA 6, Map 231-28; SPA 7, Map 231-21; ZCC 4, Map 231-21; CUP 4, Map 231-21	multiple	1,311	In process
21	IP Solar Company	Southeast corner of McConnell & 105th	CUP for solar facility	CUP	CUP, Map 215	474-120-04	40	Construction has not commenced
22	Big Beau Solar	Southeast portion of Kern County	128 MW solar facility	GPA, SPA, ZCC, CUP	GPA 4, Map 215; SPA 32, Map 232;	358-061-19; Multiple	2,285	Approved 2020; not constructed

No.	Project Name/Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
		approximately 12 miles southwest of SR-58 and approximately 9 miles east of SR-14			ZCC 13, Map 215; ZCC 44, Map 232; CUP 13, Map 215; CUP 41, Map 232; CUP 14, Map 215; CUP 42, Map 232; CUP 15, Map 215; CUP 43, Map 215			
23	AVEP Solar	South of Dawn Road, west of 95th Street West, north Avenue A, and east of 130th Street West	375 MW solar facility	CUP, ZCC, GPA, SPA	SPA to Willow Springs Specific Plan and Circulation Plan; ZCC to A FPS; CUP to allow for solar PV facility	358-030-19; Multiple	2,117	Approved
24	Rosamond 7	140th St. W. and Holiday Ave.	100 MW solar facility	SPA, ZCC, CUP	CUP 10, Map 3	multiple	640 acres	In process
25	Robbie Barker	Located east of the North Brown Road and Inyokern Road intersection	Solar facility	SPA, CUP, LLA	CUP 23, Map 47; CUP 27, Map 47; SPA 4, Map 47; LLA 48-19	084-010-43; Multiple	166	In process
26	Catalina Solar 2	Backus Road – west of Tehachapi-Willow Springs Road	150 MW solar facility	CUP, ZCC, GPA	GPA 2, Map 215; ZCC 11, Map 215; Modification of CUP 6, Map 215; Modification of CUP 7, Map 215	358-021-04; Multiple	2,250 acres	Operational
27	AV Apollo Solar	Southeast corner of Backus Road and 100th Street West, Northeast corner of Backus Road and 100th Street West	60 MW solar facility	CUP	CUP 37, Map 214; CUP 38, Map 214; CUP 39, Map 214; CUP 41, Map 214; GPA 5, Map 214	346-022-03; Multiple	493.5 acres	Approved
28	Catalina Renewable Energy	Two miles west of Backus Road and	350 MW solar and wind facility	CUP, ZCC	ZCC 8, Map 215; ZCC 8, Map 216;	Multiple	6,739 acres	Operational



<b>No.</b>	<b>Project Name/Case ID</b>	<b>Project Location</b>	<b>Project Description</b>	<b>Case Type</b>	<b>Request</b>	<b>Project Site APN</b>	<b>Acreage/ Square Feet</b>	<b>Project Status</b>
		Tehachapi-Willow Springs Road			CUP 6, Map 215; CUP 7, Map 215;			
29	Valentine Solar	Northeast corner of Hamilton Rd and 132nd Street West	100 MW solar facility	CUP, ZCC, GPA, SPA	GPA 3, Map 215; SPA 20, Map 232; ZCC 37, Map 232; ZCC 12, Map 215; CUP 9, Map 215; CUP 10, Map 215; CUP 12, Map 215; CUP 30, Map 232	358-021-04; Multiple	2,250 acres	Operational

## Section 4.1 Aesthetics

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### 4.1.1 Introduction

This section of the EIR discusses impacts on aesthetic values, which includes the existing visual character and visual quality of the project site and the surrounding landscape. Potential effects on aesthetics are evaluated relative to important visual features (e.g., scenic highways, vistas, or areas subject to visual landscape management policies) that occur in the project vicinity and the viewers that would be affected by visual change. The visual change that would result from the project is determined by comparing the existing visual conditions to simulated conditions where the project features would be most visible. The types and extent of adverse visual impacts are then evaluated in conjunction with viewer characteristics to determine if the impacts could be significant.

The assessment of the existing visual conditions and impacts on aesthetics was conducted by Panorama Environmental, Inc. (Panorama) as a consultant to the Kern County Department of Planning and Natural Resources. The visual simulations included in this section were prepared by the project proponent's consultant, Stantec Consulting Services Inc. (2020a), as part of a Visual Resources Technical Report that is provided as **Appendix B-1** of this EIR. The assessment of potential glare impacts is based on the findings of a Glare Study prepared by Dudek (2021), which is provided as **Appendix B-2** of this EIR.

### 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. A visual or aesthetic impact may occur depending on the extent to which a project's presence would substantially alter the perceived visual character and quality of the environment.

The following terms and concepts are used to describe and assess the aesthetic setting and impacts from the project.

- *Key Observation Points (KOPs)* - KOPs are viewpoints (VPs) on a travel route or at a sensitive use area, such as public roadway, park, or residential neighborhood, where the view of a project would be the most revealing.
- *Scenic Highways* - Scenic highways include any stretch of public roadway that is designated as a scenic corridor by a federal, State, or local agency.
- *Scenic Quality* - Scenic quality refers to the visual appeal of a landscape relative to desired scenic values and the abundance or scarcity of similar qualities in the region. Scenic quality can be measured by evaluating the presence or absence of scenic features and the intrusion of other features that detract from the scenic features.
- *Scenic Vistas* - Scenic vistas are designated viewing areas or areas 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.

- *Viewers and Viewer Sensitivity* - Viewer sensitivity refers to responses to visual changes in a landscape that can be 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 be stationary or mobile and involve varying circumstances that encourage close observation of a landscape (i.e., recreational activities) or discouraging close observation of a landscape (i.e., commuting in traffic). Residential viewers have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive; however, CEQA does not require an analysis of impacts on private views. Viewers from public parks, recreational trails, and/or culturally important sites may also have high visual sensitivities; therefore, such locations are considered sensitive VPs. People located in commercial, military, and industrial areas are not typically focused on views and such areas do not promote typical scenic values; therefore, viewers in these locations are assumed to have low sensitivity. In general, residents and others participating in recreational activities (e.g., hikers, equestrians, tourists) are expected to be more concerned with scenery and landscape character. Local motorists who commute daily through the same landscape may have a moderate concern for scenery and landscape character, while regional motorists or people who work within highly urbanized areas are expected to have a lower concern for scenery and landscape character.
- *Viewing Distance Zones* - Landscapes can be subdivided into viewing distance zones based on relative visibility from travel routes or observation points. The distance zones are immediate foreground (0 to 0.25 miles away), foreground (0.25 to 1 mile away), middle ground (1 to 3 miles away), and background (greater than 3 miles away).
- 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 its form and scale would be most perceptible. When the same 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.
- *Viewing Duration* - Viewing duration can affect viewer sensitivity based on the amount of time a landscape and visual changes within it are viewed. For example, motorists traveling at high speeds are less likely to be sensitive to visual change because the viewing duration is short, while stationary viewers or viewers traveling at slow speeds are more likely to be sensitive to visual change because the viewing duration is long.
- *Viewpoints (VPs)* - VPs are locations identified for inventorying the most prominent views of a project site and visual character in the surrounding area.
- *Viewshed* - Viewshed is 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.
- *Visual Sensitivity* - Visual sensitivity refers to the overall measure of an existing landscape's susceptibility to adverse visual changes. When viewing the same landscape, viewers may have different responses to that landscape and any visual changes that would result from a project, based upon their values, familiarity, concern, or expectations for that landscape and its scenic

quality. Visual changes in landscapes affect viewers differently because each person's attachment to and value for a particular landscape is unique. Landscape sensitivity is a concept used to generalize expectations about viewer response to visual changes in a specific landscape.

## 4.1.2 Environmental Setting

### Regional Character

The project site is situated within southeastern Kern County, California, on the boundary of Antelope Valley and Fremont Valley, at the western edge of the Mojave Desert. The project lies approximately 60 miles southeast of Bakersfield, and 20 miles east of the Tehachapi Mountains, which reach to approximately 4,000 feet above the valley floor. The area is characterized by a large sloping valley floor, interspersed by occasional low rolling hills. The soil of these hills is often a distinctive dark red that contrasts with the tan and orange soils of the valley landscape. This region is home to a variety of mostly low-growing desert vegetation, such as creosote, juniper, and sagebrush. Much of the valley also hosts Joshua trees, which punctuate the lower growing bushes with distinctive character. The valley is known for its spring wildflower display.

Residential and commercial development is evident in the region within areas of Mojave and California City. Other notable development in the region includes the State Route (SR) 58 and SR-14 corridors; extensive wind energy development at the base of the Tehachapi Mountains, east of Mojave; the Mojave Air and Space Port approximately 1.5 miles west of the project site; and the Hyundai-Kia Proving Grounds immediately east of the project site. The Proving Grounds site includes a 4,300-acre facility designed to test Hyundai's vehicle safety systems, with a 6.4-mile-long oval track, and a 30,000-square-foot office complex (Hyundai 2021). The remaining areas to the north and south of the project have little to no development that is visually prominent.

A segment of the Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail, or PCT) traverses through the Tehachapi Mountains approximately 7 miles northwest of the project site. Visual quality along this segment of the trail varies with the intermittent visibility of regional development, and the proximity of the SR-58 corridor and extensive wind energy development. Where the trail is located on the south facing slopes of the Tehachapi Mountains, north of SR-58, there may be occasional vistas of the expansive valley floor toward the south and southeast in the direction of the project site.

The 10-mile project site viewshed is shown on **Figure 4.1-1, Project Site Viewshed within 10 Miles**, which illustrates potential line-of-sight visibility to the project site. The viewshed is based on a bare earth model that does not consider intervening vegetation or structures, or atmospheric conditions, that would block or limit views. The model uses a digital elevation model with 10-meter cells; therefore, the viewshed results are approximate.

### Local Character

The project site is composed of 90 parcels that straddle approximately 8 miles of SR-58, between and partially within Mojave and California City boundaries. The project would also include an overhead and some underground segments of a gen-tie line that would deliver power from the project site to the SCE Windhub Substation located approximately 11 miles west. A preliminary proposed route has been

identified for the gen-tie line that generally follows the business section of SR-58 through Mojave. In addition, several alternative routes have been identified and the final route would be determined following project approval in accordance with Kern County transmission line planning requirements. The closest residences to the proposed solar site are located roughly 1.3 miles southwest in the Mojave area (at Dalton Avenue and Bob Street) and roughly 5 miles northeast in California City (Neuralia Road and Forest Boulevard).

The project site landscape consists largely of undeveloped lands composed of privately-owned parcels and various dirt roads. A single line railroad track (Burlington Northern and Santa Fe Railway) runs roughly parallel to and south of SR-58; this railroad intersects the southernmost parcels that are part of the project site. An electrical distribution line is located parallel to SR-58. Transmission lines, transportation corridors, and solar energy facilities are discernable in the foreground and middle ground views throughout the area.

The project site is relatively flat with elevations ranging from about 2,500 feet to 2,800 feet above mean sea level. The project parcels can be seen from immediately surrounding areas, due to the relatively flat topography and low-growing desert vegetation with few natural screening elements. The visual characteristics of the project site are relatively common in the region; however, the project site encompasses a large portion of the remaining undeveloped land in the immediate area along SR-58. Similar undeveloped landscapes along the SR-58 and SR-14 highway corridors are located north-northeast and east of the project. The landscape is generally characterized by its expansive views of the flat Mojave Desert with occasional topographic features that are bounded by foothills and mountainous terrain. Pale tones of green, brown, red, and gray are visible in the desert vegetation and exposed earth surface. The landscape is visually striking, particularly from views along portions of SR-58 toward the north and south where existing development is not noticeable.

**Figure 4.1-2, *Viewpoints and Key Observation Points*** illustrates the locations of viewpoints addressed in this section where the photographs were taken and the view direction. Photographs showing existing visual conditions of the project site as seen from the surrounding area are provided in **Figure 4.1-3, *Photographs of Existing Visual Conditions at Viewpoints***.

## Viewers

Motorists traveling along SR-58 and SR-14 would have views of the project site and proposed gen-tie corridor. Views along this segment of SR-58 are expansive and generally characterized by the sparsely developed desert landscape. The closest viewing locations would be approximately 100 feet from the nearest edge of the project site, where the project site abuts the SR-58 right-of-way. These motorists are expected to have a low viewer sensitivity.

Motorists traveling along local roadways in the area (i.e., SR-58 Business, Bishop Drive, Hyundai-Kia Boulevard, Myer Road, Oak Creek Road, and others) would have intermittent views of the project site and the proposed gen-tie corridor, depending on the specific location. Views from these locations would be similar in character to those along SR-58. The closest viewing locations would be approximately 100 feet. Motorists along these local roadways are expected to have a low to moderate viewer sensitivity.

Noticeable views of the project site from residences and recreational facilities in the region are not expected due to the separation distances between the nearest residences (roughly 1 to 5 miles and greater) and flat terrain. Depending on the final route, the gen-tie line may be visible to adjacent residences and

neighborhood park users in Mojave (i.e., Mojave East Park). Residents and park users are expected to have a low to moderate viewer sensitivity in response to the gen-tie line, based on the presence of existing utility lines where the gen-tie line may be located. The gen-tie line could be as close as approximately 100 to 250 feet from residences and parks.

Figure 4.1-1. Project Site Viewshed within 10 Miles

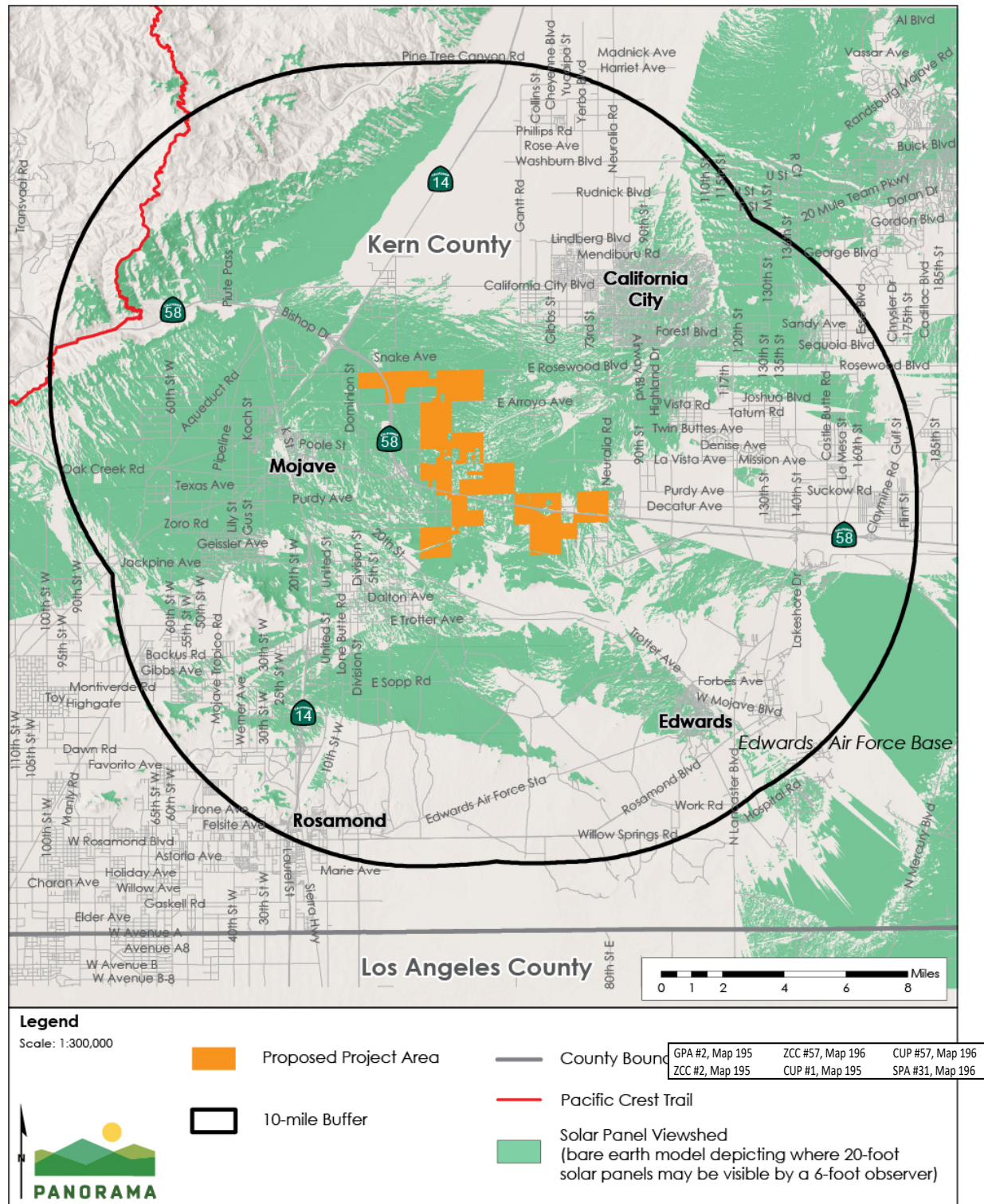
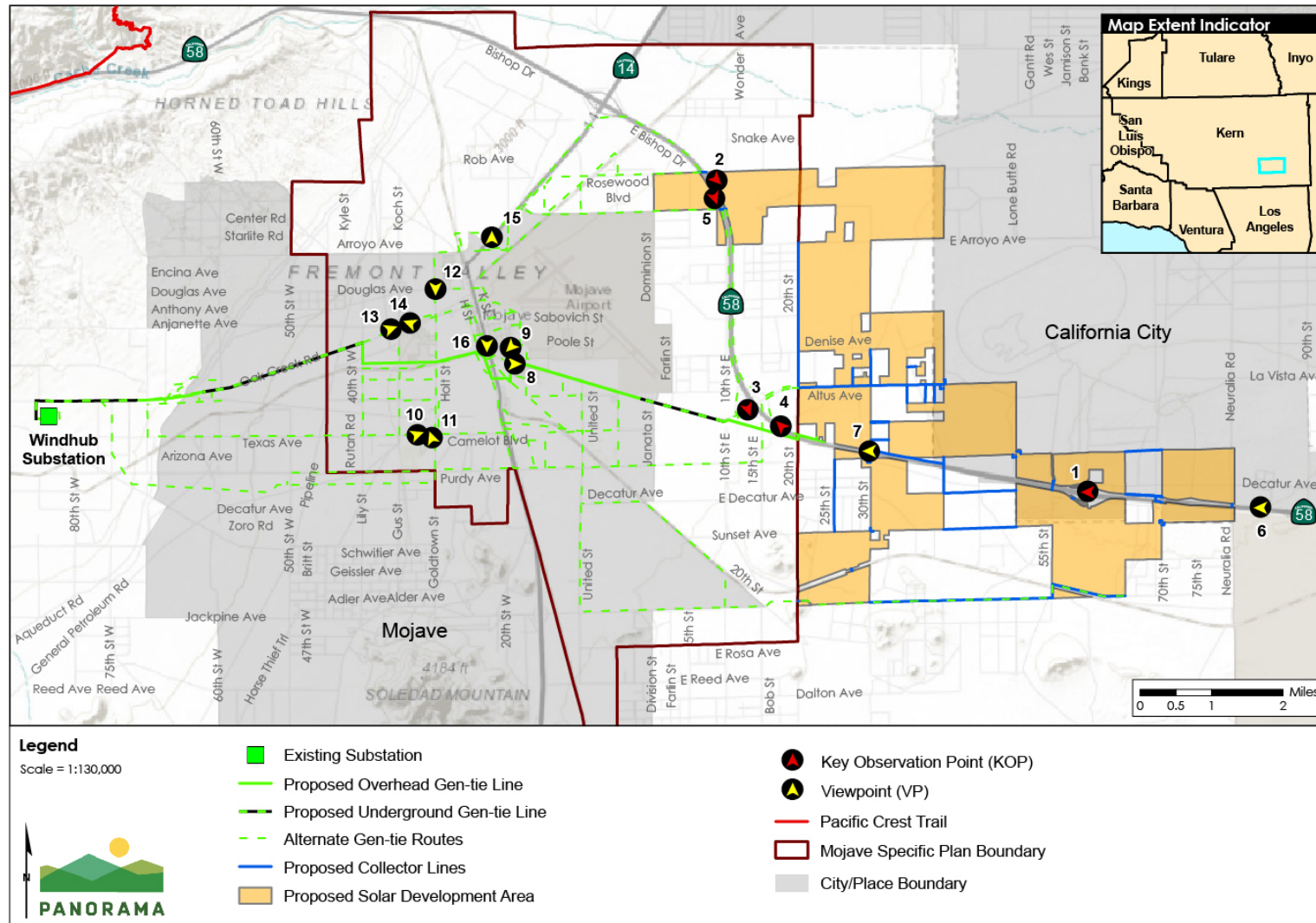




Figure 4.1-2. Viewpoints and Key Observation Points



ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC



**Figure 4.1-3. Photographs of Existing Visual Conditions at Viewpoints**



**VP 1/KOP 1:** Westbound SR-58 near Hyundai-Kia Blvd (facing west)



**VP 2/KOP 2:** Bishop Dr (parallel to SR-58) (facing southeast)



**VP 3/KOP 3:** Eastbound SR-58 on-ramp at Altus Ave (facing south-southeast)



**VP 4/KOP 4:** East Bishop Dr parallel to SR-58 (facing northwest)





**VP 5/KOP 5:** Proteus Rd parallel to SR-58 (facing south-southeast)



**VP 6:** Westbound SR-58 east of the project (facing west)



**VP 7:** Westbound SR-58 west of California City (facing west)



**VP 8:** Highway 58 Business (facing east-southeast)





**VP 9:** Mojave East Park (facing southwest)



**VP 10:** Somerset Dr at Camelot Blvd (facing east-northeast)



**VP 11:** Somerset Dr (facing north-northwest)



**VP 12:** Douglas Ave at Holt St (facing south)





**VP 13:** Oak Creek Rd (facing east-northeast)



**VP 14:** Oak Creek Pl (facing west-northwest)



**VP 15:** Northbound SR-14 (facing north)



**VP 16:** Southbound SR-14 (facing south)

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**

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## Scenic Highways

According to the California Department of Transportation's (Caltrans) California Scenic Highway Mapping System, there are no designated scenic highways within Kern County (see **Section 4.1.3, Regulatory Setting**, below for more information on the State Scenic Highway Mapping System). SR-58 (between SR-14 and Barstow) and SR-14 (between SR-58 and Highway 395) are designated as eligible scenic highways; however, neither have been formally designated as a State scenic highway (Caltrans 2021).

In addition to the State Scenic Highway Mapping System, the Kern County General Plan Circulation Element (also refer to **Section 4.1.3, Regulatory Setting**, for more information) designates scenic routes and defines a scenic route as any freeway, highway, road, or other public right-of-way that 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. As such, SR-58 and SR-14 are not officially designated as a State scenic highway and are not considered scenic highways for this analysis. As part of the Circulation Element goals, policies, and implementation measures, Kern County adopted a SC (Scenic Corridor Combining) District to designate areas that contain unique visual and scenic resources as viewed from a major highway or freeway. The project site is not within a SC (Scenic Corridor Combining) District.

## Lighting Environment

The project site is not currently lit at night. Off-site fixed lighting in surrounding areas includes small light fixtures on buildings and street lighting along SR-58 within areas of Mojave, the Mojave Air and Space Port, Hyundai-Kia Proving Grounds, and industrial areas that includes communication towers. The main sources of nighttime lighting in the area are from vehicle lights along SR-58 and local roadways, and the Mojave Air and Space Port. These lighting sources produce a moderate amount of nighttime lighting in the project area.

### 4.1.3 Regulatory Setting

#### Federal

##### National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration (FHWA). Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities (FHWA 2021a). There are no National Scenic Byways or All-American Roads within the vicinity of the project site (FHWA 2021b).

## **U.S. Department of the Interior, National Park Service, National Trails System Act**

The National Trails System Act of 1969 seeks to preserve scenic and natural qualities along trails. The National Trails System Act assigns management responsibility for trails to various federal resource agencies, depending on which agency holds jurisdiction over the land on which the trail is located in a given area. The PCT was created under the National Trails System Act to provide for outdoor recreation opportunities and the conservation of significant scenic, historic, natural, or cultural qualities (National Park Service 2016). PCT's southern terminus is on the U.S. border with Mexico, just south of Campo, California, and its northern terminus on the Canada–US border on the edge of Manning Park in British Columbia; its corridor through the U.S. is in the states of California, Oregon, and Washington. As stated previously, the PCT is located approximately 7 miles northwest of the project site and portions of the project site are within the trail's viewshed.

## **State**

### **California State Scenic Highway Program**

The California Scenic Highway Program was created by the legislature in 1963 and is managed by the Landscape Architecture Division of Caltrans. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. A highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon travelers' enjoyment of the view. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

No Kern County highways are officially designated as State scenic highways. The segment of SR-58 between Mojave and Barstow, adjacent to the project, is eligible for designation as a State scenic highway, but it has not been formally designated (Caltrans 2021). Additionally, the segment of SR-14 between Highway 395 and SR-58 (within 500 feet of the proposed gen-tie alignment) is eligible for designation as a State scenic highway, but it has not been formally designated (Caltrans 2021).

## **Local**

Construction and operation of the solar facility would be subject to policies, goals, regulations, and implementation measures related to aesthetics contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, Kern County Code of Building Regulations, California City General Plan, and Mojave Specific Plan.

### **Kern County General Plan**

The policies, goals, and implementation measures in the Kern County General Plan (Kern County 2009) 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 particular developments, 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.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan evaluates the visual and aesthetic setting of Kern County and assesses 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 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 that 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 its scenic route program and measures to protect scenic resources, which are not applicable to the project.

The Kern County General Plan acknowledges 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 SR-14 and Highway 395. Route 2 consists of SR-58 between Mojave and Boron. Route 3 consists of 5 miles of SR-14 in northwest Kern County. The project is adjacent to Route 2 (SR-58). The Kern County General Plan has no policies that address eligible State scenic highways. As there are no officially designated scenic routes in the project area, there are no policies regarding development within scenic routes that would apply to the project.

The Kern County General Plan includes goals and policies for design features of development projects in order to reduce their impacts to scenic resources. The goals, policies, and implementation measures that apply to the project are provided below. Applicable goals, policies, and implementation measures that are more general in nature are not included but are incorporated herein by reference.

## **Chapter 1: of the 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: of the 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.

## **Mojave Specific Plan**

A portion of the northern project site (approximately 810 acres) and more than half of the proposed gentle route lies within the Mojave Specific Plan area. The plan was adopted in 2003 as part of the Land Use, Open Space, and Conservation Element of the Kern County General Plan. Its goals, policies, and standards are compatible with those of the General Plan but are tailored to the particular planning conditions of the community of Mojave. The following objectives and policies from the Land Use and Conservation Elements of the Mojave Specific Plan are related to aesthetics:

Objective 3.7: Create, preserve, and project a positive community image and identity.

Policy 3.7.1: Promote the development of aesthetic design guidelines for Central Mojave, such as landscaping, lighting, and signage to achieve a consistent theme and character.

Objective 3.8: Enhance and maintain the character of residential neighborhoods.

Policy 3.8.4: To minimize potential noise and health hazards, buffering should be utilized to separate service and heavy industrial uses from surrounding residences. Buffers shall be reviewed during the Precise Development process. Buffers may be imposed when necessary. Landscaping, picnic areas, parking, offices, indoor warehousing or other nonintrusive uses will be recommended within identified buffer areas...

Objective 4.4: Maintain and promote the retention of natural settings and use of native or adaptable vegetation.

Policy 4.4.4: Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.

## City of California City General Plan

A portion of the project (approximately 2,100 acres) lies within California City and the California City General Plan boundaries. The California City General Plan (California City 2009) includes goals and policies related to aesthetics that would apply to the project. These goals and policies pertain to reducing visual impacts from new industrial development and design recommendations, such as utilizing screening walls or landscaping, height limitations, development setbacks, and lighting restrictions adjacent to residential land use designations, and scenic roads and highways. California City's goals and policies applicable to the project, where located within the city boundary, include the following:

### Industrial Development

- Require that industrial uses provide design features, such as screen walls, landscaping, and height, setback and lighting restrictions between the boundaries of adjacent residential land use designations so as to reduce impacts on residences due to aesthetics, light and glare, noise, and vibration. Minimize impacts of industrial-related traffic, noise, air quality, and visual aesthetics on adjacent residential parcels through the use of site plan review and improvement standards.

### Design/Image Policies

- Ensure that light and glare from discretionary new development projects and minimized.
- The City shall promote Dark Sky principles in future residential, commercial, and industrial development.
  - All exterior lighting shall be designed to point downward in a manner that will reduce light and glare pollution onto neighboring properties and roadways.
  - All security lighting shall be connected to a timer and/or motion detector.
  - Exterior lighting shall be connected to a timer and/or motion detector.
  - Exterior lighting shall use one of the following types of light: Metal Halide, High Pressure Sodium, Fluorescent, or Low Pressure Sodium.
  - Exterior lighting shall be fully shielded. "Fully Shielded" denotes lighting fixtures which are shielded, focused, or constructed so that light rays do not project horizontally or vertically.

### Highway and Street System Goals, Policies, and Implementation Measures

- Provide a street and highway system which is aesthetically pleasant to the user through the incorporation of setbacks landscape buffers on applicable medians and rights-of-way.

## 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.

## **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**

### **Methodology**

The proposed project's potential impacts on aesthetics have been evaluated using both quantitative and qualitative methods. This visual impact assessment is being utilized to identify and assess 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 generally follows visual assessment practices used by the Federal Highway Administration (FHWA 1981), the Bureau of Land Management (BLM 1986), the US Forest Service (USFS 1995), and other federal regulatory agencies. The visual inventory and impact assessment included the steps listed below. Additional details regarding the methods are provided in the following sections.

- 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 US Geological Survey (USGS) topographic data.
- Identifying sensitive receptors and potential KOPs through evaluation of visual quality and expected viewer response.
- Conducting a field survey of the project site and vicinity to take photographs of the project site, document existing visual conditions, and identify the locations and characteristics of viewer groups in the project area.
- Selecting KOPs that are the most representative and important VPs identified during the field survey to evaluate potential visual impacts that would result from the project.
- Preparing visual simulations that depict photorealistic renderings of conditions following construction and the installation of proposed project features, as seen from the designated KOPs.
- Completing a qualitative evaluation of visual change that would result from the project and impacts on scenic quality using the visual simulations.
- Qualitatively evaluating how viewer groups in the project area may be affected by the project.

- Identifying methods to mitigate any significant visual impacts.

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.

## Field Surveys

Field surveys were conducted to inventory existing visual conditions of the project site and its surroundings in August 2019 and June 2020. Photographs were taken to document representative viewing locations where the project may be seen and for use as the base images for visual simulations. Photographs used for visual simulations were produced using a 35-millimeter, 53-megapixel, full-frame, single lens reflex camera equipped with a 50-millimeter fixed focal length lens. This configuration is the industry-accepted standard for approximating the field of vision in a static view of the human eye. The camera positioning was determined with a sub-meter, differentially corrected Global Positioning System (GPS). The camera was positioned at eye-level for each photograph.

## Viewpoints and Key Observation Points

A total of 16 VPs were identified following the field surveys that provide representative views of the greater project area and the proposed solar energy facilities from varying public viewing areas, distances, and perspectives. **Table 4.1-2, Summary of Viewpoints and Key Observation Points**, provides information on each VP location, including the view direction, distance to the closest project features, and viewer groups. **Figure 4.1-2, Viewpoints and Key Observation Points**, identifies the viewpoint locations. Photographs showing the general landscape character in the project area and the existing visual conditions at each VP are shown in **Figure 4.1-3, Photographs of Existing Visual Conditions at Viewpoints**.

VPs 1 through 7 are positioned in areas along the SR-58 highway corridor where the proposed solar field would be located, and where most public views of the project site would occur. VPs 8 through 16 are positioned along roadways within Mojave where the proposed and alternate gen-tie line corridors are located. The additional VPs in the Mojave area are included to provide context on the visual conditions where the gen-tie line may be located following County project approval.

VPs 1 through 5 were selected as KOPs to be the focus of visual simulations and detailed impact analysis. These five KOPs were determined to be the most important and representative of visual conditions and viewer locations. They are focused on high traffic public areas where the solar field would be the most visible from the surrounding area, consistent with Kern County practices for analyzing visual effects of proposed solar projects. The remaining VPs 6 through 16 are not the focus of visual simulations and detailed impact analysis. With project implementation, visual conditions at these VPs would be similar to those shown in the visual simulations and described for the selected KOPs. The selected KOPs are identified in **Figure 4.1-2, Viewpoints and Key Observation Points** and **Table 4.1-2, Summary of Viewpoints and Key Observation Points**; the table also includes a brief explanation on the rationale for selecting the KOPs.

**Table 4.1-1. Summary of Viewpoints and Key Observation Points**

VP <sup>a</sup>	Location	View Direction	Distance <sup>b</sup>	Viewer Groups	Selected as KOP? (Rationale)
Proposed Solar Field					
1	Westbound SR-58 near Hyundai-Kia Blvd	W	500 to 1,000 feet	• Regional Motorists	Yes (location offers views of the proposed solar field adjacent to SR-58)
2	Bishop Dr parallel to SR-58	SE	100 to 200 feet	• Local Motorists • Regional Motorists	Yes (location offers views of the proposed solar field along local frontage road similar to SR-58)
3	Eastbound SR-58 on-ramp at Altus Ave	S-SE	1.9 miles	• Local Motorists • Regional Motorists	Yes (location offers distant elevated views of the proposed solar field seen from SR-58)
4	East Bishop Dr parallel to SR-58	NW	1,000 feet	• Local Motorists • Regional Motorists	Yes (location offers example of gen-tie line corridor and crossing over SR-58 adjacent to solar field)
5	Proteus Rd parallel to SR-58	S-SE	100 to 200 feet	• Local Motorists • Regional Motorists	Yes (location offers views of the proposed solar field along local frontage road similar to SR-58)
6	Westbound SR-58 east of the project	W	1,900 feet	• Regional Motorists	No (similar to VPs 1, 2, and 5 selected as KOPs)
7	Westbound SR-58 west of California City Boundary	W	100 to 200 feet	• Regional Motorists	
Proposed and Alternate Gen-Tie Line Corridors					
8	Highway 58 Business	E-SE	300 to 500 feet	• Local Motorists • Regional Motorists	No (separated from proposed solar field area; views of proposed or alternative gen-tie line would be similar to VP 4 selected as a KOP)
9	Mojave East Park	SW	300 to 500 feet	• Park Users • Residents	
10	Somerset Dr at Camelot Blvd	E-NE	60 feet	• Local Motorists	
11	Somerset Dr	N-NW	380 feet	• Local Motorists • Residents	
12	Douglas Ave at Holt St	S	100 to 200 feet	• Local Motorists • Residents	
13	Oak Creek Rd	E-NE	50 to 100 feet	• Local Motorists	
14	Oak Creek Pl	W-NW	80 feet	• Local Motorists • Residents	
15	Northbound SR-14	N	360 feet	• Local Motorists	
16	Southbound SR-14	S	500 to 1,000 feet	• Local Motorists • Regional Motorists	
Source: Panorama 2021					
Notes:					
<sup>a</sup> <b>Bold</b> indicates VPs selected as KOPs.					
<sup>b</sup> Distance refers to the approximate distance to the nearest project feature (proposed or alternate) in the specified view direction.					

## Visual Simulations

Visual simulations were created for the five KOPs to show post-development visual conditions that would result from the proposed project. The visual simulations were created using computer aided 3D modeling and rendering techniques to create a photorealistic representation of the approximate locations and scale of the proposed project facilities and their visual characteristics (e.g., surface color and texture) and approximate scale. The simulated features presented in the visual simulations are based on assumptions from information provided in the project description, preliminary design drawings, and similar PV plant projects in the region. Key assumptions are as follows:

- Proposed PV panel modules on single axis tracking system are shown in a grid pattern.
- Typical PV solar panels are expected to remain between 6 and 8 feet in height as measured from the ground surface to the panel surface when in a flat position and parallel to the ground during mid-day periods. When 8-foot solar panels are tilted at their greatest angles during sunrise and sunset periods they would be approximately 10 feet tall at the highest point. The simulations depict the most likely scenario of 8-foot solar panels with one side tilted and reaching a height of approximately 10 feet aboveground. The impact analysis below generally refers to these as 10-foot solar panels.
- The height of steel monopoles for the gen-tie line are shown at approximately 150 feet aboveground, the greatest potential height anticipated.
- Perimeter fencing is shown as approximately 7-foot-tall chain link fencing with 1-foot of barbed wire on top.
- The project proponent has included a proposed option for installing a light-colored, palliative ground cover within the solar field in the event that bi-facial solar panels are used for the project. The use of the palliative ground cover would increase the albedo of the ground and solar energy production. To account for the potential use of a light-colored palliative, a second version of visual simulations are included that demonstrate increased color contrast within the solar field area.

The locations of proposed on-site substations, collector lines, gen-tie lines, and other supporting facilities are not shown in the visual simulations. The specific locations of these facilities would be positioned within the proposed development parcels and adjacent to solar panels shown in the visual simulations. Their locations and specific dimensions would be determined during final engineering, and once the final route of the gen-tie line has been determined. Therefore, the focus of the visual impact analysis is on the general development of the project site and the installation of solar panels, which is consistent with Kern County's CEQA review of solar projects. For informational purposes, visual impacts are qualitatively discussed for the project features that are not shown in the simulations with the analysis for KOPs 1, 2, and 5 (under **Impact 4.1-3**), which are the locations where their visibility is most likely.

Photographs showing the existing visual conditions and the visual simulations showing project conditions are provided with the discussion for **Impact 4.1-3**.

## Scenic Quality Rating

Scenic quality refers to the visual appeal of a landscape relative to desired scenic values and the abundance or scarcity of similar qualities in the region. Scenic quality can be measured quantitatively by evaluating the presence or absence of scenic features and the intrusion of features that detract from the

scenic features. Several different methods may be used to rate scenic quality. Scenic quality rating for the project was conducted for the KOPs following the general principles and scenic quality rating criteria described in BLM Manual H-8410-1, Visual Resource Inventory. According to this method, visual quality is rated according to the presence and characteristics of seven criteria: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Each criterion is described below. The numeric rating system is described in **Table 4.1-3, *Scenic Quality Rating System***.

1. The **landform** component 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 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).
3. The **water** component recognizes that visual quality is largely tied to the presence of water in scenery, as it is that ingredient that 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 considers the overall color(s) of the basic components of the landscape (e.g., soil, rock, vegetation). Key factors used when rating the color of scenery are variety, contrast, and harmony.
5. The **adjacent scenery** component takes into account the degree to which scenery outside the view being rated enhances the overall impression of the scenery under evaluation. 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 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 key factor 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 takes into account any man-made modifications to the landform, water, and/or 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.

**Table 4.1-2. Scenic Quality Rating System**

<b>Key Factors</b>	<b>Rating Criteria and Score <sup>a</sup></b>		
<b>Landform</b>	High vertical relief (prominent cliffs, spires, or massive rock outcrops); severe surface variation; highly eroded formations (major badlands or dune systems); detail features dominant and exceptionally striking/intriguing. <b>If true, score = 5</b>	Steep canyons, mesas, buttes, cinder cones, and drumlins; interesting erosional patterns or variety in size and shape of landforms; or detail features, which are interesting though not dominant or exceptional. <b>If true, score = 3</b>	Low rolling hills, foothills, or flat valley bottoms or few or no interesting landscape features. <b>If true, score = 1</b>
<b>Vegetation</b>	A variety of vegetative types as expressed in interesting forms, textures, and patterns. <b>If true, score = 5</b>	Some variety of vegetation but only one or two major types. <b>If true, score = 3</b>	Little or no variety or contrast in vegetation. <b>If true, score = 1</b>
<b>Water</b>	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. <b>If true, score = 5</b>	Flowing, or still, but not dominant in the landscape. <b>If true, score = 3</b>	Absent or present but not noticeable. <b>If true, score = 0</b>
<b>Color</b>	Rich color combinations; variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water, or snow fields. <b>If true, score = 5</b>	Some intensity or variety in colors and contrast of the soil, rock, and vegetation but not a dominant scenic element. <b>If true, score = 3</b>	Subtle color variations, contrast, or interest; generally muted tones. <b>If true, score = 1</b>
<b>Influence of Adjacent Scenery</b>	Adjacent scenery greatly enhances scenic quality. <b>If true, score = 5</b>	Adjacent scenery moderately enhances overall scenic quality. <b>If true, score = 3</b>	Adjacent scenery has little or no influence on overall scenic quality. <b>If true, score = 0</b>
<b>Scarcity</b>	One of a kind, unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. <b>If true, score = 5+ <sup>b</sup></b>	Distinctive, though somewhat similar to others within the region. <b>If true, score = 3</b>	Interesting within its setting but fairly common within the region. <b>If true, score = 1</b>
<b>Cultural Modifications</b>	Modifications add favorably to visual variety while promoting visual harmony. <b>If true, score = 2</b>	Modifications add little or no visual variety to the area and introduce no discordant elements. <b>If true, score = 0</b>	Modifications add variety but are very discordant and promote strong disharmony. <b>If true, score = -4</b>
<b>Notes:</b> <sup>a</sup> Values for each rating criteria are maximum and minimum scores only. It is also possible to assign scores within these ranges. Fractional values can be assigned, if necessary, to distinguish between qualities. <sup>b</sup> A score greater than 5 can be assigned to scarcity but must be supported by written justification.			

Source: BLM 1986



Generally, the highest scenic quality ratings in all seven categories could reach a total score of 32, based on the scoring system described in the table above. Landscape views with a total score of 19 or more are considered to have high or very high visual quality (“Class A”). Landscape views with a total score of 12 to 18 are considered to have moderate visual quality (“Class B”). Landscape views with a total score of 11 or less are considered to have low visual quality (“Class C”).

The degree of visual change and impacts on scenic quality that would result from the project can be measured by subtracting the score for the project conditions from the score for existing conditions. The difference in the scenic quality scores represents the degree of visual change and impacts on existing scenic quality. Lower values indicate greater impacts, while values near zero indicate little to no impact. A summary of scenic quality ratings at the KOPs for existing conditions and proposed project conditions based on the visual simulations, as well as the score differences, are provided in **Table 4.1-4, *Scenic Quality Ratings***.

**Table 4.1-3. Scenic Quality Ratings**

KOP	Rated Conditions	Visual Quality Ratings								Visual Quality Change <sup>a</sup>	Explanation
		Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modifications	Total Score		
1	Existing	2.5	3	0	2	3	1	-3	8.5	-1.5 (-1.5)*	Area is flat with no water features. Existing scenic features are relatively common in region. Some vegetation removed but variety remains surrounding project. Project will result in additional cultural modifications but where significant intrusions already occur in the landscape. Views toward distant landforms remain intact. * Use of the palliative ground cover would result in a negligible increase in natural color loss and color contrast.
	Proposed	2.5	2.5	0	1.5 (1.5)*	3	1	-3.5	7 (7)*		
2	Existing	1	3	0	3	0	1	-0.5	7.5	-4.5 (-5)*	Area is flat with no water features. Existing scenic features are relatively common in region. Project removes vegetation variety and colors; moderately obstructs distant topography. Significant increase of cultural modifications from solar panels. * Use of the palliative ground cover would result in a minor increase in natural color loss and color contrast.
	Proposed	1	2	0	2 (1.5)*	0	1	-3	3 (2.5)*		
3	Existing	3	3	0	3.5	2	3	-1	13.5	-1.5 (-1.5)*	Area is mostly flat with no water features. Existing scenic features are somewhat common in region. Some vegetation removed but variety remains surrounding the project. Moderately scenic colors remain and distant topography with industrial activities remains visible. Significant, though distant, increase of cultural modifications; some features are screened by scenic landforms. * Use of the palliative ground cover would result in a negligible increase in natural color loss and color contrast.
	Proposed	3	3	0	3 (3)*	1.5	3	-1.5	12 (12)*		

KOP	Rated Conditions	Visual Quality Ratings								Visual Quality Change <sup>a</sup> <sub>b</sub>	Explanation
		Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modifications	Total Score		
4	Existing	2	2	0	3	4	1	-2	10	-1*	Area is flat with no water features. Existing scenic features are relatively common in region. Views toward distant mountains are somewhat common, but not for all view directions. Project introduces minor increase of built structures to an area with existing cultural modifications. * The palliative ground cover would not be in view.
	Proposed	2	2	0	3*	3.5	1	-2.5	9*		
5	Existing	2	3	0	3	2	2.5	-0.5	12	-4.5 (-5)*	Area is flat with no water features. Existing scenic features are relatively common in region; project partially obstructs moderately scenic topography and landscape colors. Significant increase of cultural modifications from solar panels. * Use of the palliative ground cover would result in a minor increase in natural color loss and color contrast.
	Proposed	2	2	0	2 (1.5)*	1	2.5	-2	7.5 (7)*		
Notes: <sup>a</sup> Scenic Quality Change = Total Score for Existing Conditions – Total Score for Proposed Conditions. <sup>b</sup> Negative value (-) indicates a reduction in visual quality.											

## Glare Analysis

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 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 PV solar 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 PV solar panel so that it may absorb solar radiation and convert it to electricity. Photovoltaic solar panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV solar panels reflect as little as 2 percent of incoming sunlight, which is similar to water and less than soil and wood shingles. Some of the concern and misconception are likely due to the confusion between PV solar 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 (Palmer and Laurent 2014). The effect of glare from PV solar panels can be compared to a glass-faced building that has been treated with an anti-reflective coating or water covered surfaces, whereas glare from CSP systems has the potential to be substantially greater. Regardless of the misconception that PV solar panels inherently cause too much glare, a large PV solar plant has the potential to create a new source of substantial glare and the potential for glare related impacts on receptors must be analyzed pursuant to CEQA.

A glare analysis report was prepared to analyze identify potential glare-related impacts that would result from the proposed project (Dudek 2021). The study was conducted using methods recommended by the Federal Aviation Administration described in the *Technical Guidance for Evaluating Selected Solar Technologies on Airports* (FAA 2018). Glare conditions were modeled using the Solar Glare Hazard Analysis Tool (SGHAT), which is a 3D geometric glare analysis software developed by Sandia National Laboratories. SGHAT is publicly licensed as ForgeSolar. SGHAT and ForgeSolar allow for the evaluation of potential glare of a particular PV array to produce glare intensity, predicting when and where glare would occur from a proposed PV array at discrete observation points or routes.

Because of the project’s close proximity to the Mojave Air and Space Port (located approximately 1 mile west of the project), the California City Municipal Airport, and the existence of multiple highways in the immediate vicinity of the project site, a 5-mile-radius study area was determined to be necessary for this analysis (Dudek 2021).

Dudek performed a visibility analysis on the surrounding terrain within the study area to determine where the project is most visible. Based on the visibility analysis, Dudek determined the location of potential receptors within the study area. All runway approach paths and air traffic control towers associated with the Mojave Air and Space Port were included in this analysis regardless of visibility or distance. A geometric glare analysis was then conducted for the identified potential receptors to determine a worst-case scenario of where and when glare might be encountered. Upon completion of the geometric analysis, Dudek reviewed the results for potential glare hazards. To account for the large project area and to increase the reliability of the modeling results, the project site was broken up into 10 separate analysis groups, which were further broken into panel sections averaging about 20 acres in size. A full visibility and glare analysis were performed on each analysis group (Dudek 2021).

Glare analysis for the project involved modeling total glare that would be reflected from individual PV solar array blocks within each project site, and the intensity and duration of glare that would be directed towards receptors in the project vicinity. By inputting the solar panel locations and characteristics, as well as the locations and elevations of the receptors, the software was able to simulate the sun's progression across the sky over the course of a year and model the potential glare caused by the proposed solar arrays. Glare receptors include both stationary observation points and linear routes where vehicle or air traffic may be affected by high levels of glare. Modeled receptor groups included airport flight paths, air traffic control towers, observation points from homes, and ground transportation routes (e.g., roads, highways, and railroads).

Glare intensity is described according to potential for after-image and is based on the FAA's Solar Glare Ocular Hazard Plot, which includes the following color-based categories (Dudek 2021):

- **Green.** Low potential for the glare to cause an after-image (also known as flash blindness).
- **Yellow.** Potential to cause a temporary after-image.
- **Red.** Potential to cause retinal burn and permanent eye damage.

The glare analysis report is provided in **Appendix B-2, *Glare Study***, of this EIR. The results of the glare analysis are discussed under **Impact 4.1-4**.

## 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 aesthetic resources. A project could have a significant adverse effect on aesthetic resources if it would:

- a. Have a substantial adverse effect on 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 non-urbanized 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 that would adversely affect day 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 typically expansive views from elevated areas. They may or may not be part of a designated scenic overlook or other area providing a view of a landscape. There are no designated or widely recognized scenic vistas in the project vicinity. The project site and the surrounding area are within a flat valley and away from elevated views of the project site, except for a few topographical features within approximately 5 miles to the south, southwest, and northeast. These include Sanborn Hill,

De Stazo Hill, Lookout Hill, Brown Butte, Standard Hill, Soledad Mountain, and Twin Buttes. While these features may offer views of the project site, they are not recognized as being scenic vistas or subject to visual management objectives.

The project site may be visible to some degree from distant elevated views, such as from the mountain peaks and south facing slopes of the Tehachapi Mountains to the north and northwest (refer to **Figure 4.1-1, Project Site Viewshed within 10 Miles**). The PCT passes through the Tehachapi Mountains in this area approximately 7 miles northwest of the project site in the vicinity of Red Mountain, Pajuela Peak, and Middle Knob. Approximately 3 miles of the PCT on the south-facing slopes of the Tehachapi Mountains are within the viewshed modeled for the project, which indicates the project site may be intermittently visible from the trail to some degree, depending on intervening topography and vegetation, viewing angle, and atmospheric conditions. This segment of the trail ranges in elevation from approximately 4,200 to 6,000 feet above mean sea level. In contrast, the project site ranges in elevation from approximately 2,800 to 2,500 feet above mean sea level, tilted toward the southeast in the opposite direction as the trail segment. Roughly half of this trail segment is in a forested area that would obscure views of the valley floor to the south. Furthermore, seasonal haze in the region limits the period when distant views of more than a few miles may be available.

The project would involve the installation of solar panels within an approximately 8,371-acre site that is generally undeveloped. The contrast of solar panels and surrounding landscape may be visible within the viewshed of distant mountain peaks and a small portion of the PCT. The project would result in significant new development in the regional viewshed but in the vicinity of existing commercial and residential development within Mojave and California City as well as extensive wind development west of Mojave. Where the project may be visible from distant elevated areas of the Tehachapi Mountains, significant impacts to those views would not occur due to the separation distances, narrow viewing angles, and intervening landscape features. Although the project may be intermittently visible, the project would not draw attention from the casual observer or significantly affect viewer experience. The focus of the casual observer would be on landscape features within the foreground-middleground (0 to 5 miles), the expansive Mojave Desert, and the distant mountain range horizon. The project would not have a substantial adverse effect on a scenic vista. Impacts would be less than significant.

## Mitigation Measures

### Kern County:

No mitigation measures are required.

### City of California City:

No mitigation measures are required.

### Gen-Tie:

No mitigation measures are required.

## Level of Significance

### Kern County:

Impacts would be less than significant.

**City of California City:**

Impacts would be less than significant.

**Gen-Tie:**

Impacts would be 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.**

There are no designated State scenic highways in Kern County. The segment of SR-58 between Mojave and Barstow that bisects the project site is an eligible State scenic highway as well as the segment of SR-14 between Highway 395 and SR-58 that lies 1.2 mile north of the project; however, these highways have not been formally designated as State scenic highways. Official designation of a State scenic highway occurs through a process in which the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a State scenic highway by the Caltrans director (Caltrans 2021).

The project would involve the removal of existing vegetation that contributes to scenic quality and the natural desert landscape along the SR-58 visual corridor. The proposed solar facilities and supporting facilities (i.e., substations, overhead powerlines, and other supporting infrastructure) would be installed in the generally undeveloped project sites replacing the various desert vegetation communities (refer to **Section 4.4, Biological Resources** for details) and sparsely scattered Joshua trees that are visible along the highway corridor. The loss of vegetation that contributes to scenic quality would be most noticeable where the project would be positioned along the immediate foreground of SR-58 (within approximately 0.5 mile), which includes a total distance of approximately 7 miles (**Figure 4.1-2, Viewpoints and Key Observation Points**). These areas are predominantly undeveloped with a limited amount of existing development visible in the foreground and background. In the foreground some development is visible in these areas, including overhead utilities, roads, and towers. In the background, they range from minor development, such as the commercial and residential development in KOPs 2 and 5, to major wind energy development such as in KOP 1.

The total distance of the eligible scenic highway segment between Mojave and Barstow is approximately 67 miles. A portion of the highway corridor contains existing development adjacent to the right-of-way, such as in the vicinity of North Edwards, Desert Lake, Boron, Kramer Junction, Hinkley, and Barstow; however, the project site would be the greatest continuous development along the eligible highway segment. The views of motorists traveling along SR-58 at 65 miles per hour would be impacted for a brief period (approximately 6.5 minutes) while traveling through the valley where the project is located within the immediate foreground of the highway. The project would substantially damage scenic resources along a highway; however, because SR-58 has not been formally designated as a State scenic highway, impacts would be less than significant.

SR-14 is located approximately 1.2 miles from the proposed solar field. The solar field would not result in impacts on scenic resources within the SR-14 visual corridor. An alternate route of the gen-tie corridor is identified along a portion of SR-14 in the Mojave area. Construction of the gen-tie line could result in some vegetation removal along SR-14, if it is positioned along the highway; however, such vegetation

impacts would be limited to pole locations and access routes and the surrounding vegetation would not be impacted. Impacts on scenic resources along the SR-14 visual corridor would be less than significant.

## **Mitigation Measures**

### **Kern County:**

No mitigation measures are required.

### **City of California City:**

No mitigation measures are required.

### **Gen-Tie:**

No mitigation measures are required.

## **Level of Significance**

### **Kern County:**

Impacts would be less than significant.

### **City of California City:**

Impacts would be less than significant.

### **Gen-Tie:**

Impacts would be 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.**

## **Construction**

Project construction would involve clearing vegetation and ground disturbance (i.e., grading and trenching) within the 8,371-acre project site and along the gen-tie line corridor, and the installation of solar energy facilities and other supporting infrastructure. In addition, construction activities would involve the use of heavy equipment, vehicle traffic, stockpiled materials and wastes, and dust generation. The visibility of construction disturbances and activities in contrast to the surrounding natural and undeveloped landscape would temporarily degrade the existing visual character and quality of public views in the project area. Prior to the installation of solar panels, construction would be visible and may draw attention from viewers for up to approximately 1 or 2 miles from viewing locations, most notably along the SR-58 corridor (refer to KOPs 1, 2, and 5). Beyond 1 or 2 miles, construction activities may be visible to some degree but would not be noticeable. The same areas affected by temporary construction impacts would also be affected by long-term effects of the proposed solar facilities, which would be more



visible and result in greater visual effects than the construction elements. Therefore, the impact discussion is focused on post-construction conditions during operation of the project. Short-term construction activities of the proposed project would not substantially degrade the existing visual character or scenic quality of public views of the project sites and their surroundings. Impacts would be less than significant.

## Operation

**Figures 4.1-4a, KOP 1 - Photograph of Existing Visual Conditions**, through **Figure 4.1-8c, KOP 5 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**, are shown below, where “a” identifies existing, “b” identifies visual simulation of the proposed project without palliative ground cover, and “c” identifies visual simulation of the proposed project with palliative ground cover. No simulation is included showing palliative ground cover for **Figure 4.1-7b, KOP4 – Visual Simulation of the Proposed Project** because the solar field and areas where it would be installed are not in view.

**Figure 4.1-4a. KOP 1 – Photograph of Existing Visual Conditions**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-4b. KOP 1 – Visual Simulation of the Proposed Project**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

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**Figure 4.1-4c. KOP 1 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC



**Figure 4.1-5a. KOP 2 – Photograph of Existing Visual Conditions**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-5b. KOP 2 – Visual Simulation of the Proposed Project**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-5c. KOP 2 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-6a. KOP 3 – Photograph of Existing Visual Conditions**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC



**Figure 4.1-6b. KOP 3 – Visual Simulation of the Proposed Project**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-6c. KOP 3 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-7a. KOP 4 – Photograph of Existing Visual Conditions**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

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**Figure 4.1-7b. KOP 4 – Visual Simulation of the Proposed Project**

ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC



**Figure 4.1-8a. KOP 5 – Photograph of Existing Visual Conditions**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-8b. KOP 5 – Visual Simulation of the Proposed Project**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



**Figure 4.1-8c. KOP 5 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC

## KOP 1 – Westbound SR-58 near Hyundai-Kia Boulevard

### ***Existing Visual Conditions***

The existing view from KOP 1 is provided in **Figure 4.1-4a**, *KOP 1 – Photograph of Existing Visual Conditions*. KOP 1 is located along the westbound lane of SR-58, east of Mojave. The selected view direction is facing west toward the southern portion of the project area. This viewpoint provides an elevated viewing perspective of the project site and represents the views of motorists driving west on SR-58 descending into the valley. Roughly 4 miles of the straight highway corridor is visible ahead until it turns northwest near Mojave. The view from KOP 1 is characterized by the generally flat valley that is backdropped by the Tehachapi Mountains to the southwest and by the southern end of the Sierra Nevada Mountains to the northwest. Beyond Mojave, extensive wind development is visible on the foothills of the Tehachapi Mountains against the mountain backdrop. The flat, open, and vegetated valley floor where the project site would be located is clearly visible north and south of SR-58. The vegetation is predominantly composed of sparse scatterings of creosote bushes and Joshua trees. The edge of the valley becomes more developed toward Mojave, which is visible along the valley floor 7 miles from KOP 1. Wind and solar energy facilities, clustered buildings, and the Mojave Air and Space Port are visible along the horizon and the mountain foothills. These land uses appear at varying scales and orientations, yet they appear as contained and distinct areas within the landscape, adding a moderate sense of intactness to the landscape opposed to scattered development. The wind turbines along the mountain foothills are the most prominent human-made feature in the view and add some visual interest. However, their vertical form encroaches on the visibility of the nearby mountains. Other development is difficult to identify and appears as part of the interrelated landscape from this distance, except for an existing power line that runs parallel to SR-58. The scenic quality rating for this area is considered low.

Many motorists view this area for several minutes as they pass through the area due to the constant travel direction. Motorists traveling on this section of SR-58 are expected to have low to moderate sensitivity to visual change due to high rate of speed (approximately 65 miles per hour) and the visibility of existing development, including the extensive wind turbines located beyond Mojave.

### ***Visual Conditions with the Proposed Project***

The post-development visual simulation for KOP 1 is provided in **Figure 4.1-4b**, *KOP 1 – Visual Simulation of the Proposed Project*. The project would be highly visible from this location. Solar panel arrays would be visible filling much of the flat valley floor on the north and south sides of SR-58. The panels would appear a light gray or blue to dark grey or blue, depending on the time of day and light conditions. The visual simulation depicts the solar panels as a light grey as they would likely appear during full sunlight conditions. The smooth grid pattern of solar panel arrays would replace the scenic colors and textures of natural desert vegetation for a substantial portion of the valley in view. The existing adjacent scenery of the Tehachapi Mountains with the scattered wind turbines would remain visible to the east, and the southern Sierra Mountains to the north. The project would introduce a substantial cultural modification to an area of the valley that is primarily undeveloped; however, the overall change seen from KOP 1 is not substantial due to the existing presence of the SR-58 highway corridor, development in the Mojave area, and extensive wind energy development within the foothills of the Tehachapi Mountains. The effects of these visual changes would increase as viewers become closer to the solar arrays installed immediately adjacent to the highway right-of-way. The project would reduce overall visual quality at KOP 1 by a moderate amount for the vegetation, color, and cultural modifications rating criteria. The



introduction of solar arrays would draw attention and become a dominant feature in the landscape, in addition to the other forms of renewable energy development in view; however, views of vegetation and natural colors around the project and views of adjacent scenery would remain.

Depending on final engineering and design, additional project facilities may be visible from KOP 1 that are not shown in the visual simulation, including on-site substations, overhead collector lines, energy storage system buildings, and other supporting infrastructure. Collector lines would appear similar to the existing power line visible on the north side of SR-58. Where viewed along the highway corridor, the poles would interrupt views of adjacent scenery to some degree but would not block views. If larger and taller facilities like the on-site substations or energy storage buildings were positioned close to the highway corridor, they would block views of adjacent scenery to a greater degree and draw a greater amount of viewer attention than the lower flat solar panels. Impacts from large supporting infrastructure positioned close to the highway corridor could be greater than the solar panels alone.

**Figure 4.1-4c, KOP1 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**, shows the addition of the palliative material that may be installed within the project site. Its lighter color would highlight the presence of the solar panels and would contrast with the natural colors of the valley floor to a greater degree than would the exposed native soil involved with surface grading alone (refer to **Figure 4.1-4b, KOP1 – Visual Simulation of the Proposed Project**). Application of the palliative (or similar light-colored gravel) would not result in substantially visual impacts, compared to the project site without it, as seen from KOP 1.

Mitigation to reduce visual impacts is discussed at the end of the discussion for Impact 4.1-3.

## **KOP 2 – Bishop Drive Parallel to SR-58**

### ***Existing Visual Conditions***

The existing view from KOP 2 is provided in **Figure 4.1-5a, KOP 2 – Photograph of Existing Conditions**. KOP 2 is located along Bishop Drive, a frontage road on the east side of SR-58, approximately 2 miles northeast of the Mojave Air and Space Port. The selected view is looking to the southeast toward the project site and approximates the views experienced by motorists driving east on SR-58 and Bishop Drive. This viewpoint provides a general even viewing perspective of the project site. Low undulating hills are visible in the background of the valley. This landscape in this area is visually characterized by the flat terrain and desert scrub vegetation consisting mostly of creosote bushes. A few Joshua trees are also present but become indistinguishable in the middle ground and background. The low-profile vegetation and terrain appear consistently throughout the view and therefore limit the degree of visual interest. The little development that is visible is concentrated in the center of the view, in the middle ground and background, and consists of structures associated with the Hyundai-Kia Motors California Proving Grounds located approximately 5 miles away. Beyond the Proving Grounds, an access road leading to a communications tower is visible in the center of the view around 7 miles away. The natural vegetated desert landscape serves as the dominant visual feature from this view. The scenic quality rating for this area is considered low.

Many regional and local motorists view this area for a few minutes as they pass through the area along the curving SR-58 corridor. Motorists traveling on this section of SR-58 are expected to have low to moderate sensitivity to visual change due to the high rate of speed, and the visibility of some areas of existing development, including the Proving Grounds and Mojave Air and Space Port.

### ***Visual Conditions with the Proposed Project***

The post-development visual simulation for KOP 2 is provided in **Figure 4.1-5b**, *KOP 2 – Visual Simulation of the Proposed Project*. The project would be highly visible from this location, with solar panel arrays installed along either side of the highway for approximately 1 mile. Solar panel arrays would be installed from the immediate foreground of the viewing area and through the middle ground, completely filling the flat valley floor. The panels would appear a light grey or blue to dark grey or blue, depending on the time of day and light conditions. The visual simulation depicts the solar panels as a dark blue color as they would likely appear during full sunlight conditions and facing the direction of the sun. The rectilinear pattern of the solar panel arrays would replace scenic desert vegetation, natural desert colors, and textures of the valley in view. The backdrop of undulating hills would generally remain visible with some areas toward the south obstructed from view by solar panels. The project would introduce a substantial cultural modification to an area of the valley that is primarily undeveloped. The visual dominance of the man-made form of the solar arrays close to the viewer alters the existing character. The project would reduce overall visual quality by a moderate to high amount for the vegetation, color, and cultural modifications rating criteria. The introduction of solar arrays would draw attention and become the dominant feature in the landscape, although some areas of the natural landscape and adjacent scenery would remain visible around and beyond the project.

Depending on final engineering and design, additional project facilities may be visible from KOP 2 that are not shown in the visual simulation, including on-site substations, overhead collector lines and/or gen-tie lines, energy storage system buildings, and other supporting infrastructure. The poles of collector and gen-tie lines would periodically interrupt views of adjacent scenery to some degree but would not block views. If larger and taller facilities like the on-site substations or energy storage buildings were positioned close to the highway corridor, they could block views of adjacent scenery to a greater degree and draw a greater amount of viewer attention than the lower flat solar panels. Impacts from large supporting infrastructure positioned close to the highway corridor could be greater than the solar panels alone.

**Figure 4.1-5c**, *KOP 2 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)*, shows the addition of the palliative material that may be installed within the project site. Its lighter color would highlight the presence of the solar panels and would contrast with the natural colors of the valley floor to a greater degree than the exposed native soil involved with surface grading alone (refer to **Figure 4.1-5b**, *KOP2 – Visual Simulation of the Proposed Project*). Application of the palliative (or similar light-colored gravel) would result in increased color contrast but would not result in substantially greater visual impacts overall, compared to the project site without it, as seen from KOP 2.

Mitigation to reduce visual impacts is discussed at the end of the discussion for Impact 4.1-3.

### **KOP 3 – Eastbound SR-58 On-Ramp at Altus Avenue**

#### ***Existing Visual Conditions***

The existing view from KOP 3 is provided in **Figure 4.1-6a**, *KOP 3 – Photograph of Existing Visual Conditions*. KOP 3 is located along the shoulder of the eastbound SR-58 on-ramp at Altus Avenue. The selected view direction is facing toward the south and southeast, and toward the southwestern corner of the project site approximately 2 miles away. This viewpoint provides an elevated view from the highway ramp similar to that of motorists traveling east on SR-58 from Mojave; however, views along the highway are not elevated like those on the ramp and overpass. The south edge of the Fremont Valley appears

dotted with scrub vegetation mostly consisting of creosote bushes. In addition to the on-ramp visible in the immediate foreground, the primary human-made element within the valley floor is a utility line supported by wood poles that follows a local road (20<sup>th</sup> Street East) that extends across the view in the foreground. The edge of the Fremont Valley is delineated by a series of small to medium sized, generally cone-shaped hills, including the two most dominant in the view: De Stazo Hill to the left and Sanborn Hill to the right. The hills are relatively vivid and memorable features and create a framed view toward the faintly visible mountain range in the background. Overall, this view is characterized by the hills and distant mountains and their contrast with the valley floor. The two human-made corridors—the highway and the utility line—appear contained within their linear spaces and beyond these features there is a clear transition from the valley floor to the more rugged desert environment. The scenic quality rating for this area is considered moderate.

Many regional and local motorists view this area for a few minutes as they pass through the area along the curving SR-58 corridor. Motorists traveling on this section of SR-58 are expected to have a moderate sensitivity to visual change due to the high rate of speed, and the limited visibility of existing development.

#### ***Visual Conditions with the Proposed Project***

The post-development visual simulation for KOP 3 is provided in **Figure 4.1-6b, KOP3 - Visual Simulation of the Proposed Project**. The project would be moderately visible from this location. Solar panel arrays would be visible in the distance towards the southeast approximately 2 miles away at the base of De Stazo Hill. A small portion of the valley would be filled with solar panels that would appear a light grey or blue to dark grey or blue, depending on the time of day and light conditions. The majority of the visible valley floor and vegetation in the foreground to middle ground would remain visible, as would the existing adjacent scenery of the hills and small topographic features. The project would introduce new cultural modification to an area of the valley that is primarily undeveloped; however, the overall change seen from KOP 3 is not substantial due to the 2-mile viewing distance and existing presence of the SR-58 highway corridor and development in the Mojave area to the west of KOP 3. The project would reduce overall visual quality at KOP 3 by a low to moderate amount for the vegetation, color, and cultural modifications rating criteria. The introduction of solar arrays would draw some attention from motorists but would not become a dominant feature in the landscape or significantly degrade existing visual character of the natural desert landscape.

Depending on final engineering and design, additional project facilities may be visible from KOP 3 that are not shown in the visual simulation, including on-site substations, overhead collector lines and/or gen-tie lines, energy storage system buildings, and other supporting infrastructure. When viewed at the distances shown in **Figure 4.1-6b, KOP3 – Visual Simulation of the Proposed Project**, these additional project features may be visible in the landscape but would not result in substantially greater visual impacts than the solar panels alone. The collector and gen-tie lines may be prominently visible in the foreground, such as along the existing utility line in view, but would not significantly alter the visual landscape or block views of adjacent scenery.

**Figure 4.1-6c, KOP3 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)** shows the addition of the palliative material that may be installed within the project site; however, the visual change is not detectible in the visual simulation due to the viewing angle and distance. Application of the palliative (or similar light-colored gravel) would not result in substantially visual impacts, compared to the project site without it, as seen from KOP 3.

Mitigation to reduce visual impacts is discussed at the end of the discussion for Impact 4.1-3.

#### **KOP 4 – East Bishop Drive Parallel to SR-58**

##### ***Existing Visual Conditions***

The existing view from KOP 4 is provided in **Figure 4.1-7a, KOP4 – Photograph of Existing Visual Conditions**. KOP 4 is located along East Bishop Drive, a frontage road along SR-58, southeast of Mojave. The viewpoint approximates views experienced by motorists traveling westbound on SR-58 toward a conceptual crossing of the highway by the project's gen-tie line. This selected view from KOP 4 is typical of this portion of the Mojave Desert, which consists of the built landscape set within the valley floor that is backdropped by the mountain foothills and ridgelines. This view also shows the extent of the current development within the Tehachapi Wind Resource Area. As such, wind turbines occupy only the left half of the view and appear to encroach on a portion of the visible mountains. The roadway corridor, including signage and fencing, and the wind turbines are the most prominent human-made features visible in this view. Airplanes stored at the Mojave Air and Space Port are also visible beyond the SR-58 overpass. These existing cultural modifications visible in the landscape reduce visual quality toward the west of SR-58, while there are relatively few existing cultural modifications that affect visual quality toward the east of SR-58. The visual quality rating for this area is considered low, nearing moderate.

Many regional and local motorists view this area for a few minutes as they pass through the area along the curving SR-58 corridor. Motorists traveling on this section of SR-58 are expected to have a moderate sensitivity to visual change due to the high rate of speed, and the limited visibility of existing development.

##### ***Visual Conditions with the Proposed Project***

The post-development visual simulation for KOP 4 is provided in **Figure 4.1-7b, KOP4 – Visual Simulation of the Proposed Project**. The project would be moderately visible from this location, although the only features in the view direction are the conceptual gen-tie structures. The simulation demonstrates the approximately maximum height of gen-tie poles and an example crossing over SR-58 along one of the possible routes. The transmission structures would appear in front of the mountains and slightly obscure views to the northwest. Similar vertical structures are already present in the left side of the view, including wind turbines, roadway lighting, and fenceposts. Depending on the final selected location of the gen-tie line, the poles may be seen at similar distances as those shown in **Figure 4.1-7b, KOP4 – Visual Simulation of the Proposed Project** (approximately 0.4 miles) or potentially closer (refer to **Figure 4.1-2, Viewpoints and Key Observation Points**). Regardless of the specific location of the gen-tie line, the tall gen-tie poles would likely intermittently interrupt views of adjacent scenery but would not substantially alter the existing visual quality or character of the area.

It should be noted that, although not shown in the visual simulation due to the selected view direction toward the gen-tie line, the project solar panels and other supporting infrastructure would be visible approximately 0.3 miles east and northeast from KOP 4. Views to the east of the solar facilities from this location would be generally similar to those seen from KOP 1 and KOP 3.

## KOP 5 – Proteus Road Parallel to SR-58

### ***Existing Visual Conditions***

The existing view from KOP 5 is provided in **Figure 4.1-8a, KOP 5 – Photograph of Existing Visual Conditions**. KOP 5 is located along Proteus Road, a frontage road on the west side of SR-58, approximately 2 miles northeast of the Mojave Air and Space Port. The selected view is looking toward the south-southeast toward the project and it approximates views experienced by motorists driving east on SR-58 and Proteus Rd. The views from KOP 5 are striking but somewhat common of views from the SR-58 highway corridor, in which the flat desert valley floor is bordered by low hills. Beyond the highway corridor, the valley is undeveloped and covered with desert scrub vegetation mostly consisting of creosote bushes. The low hills extend across the view with De Stazo Hill visible in the left side of the view and Sanborn Hill in the center of the view. The low hills delineate the edge of the valley floor and draw viewer attention toward the mountains that are faintly detectable in the background. The transition between the valley floor and hillsides is also made apparent by the SR-58 corridor, which extends from the viewpoint into the middle ground. The vehicles traveling along the highway somewhat decrease the overall coherence of the view; however, the highway corridor is contained within the valley and, therefore, the natural landscape features define the dominant visual character of the area. The visual quality of the view from KOP 5 is moderate.

As with KOP 2, many motorists view this area surrounding KOP 5 for a few minutes as they pass through the area along the curving SR-58 corridor. Motorists traveling on this section of SR-58 are expected to have low to moderate sensitivity to visual change due to the high rate of speed and the visibility of some areas of existing development, such as the distant Mojave Air and Space Port, which is just out of the selected view frame to the right.

### ***Visual Conditions with the Proposed Project***

The post-development visual simulation for KOP 5 is provided in **Figure 4.1-8b, KOP 5 – Visual Simulation of the Proposed Project**. The project would be highly visible from this location, with solar panel arrays installed along either side of the highway for approximately 1 mile. With the introduction of the project, the solar panels would occupy the entire right half of the view. The project would also be visible on the opposite side of the highway, though distance and vehicles within the roadway corridor would make it less noticeable. At this proximity, the solar panels in the right half of the view would become the view's dominant features. They would obscure a portion of the distant skyline and appear in front of Sanborn Hill and portions of the low sloping hills in the background. De Stazo Hill would become a focal point in the background of the view, as the linear paths of the project edge and the SR-58 corridor would collectively draw the viewer's attention toward the landform. The project would reduce visual quality by a moderate to high amount for the vegetation, color, cultural modifications, and adjacent scenery rating criteria. Overall, the project would substantially alter the visual quality and natural character of the view and introduce built features in an area that is primarily undeveloped, and the project features would ultimately become the dominant visual elements in the landscape.

Depending on final engineering and design, additional project facilities may be visible from KOP 5 that are not shown in the visual simulation, including on-site substations, overhead collector lines and/or gen-tie lines, energy storage system buildings, and other supporting infrastructure. The poles of collector and gen-tie lines would periodically interrupt views of adjacent scenery to some degree but would not block views. If larger and taller facilities like the on-site substations or energy storage buildings were positioned

close to the highway corridor, they could block views of adjacent scenery to a greater degree and draw a greater amount of viewer attention than the lower flat solar panels. Impacts from large supporting infrastructure positioned close to the highway corridor could be greater than the solar panels alone.

**Figure 4.1-8c, KOP 5 – Visual Simulation of the Proposed Project (with Palliative Ground Cover)**, shows the addition of the palliative material that may be installed within the project site. Its lighter color would highlight the presence of the solar panels and would contrast with the natural colors of the valley floor to a greater degree than the exposed native soil involved with surface grading alone (refer to **Figure 4.1-5b, KOP2 – Visual Simulation of the Proposed Project**). Application of the palliative (or similar light-colored gravel) would result in increased color contrast but would not result in substantially greater visual impacts overall, compared to the project site without it, as seen from KOP 5.

Mitigation to reduce visual impacts is discussed at the end of the discussion for Impact 4.1-3.

### Conclusion Summary

The project is in portions of unincorporated Kern County and California City. Existing development in this portion of the Mojave Desert is generally limited to SR-58, the Hyundai-Kia Proving Grounds, and the Mojave Air and Space Port. The northwestern part of the project lies between Mojave Air and Space Port and the Hyundai-Kia Proving Grounds. Therefore public views of the project would be primarily from motorists driving east/west on SR-58. The project would be highly visible to motorists traveling this route, but such views would be of relatively short duration while traveling through the area (approximately 6 or 7 minutes). As shown in the view from KOP 1, elevated portions of SR-58 would provide motorists with a mostly unobstructed view of the project. Publicly accessible viewpoints from within the valley would provide motorists with close-in views of the project. As shown in KOP 2 and KOP 5, the project would be highly visible in close-in views from along SR-58. The solar panels would be the most dominant features in the view and the natural features visible in the background would become wholly or partially obscured from views along the highway. Regardless of travel speeds, the visual dominance and obstructing nature of solar panels positioned close to the highway corridor would substantially degrade existing visual quality and character, and ultimately change the viewing experience for motorists. Such impacts would increase further if large supporting infrastructure were positioned along the highway corridor, such as on-site substations and energy storage facility buildings. In more distant views, such as KOP 3, the solar panels would appear wholly within the valley floor and would not obstruct views of the natural features that contribute to this landscape. As shown in KOP 4, portions of the overhead gen-tie would obscure slight portions of views of the mountain scenery. Views of similar solar and other renewable energy facilities and infrastructure are not uncommon in the area and some can be seen in the background of views surrounding the project; however, the project site and its immediate surroundings are absent of major development visible from the highway corridor. The introduction of an 8,371-acre solar site to the area would substantially degrade existing visual quality and character, which would be a significant impact.

The visual simulations and impact discussion for KOPs 1 through 5 include an analysis for the additional color contrast that would be introduced if a light-colored palliative ground cover (or similar gravel) are installed within the project site. As previously noted, an increase in color contrast would be visible beneath solar panels from the closest viewing locations (KOPs 1, 2, and 5); however, the overall visual impacts would not be substantially greater than the solar panels alone. The visual effects of color contrast could be reduced slightly if the palliative ground cover were not used and the natural ground cover beneath the solar panels was visible; however, the presence of the project features is the primary driver of

the impact significance. Over time it is expected that any visible color contrast would be generally shielded by low vegetation, solar panels, or mitigation screening.

Mitigation Measures **MM 4.1-1KC through MM 4.1-6KC** and **MM 4.1-1CC through MM 4.1-6CC** would be incorporated to reduce visual impacts to the extent feasible, which include requirements to provide ongoing site maintenance including trash and debris removal; preserve and enhance scenic vegetation where possible; install visually screening features that would limit the visibility of project features; minimize color contrast through the selection of appropriate paint colors and surface treatments for project facilities; and limit impacts from the location of tall, intrusive project facilities near public viewing areas. To the greatest extent possible, the locations of the tallest project structures (substations, energy storage buildings, O&M facilities, and other ancillary systems, etc.) would be positioned away from public areas to reduce their visual presence and intrusion. However, because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, the project would substantially degrade the existing visual character and scenic quality of public views of the site and its surroundings, as seen and described from the KOPs, and impacts on visual resources would remain significant and unavoidable.

## Mitigation Measures

### Kern County

**MM 4.1-1KC:** 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 4.1-2KC:** The project proponent shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for

residential use, including E (Estate Residential), R-1 (Low-Density Residential), R-2 (Medium-Density Residential), R-3 (High-Density Residential), or PL (Platted Lands) zoning unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.

**MM 4.1-3KC:** 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 Planning and Natural Resources Department, that will ensure all project facilities including operations and maintenance buildings, gen-tie 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 4.1-4KC:** Wherever possible, within the proposed project boundary, the natural 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 as permitted by Fire Code. 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 native seed mix or native plants (including Mohave creosote scrub habitat) or allowed to revegetate with the existing native seed bank in the topsoil reestablish vegetation. 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 on-site; (2) a timeline for seeding the site; (3) the details of which areas are to be revegetated; (4) a list of the consultation efforts completed; (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations; and (6) a clear prohibition of the use of toxic rodenticides.
- c. During decommissioning and site restoration, ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish revegetation. 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 revegetation 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, reevaluation 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. 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.

**City of California City:**

**MM 4.1-1CC:** 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 City of California City Community Development 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 City of California City Community Development 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 City of California City Community Development 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 4.1-2CC:** The project proponent shall install metal fence slats or similar view-screening materials, as approved by the City of California City Community Development Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, unless the adjacent property is owned by the project proponent (to be verified by the City of California City Community Development Department) or a public or private agency that has submitted correspondence to the City of California City Community Development Department requesting this requirement be waived. Should the

project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.

**MM 4.1-3CC:** 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 City of California City Community Development Department, that will ensure all project facilities including operations and maintenance buildings, gen-tie 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 4.1-4CC:** Wherever possible, within the proposed project boundary, the natural 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 as permitted by Fire Code. 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 City of California City Community Development 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 native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to revegetate with the existing native seed bank in the topsoil 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 on-site; (2) a timeline for seeding the site; (3) the details of which areas are to be revegetated; (4) a list of the consultation efforts completed; (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations; and (6) 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 revegetation. 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 City of California City Community Development 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 revegetation 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 City of California City Community Development 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, re-evaluation of revegetation methods shall be made in consultation with the City of California City Community Development Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. 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.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.1-1KC** and **MM 4.1-3KC**.

## **Level of Significance after Mitigation**

### **Kern County:**

Despite implementation of Mitigation Measures **MM 4.1-1KC through MM 4.1-4KC**, impacts would remain significant and unavoidable.

### **City of California City:**

Despite implementation of Mitigation Measures **MM 4.1-1CC through MM 4.1-4CC**, impacts would remain significant and unavoidable.

### **Gen-Tie:**

Despite implementation of Mitigation Measures **MM 4.1-1KC** and **MM 4.1-3KC**, impacts would remain significant and unavoidable.

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

## **Light**

### **Construction**

The project is located within portions of unincorporated Kern County and California City. 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. California City's general construction noise allowance provides for work between the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 of each year or between the hours of 7:00 a.m. and 8:00 p.m. during the remainder of the year. Construction of the project would generally occur during daytime hours so nighttime lighting would generally not be required; however, non-daylight hours may be necessary at times to make up for unanticipated schedule delays or to complete critical construction activities. If work during non-daylight hours is necessary, construction crews would use temporary lighting fixtures to illuminate work areas 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 may also be required for the temporary construction staging area, parking area, construction office trailer entries, and project site access points. Per Mitigation Measures **MM 4.1-5KC** and **MM 4.1-5CC**, any nighttime construction would use lighting designed to

provide the minimum illumination needed, thereby minimizing adverse impacts on the night sky and any receptors. Impacts from lighting during construction would be less than significant with mitigation.

## Operation

During operations, the project would include security lighting and other lighting required for occupational health and safety. The project's lighting system would provide O&M personnel with illumination for both normal and emergency conditions. Lighting would be installed at access gates, near the O&M building (collocated with the substation on the northern site), and at the proposed substations. Lighting would be installed along the gen-tie line if required by the Federal Aviation Administration or Department of Defense; however, no such lighting is anticipated for the project. No lighting is anticipated along most of the fence lines around the perimeter of the solar sites. 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 the County's Chapter 19.81 Dark Skies Ordinance and California City's policies related to light associated with industrial developments. Mitigation Measures **MM 4.1-5KC** and **MM 4.1-5CC** would be implemented to ensure compliance with applicable standards for project lighting, which require the project lighting fixtures to be designed to provide the minimum illumination needed while reducing light impacts on the night sky and any receptors. Impacts from lighting during operation of the project would be less than significant with mitigation.

## Glare

### Construction

It is anticipated that the majority of proposed construction activities would occur during daylight hours. Increased truck traffic and the transport of the PV solar arrays and construction materials to the project site and transmission lines could temporarily increase glare conditions during construction from reflecting surfaces of equipment and materials. 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 potential sources of glare would not be stationary for prolonged periods of time. Additionally, the reflective surface area of construction equipment and materials would be minimal. Therefore, project construction would not create a new source of substantial glare that would affect daytime views in the area. Impacts would be less than significant.

### Operation

As discussed in the methodology section above, an analysis of glare was conducted for the project and a report presenting the results of the analysis is provided in **Appendix B-2** of this EIR (Dudek 2021). As described in the report, glare can result in visual hazards and temporary loss of vision. The hazard level of glare depends on the ocular impacts to the observer. The glare potential of the project's solar panels was modeled to determine the anticipated glare intensity using color-coded ocular impact categories: "Green" (low potential to cause an after-image); "Yellow" (potential to cause a temporary after-image); and "Red" (potential to cause retinal burn and permanent eye damage). The model analysis was based on project characteristics (i.e., single-axis tracking, smooth glass with anti-reflective coating, north-south

orientation, 52-degree maximum and resting angle) and representative receptors identified in the project vicinity which included airport flight paths, air traffic control towers, dwellings, roads and highways, and railroads. As discussed in the glare analysis report, the modeling results indicated the proposed project could result in glare in the “Green” and “Yellow” ocular impact categories to only one receptor, which was the approach path at Mojave Air and Space Port for Runway 22. No other receptors in the model analysis received glare, and no glare in the “Red” category was identified. As detailed in Table 3 of the glare analysis report, the approach path for Runway 22 will experience glare in the “Yellow” ocular impact category for nearly one and a half hours per day in the late afternoons of the winter months, and nearly an hour per day during the late afternoon of the spring and fall months. Glare in the less severe “Green” ocular impact category is predicted to be experienced by aviators using Runway 22 in the fall and winter months, ranging from 18 minutes per day in October to 81 minutes per day in December (Dudek 2021).

In order to minimize glare from the project, Mitigation Measures **MM 4.1-6KC** and **MM 4.1-6CC** would be implemented, which require the project proponent to demonstrate the solar panels and hardware are designed to minimize glare. Based on this analysis, operation of the solar sites would result in less-than-significant impacts related to substantial adverse effects to daytime views due to new sources of glare.

The O&M building, energy storage facilities, gen-tie facilities, and collector facilities could also generate glare that could be received by motorists during project operations; however, these structures are unlikely to incorporate particularly reflective exteriors and surfaces. The O&M building and energy storage facilities would also incorporate non-reflective materials. To further reduce glare potential, the project would be required to implement Mitigation Measures **MM 4.1-7KC** and **MM 4.1-7CC**, which require the use of non-reflective materials when feasible.

Therefore, based on the analysis presented above and with implementation of Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC**, potential glare effects generate by the solar panels, O&M building, energy storage facilities, gen-tie facilities, and collector facilities would be less than significant.

## Mitigation Measures

### Kern County

**MM 4.1-5KC:** Prior to final activation 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 4.1-6KC:** 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 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 for review and final approval.

**MM 4.1-7KC:** Prior to final activation of the solar facility, the project operator shall demonstrate that the O&M building, energy storage facilities, gen-tie facilities, and collector facilities utilize materials that minimize glare, as approved by the Kern County Planning and Natural Resources Department.

### **City of California City**

**MM 4.1-5CC:** Prior to final activation of the solar facility, the project proponent shall demonstrate to the City of California City Community Development Department that the project site complies with the applicable standards regarding project lighting within the City 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 4.1-6CC:** 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 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 City of California City Community Development Department for review and final approval.

**MM 4.1-7CC:** Prior to final activation of the solar facility, the project operator shall demonstrate that the O&M building, energy storage facilities, gen-tie facilities, and collector facilities utilize materials that minimize glare, as approved by the City of California City Community Development Department.

### **Gen-tTie**

Implement Mitigation Measure **MM 4.1-5KC through MM 4.1-7KC**.

## **Level of Significance after Mitigation**

### **Kern County:**

Impacts would be less than significant with implementation of Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC**.

### **City of California City:**

Impacts would be less than significant with implementation of Mitigation Measures **MM 4.1-5CC through MM 4.1-7CC**.

### **Gen-Tie:**

Impacts would be less than significant with implementation of Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC**.

## Cumulative Setting, Impacts, and Mitigation Measures

As shown in **Table 3-3, Cumulative Project List**, there are 29 constructed and/or planned development projects in the area surrounding the project site which include utility-scale solar and wind energy production facilities. These projects have the potential to result in cumulative impacts to aesthetic resources when considered together with the project. The “scarcity” rating criterion is likely to be impacted by widespread development in the area, as unobstructed views of regional topographical features and undeveloped lands would be less available as acreage is developed with PV solar developments, wind energy projects, and/or as new associated transmission lines are constructed.

As the discussion above indicates, the project would contribute to cumulative significant and unavoidable impacts related to visual character despite implementation of mitigation. While other projects in the region would also be required to implement various 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. These projects have already created impacts on the sense of open areas generally associated with the California desert area. Solar projects in the Antelope Valley region have removed iconic types of vegetation, such as Joshua trees, that attract people to locate in desert communities, which is contrary to various goals of the County to promote tourism in the desert area. There are over 30,000 acres of already existing solar development in Eastern Kern County. The proposed project will add approximately 8,371 acres to this sum, which will result in cumulative impacts to aesthetics when considered together with the already existing development and other approved solar energy projects. Unobstructed views of regional topographical features and undeveloped lands would be less available as acreage is developed with solar projects that would contain PV panels and new transmission lines and would be unavailable for any other use for the 20- to 30-year lifespan of these large-scale solar projects. Even with implementation of Mitigation Measures **MM 4.1-1KC through MM 4.1-4KC** and **MM 4.1-1CC through MM 4.1-4CC**, the project’s contribution to significant impacts associated with visual character and scenic qualities in the Antelope Valley would be cumulatively considerable, and overall cumulative impacts would be significant and unavoidable.

The proposed project would result in less than significant impacts related to light and glare, with implementation of Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC**. With similar mitigation measures to be implemented at the other potentially glare-inducing solar projects on **Table 3-3, Cumulative Project List**, cumulative impacts to light and glare would be less than significant.

## Mitigation Measures

### Kern County:

Implement Mitigation Measures **MM 4.1-1KC through MM 4.1-7KC**

### City of California City:

Implement Mitigation Measures **MM 4.1-1CC through MM 4.1-7CC**

### Gen-Tie:

**Implement Mitigation Measures MM 4.1-1KC through MM 4.1-7KC****Level of Significance after Mitigation****Kern County:**

Despite implementation of Mitigation Measures **MM 4.1-1KC through MM 4.1-7KC**, cumulative impacts would be significant and unavoidable because the project and cumulative projects would replace the undeveloped desert landscape with solar energy facilities, which would significantly affect the visual quality of the area. Impacts would remain significant with respect to degrading the visual character and quality of public views of the site and surroundings.

**City of California City:**

Despite implementation of Mitigation Measures **MM 4.1-1CC through MM 4.1-7CC**, cumulative impacts would be significant and unavoidable because the project and cumulative projects would replace the undeveloped desert landscape with solar energy facilities, which would significantly affect the visual quality of the area. Impacts would remain significant with respect to degrading the visual character and quality of public views of the site and surroundings.

**Gen-Tie:**

Despite implementation of Mitigation Measures **MM 4.1-1KC through MM 4.1-7KC**, cumulative impacts would be significant and unavoidable because the project and cumulative projects would replace the undeveloped desert landscape with solar energy facilities, which would significantly affect the visual quality of the area.

Impacts would remain significant with respect to degrading the visual character and quality of public views of the site and surroundings.



## Section 4.2

# Agriculture and Forestry Resources

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### 4.2.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for agriculture and forestry resources for the project. It also describes the impacts on agriculture and forestry 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 Kern County Agricultural Crop Report (Kern County 2020a), which was prepared by the Kern County Department of Agriculture and Measurement Standards.

### 4.2.2 Environmental Setting

This section discusses the existing conditions related to agricultural resources within the project area, which includes the project site.

#### Regional Setting

Kern County covers approximately 8,132 square miles (5,204,480 acres) (US Census Bureau 2019). This total includes 1,334 square miles (853,909 acres) of harvested agricultural land (Kern County 2020a). Kern County has a long history of agricultural operations. According to the 2019 Kern County Agricultural Crop Report (2020a), agriculture in Kern County was worth approximately \$7.6 billion in 2019, which is an increase of nearly 3 percent from the 2018 crop value of approximately \$7.4 billion. The top five commodities for 2019 were grapes, almonds, pistachios, citrus, and milk, which made up more than \$5.5 billion (72 percent) of the County's total agricultural product value. The top twenty commodities make up more than 95 percent of the total value (Kern County 2020a).

Kern County is growing rapidly and ranks high on the list of California counties with issues related to urbanization and the loss of farmland (DOC 2015). As shown in **Table 4.2-1, 2016-2018 Land Use Conversion in Kern County**, the California Department of Conservation (DOC) found that 6,076 acres of Important Farmland, which includes Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, were converted to non-agricultural uses between 2016 and 2018 (DOC 2019a). Approximately 5,906 net acres were converted from agricultural and other uses to urban/built-up land from 2016 to 2018 (DOC 2019a).

The project site is located in the Fremont Valley in the eastern portion of Kern County. Although there are many areas zoned for agricultural uses (including the project site) within the region, land uses in this part of the County consist primarily of undeveloped native desert landscape, interspersed with scattered residences, airport and military uses, and a few renewable energy projects.

**Table 4.2-1: 2016-2018 Land Use Conversion in Kern County**

<b>Land Use Category</b>	<b>Total Acres 2016</b>	<b>Total Acres 2018</b>	<b>Net Acreage Changed</b>
Prime Farmland	579,297	573,935	-5,362
Farmland of Statewide Importance	209,484	208,323	-1,161
Unique Farmland	91,321	91,768	447
Farmland of Local Importance	0	0	0
<b>IMPORTANT FARMLAND SUBTOTAL</b>	880,102	874,026	-6,076
Grazing Land	1,849,267	1,854,641	5,374
<b>AGRICULTURAL LAND SUBTOTAL</b>	2,729,369	2,728,667	-702
Urban and Built-up Land	159,178	165,084	5,906
<b>TOTAL AREA INVENTORIED</b>	5,224,315	5,224,315	0

Source: DOC 2019a.

## Local Setting

The project site is located in portions of unincorporated Kern County and California City. The project site straddles State Route 58, east of Mojave and just west and south of the Hyundai-Kia Proving Ground.

### Farmland

According to the DOC, Division of Land Resource Protection's Important Farmland Maps (DOC 2019b), there are no agricultural lands designated Prime Farmland, Farmland of Statewide Importance, or Unique Farmland located within the project site. The project site is designated as Nonagricultural or Natural Vegetation. This designation is one of several used by the Rural Land Mapping Project of the DOC to provide more detail on land uses that are classified under the Other Land designation. The Nonagricultural or Natural Vegetation designation includes several types of areas, including rocky/barren areas and grassland areas that do not qualify as Grazing Land (DOC 2019c). There are no important farmlands located adjacent to or in the vicinity of the project site and the project is not within the boundaries of an agricultural preserve.

### Williamson Act Contract Lands

According to the County of Kern's Interactive County Map (GIS Tool), the project site does not support lands that are subject to Williamson Act contracts, either active or in nonrenewal. There are no lands under Williamson Act contracts adjacent to or in the vicinity of the project site.

## Zoning

### Kern County

The project parcels located in unincorporated Kern County are subject to the provisions of the Kern County Zoning Ordinance. These project parcels have a zone classification of A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 MH (Limited Agriculture, Mobile Home Combining), M-2 PD (Medium Industrial, Precise Development Combining), and M-3 PD (Heavy Industrial, Precise Development Combining). Both M-2 PD and M-3 PD zone districts are located within the administrative boundaries of the Mojave Specific Plan.

### City of California City

The project parcels located in California City are subject to the provisions of the California City Zoning Regulations. These project parcels have a zone classification of O/RA (Open Space/Residential Agriculture).

### Forestry Resources

The project site is not situated on forest or timberland. No land in the vicinity of the project site is zoned as forestland or timberland, or for timberland production.

## 4.2.3 Regulatory Setting

### State

#### California Department of Conservation, Division of Land Resource Protection

The DOC applies the Natural Resources Conservation Service (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 through the Farmland Mapping and Monitoring Program (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-term agricultural production. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland 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 four 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 four 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. The minimum mapping unit for Grazing Land is 40 acres.
- **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, and 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. The Rural Land Mapping Project provides more detail on the land uses within the Other Land category for nine of the counties covered by the FMMP, including Kern County. The Rural Land categories include Rural Residential Land, Semi-Agricultural and Rural Commercial Land, Vacant or Disturbed Land, Confined Animal Agriculture, Nonagricultural or Natural Vegetation, and Water (DOC 2019c). The project site is designated as Nonagricultural or Natural Vegetation. This is defined by the Rural Land Mapping Project as an area that is heavily wooded, rocky/barren areas, riparian and wetland areas, grassland areas which do not qualify as Grazing Land due to their size or land management restrictions, small water bodies and recreational water ski lakes, or constructed wetlands. The Nonagricultural or Natural Vegetation category is distinguished from the Vacant or Disturbed land based on the level of disturbance, relative location, and time period since disturbance occurred (DOC 2019c, 2019d).

### 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), 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 DOC 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.

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 (DOC n.d.).

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 a 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.

## **Farmland Security Zone Act**

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State legislature in 1999 to ensure that long-term farmland preservation is part of public policy 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 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 an additional 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses for the 20-year period.

## 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. Public Resources Code Section 21060.1 defines “agricultural land” as such: “Agricultural land means prime farmland, farmland of statewide importance or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for 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 designations that are intended primarily or to some extent 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, farm facilities, one single-family dwelling unit, cattle feed yards, dairies, dry land farming, livestock grazing, water storage, groundwater recharge acres, mineral, aggregate, 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. None of the parcels within the project site are designated as 8.1 – Intensive Agriculture.

- **8.2 Resource Reserve (minimum parcel size is 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 areas of mixed natural resource characteristics including rangeland, woodland, and wildlife habitat which occur in an established County water district. None of the parcels within the project site are designated as 8.2 – Resource Reserve.
- **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. None of the parcels within the project site are designated as 8.3 – Extensive Agriculture.
- **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.

Uses shall include but are not limited to the following: recreational activities; livestock grazing; dry land farming; ranching facilities; wildlife and botanical preserves; timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral; aggregate; petroleum exploration and extraction; open space and recreational uses; land within development areas subject to significant physical constraints; and state and federal lands that have been converted to private ownership. Sixty-five parcels within the project site are designated as 8.5 – Resource Management, for a total of 5,354.87 acres. The remaining acreage is designated as state or federal land or is located in either the Mojave Specific Plan area or the City of California City.

The policies, goals, and implementation measures in the Kern County General Plan for agricultural resources applicable to the project are provided below. The General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below, but as stated in **Chapter 2, Introduction of this EIR**, all policies, goals, and implementation measures in the 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 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 designations.
- 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 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.

#### Implementation Measure

**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 system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

### **Mojave Specific Plan**

The Mojave Specific Plan identifies the importance of guiding development in the Mojave area to accommodate growth while protecting the unique environmental resources of the community. The Mojave Specific Plan incorporates the land use designations established in the Kern County General Plan, in order to maintain consistency with other County planning documents. A portion of the project is within the boundaries of the Mojave Specific Plan; however, these areas have Industrial Map Code Designations, which will not be changed to Agriculture as part of the proposed project.

### **California City General Plan**

The California City General Plan includes a specific land use designation for Controlled Development and Open Space, which identifies land designated for specific land development planning (O/RA). This designation is conditionally compatible with agricultural uses.

### **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 federal government or any of its agencies.

The project proponent has requested a change in zone classifications from A-1 (Limited Agriculture) and A-1 MH (Limited Agriculture, Mobile Home Combining) to A (Exclusive Agriculture). Pursuant to Section 19.12.030(G) of the Kern County Zoning Ordinance, construction and operation of solar facilities on areas zoned A (Exclusive Agriculture) requires approval of a conditional use permit (CUP). Solar facilities are considered to be a compatible use and are permitted on properties zoned for exclusive agricultural use with the approval of a CUP.

### **California City Zoning Regulations**

The California City Zoning Regulations establish basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to state law, the ordinance must be consistent with the California City General Plan. These Zoning Regulations apply to all property in California City, except land owned by the federal government or any of its agencies. The



project proponent has not requested a change in zone classifications for the proposed parcels within California City.

### **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 Williamson Act contracts. Therefore, a proposed solar project on contracted land would be required by Kern County to petition for an early cancellation of the contract. However, the project site does not contain lands under an active Williamson Act contract and, therefore, is not subject to these rules.

## **4.2.4 Impacts and Mitigation Measures**

### **Methodology**

The proposed project's potential impacts on agriculture and forest resources have been evaluated on a qualitative basis using a variety of resources, including the *Kern County Agricultural Crop Report* (Kern County 2020a), Important Farmland Maps prepared by the DOC, and the analysis of applicable goals and policies related to agricultural resources in the Kern County and California City General Plans. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

### **Thresholds of Significance**

As established in Appendix G of the *CEQA Guidelines*, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria to determine if a project could potentially have a significant adverse effect on agriculture and forestry resources.

A project would have a significant impact on agriculture and forestry 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 a Williamson Act Contract;
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- d) Result in the loss of forestland or conversion of forestland to non-forest use;

- e) Involve other changes in the existing environment which, because of 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 Conservancy Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15205(b)(3) Public Resources Code).

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue areas would result in no impacts, and therefore, are scoped out of this EIR. Please refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding these issue areas:

- 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 uses;
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- d) Result in the loss of forestland or conversion of forestland to non-forest use;
- e) Involve other changes in the existing environment which, because of 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 Conservancy Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15205(b)(3) Public Resources Code).

As detailed in the NOP/IS, there is no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project area. Therefore, construction and/or operation of the proposed project would not result in the conversion of designated Farmland to a nonagricultural use. Additionally, none of the parcels included as part of the proposed project or property in the vicinity of the project are subject to a Williamson Act Land Use contract, and implementation of the project would not result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Act contract for any parcel of 100 or more acres (Public Resources Code Section 15206(b)(3)). The closest Williamson Act land is located approximately 14 miles from the project site (Kern County GEODAT 2021). Additionally, as discussed in **Section 4.10, Hydrology and Water Quality**, the project site is located within the Fremont Valley Groundwater Basin, which the California Department of Water Resources has not identified as being in or projected to be in an overdraft condition and is not an adjudicated area for groundwater management. The proposed discretionary actions do not involve farming uses and are consistent with the Kern County Zoning Ordinance regulations for agricultural and resource management uses. Therefore, the potential for conflicts with Williamson Act Land Use contract are not anticipated and are considered to have no impact. There is no land in the vicinity of the proposed project site that is zoned as forestland, timberland, or lands zoned for timberland production. Thus, there would be no impacts related to loss of forestland or timberland, or the conversion of forestland to non-forest use. Therefore, no further analysis of these impacts is warranted in this EIR.

## Project Impacts

### Impact 4.2-1: The project would conflict with existing zoning for agricultural use or a Williamson Act Contract.

#### ***Solar Facility***

According to available data, none of the parcels included as part of the proposed project or any property in the immediate vicinity of the project are subject to a Williamson Act Land Use contract (Kern County GEODAT 2021). The project site is not within an agricultural preserve. Historical land uses in the vicinity of the project included livestock grazing, military uses, and open space activities such as off-road vehicle use. Although portions of the site are agriculturally zoned, the property has not been actively farmed and the potential for future farming activities is limited due to the basin groundwater adjudication status. The project is located within the Antelope Valley–East Kern Water Agency’s (AVEK) service area and the potential for future farming activities is limited due to the basin groundwater adjudication status.

The project area is located on mostly undeveloped land in an area that does not currently have any water-demanding activities. According to AVEK’s *2017 Annual Water Resources Report* (AVEK 2017), the judgment and physical solution process for the Antelope Valley Groundwater Adjudication reached a milestone in December 2015 with a settlement between local groundwater producers, including public water suppliers, landowners, small pumpers, and non-pumping parties. As the judgment identified the region in a state of overdraft, the pumping rights among these producers is to be managed to reduce groundwater level declines and subsidence. The Watermaster Board, an Advisory Committee, the Watermaster Engineer, and an attorney was established with the Judgment. The physical solution portion of the judgment provides direction for this reduction of groundwater use within the adjudicated area.

The year 2017 was the second of seven years that required a reduction of groundwater production. This is known as the Rampdown Period. The amount that each party may produce from the Antelope Valley region’s adjudicated basin native safe yield will be reduced linearly (20 percent per year), as necessary, in equal annual increments to a final allowed production right. Given the fact that the project site has not been agriculturally farmed in the last 10 years and is unlikely to be farmed in the future due to water availability, implementation of this project is not expected to conflict with existing agricultural use.

**Agricultural Zoning.** As previously discussed, the project parcels located in unincorporated Kern County, including the Mojave Specific Plan area, have existing zone classifications of A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 MH (Limited Agriculture, Mobile Home Combining), M-2 PD (Medium Industrial, Precise Development Plan), and M-3 PD (Heavy Industrial, Precise Development Plan). Pursuant to Sections 19.12.030G, 19.36.030G, and 19.40.030G of the Kern County Zoning Ordinance, construction and operation of solar facilities not accessory to permitted use on areas zoned A (Exclusive Agriculture), M-1 PD (Light Industrial, Precise Development), and M-3 PD (Heavy Industrial, Precise Development) require approval of a CUP. The Kern County General Plan encourages the development of alternative sources of energy, such as solar energy, while protecting the environment (see **Section 4.10, Land Use and Planning**, of this EIR, for additional goals and policies that promote solar energy development). Solar facilities are considered to be a compatible use and are permitted on properties zoned for exclusive agricultural use with the approval of a CUP.

The project parcels located in California City have a zone classification of O/RA (Open Space/Residential Agriculture). As of May 11, 2021, the City of California City has adopted Planning Commission Resolution

No. 21-04, which updates Title 9, Chapter 2 Zoning, Article 4 of the California City Municipal Code to include solar and other renewable power generation as a conditional use in the O/RA zone district. If this zoning amendment is also approved by the California City Council, with the approval of a CUP, the proposed project would be an allowable use within the proposed zoning and would not conflict with agricultural zoning. Further, since there is no farming or other agricultural land uses on or near the project site, the project would not conflict with agricultural land uses. Project impacts involving proposed zone changes would be less than significant.

If at some future time the project is decommissioned and all solar facilities are removed, the land could be converted to various types of agricultural uses and there would be no impact involving a conflict with agricultural zoning.

**Williamson Act Contract Lands.** The project site does not contain lands that are subject to Williamson Act contracts, either active on in nonrenewal. There are no lands under Williamson Act contracts adjacent to or in the vicinity of the project site. Therefore, the proposed project would not conflict with a Williamson Act contract and no impact would occur. If at some future time the project is decommissioned and all solar facilities removed, there would be an opportunity for another landowner/user to convert the site to some form of agricultural use and possibly enter into a Williamson Act Contract. The decommissioning itself would have no impact on any active Williamson Act Contracts.

### ***Gen-Tie***

The proposed gen-tie would require very minimal ground disturbance and a negligible amount of land to construct and operate. There are no lands under Williamson Act contracts adjacent to or in the vicinity of the gen-tie route. The proposed gen-tie will not conflict with the existing zoning for agricultural use or a Williamson Act Contract. If at some future time the project is decommissioned and all gen-tie facilities are removed, there would be an opportunity for another landowner/user to convert the site to some form of agricultural use and possibly enter into a Williamson Act Contract. The decommissioning itself would have no impact on any active Williamson Act Contracts.

## **Mitigation Measures**

### **Kern County**

No mitigation would be required.

### **City of California City**

No mitigation would be required.

### **Gen-Tie**

No mitigation would be required.

## **Level of Significance**

### **Kern County**

Impacts would be less than significant.

**City of California City**

Impacts would be less than significant.

**Gen-Tie**

Impacts would be less than significant.

## **Cumulative Setting, Impacts, and Mitigation Measures**

The geographic scope for evaluating potential cumulative impacts to agricultural and forest resources is considered the Fremont Valley. This geographic scope was selected because the land within the region possesses relatively similar agricultural opportunities, soil conditions, climate, and water availability. The cumulative projects identified in **Table 3-3, *Cumulative Projects List***, of **Chapter 3, *Project Description***, are found within the Fremont Valley area in Kern County.

***Solar Facility***

Although development of the project would result in the conversion of land zoned for agricultural uses to a non-agricultural use, the proposed project would not result in the loss of farmland as the project site is not located on land mapped by DOC as Important Farmland and has never been used for agriculture. Further, the development of solar power-generating facilities on the project site is not anticipated to affect the potential for agricultural production to occur in adjacent or more distant areas within the Fremont Valley, as the project's water needs are not substantial and would not result in a significant loss of water resources that could be applied for irrigation of farmland (see discussion of the project's less than significant impact on water supplies in **Section 4.16, *Utilities and Service Systems***). It is possible that, in the future event that the project is decommissioned and the photovoltaic solar panels and associated facilities are removed, the project site could be devoted to farming or other agricultural uses. Therefore, the project would not substantially contribute to a cumulative impact related to agricultural resources in Kern County and the project's impact would be less than cumulatively considerable.

***Gen-Tie***

The proposed gen-tie would require very minimal ground disturbance and a negligible amount of land to construct and operate. None of the potential gen-tie routes have been or are currently supporting farming or other agricultural uses. The proposed gen-tie would not result in the conversion of farmland to a nonagricultural use or the conversion of forestland to non-forest use. There are no lands under Williamson Act contracts adjacent to or in the vicinity of the gen-tie route. Therefore, the proposed gen-tie would not substantially contribute to a cumulative impact related to agricultural resources in Kern County and the project's gen-tie impact would be less than cumulatively considerable.

## **Mitigation Measures**

**Kern County**

No mitigation would be required.

**City of California City**

No mitigation would be required.

**Gen-Tie**

No mitigation would be required.

**Level of Significance**

**Kern County**

Cumulative impacts would be less than significant.

**City of California City**

Cumulative impacts would be less than significant.

**Gen-Tie**

Cumulative impacts would be less than significant.

### 4.3.1 Introduction

This section of the EIR describes the affected air quality environment and regulatory setting for the project. It also describes the impacts on air quality that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable.

Information in this section is based primarily on the *Bellefield Solar Farm Project Air Quality and Greenhouse Gas Study* prepared by Rincon Consultants, Inc. (Rincon 2020e), located in Appendix C, *Air Quality and Greenhouse Gases*, of this EIR. An analysis of the project's health risk impacts is also included in this report. 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 Eastern Kern Air Pollution Control District's (EKAPCD) Guidelines for Implementation of the California Environmental Quality Act (CEQA) (EKAPCD 1999). The *San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast Air Quality Management District (SCAQMD) Amicus Curiae Brief* is located in Appendix C.2 *Amicus Curiae Brief, Friant Ranch, SJVUAPCD*, and Appendix C.3, *Amicus Curiae Brief, Friant Ranch, SCAQMD* of this EIR.

### 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 Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the EKAPCD. The MDAB includes the eastern half of Kern County, the northern part of Los Angeles County, most of San Bernardino County except for the southwest corner, and the eastern edge of Riverside County. It is separated from the South Coast Air Basin, to its south, by the San Gabriel and San Bernardino Mountains. It is separated from the San Joaquin Valley, to the northwest, by the Tehachapi Mountains and the south end of the Sierra Nevada.

### Regional Setting

The project site is located in the Mojave Desert portion of Kern County, within the MDAB. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation about 10,000 feet) whose passes form the main channels for these air masses.

During the summer, the MDAB is generally influenced by a pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced

by cold air masses moving south from Canada and Alaska as these frontal systems are weak and diffuse by the time that they reach the desert. Therefore, desert moisture comes in the form of warm, moist, unstable air masses from the south and the MDAB averages three to seven inches of rain annually. Thus, it is classified as a dry-hot desert climate where temperatures can be in excess of 95 degrees Fahrenheit for 60 to 70 days per year with almost no precipitation.

## 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 (USEPA) 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<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM) (specifically PM<sub>10</sub> and PM<sub>2.5</sub>), 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, USEPA 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 Eastern Kern Air Pollution Control District 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 EKAPCD 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.”



**Table 4.3-1. National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status**

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O <sub>3</sub> )	1-hour	0.09 ppm	Non-Attainment	—	Non-Attainment (Marginal) <sup>b</sup>
	8-hour	0.070 ppm		0.070 ppm <sup>a</sup>	
Particulate Matter (PM <sub>10</sub> )	AAM <sup>c</sup>	20 µg/m <sup>3</sup>	Non-Attainment	—	Unclassified/Attainment
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	AAM	12 µg/m <sup>3</sup>	Unclassified	12.0 µg/m <sup>3</sup>	Unclassified/Attainment
	24-hour	No Standard		35 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1-hour	20 ppm	Unclassified	35 ppm	Unclassified/Attainment
	8-hour	9.0 ppm		9 ppm	
Nitrogen Dioxide (NO <sub>2</sub> )	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified
	1-hour	0.18 ppm		100 ppb <sup>d</sup>	
Sulfur Dioxide (SO <sub>2</sub> )	24-hour	0.04 ppm	Attainment	0.14 ppm	Unclassified
	3-hour	—		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m <sup>3</sup>	Attainment	—	Unclassified/Attainment
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>	
Sulfates	24-hour	25 µg/m <sup>3</sup>	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (42 µg/m <sup>3</sup> )	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		

Source: CARB 2016; EKAPCD 2018.

<sup>1</sup> On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

<sup>2</sup> No federal 1-hour standard (revoked as of June 15, 2004).

<sup>3</sup> AAM = annual arithmetic mean

<sup>4</sup> 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).

As shown in **Table 4.3-1, National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status**, the EKAPCD is currently classified as nonattainment for the one-hour State ozone standard as well as nonattainment for the national and State eight-hour ozone standards.

Additionally, the EKAPCD is classified as nonattainment for the State 24-hour PM<sub>10</sub> standard. The EKAPCD is currently in attainment and/or unclassified status for all other ambient air quality standards. California has also established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles; however, air emissions of these pollutants are not expected to occur under the project and thus, these pollutants are not addressed further in this EIR.

## 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 Eastern Kern Air Pollution Control District 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 EKAPCD is responsible for monitoring air quality in the Kern County portion of the MDAB to determine whether pollutant concentrations meet State and national air quality standards. The nearest air monitoring station to the project site is the Mojave air monitoring station, located approximately 15 miles northeast of the project site. The Mojave monitoring station monitors ambient concentrations of ozone, lead, SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. CO and NO<sub>2</sub> data was obtained from the Bakersfield Municipal Airport monitoring station as that is the closest station that monitors for these pollutants. Ambient monitoring data obtained for 2016 through 2018 is summarized below in **Table 4.3-2, Air Quality Data Summary (2016–2018)**.

## Criteria Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants shown in **Table 4.3-2, Air Quality Data Summary (2016–2018)**.

**Table 4.3-2. Air Quality Data Summary (2016–2018)**

Pollutant	Monitoring Year		
	2016	2017	2018
<b>Ozone (O<sub>3</sub>)<sup>a</sup></b>			
Maximum concentration (1-hour/8-hour average)	0.104/0.093	0.097/0.085	0.111/0.094
Number of days state/national 1-hour standard exceeded	2/0	1/0	8/0
Number of days national 8-hour standard exceeded (2015 Standard)	52	35	53
<b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>b</sup></b>			
Maximum concentration (1-hour average)	48.8	46.5	47.6
Annual average (state)	8	8	9
Number of days state/national standard exceeded	0/0	0/0	0/0
<b>Suspended Particulate Matter (PM<sub>2.5</sub>)<sup>a</sup></b>			
Maximum concentration (24-hour)	25.7	26.9	39.0
Annual Average (national/state)	7.5	5.5	7.1
Number of days national standard exceeded (measured/calculated) <sup>c</sup>	0/0.0	0/0.0	0/0.0
<b>Suspended Particulate Matter (PM<sub>10</sub>)<sup>a</sup></b>			
Maximum concentration (24-hour) (national/state)	139.2/130.3	93.4/85.7	93.1/86.5
Annual Average (national/state)	26.2/23.8	25.3/NA	26.7/NA
Number of days state standard exceeded (measured/calculated) <sup>c</sup>	18/18.9	10/NA	19/NA
Number of days national standard exceeded (measured/calculated) <sup>c</sup>	0/0	0/0	0/0
<b>Carbon Monoxide (CO)</b>			
Maximum concentration (8-hour average)	NA	NA	NA
Number of days state/national 8-hour standard exceeded	NA	NA	NA
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>			
Maximum concentration (24-hour)	NA	NA	NA
Annual Average	NA	NA	NA
Number of days state standard exceeded	NA	NA	NA

Source: CARB 2019

Notes:

ppm = parts per million by volume, µg/m<sup>3</sup> = micrograms per cubic meter, NA=Not Available<sup>1</sup> Based on ambient concentrations obtained from the Mohave-923 Poole Street Monitoring Station.<sup>2</sup> Based on ambient concentrations obtained from the Lancaster-43301 Division Street Monitoring Station.<sup>3</sup> Measured days are those days that an actual measurement was greater than the standard. Calculated days are estimated days that a measurement would have exceeded the standard had measurements been collected every day.

## Ozone (O<sub>3</sub>)

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving precursor organic compounds (POC) and nitrogen oxides (NO<sub>x</sub>). POC and NO<sub>x</sub> are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours.

Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of POC and NO<sub>x</sub> under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with summertime temperature inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone. Exposure to elevated ozone concentrations can cause eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

## 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).

## Nitrogen Dioxide

Nitrogen dioxide (NO<sub>2</sub>) is an air quality pollutant of concern because it acts as a respiratory irritant. NO<sub>2</sub> is a major component of the group of gaseous nitrogen compounds commonly referred to as NO<sub>x</sub>. A precursor to ozone formation, NO<sub>x</sub> is produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, NO<sub>x</sub> emitted from fuel combustion is in the form of nitric oxide (NO) and NO<sub>2</sub>. NO is often converted to NO<sub>2</sub> when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Aside from its contribution to ozone formation, NO<sub>2</sub>

can increase the risk of acute and chronic respiratory disease and reduce visibility. NO<sub>2</sub> may be visible as a coloring component of the air on high pollution days, especially in conjunction with high ozone levels.

## Health Effects

NO<sub>x</sub> 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<sub>x</sub> can cause a wide range of health effects. Health effects of NO<sub>x</sub> 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<sub>2</sub> may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO<sub>2</sub> may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO<sub>2</sub> are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO<sub>2</sub> may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. Clinical studies of human subjects suggest that NO<sub>2</sub> 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<sub>2</sub> concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO<sub>x</sub> contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> also contributes to visibility impairment (CAPCOA 2021).

## 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 under the “Toxic Air Contaminants” heading below.

## **Carbon Monoxide**

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. 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. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease.

## **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, O'Rourke, and Burgess 2001).

## **Particulate Matter(PM<sub>10</sub> and PM<sub>2.5</sub>)**

Particulates less than 10 microns in diameter (PM<sub>10</sub>) and less than 2.5 microns in diameter (PM<sub>2.5</sub>) can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. According to a study by the CARB, exposure to ambient PM<sub>2.5</sub> can be associated with approximately

7,300 to 11,000 annual premature deaths statewide. Particulates also can damage materials and reduce visibility. Research has indicated that there are associations between increased levels of ambient particulate matter and increased adverse respiratory health. For PM<sub>10</sub>, there are associations between particulate levels and decreased pulmonary function, increased number of asthma attacks, increased asthma medication usage, increased emergency room visits, and hospital admissions for respiratory illness, and increased daily mortality.

## Health Effects

PM<sub>10</sub> and PM<sub>2.5</sub> 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<sub>10</sub> and PM<sub>2.5</sub> 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<sub>10</sub> and PM<sub>2.5</sub> 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<sub>10</sub>. Of greatest concern are recent studies that link PM<sub>10</sub> exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM<sub>10</sub> 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 recent 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 (Air & Waste Management 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).

## **Sulfur Dioxide (SO<sub>2</sub>)**

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<sub>2</sub>) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO<sub>2</sub> to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SO<sub>2</sub> is a colorless, irritating gas with a “rotten egg” smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO<sub>2</sub> 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<sub>2</sub> can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub>, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs’ defenses. SO<sub>2</sub> also is a major precursor to particulate matter that is 2.5 microns or less (PM<sub>2.5</sub>), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> and acid aerosols; and
- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

SO<sub>2</sub> 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<sub>2</sub> concentrations accelerate the corrosion of metals, probably through the formation of acids. SO<sub>2</sub> 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<sub>2</sub> also contributes to impaired visibility. Particulate sulfate, much of which is derived from SO<sub>2</sub> emissions, is a major component of the complex total suspended particulate mixture.

## Sulfates

Sulfates (SO<sub>4</sub><sup>2-</sup>) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO<sub>2</sub> is exposed to oxygen, it precipitates out into sulfates (SO<sub>3</sub> or SO<sub>4</sub>). 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<sub>2</sub> during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO<sub>2</sub> 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 cardiopulmonary disease. When acidic pollutants and particulates are also present, SO<sub>2</sub> tends to have an even more toxic effect. In addition to particulates, SO<sub>3</sub> and SO<sub>4</sub> are also precursors to acid rain. SO<sub>x</sub> and NO<sub>x</sub> 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 2021).

## 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. The EKAPCD no longer monitors ambient levels of atmospheric lead in the MDAB.

## 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 (USEPA 2021b).

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 Criteria 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 (USEPA 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 (USEPA 2020a):

- 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 (USEPA 2020a):

- 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

In addition to the above-listed criteria pollutants, TACs are another group of pollutants of concern. TACs are emitted from stationary sources, area-wide sources, mobile sources, and natural sources. Assembly Bill (AB) 1807 sets forth a procedure for the identification and control of TACs in California and defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health. Because no safe levels of TACs can be determined, there are no ambient air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. Although construction activity is short-lived, it may increase TAC concentrations in the short term at nearby sensitive receptors. A common source of TAC emissions during construction activities is DPM due to the operation of diesel-powered equipment and heavy-duty trucks. Because DPM is the primary contaminant of concern for construction of the project and would be the TAC emitted in the largest quantity, health risks were assessed as they relate to DPM exposure.

### 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 (Valley Fever)

Coccidioidomycosis, commonly 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 2021a). It should be noted that the incident rate for Valley Fever in Kern County within the MDAB is less than the incident rate in Kern County within the San Joaquin Valley Air Basin, where the highest incidence rate within California occurs.

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 2021a).

**Table 4.3-3, *Range of Complications of Valley Fever Cases***, presents the range of Valley Fever cases based on research conducted by the Valley Fever Center for Excellence.

**Table 4.3-3. Range of Complications of Valley Fever Cases**

<b>Infection Classification</b>	<b>Percent of Total Diagnosed Cases</b>
Unapparent infections	60 percent
Mild to moderate infections	30 percent
Infections resulting in complications	5–10 percent
Fatal infections	<1 percent
Source: Valley Fever Center for Excellence 2021b.	

## 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 California 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 (DOC 2000).

## Coronavirus Disease 2019

Coronavirus Disease 2019 (COVID-19) is a new disease, caused by a novel (or new) 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 2020a). 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 2020b). 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<sub>2.5</sub> (averaged from 2000 to 2016) as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard 2020).

## **Sensitive Receptors**

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include preexisting health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirmed 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, with greater associated exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system. Ambient air quality standards were established to represent the levels of air quality considered sufficient, with a margin of safety, to protect public health and welfare. Standards are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases.

### **Solar Facility**

The project parcels are generally located in an isolated area, away from sensitive receptors. The sensitive receptors with the highest potential to be affected by the project include those semi-rural residential land uses located in the nearby communities of Mojave and California City.

The nearest residences in the community of Mojave are approximately 2.0 miles (10,560 feet) from the westernmost project parcel and the nearest residences in California City are approximately 2.9 miles (15,300 feet) from the easternmost project parcel. Land in unincorporated Kern County near the project site is mostly vacant and undeveloped; several isolated residences are located approximately 1.2 miles (6,300 feet) south of the southwestern-most project parcel (near the unincorporated community of Sanborn).

### **Gen-Tie**

The gen-tie routes generally follow established roads or highways, which are alongside residences, in some areas. As such, some of the proposed routes for the gen-tie corridor would run adjacent to sensitive receptors in Mojave, such as single-family residences. At its closest point, the gen-tie route on the north side of SR-58 and east of Myer Road may be located as close as 25 feet north of residences along Barstow Road in Mojave. These sensitive receptors are over 3.5 miles west of the primary project site where solar arrays and support facilities would be located.

## **4.3.3 Regulatory Setting**

In California, air quality is regulated by several agencies, including USEPA, CARB, and local air districts such as the EKAPCD. Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although USEPA regulations may not be superseded, some State and local regulations may be more stringent than federal regulations. The project site is located within the MDAB, which is under the jurisdiction of the EKAPCD.



## Federal

### US Environmental Protection Agency (USEPA)

USEPA is the federal agency responsible for overseeing state air programs as they relate to the federal CAA, approving the state implementation plans (SIPs), establishing NAAQS and setting emission standards for mobile sources under federal jurisdiction. USEPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

### Clean Air Act

The CAA is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes USEPA to establish NAAQS to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

One of the goals of the act was to set and achieve NAAQS in every state by 1975 in order to address the public health and welfare risks posed by certain widespread air pollutants. The setting of these pollutant standards was coupled with directing the states to develop SIPs, applicable to appropriate industrial sources in the state, in order to achieve these standards. The act was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines.

Section 112 of the CAA addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 CAA Amendments revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An "area source" is any stationary source that is not a major source.

For major sources, Section 112 requires that USEPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as "maximum achievable control technology" or "MACT" standards. Eight years after the technology-based MACT standards are issued for a source category, USEPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk.

## 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 California CAA, 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 California CAA 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<sub>2</sub> and SO<sub>2</sub> 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<sub>x</sub> 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<sub>x</sub> 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 USEPA 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 Renewables 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. SCE is on track to meeting these obligations, and currently has contracts to generate 41.4 percent of its electricity from renewable resources by the year 2020 (CPUC 2021). 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 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. USEPA 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 USEPA for approval and publication in the Federal Register. As discussed below, the *EKCAPCD 2017 Ozone Attainment Plan* informs the District's portion of the SIP.

## Local

### Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan 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 proposed project. Therefore, they are not listed below.

## Chapter 1. Land Use, Open Space and Conservation Element

### Air Quality

#### 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.

***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 (CEQA), the appropriate decision making body, as part of its deliberations, will ensure that:
- a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
  - b) 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 CEQA.
- 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 district efforts to reduce PM<sub>10</sub> and PM<sub>2.5</sub> 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 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 onsite.
8. Increase the amount of landscaping beyond what is required in the Zoning Ordinance (Ch. 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.

Measure J: The County should include PM<sub>10</sub> control measures as conditions of approval for subdivision maps, site plans, and grading permits.

## **Chapter 5. Energy Element**

### **Solar Energy Development**

#### ***Goal***

Encourage safe and orderly commercial solar development.

#### ***Policies***

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuel 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.

### **Mojave Specific Plan**

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The objective, policy, and implementation measure in the Mojave Specific Plan for air quality applicable to the project is provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

## **Chapter 4. Conservation Element**

Objective 4.6 Promote the improvement of air quality and the maintenance of State and Federal air quality standards in the Mojave area.

- Policy 4.6.3 Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

## **Chapter 10. Implementation**

Measure N-2b) Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval of any industrial zone changes and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.

## **California City General Plan**

### **Chapter 5. Open Space and Conservation Element**

#### **5.15 Conservation Goals, Policies, and Implementation Measures**

##### ***Goal***

- Promote the improvement of air quality and the maintenance of State and federal air quality standards.

##### ***Policies***

- Cooperate with the Kern County Air Pollution Control District (APCD) to implement the APCD's Air Quality Attainment Plan.
- Continue to enforce the City's grading code, along with dust control and other rules and measures through the Air Pollution Control District to mitigate air quality effects during the construction of new development.
- Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

##### ***Implementation Measures***

Measure C-5: The City shall participate with the California Air Resources Board (CARB) and/or the Kern County Air Pollution Control District (APCD) on programs to reduce mobile and stationary source emissions.

Measure C-6: The City shall implement the following measures associated with air pollutant emissions from new development proposals in the General Plan Planning Area.

- Evaluate proposals for discretionary projects to ensure that the project complies with air quality standards.
- For development proposals not subject to discretionary approval or environmental review, an air quality analysis shall be required as part of the site plan review (DRC) process.

- For development proposals subject to a discretionary approval (General Plan Amendment, Zone Change, or Subdivision) and environmental review, an air quality analysis shall be required as a part of the environmental review process.

Measure C-10: The City shall require that construction of new development proposals comply with the City's Grading Code and all adopted applicable dust control measures of the Kern County Air Pollution Control District (APCD).

Measure C-11: The City shall implement the following measures to reduce the potential impact of odors and airborne pollutants on surrounding sensitive land uses:

- Utilize buffer areas for commercial, industrial, or public facility projects that generate odors in areas adjacent to sensitive land uses (such as residences and schools).
- Evaluate new development proposals regarding whether they may cause nuisance from odors and airborne pollutants if located near residential areas or sensitive receptors.

Measure C-12: The following measures shall be incorporated into new development proposals, as applicable, to address the goals and policies of the General Plan related to air quality. Verification of these measures shall occur during site plan review and building inspection:

- During grading operations, project applicant/developer shall be responsible for the application of water to the development site at least twice daily to mitigate the impact of dust and PM<sub>10</sub> emissions. Spraying should be sufficient to ensure that soils remain damp, with the frequency of spraying dependent on weather conditions. Graded areas that are to be left undeveloped or unpaved for more than six weeks are to be sufficiently dust controlled through use of an applied surface agent, daily watering, or revegetated.
- During grading operations, all activity should be restricted to periods of low wind generally considered under 25 miles per hour, to reduce dust emissions.
- Construction speed limits will be posted at 15 miles per hour. Preparation of roadway surfaces in a phased manner (where segments of the route are graded in succession) will greatly minimize the amount of time the surfaces are left exposed, thereby reducing vehicle-related dust emissions.

## Air Quality Management Plan

As required by the federal and state CAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the standards have been achieved. Jurisdictions of nonattainment areas also are required to prepare an air quality management plan (AQMP) that includes strategies for achieving attainment. The EKAPCD has adopted an attainment plan (*2017 Ozone Attainment Plan for 2008 Federal 75 ppb 8- hour Ozone Standard [EKAPCD Ozone Plan]*) for ozone pursuant to the Federal Clean Air Act, which serves as the District's Air Quality Management Plan. The EKAPCD Ozone Plan provided an update to the EKAPCD's *1994 Ozone Attainment Demonstration (Attainment Plan)* and established a goal of being in attainment for the eight-hour NAAQS for ozone by the "Serious" classification deadline of December 31, 2020. The EKAPCD Ozone Plan includes planning all required elements, emissions reductions, and control measures necessary to demonstrate attainment with the 2008, eight-hour Ozone NAAQS by 2020.

Particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) attainment strategies for NAAQS in Eastern Kern County have been subdivided into three areas: the Indian Wells Valley (I WV) area, the Kern River/Cummings Valley (KR/CV) area, and the remainder of the EKAPCD's jurisdiction, which includes the project site. The I WV and KR/CV zones are considered separate planning areas for PM<sub>2.5</sub> and PM<sub>10</sub> and have their own attainment strategies. The remainder of the EKAPCD area, where the project is located, is designated unclassified/attainment for the NAAQS for PM<sub>2.5</sub> and PM<sub>10</sub> standards. Therefore, the project site is not under the jurisdiction of any PM<sub>2.5</sub> and PM<sub>10</sub> attainment plans. Although the project is located in an area that is attainment for NAAQS standards, the area is considered in nonattainment for the CAAQS for 1-hour ozone, 8-hour ozone and PM<sub>10</sub>. Air quality impacts are controlled locally through and provisions of EKAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations.

## Eastern Kern Air Pollution Control District

The air pollution control agency for the Kern County portion of the MDAB is the EKAPCD. EKAPCD develops plans and implement control measures in their jurisdiction. These controls primarily affect stationary sources such as factories and plants. EKAPCD 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. EKAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within the MDAB portion of Kern County.

EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. EKAPCD established and enforces rules and regulations based on federal and state air pollution laws. Applicable rules are as follows:

**Regulation II - Permits:** List D addresses permit applications involving a TAC and provides risk management guidance for EKAPCD to determine compliance with EKAPCD Rules 419 and 423, parts of Regulation IV, Section 41700 and Division 26, Part 6 of the California Health and Safety Code, CARB's toxic air contaminant control program, and Title III of the 1990 Federal Clean Air Act Amendments. Health risk shall be determined following the most current California Air Pollution Control Officer's Association (CAPCOA) Air Toxics Hot Spots Program Risk Assessment Guidelines (OEHHA 2015).

## Rule 201

Rule 201 establishes permitting requirements for stationary sources. Although the proposed project does not involve traditional stationary sources, on March 12, 2015 the EKAPCD adopted rules requiring commercial solar facilities to obtain Authority to Construct and Permit to Operate approval under Rule 201 to address fugitive dust emissions. Under Rule 201, these projects would be required to submit a Fugitive Dust Emissions Control Plan in accordance with Rule 402. In addition, the district is requiring a Fugitive Dust Emissions Monitoring Plan with a recommendation for each facility to install upwind and downwind particulate matter air monitoring, utilization of an Alternative Air Monitoring Strategy, or joining into the EKAPCD regional fugitive dust monitoring network. The monitoring will be used to demonstrate compliance with the District Rules and Regulations.



## Rule 210.1

Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. Under this rule, the EKAPCD has established required offsets for when the emissions from a source exceed the following trigger levels:

- $PM_{10}$  – 15 tons/year
- $SO_x$  (as  $SO_2$ ) – 27 tons/year
- VOCs – 25 tons/year
- $NO_x$  (as  $NO_2$ ) – 25 tons/year

**Rule 401 – Visible Emissions:** Rule 401 of the EKAPCD’s rules and regulations addresses discharge into the atmosphere of visible emissions from any single source. Visible emissions are described by the EKAPCD as a plume of dust or exhaust created by human made or natural sources. A violation is a discharge for a period or periods aggregating more than 3 minutes in any 1 hour which is:

- A. As dark or darker in shade as designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. Of such opacity as to obscure an observer’s view to a degree equal to or greater that does smoke described in Subsection A (or 20 percent opacity).

**Rule 402 – Fugitive Dust:** Rule 402 of the EKAPCD’s rules and regulations addresses significant human made dust sources from large operations. A large operation is defined as, “any active operation, including vehicle movement on unpaved roadways, on property involving in excess of 100 contiguous acres of disturbed surface area, or any earth-moving activity exceeding a daily volume of 7,700 cubic meters (10,000 cubic yards) three times during the most recent 365-day period.” Rule 402 applies to specified bulk storage, earthmoving, construction and demolition, and human-made conditions resulting in wind erosion, and contains the following requirements:

1. A person shall not cause or allow emissions of fugitive dust from any active operation to remain visible in the atmosphere beyond the property line of the emission source, excluding unpaved roadways.
2. A person shall utilize one or more Reasonably Available Control Measures to minimize fugitive dust emissions from each source type that is part of any active operation, including unpaved roadways.
3. A person shall not cause or allow downwind  $PM_{10}$  ambient concentrations to increase more than  $50 \mu g/m^3$  above downwind concentrations as determined by simultaneous upwind and downwind sampling utilizing high-volume particulate matter samplers or other USEPA-approved equivalent method(s).
4. No person shall conduct a large operation without either: (1) conducting onsite  $PM_{10}$  air quality monitoring and associated recordkeeping; or (2) filing for and obtaining an approved fugitive dust emission control plan.

Additionally, pursuant to Rule 402, an owner or operator of a Large Operation will be required to submit a Fugitive Dust Control Plan to the EKAPCD prior to the start of any earthmoving activity. The project shall not commence until the EKAPCD has approved or conditionally approved the plan.

### **Rule 404.1**

Rule 404.1 pertains to Particulate Matter Concentrations – Desert Basin and states:

- A person shall not discharge into the atmosphere from any single source operation, in service on the date this Rule is adopted, particulate matter in excess of 0.2 grains per cubic foot of gas at standard conditions.
- A person shall not discharge into the atmosphere from any single source operation, the construction or modification of which commenced after the adoption of this Rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.

**Rule 419 – Nuisance:** Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

**Rule 423 – National Emission Standards for Hazardous Air Pollutants and Source Categories (NESHAPS):** All sources of hazardous air pollution shall comply with applicable standards, criteria and requirements set forth therein of provisions of Title 40, Chapter I, Parts 61 and 63, Code of Federal Regulations.

Additionally, the EKAPCD has determined commercial solar power plants generate fugitive dust emissions (PM<sub>10</sub>) in eastern Kern County. Therefore, in accordance with Rule 201 (Permits Required) and 210.1 (New and Modified Stationary Source Review, NSR), the EKAPCD is requiring that each commercial solar facility obtain a district air permit.

To assist in compliance with EKAPCD rules, including fugitive dust (Rule 402), the EKAPCD is requesting that each facility install upwind and downwind particulate matter air monitoring. The particulate matter air monitors will be used to assist solar facility operators in showing and maintaining compliance with EKAPCD rules and regulations.

### **2017 Ozone Attainment Plan**

In 2008, USEPA adopted a more stringent 8-hour ozone NAAQS of 0.075 ppm. Although the EKAPCD attained the 1997 8-hour ozone NAAQS, and the Indian Wells Valley planning area met the new (2008) ozone NAAQS, the EKAPCD's Design Value was higher than 0.075 ppm. In 2012, a portion of the EKAPCD was classified "marginal" nonattainment pursuant to the 2008, 8-hour Ozone NAAQS Air Quality Designations. However, EKAPCD failed to meet the 0.075 ppm standard by the applicable attainment date and was reclassified as "moderate" nonattainment, effective June 3, 2016. As a result, the EKAPCD was required to submit a SIP revision for the nonattainment area by January 1, 2017, which showed compliance with statutory and regulatory conditions applicable to the "moderate" designation (EKAPCD 2017).

The EKAPCD, in partnership with CARB, conducted photochemical modeling along with supplemental analyses to determine whether the EKAPCD could attain the 2008 ozone NAAQS by the “moderate” nonattainment deadline. Modeling indicated the EKAPCD would not meet the 0.075 ppm standard by the moderate deadline but could attain it by 2020, which is the attainment date for “serious” nonattainment areas. Pursuant to Section 181(b)(3) of the CAA “Voluntary Reclassification,” EKAPCD requested CARB formally submit a request to USEPA asking for voluntary reclassification of EKAPCD from “moderate” to “serious” nonattainment for the 2008, 8-hour ozone NAAQS, and revise the attainment date to December 31, 2020 (EKAPCD 2017). USEPA reclassified EKAPCD (except for the Indian Wells Valley planning area) as “serious” nonattainment on August 6, 2018 (USEPA 2018).

The 2017 Ozone Attainment Plan was adopted by EKAPCD on July 27, 2017, which addresses all required elements, emissions reductions, and control measures necessary to demonstrate attainment with the 2008 8-hour ozone NAAQS by 2020. CARB approved the 2017 Ozone Attainment Plan as a revision to the SIP and submitted it to USEPA on October 25, 2017 (CARB 2017). USEPA has not yet approved the plan.

### **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 USEPA in the 1999 base year. Kern County is contained within two air basins: San Joaquin Valley Air Basin (SJVAB) and the MDAB.

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 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 2018).

### **Kern County Public Health Services Department**

Section 101080 of the California Health and Safety Code authorizes a local health officer to declare a local health emergency in the health officer’s jurisdiction, or any part thereof, when the health officer determines that there is an imminent and proximate threat of the introduction of any contagious, infections, or communicable disease, chemical agent, non-communicable biological agent, toxin, or radioactive agent. On April 2, 2020, the Kern County Health Officer issued an order that was implemented to garner additional tools to assist with Kern County’s compliance with Executive Order N-33-20 issued by the Governor of the State of California and the California Department of Public Health’s gathering guidance due to COVID-19. The April 2, 2020, order was rescinded on May 2, 2020, by the Kern County Health Officer. The Kern County Public Health Services Department and the Kern County Health Officer continue to provide guidance and recommendations for residents and business of Kern County to safely conduct business, including construction activities, during this COVID-19 pandemic.

## Kern County Best Management Practices for Dust Management

In 2013, solar developers and planners from Los Angeles and Kern Counties began a series of meetings to discuss the best practices for protecting air quality and minimizing construction impacts from solar projects. The process incorporated feedback from the Mojave Air and Space Port, members of the Mojave Chamber of Commerce, Rosamond Municipal Advisory Council, and numerous other community leaders. Subsequent to these meetings, Kern County has developed a new approach to best control fugitive dust emissions and improve air quality in the high desert. The County's approach recognizes that effective dust control management must be site-specific and cannot be "one-size-fits-all" because standard methods do not adequately meet the challenges of such a unique environment as the Mojave Desert region. An effective strategy has to be based on soil conditions, topography, adjacent land uses, and wind direction.

Conditions imposed on the new solar projects in Kern County are more extensive and rigorous than ever before. These include:

- Development of a Site Specific Dust Control Plan that considers ongoing community stakeholder input, to the extent feasible and practicable.
- Use of Global Positioning System (GPS) or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements.
- When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives (chemical substances applied to a road surface to reduce airborne dust) that stabilize the earth.
- Use of dust suppression measures during road surface preparation activities, including grading and compaction.
- Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV – the wind speed at which erosion starts) equal to or greater than 100 centimeters per second.
- If ground is cleared, plant roots must be left in place where possible.
- Expanded on-site watering processes.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved (i.e., without asphalt) surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard.
- Sending mailings to residents within 1,000 feet of a project site.

Kern County is also carefully monitoring all solar construction activities to ensure that all mitigation measures are followed and are adequate to minimize dust-related health concerns.

## 4.3.4 Impacts and Mitigation Measures

### 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 Report prepared for the project (located in Appendix C, *Air Quality and Greenhouse Gases*, 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.

### Pollutant Emissions

The proposed project's construction and operation emissions were estimated using several emissions models (depending on the emission source type and data availability), including CARB's on-road vehicle emission factor model (EMFAC2017) and the off-road diesel equipment emissions analysis inventory (OFFROAD2017). Emission factors were also obtained from the USEPA AP-42 *Compilation of Air Pollutant Emissions Factors* (USEPA 2006).

The following construction and operational sources and activities were analyzed for emissions:

- On-site construction equipment exhaust emissions (all criteria pollutants) – based on EMFAC2017 and OFFROAD2017 emission factors and estimated equipment schedules
- On-site construction equipment fugitive dust emissions (PM<sub>10</sub> and PM<sub>2.5</sub>) – based on USEPA AP-42 emission factors and estimated equipment schedules
- On-site and off-site haul truck (includes delivery, freight, and dump/water trucks) exhaust emissions (all criteria pollutants) – based on EMFAC2017 and estimated vehicle miles traveled
- On-site and off-site entrained fugitive dust emissions for paved and unpaved road travel – based on AP-42 methodology and estimated vehicle miles traveled
- Worker vehicle emissions for trips to and from the site – based on EMFAC2017 and estimated vehicle miles traveled
- Worker vehicle entrained fugitive dust emissions for paved roads – based on AP-42 methodology and estimated vehicle miles traveled

### Construction Modeling Assumptions

Construction of the proposed project would take approximately 18 to 24 months. To provide for a realistic and conservative estimate, construction was assumed to last for 24 months for the purposes of this analysis.

Trip generation rates for employees and vendors were provided by the applicant and are presented in Appendix C. Using the distribution of vehicle miles traveled in the countywide fleet mix from EMFAC2017, it was assumed that one-third of vendor vehicles would be medium-heavy duty trucks and

two-thirds would be heavy-heavy duty trucks. Similarly, it was assumed that 73 percent of the worker commute vehicles were light-duty automobiles and the remaining 27 percent were light-duty trucks.

Construction would occur simultaneously involving several overlapping phases; to provide a conservative analysis, it was assumed that construction activities would occur at each parcel simultaneously and overall project emissions were apportioned to each parcel based on the parcel acreage compared with the project gross acreage.

## **Operational Modeling Assumptions**

Once the project is constructed, maintenance would generally be limited to cleaning the PV panels, monitoring electricity generation, site security, and facility maintenance, including replacing or repairing inverters, wiring, and PV modules. The project would require an operational staff of up to 20 full-time employees. It is possible that the project would share O&M, substation, ESS, and/or transmission facilities with future energy projects nearby, and in that case the number of on-site workers would be reduced. However, the model was run using a worst-case scenario of 20 employees. Maintenance activities may occur seven days a week, 24 hours a day to ensure PV panel output when solar energy is available.

## **Health Risk Assessment Methodology**

### **Construction**

The significance threshold for health risks differs from that used for criteria pollutants in that no specific air quality standards have been established for DPM emissions or many other TACs. Instead, significance thresholds are determined based on an analysis of the number of excess health risks relative to a chosen risk level.

Average concentrations of DPM at the highest exposed existing receptor were used to estimate potential chronic and carcinogenic health risk. DPM does not have an acute health impact and therefore an acute health risk evaluation is not included in this analysis. The health risk calculations were based on standardized equations contained in the current *Air Toxics Hot Spots Program Risk Assessment Guidelines* (OEHHA 2015). The carcinogenic health risk equations follow a dose response relationship where the dosage is averaged over a particular timeframe. To provide a conservative analysis, the exposure duration was not adjusted for time at home. To determine exposure during construction, the exposure frequency was adjusted to the maximum days that construction would occur per year (i.e., 260 days), and health risk was evaluated based on an exposure duration of 24 months for construction. Children are more affected by DPM emissions than adults because of the relatively greater amount of air that they breathe on a daily basis compared to their body weight; therefore, the breathing rate by age was included in the modeled health risk. Health risks during decommissioning were assumed to be the same or less than construction, but were not quantified, since the project decommissioning would occur at least 30 years after construction is completed.

The air dispersion modeling for the HRA was performed using the USEPA AERMOD dispersion model, within CARB Hot Spots Analysis and Reporting Program Version 2 (HARP 2) version. Health risk for the project was evaluated assuming that construction on each parcel occurs simultaneously to provide a conservative analysis. As previously mentioned, only the risk associated with construction was assessed because operational emissions would not be a substantial source of TAC emissions (Appendix C of this EIR).

## Operation

Health impacts from TAC emissions during the operational phase of the project are not expected because on-site routine maintenance and periodic PV panel washing, and off-site employee-commute trips would not be a substantial source of ongoing TAC emissions.

## Thresholds of Significance

The EKAPCD's Guidelines For Implementation of The California Environmental Quality Act (CEQA) of 1970, As Amended (EKAPCD CEQA Implementation Document), adopted in July 11, 1996, and Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impacts Reports (Kern County Environmental Checklist), dated December 1, 2006, identify the criteria as established in Appendix G of the CEQA Guidelines at the time to determine if a project could potentially have a significant adverse effect to air quality. However, the CEQA Guidelines have been updated since publications of the EKAPCD CEQA Implementation Document or the Kern County Environmental Checklist. As such, these updated CEQA thresholds have been included below and would be used to determine if a project could potentially have a significant adverse effect to air quality.

A project could have a significant adverse effect on air quality if it would:

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:
  1. Eastern Kern Air Pollution Control District:
    - A. Operational and Area Sources:
      - i 25 tons per year for ROG
      - ii 25 tons per year for NO<sub>x</sub>
      - iii 15 tons per year for PM<sub>10</sub>.
    - B. Stationary Sources – determined by District Rules
      - i Severe nonattainment: 25 tons per year
      - ii Extreme nonattainment: 10 tons per year
- c. Expose sensitive receptors to substantial pollutant concentrations;
  - 1 Cancer Risk: Emit carcinogenic or toxic contaminants that exceed the maximum individual cancer risk of 10 in one million.
  - 2 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.

## Eastern Kern Air Pollution Control District

The EKAPCD recommends the following daily quantitative regional significance thresholds for long-term project operation in the western portion of the MDAB:

- 137 lbs per day of NO<sub>x</sub>
- 137 lbs per day of ROG

Additionally, the EKAPCD has determined that a project would not have a significant impact on air quality if its operation:

- Emits less than the offset trigger levels set forth in Subsection III.B.3 of KCAPCD's Rule 210.1 (from all project sources subject to EKCAPCD Rule 201, New and Modified Source Review Rule);
- Does not cause or contribute to an exceedance of NAAQS or California Ambient Air Quality Standards;
- Does not exceed the District health risk public notification thresholds adopted by the EKCAPCD Board; or,
- Is consistent with adopted federal and state Air Quality Management Plans

For health risk management, the EKAPCD has established the following criteria for land use projects subject to EKAPCD Regulation II (Permits List and Criteria) and Rule 208.2 (Criteria for Finding no Significant Environmental Impact):

- Cancer health risk shall be considered insignificant if expected increase in cancer risk is less than 20 in one million;
- Noncancer health risk is considered insignificant if expected increase in chronic hazard index is less than or equal to 1; or
- Noncancer health risk is considered insignificant if expected increase in acute hazard index is less than or equal to 1.

## 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 EKAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations. The California CAA 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 EKAPCD complies with this



requirement. CARB reviewers approve or amend the document and forward the plan to USEPA for final review and approval within the SIP.

## Solar Facility

### Construction

Construction of the project over 24 months would generate air pollutant emissions from entrained dust, off-road equipment use, and vehicle emissions. 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. A vast majority of construction activities and associated emissions would be generated for the preparation and construction of the solar PV sites which involves construction activities such as those previously discussed in **Section 3, Project Description**. Construction of the gen-tie is incorporated into the provided construction schedule and equipment mix, as described in the discussion of construction equipment required for Phases 4 and 5 of the project, in Appendix C, *Air Quality and Greenhouse Gases*. Construction of the gen-tie would involve linear development such that construction at any given point along the gen-tie route would occur for a brief period of time. Therefore, emissions associated with the gen-tie are incorporated directly into the impacts associated with construction of the solar facility. Project construction emissions are provided in **Table 4.3-4, Project Construction Emissions**.

**Table 4.3-4. Project Construction Emissions**

Table No. 1: Project Construction Emissions									
Emission Type	Source	Unmitigated Emissions (tons per phase) <sup>2</sup>						With Water Control <sup>3</sup>	
		ROG	NO <sub>x</sub>	SO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub> (tons)	PM <sub>2.5</sub> (tons)
2021									
Exhaust	Off-road construction equipment	0.3	2.6	<0.1	2.6	0.1	0.1	0.1	0.1
	On-road vehicles	0.2	0.3	<0.1	1.1	<0.1	<0.1	<0.1	<0.1
Fugitive Dust <sup>1</sup>	Off-road construction activity	-	-	-	-	1.5	0.2	0.8	0.1
	On-road vehicles (resuspended)	-	-	-	-	1.9	0.3	1.8	0.3
Total		0.5	2.9	<0.1	3.7	3.5	0.6	2.8	0.5
Threshold		25	25	27	N/A	15	N/A	15	N/A
Exceeded Threshold?		No	No	No	N/A	No	N/A	No	N/A
2022									
Exhaust	Off-road construction equipment	2.4	22.5	<0.1	23.3	1.0	0.9	1.0	0.9
	On-road vehicles	0.9	1.1	<0.1	4.8	0.2	0.1	0.2	0.1
Fugitive Dust <sup>1</sup>	Off-road construction activity	-	-	-	-	7.3	0.8	4.7	0.5
	On-road vehicles (resuspended)	-	-	-	-	8.2	1.2	8.0	1.2
Total		3.4	23.6	0.1	28.1	16.8	3.0	13.9	2.7
Threshold		25	25	27	N/A	15	N/A	15	N/A

<i>Exceeded Threshold?</i>		No	No	No	N/A	Yes	No	No	N/A
<b>2023</b>									
Exhaust	Off-road construction equipment	0.7	6.2	<0.1	6.6	0.3	0.3	0.3	0.3
	On-road vehicles	0.6	0.6	<0.1	2.9	0.1	0.1	0.1	0.1
Fugitive Dust <sup>1</sup>	Off-road construction activity	-	-	-	-	1.5	0.2	1.0	0.1
	On-road vehicles (resuspended)	-	-	-	-	5.0	0.7	4.8	0.7
<b>Total</b>		<b>1.3</b>	<b>6.8</b>	<b>&lt;0.1</b>	<b>9.6</b>	<b>6.9</b>	<b>1.2</b>	<b>6.2</b>	<b>1.1</b>
<b>Threshold</b>		25	25	27	N/A	15	N/A	15	N/A
<i>Exceeded Threshold?</i>		No	No	No	N/A	No	N/A	No	N/A
Source: Rincon 2020e (see Appendix C of this EIR) Notes: Rounded values used; 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 of this EIR for calculations. N/A = no threshold. <sup>1</sup> Fugitive dust describes particulate matter that is emitted into the air due to earth moving activities or that has been re-suspended. <sup>2</sup> Emissions by construction year are based on an estimated construction schedule and construction starting on October 1, 2021. <sup>3</sup> With implementation of Mitigation Measure MM 4.3-1KC and MM 4.3-1CC.									

As shown in **Table 4.3-4, Project Construction Emissions**, concurrent construction at all parcels would generate 16.8 tons per year of PM<sub>10</sub> emissions (unmitigated), which would exceed the fugitive dust (PM<sub>10</sub>) threshold of 15 tons per year in the second year (2022) of construction. This exceedance of the PM<sub>10</sub> threshold is largely due to fugitive dust generated from off-road construction activity. However, as shown in **Table 4.3-4**, implementation of standard dust control measures required by Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**, which include watering, would reduce PM<sub>10</sub> emissions to approximately 13.9 tons per year in the second year of construction and would not exceed EKAPCD or County fugitive dust thresholds. Although no other criteria pollutant threshold would be exceeded during construction, Mitigation Measures **MM 4.3-2KC**, **MM 4.3-2CC**, **MM 4.3-3KC** and **MM 4.3-3CC** would be implemented to further reduce construction emissions. As such, project construction would not conflict with any applicable air quality plans with the implementation of mitigation measures.

## Operations

**Table 4.3-5, Project Operational Emissions**, summarizes estimated emissions associated with operation of the project. The proposed project could require of up to 20 full-time employees. It is possible that the project would share an O&M, substation, and/or transmission facilities with one or more nearby solar projects. Sharing of personnel with nearby solar projects could reduce the project's on-site operational staff. However, it was conservatively assumed that the project would require individual operations and maintenance staff.

**Table 4.3-5. Project Operational Emissions**

Emission Type	Source	Emissions (tons per year)					
		ROG	NO <sub>x</sub>	SO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Exhaust	On-road and on-site vehicles	<0.1	0.1	<0.1	0.1	<0.1	<0.1
Fugitive Dust	Maintenance vehicles	-	-	-	-	1.6	0.2
<b>Total (tons/year)</b>		<b>&lt;0.1</b>	<b>0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>1.6</b>	<b>0.2</b>
<b>Kern County Threshold</b>		25	25	N/A	27	15	N/A
<b>Threshold Exceeded?</b>		No	No	N/A	No	No	N/A
<b>Total Daily Operations<sup>1</sup> (pounds/day)</b>		<b>0.1</b>	<b>0.6</b>	<b>&lt;0.1</b>	<b>1.0</b>	<b>13.2</b>	<b>1.4</b>
<b>EKAPCD Operational Threshold</b>		137	137	N/A	N/A	N/A	N/A
<b>Threshold Exceeded?</b>		No	No	N/A	N/A	N/A	N/A
Source: Rincon 2020e (see Appendix C of this EIR)							
Notes: Rounded values used; columns may not add up correctly. Subtotal equals the sum of all exhaust and fugitive dust emissions from on-road and on-site vehicles. See Appendix C of this EIR for calculations. N/A = no threshold							
<sup>1</sup> Annualized at 244 working days per year							

As shown in **Table 4.3-5, Project Operational Emissions**, unmitigated operations emissions from the project would not exceed Kern County's annual operational thresholds or EKAPCD's daily operational thresholds for any criteria pollutant and, as such, would not conflict with or obstruct implementation of the EKAPCD's air quality plan. The proposed project would result in a less than significant impact during operations. Although impacts are less than significant, to further reduce impacts, Mitigation Measures **MM 4.3-4KC** and **MM 4.3-4CC** would be implemented during operations to further reduce fugitive dust emissions.

### Decommissioning

At the end of the project's useful life (anticipated to be 30 to 40 years), the solar facility would be repowered or decommissioned. The PV arrays and supporting equipment largely sit on the surface of the land, and removal of the arrays would cause minimal alteration from its natural state, nor would extensive ground-disturbing activities be required. Any other activities required for deconstruction of the on-site facilities would require similar types and levels of equipment as those used during the construction phase. As such, it is estimated that decommissioning activities at the project site would generate PM<sub>10</sub> emissions that exceed the annual threshold. However as previously discussed, implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-3KC** and **MM 4.3-1CC through MM 4.3-3CC** would be required. Implementation of these mitigation measures would reduce fugitive dust emissions generated during decommission activities such that the 15 tons/year threshold would not be exceeded. No other criteria air pollutant (ROG, NO<sub>x</sub>, or SO<sub>x</sub>) thresholds would be exceeded during decommissioning regardless of whether decommissioning of all parcels occurred consecutively or simultaneously.

Furthermore, the project applicant would be required to develop a Decommissioning Plan for review and approval by the Kern County Planning and Natural Resources Department and California City Community Development Department. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and be conducted in accordance with all applicable federal, state,

and county regulations. Additionally, recommendations related to the decommissioning of utility sized solar facilities are included as a requirement of all proposed solar projects in Kern County to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. Therefore, impacts would be less than significant.

## Gen-Tie

As described above, construction of the gen-tie is incorporated into the provided construction schedule and equipment mix. Therefore, emissions associated with the gen-tie are incorporated directly into the impacts associated with construction of the solar facility. Project construction emissions are provided in **Table 4.3-5, Project Construction Emissions**.

The construction and associated emissions related to the gen-tie are a small fraction of the overall construction emissions occurring during project construction. Impacts from the construction, operation, and decommissioning of the gen-tie would be less than significant due to the minimal amount of ground-disturbance and vehicle activity associated with the installation and maintenance of this infrastructure. In addition, standard dust control measures and best management practice measures (Mitigation Measures **MM 4.3-1KC through MM 4.3-3KC** and **MM 4.3-1CC through MM 4.3-3CC**), such as watering, would be implemented to further reduce emissions during construction.

## Emissions Displaced During Operation

The operation of the project as a renewable energy source could 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 1,530 MW of electricity at any given time. Over the 30-year lifespan of the project, approximately 110,880 gigawatt-hours (GWh) of electricity would be produced, which equates to 3,696 GWh of electricity per year. **Table 4.3-6, Criteria Pollutant Emissions Displaced by the Project**, shows the criteria pollutant emissions that would be displaced by the project. It is noted that this estimate only includes emissions generated by the combustion of natural gas and coal and does not include operational employee trips associated with natural gas or coal combustion or the emissions associated with extracting and transporting those power sources. It is also noted that this estimate only includes the displacement of emissions from the portion of the California electricity market that comes from fossil fuels (approximately 70 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, hydroelectric).

**Table 4.3-6. Criteria Pollutant Emissions Displaced by the Project**

	ROG	NO <sub>x</sub>	SO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Annual Displacement (tons/year)	1.91	997.51	39.28	109.22	31.91	13.73
Project Lifetime Displacement (tons)	57.24	29,925.30	1,178.34	3,276.68	957.37	411.87
Notes: ROG = reactive organic gases; NO <sub>x</sub> = nitrogen oxide; SO <sub>x</sub> = sulfur oxide; CO = carbon monoxide; PM <sub>10</sub> = particulate matter less than 10 micrometers; PM <sub>2.5</sub> = particulate matter less than 2.5 micrometers.						

## Consistency with Air Quality Management Plan

Construction, operation and maintenance, and decommissioning of the project would result in emissions of criteria pollutants including ozone precursors, such as ROG and NO<sub>x</sub> as well as particulate matter. The EKAPCD has prepared air quality attainment plans to achieve federal ozone standards, the most recent of which is the *2017 Ozone Attainment Plan for the 2008 Federal 75 ppb 8-Hour Ozone Standard*. The

EKAPCD is unclassifiable/in attainment for CO, PM<sub>10</sub>, PM<sub>2.5</sub>, lead, and the one-hour ozone NAAQS standards so there are no attainment plans for those pollutants. As previously mentioned, PM<sub>2.5</sub> and PM<sub>10</sub> attainment strategies in Eastern Kern County are subdivided into the IWV area, the KR/CV area, and the rest of the EKAPCD area. The project is not located in either the IWV or KR/CV area and is in the unclassified/attainment area of the EKAPCD. Therefore, the project site is not under jurisdiction of any PM<sub>2.5</sub> and PM<sub>10</sub> attainment plans.

Although the project is located in an area that is attainment for NAAQS standards, the area is considered in nonattainment for the CAAQS for 1-hr ozone, 8-hr ozone and PM<sub>10</sub>. Air quality impacts are further controlled locally through and provisions of EKAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations. The EKAPCD has determined that projects with emissions above the thresholds of significance for criteria pollutants would conflict with/obstruct implementation of the EKAPCD's air quality plan (EKAPCD 2006). As discussed above under construction impacts, emissions of ozone precursors ROG and NO<sub>x</sub> would not exceed the project-level significance thresholds and therefore would not conflict with implementation of existing air quality plans. PM<sub>10</sub> emissions would exceed the 15 tons per year EKAPCD threshold during the second year of construction. However, because construction of the project would disturb over 10 contiguous acres of surface area, implementation of Mitigation Measures 4.3-1KC and 4.3-1CC would be required to be compliant with to be EKAPCD's rules and regulation, such as Rule 201 (Permits Required) and Rule 402 (Fugitive Dust). Implementation of Mitigation Measures 4.3-1KC and 4.3-1CC would reduce PM<sub>10</sub> emissions such that PM<sub>10</sub> would not exceed EKAPCD or County fugitive dust thresholds and therefore would not conflict with the EKAPCD's air quality plan. Therefore, this impact would be less than significant.

## Mitigation Measures

### Kern County

**MM 4.3-1KC:** The project operator shall ensure that construction, operation, and decommissioning of the proposed project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District. The project operator shall develop a fugitive dust control plan (Plan) for the project. The Plan shall address short-term construction and long-term operational activities. The Plan shall be endorsed by the Eastern Kern Air Pollution Control District prior to the start of any earthmoving activity. The project operator shall also develop a decommissioning fugitive dust control plan (Decommissioning Plan) for the project if a decision is made to decommission and remove the solar facilities in the future. The Decommissioning Plan shall be endorsed by the Eastern Kern Air Pollution Control District prior to any decommissioning activities.

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. The following dust control measures shall be implemented during land preparation, excavation, and/or demolition:

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 three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative.
2. All disturbed areas on the project site and proposed transmission corridor shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods. The frequency of watering can be reduced or eliminated during period of precipitation.
3. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.
4. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures or neighboring property, or as identified in a plan approved by the Eastern Kern Air Pollution Control District.
5. All trucks entering or leaving the project site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of six inches.
6. Areas disturbed by clearing, earth-moving, or excavation activities shall be minimized at all times.
7. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.
8. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.
9. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.
10. Where acceptable to the Kern County Fire Department and California City Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.
- b. After clearing, grading, earth-moving and/or excavating is completed within any portion of the project site, the following dust control practices shall be implemented during site construction:
  11. Once initial leveling has ceased, all inactive soil areas within the construction site shall be immediately treated with a dust palliative.

12. 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.
  13. All unpaved road areas shall be treated with a dust palliative or graveled to prevent excessive dust.
- c. During all phases of construction, the following vehicular control measures shall be implemented:
1. No vehicle shall exceed 10 miles per hour on unpaved areas within the project site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.
  2. Visible speed limit signs shall be posted at the project site entrance(s).
  3. All areas with vehicle traffic, especially the main entrance roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.
  4. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
  5. Streets adjacent to the project site shall be kept clean and project related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.
  6. Access to the project site shall be by means of an apron into the facility site from adjoining surfaced roadways. The apron 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 facility site, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires.

**MM 4.3-2KC:** The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project on the project site:

- a. All equipment shall be maintained in accordance with the manufacturer's specifications.
- b. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes.
- c. No individual piece of construction equipment shall operate longer than eight cumulative hours per day.

- d. Electric equipment shall be used whenever feasible in lieu of diesel or gasoline-powered equipment.
- e. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO<sub>x</sub> emissions.
- f. On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.

**MM 4.3-3KC:** The project operator shall continuously comply with the following measures during construction and operation to control NO<sub>x</sub> emissions from on-road heavy-duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and materials for the proposed project:

- a. 2006 engines or pre-2006 engines with California Air Resources Board-certified Level 3 diesel emission controls will be used to the extent possible.
- b. All on-road construction vehicles, except those meeting the 2006/California Air Resources Board-certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards to the greatest extent possible. This does not apply to worker personal vehicles.
- c. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications.

**MM 4.3-4KC:** The project operator shall continuously comply with the following measures during operation to control fugitive dust emissions:

- a. The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation
- b. The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.
- c. Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.

### City of California City

**MM 4.3-1CC:** The project operator shall ensure that construction, operation, and decommissioning of the proposed project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District. The project



operator shall develop a fugitive dust control plan (Plan) for the project. The Plan shall address short-term construction and long-term operational activities. The Plan shall be endorsed by the Eastern Kern Air Pollution Control District prior to the start of any earthmoving activity. The project operator shall also develop a decommissioning fugitive dust control plan (Decommissioning Plan) for the project if a decision is made to decommission and remove the solar facilities in the future. The Decommissioning Plan shall be endorsed by the Eastern Kern Air Pollution Control District prior to any decommissioning activities.

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. The following dust control measures shall be implemented during land preparation, excavation, and/or demolition:
  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 three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative.
  2. All disturbed areas on the project site and proposed transmission corridor shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods. The frequency of watering can be reduced or eliminated during period of precipitation.
  3. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.
  4. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures or neighboring property, or as identified in a plan approved by the Eastern Kern Air Pollution Control District.
  5. All trucks entering or leaving the project site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of six inches.
  6. Areas disturbed by clearing, earth-moving, or excavation activities shall be minimized at all times.
  7. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.

8. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.
  9. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.
  10. Where acceptable to the Kern County Fire Department and California City Fire Department, weed control shall be accomplished by mowing instead of discing, thereby, leaving the ground undisturbed and with a mulch covering.
- b. After clearing, grading, earth moving and/or excavating is completed within any portion of the project site, the following dust control practices shall be implemented:
1. Once initial leveling has ceased, all inactive soil areas within the construction site shall be immediately treated with a dust palliative.
  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.
  3. All unpaved road areas shall be treated with a dust palliative or graveled to prevent excessive dust.
- c. During all phases of construction, the following vehicular control measures shall be implemented:
1. No vehicle shall exceed 10 miles per hour on unpaved areas within the project site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.
  2. Visible speed limit signs shall be posted at the project site entrance(s).
  3. All areas with vehicle traffic, especially the main entrance roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.
  4. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
  5. Streets adjacent to the project site shall be kept clean and project related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.
  6. Access to the project site shall be by means of an apron into the facility site from adjoining surfaced roadways. The apron 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 facility site, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires.

**MM 4.3-2CC:** The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project on the project site:

- a. All equipment shall be maintained in accordance with the manufacturer's specifications.
- b. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes.
- c. No individual piece of construction equipment shall operate no longer than eight cumulative hours per day.
- d. Electric equipment shall be used whenever feasible in lieu of diesel or gasoline-powered equipment.
- e. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO<sub>x</sub> emissions.
- f. On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.

**MM 4.3-3CC:** The project operator shall continuously comply with the following measures during construction and operation to control NO<sub>x</sub> emissions from on-road heavy-duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and materials for the proposed project:

- a. 2006 engines or pre-2006 engines with California Air Resources Board certified Level 3 diesel emission controls will be used to the extent possible.
- b. All on-road construction vehicles, except those meeting the 2006/California Air Resources Board certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards to the greatest extent possible. This does not apply to worker personal vehicles.
- c. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications.

**MM 4.3-4CC:** The project operator shall continuously comply with the following measures during operation to control fugitive dust emissions:

- a. The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation

- b. The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.
- c. Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.

## **Gen-Tie**

Implement Mitigation Measures **MM 4.3-1KC through MM 4.3-4KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-4KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.3-1CC through MM 4.3-4CC**, impacts would be less than significant.

## **Gen-Tie**

With implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-4KC**, impacts would be less than significant.

## **Impact 4.3-2: 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 receptors in the Mojave community are approximately 2.0 miles from the westernmost solar blocks, the nearest residences in California City are approximately 2.9 miles from the easternmost solar blocks, and the nearest homes in Kern County are approximately 1.2 miles south of the southwestern most solar blocks. Implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-3KC** and **MM 4.3-1CC through MM 4.3-3CC** would ensure that all readily available and feasible air quality control measures would be implemented to reduce emissions associated with construction.

## **Solar Facility**

Sensitive receptors are considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include preexisting 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 due to the increased susceptibility of children, elderly people, and the infirm to respiratory distress and other air quality-related health problems than the general public.

The nearest residences in the Community of Mojave are approximately 2.0 miles (10,560 feet) from the westernmost project parcel and the nearest residences in California City are approximately 2.9 miles (15,300 feet) from the easternmost project parcel. Kern County land near the project site is mostly vacant and undeveloped; several isolated residences are located approximately 1.2 miles (6,300 feet) south of the southwestern-most project parcel (near the unincorporated community of Sanborn). The gen-tie routes generally follow established roads or highways, which are alongside residences. As such, some of the proposed routes for the gen-tie corridor would run adjacent to sensitive receptors in Mojave, such as single-family residences. At its closest point, the gen-tie route on the north side of SR-58 and east of Myer Road may be located as close as 25 feet north of residences along Barstow Road in Mojave. These sensitive receptors are over 3.5 miles west of the primary project site where the majority of emissions will be generated, primarily during construction. Please refer to **Figure 4.3-1, *Nearest Sensitive Receptors***, which shows the locations of the nearest homes in Mojave, California City, and Kern County.

Implementation of the project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Implementation of **MM 4.1-4KC** and **MM 4.1-4CC** (see **Section 4.1, *Aesthetics***, for full text) would minimize removal of on-site vegetation and require an ongoing landscape restoration and revegetation program that would reduce fugitive dust that could occur on barren ground surfaces. However, short-term construction activities could result in temporary increases in pollutant concentrations. Pollutants of primary concern commonly associated with construction-related activities include TACs (i.e., DPM), asbestos, and fugitive dust. Within the project area, the potential for increased occurrences of Valley Fever is also of concern.

### Toxic Air Contaminants

As noted above, implementation of the project would not result in the long-term operation of any major on-site stationary sources of TACs. However, construction of the project may result in temporary increases in emissions of DPM associated with the use of off-road diesel equipment. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, the calculation of cancer risk associated with exposure of to TACs are typically calculated based on a long-term (e.g., 70-year) period of exposure; however, project construction would occur for a much shorter period of time and assessment of cancer risks was modeled and evaluated based on that exposure time frame. Construction of the solar facility would require use of heavy-duty construction equipment and diesel trucks which would emit DPM. As previously mentioned, construction and associated emissions related to the gen-tie are incorporated into the provided construction schedule and equipment mix. Therefore, emissions associated with the gen-tie are already incorporated into the impacts associated with the project site.

The worst-case scenario where construction at all parcels and gen-tie corridor would occur simultaneously was assessed to provide the most conservative health risk assessment. The carcinogenic and chronic health risks at the point of maximum impact (PMI) and maximum exposed individual resident (MEIR) are contained in **Table 4.3-7, *Health Risks Associated with Diesel Particulate Emissions during Construction of Project*** (refer to Appendix C, *Air Quality and Greenhouse Gases*, of this EIR for detailed health risk estimates).

**Legend**

- Project Boundary
- City/County Boundary
- Substation
- Gen-Tie Corridors
- N.A.P. Not a Part of Project
- BLM Land
- Proposed Gen-Tie Line (up to 230kV) Overhead
- Alternative Collector Line
- Sensitive Receptor
- Proposed Gen-Tie (up to 230kV) Underground
- Collector Line

Map 195: ZCC #2, GPA #2, CUP #1, CUP #57  
 Map 196: ZCC #57, GPA #3, SPA #31, CUP #19-03 (California City)

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**Table 4.3-7. Health Risks Associated with Diesel Particulate Emissions during Construction and Decommissioning of the Project**

	Carcinogenic Risk by Age Group						Chronic Risk Hazard Quotient
	3rd Trimester	0-2 Years	2 – 16 Years	16 - 30 Years	16 – 70 Years	Risk Sum <sup>2</sup>	
Construction Emissions (24 months)							
Maximum Risk <sup>1</sup>	0.01	0.16	0.03	<0.01	<0.01	0.17	<0.01
Risk Criteria	20 in one million						1.0
Exceed Criteria?	No	No	No	No	No	No	No
Source: Rincon 2020e (see Appendix C of this EIR)							
Notes:							
1. Maximum average DPM concentration equals 4.83E-04 µg/m <sup>3</sup> at nearest existing residence.							
2. Summed risk is based on the anticipated exposure duration due to the project and represents the maximum risk anticipated based on the risk across the most impacted age bins. Summed risk for construction includes the summation of risk at the 3rd trimester and risk from 0-2 years spanning a total of 24 months of exposure.							

The highest off-site modeled average DPM concentration of 2.52E-03 micrograms per cubic meter (µg/m<sup>3</sup>) and PMI within the receptor grids would occur approximately 1 mile northeast of SR-58 along the northern edge of parcel 235-065-18. The project MEIR was determined to be approximately 1.5 miles west of the western edge of the main project site located along SR-58. DPM at the MEIR for the project was 4.83E-04 µg/m<sup>3</sup>. As shown in **Table 4.3-4, *Project Construction Emissions***, excess cancer risk and chronic risk associated with project construction would not exceed the risk criteria at the receptor grid PMI or the MEIR even if construction occurred at all parcels simultaneously. Therefore, impacts would be less than significant.

#### Operation Localized Health Impacts from Regional Emissions

Impacts of criteria pollutant emissions are evaluated on a regional level with current environmental models designed for such analysis. Current environmental science models are not designed to be able to convert specific project emission levels of criteria pollutants emitted in a particular area to a localized human health impact. As such, a qualitative discussion of the adverse health effect resulting from the project level criteria pollutants is all that can be feasibly provided at this time.

As previously discussed, the criteria air pollutant standards developed by the state are based on levels of air quality that are deemed necessary, with an adequate margin of safety, to protect public health. The EKAPCD and Kern County have established quantitative daily and annual thresholds for criteria pollutant emissions to enforce and meet these standards on a regional level. As such, projects that do not exceed EKAPCD's daily operational significance thresholds and meet EKAPCD's land use criteria for project operation would not have a significant impact on regional air quality and likewise resulting human health impacts related to criteria pollutants would be less than significant. As discussed in Impact 4.3-1, criteria pollutant emissions generated from operations at the project sites would not exceed EKAPCD thresholds for any criteria pollutant either at individual sites or combined emissions for the project as a whole. Emissions of ozone precursors ROG and NO<sub>x</sub> would not exceed the project-level significance thresholds. Further criteria pollutant emissions generated from project operation would be below the EKAPCD significance threshold by an order of magnitude or more. As such, it is not expected that operation of the



project would result in a substantial increase in criteria pollutant concentration regionally or locally. Therefore, related health effects 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 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<sub>3</sub> 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. 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. 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.” 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<sub>3</sub> and its precursors NO<sub>x</sub> and ROG and VOC; O<sub>3</sub> 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<sub>3</sub> can be transported by wind over long distances, “a specific tonnage amount of NO<sub>x</sub> 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<sub>3</sub> is done on a regional scale and it is inappropriate to analyze O<sub>3</sub> 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<sub>3</sub> 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<sub>3</sub> and particulates, it would still be “impossible, using today’s models, to correlate that increase in concentration to a specific health impact.” 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<sub>3</sub>, 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. 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<sub>2.5</sub>, 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 Appendices C-2 and C-3, respectively, of this EIR.

### **Ambient Air Quality Standards**

The USEPA and CARB have established NAAQS 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 EKAPCD, 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. The EKAPCD is designated as attainment area for O<sub>3</sub> (1 hour), PM<sub>10</sub>, and PM<sub>2.5</sub> and nonattainment for O<sub>3</sub> (8 hours) under the NAAQS, and nonattainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> under the CAAQS.

### **Project Health Effects of Criteria Air Pollutants**

A receptor can be hypothetically 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 is the potential for exposure via non-inhalation pathways due to the deposition of DPM in the environment.

Aside from DPM, heavy-duty vehicle operations and construction equipment during the grading and building phases of construction can produce substantial amounts of criteria air pollutants, primarily precursor ozone pollutants (ROG and NO<sub>x</sub>), CO, NO<sub>2</sub>, and particulate matter. Since none of these criteria air pollutants from project implementation would be emitted in sufficient quantity to potentially exceed both

the NAAQS and CAAQS, and the emissions are considered minimal, an ambient air quality analysis was not warranted.

However, regarding health effects of criteria air pollutants, the project's potential to result in regional health effects associated with ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> 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<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> 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.

Implementation of Mitigation Measures **MM 4.3-1KC**, **MM 4.3-1CC**, **MM 4.3-5KC** and **MM 4.3-5CC** 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. As such, the impacts are conservatively considered to be significant and unavoidable.

### **Naturally Occurring Asbestos**

Naturally-occurring asbestos, which was identified by CARB as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The project site is not located near any areas that are likely to contain ultramafic rock. As a result, risk of exposure to asbestos during the construction phase would be considered less than significant.

### **Construction Fugitive Dust**

During construction (site preparation and grading), fugitive dust (PM<sub>10</sub>) would be generated from site grading and other earth-moving activities. The majority of this fugitive dust would remain localized and would be deposited near the project site. Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC** require the project operator to implement dust control measures in accordance with EKAPCD's rules and regulations. Implementation of Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC** would reduce potential impacts to a less than significant level.

### **Carbon Monoxide**

Exposure to high concentrations of CO can result in dizziness, fatigue, chest pain, headaches, and impairment of central nervous system functions. The EKAPCD is currently classified as in attainment or unclassified for CO; however, there is a potential for the formation of microscale CO "hotspots" to occur immediately around points of congested traffic. A project's indirect CO emissions would be significant if they contribute to a violation of the State standards for CO (9.0 parts per million [ppm] averaged over 8 hours and 20 ppm over 1 hour). Hotspots can form during periods of poor atmospheric ventilation, when traffic is composed of many vehicles cold-started and operating at pollution-inefficient speeds, and/or when high levels of traffic congestion result in substantial engine idling. CO hotspots are of particular concern in densely populated metropolitan areas where buildings impede dispersion of pollutants from an intersection. The EKAPCD does not encompass any metropolitan areas and as such has not developed a screening methodology to determine if CO thresholds would be exceeded. To provide context, the Bay Area Air Quality Management District (BAAQMD) CO screening methodology considers potential CO hotspots to occur at intersections that exceed 44,000 vehicles per hour or intersections that exceed 24,000 vehicles per

hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass).

Vehicle trips generated by project construction activities are estimated by traffic volumes provided in the *Bellefield Solar Project Traffic Impact Analysis* (Stantec 2020b). On-road traffic would consist of employee and vendor vehicle trips. The number of vehicle trips would vary by month depending on the construction activities. The highest construction trip generation for that project was found to be during the overlap of grading and earthwork, concrete foundations, structural steel work, and electrical/instrumentation work. Total peak daily construction traffic is estimated at 3,574 passenger vehicles and 204 heavy vehicles (trucks). Construction traffic for the project site is expected to follow SR-58 and SR-14, and access the sites from SR-58 at Altus Avenue, Silver Queen Road and 50th Street. It is assumed that only gen-tie corridor related construction trips would occur on Mojave streets (Route 58 Business, Holt Street, Oak Creek Road, and Arroyo Avenue), as construction on the project parcels is located in an area where trips through Mojave would not be necessary.

The TIA analyzed the impact of project construction traffic with respect to the roadway capacity of affected roadway segments, at the following locations:

- SR-58 MP 107.465 Randsburg Cut-Off Road
- SR-58 MP 111.130 – Junction SR-14
- SR-58 MP 142.88 – Boron Road
- SR 14 MP 16.070 – Junction SR-58
- SR 14 MP 12.147 – Silver Queen Road

The TIA determined that with the peak levels of construction traffic noted above, all of these roadway segments would operate at acceptable levels of service (LOS), ranging from LOS A-B, with peak daily volumes of 18,000+ to 24,000+. Even at the high end of the daily traffic volume, vehicle trips could not result in a CO hotspot due to the small magnitude of peak hour emission sources and the low emission rates that occur due to catalytic converters. Additionally, the project site is located 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 hotspots. Operational project traffic is estimated at approximately 50 trips per day, which would result in a negligible impact involving generation of exhaust emissions of criteria pollutants and less than significant CO concentrations. Implementation of the proposed project would not be anticipated to result in a substantial increase in localized CO concentrations having the potential to exceed applicable ambient air quality standards. Localized concentrations of CO are, therefore, considered to be less than significant.

## COVID-19

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<sub>2.5</sub> and potentially contribute to the transmission of respiratory diseases like COVID-19. While COVID-19 is thought to spread mainly through close contact from person-to-person, the CDC is still learning how the virus spreads and the severity of the illness it causes (CDC 2020b). 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<sub>2.5</sub> as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard 2020). 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<sub>2.5</sub> from project activities due to the emissions of PM<sub>2.5</sub> from the project.

While construction dust suppression measures would be implemented in Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**, exposure to dust resulting from construction could still occur, which could increase the susceptibility to contracting COVID-19 and increase the severity of the disease. In addition to implementation of Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**, the project would implement Mitigation Measures **MM 4.3-5KC** and **MM 4.3-5CC**, which require 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. Therefore, implementation of Mitigation Measures **MM 4.3-1KC**, **MM 4.3-1CC**, **MM 4.3-5KC**, and **MM 4.3-5CC** 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, and there is not yet herd immunity from COVID-19. As such, the impacts are conservatively considered to be significant and unavoidable.

### Valley Fever

Valley Fever is an infection caused by the fungus *Coccidioidomycosis*. *Coccidioidomycosis* spores can become airborne after contaminated soil and dust are disturbed. According to the Kern County Public Health Department's Valley Fever Website, the desert region of Kern County where the project is located has a lower incidence rate compared to the other regions of the County (Kern County 2019).

Nonetheless, during project construction, it is possible that surrounding residents and on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust minimizing techniques would be employed, such as maintaining natural vegetation where possible, utilizing "mow-and-roll" vegetation clearance strategy, placement of wind control fencing, application of water, and application of dust suppressants would substantially reduce potential exposure to the fungus within the soil as compared to full grading/blading of the site. Additionally, implementation of dust control measures throughout the construction period compliant to EKCAPCD rules and regulations to reduce fugitive dust emissions (Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**) would also limit the exposure of both on-site workers and off-site residents. Additionally, the project would be required to implement Mitigation Measures **MM 4.3-6KC**, **MM 4.3-6CC**, **MM 4.3-7KC** and **MM 4.3-7CC** to reduce risks pertaining to Valley Fever. Mitigation Measures **MM 4.3-6KC** and **MM 4.3-6CC** would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever, thus minimizing exposure to Valley Fever. Mitigation Measures **MM 4.3-7KC** and **MM 4.3-7CC** would require a one-time fee of \$3,200, paid to the Kern County Public Health Services Department for Valley Fever public awareness programs. With the implementation of these 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.

### Gen-Tie

The gen-tie routes generally follow established roads or highways, which are alongside residences. At its closest point, the gen-tie route on the north side of SR-58 and east of Myer Road may be as close as 25 feet

north of residences along Barstow Road in the Community Mojave. These sensitive receptors are over 3.5 miles west of the primary project site where the majority of emissions will be generated. Chronic and carcinogenic health risk associated with DPM exposure is dependent on DPM concentration, proximity of sources to receptors, and duration of exposure. Construction of the gen-tie would involve linear development such that construction at any given point along the gen-tie route would occur for a brief period of time. As such, sensitive receptors near the gen-tie would be exposed to a temporary increase in DPM emissions from gen-tie construction for as long as construction of the nearest section of the gen-tie were occurring. Further, the construction and associated emissions related to the gen-tie are a small fraction of the overall construction emissions occurring during project construction. Because of this and the short duration of DPM exposure due to gen-tie construction at any given location, the excess cancer risk and chronic risks associated with the gen-tie corridor would be negligible and considered less than significant.

## Mitigation Measures

### Kern County

**Implement** Mitigation Measure **MM 4.1-4KC** (see **Section 4.1**, *Aesthetics* for full text), Mitigation Measures **MM 4.3-1KC** through **MM 4.3-4KC**, and:

**MM 4.3-5KC:** 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.

**MM 4.3-6KC:** 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* 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 on-site 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. On-site 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 on-site personnel, upon request. When exposure to dust is unavoidable, provide appropriate respiratory protection, approved by the National Institute for Occupational Safety and Health (OSHA), to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with California’s Division of Occupational Safety and Health’s Respiratory Protection standard (8 CCR 5144).

**MM 4.3-7KC:** 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.

### City of California City

Implement Mitigation Measure **MM4.1-4CC** (see Section 4.1, *Aesthetics* for full text), Mitigation Measures **MM 4.3-1CC through MM 4.3-4CC**, and:

**MM 4.3-5CC:** At the time of project implementation, the Kern County Public Health and Service Department shall determine if the COVID-19 pandemic is still present at a level where spread to sensitive receptors could occur. If determined necessary by the Kern County Public Health and Service Department, a COVID-19 Health and Safety Plan shall be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy shall be submitted to the California City Community Development Department for review and approval.

**MM 4.3-6CC:** 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* 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 on-site 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. On-site 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 on-site personnel, upon request. When exposure to dust is unavoidable, provide appropriate National Institute for Occupational Safety and Health–approved respiratory protection to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with California’s Division of Occupational Safety and Health’s Respiratory Protection standard (8 CCR 5144).

**MM 4.3-7CC:** Prior to the issuance of grading permits, the California City Community Development Department shall verify that a one-time fee has been paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.

## **Gen-Tie**

Implement Mitigation Measures **MM 4.1-4KC** and **MM 4.3-1KC through MM 4.3-7KC**

## **Level of Significance after Mitigation**

### **Kern County**

Even with implementation of Mitigation Measures **MM 4.1-4KC** and **MM 4.3-1KC through MM 4.3-7KC**, the uncertainty of the project’s regional and localized health impacts associated with criteria air

pollutants, such as PM<sub>2.5</sub> along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project-level impacts.

### **City of California City**

Even with implementation of Mitigation Measures **MM 4.1-4CC** and **MM 4.3-1CC through MM 4.3-7CC**, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM<sub>2.5</sub> along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project-level impacts.

### **Gen-Tie**

Even with implementation of Mitigation Measures **MM 4.1-4KC** and **MM 4.3-1KC through MM 4.3-7KC**, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM<sub>2.5</sub> along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project-level impacts.

**Impact 4.3-3: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**

### **Solar Facility**

Land uses that commonly emit odorous compounds include dairies, agricultural uses, wastewater treatment plants, chemical plants, food processing facilities, composting, refineries, and fiberglass molding facilities. The project includes the construction and operation of a solar PV facility, which would not result in the emission of odorous compounds. During construction activities, only short-term, temporary odors from vehicle exhaust and construction equipment engines would occur. According to the *2017 Ozone Attainment Plan* prepared by the EKAPCD, wind direction in the MDAB travels from the northwest to southeast and then is transported north. This transport direction would help fugitive dust and odorous diesel emissions generated from construction activities to disperse and dissipate, thus reducing nuisance and annoyances at the closest sensitive receptors. In addition, construction-related odors would be short-term and cease upon completion of construction, and would be limited by the some of the PM<sub>10</sub> control measures in accordance with EKAPCD Rule 402.

As a solar PV facility, the operational phase of the project would not emit any odorous compounds. Implementation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and impacts would be less than significant.

### **Gen-Tie**

The project includes the construction, operation, and potential future decommissioning of a gen-tie, which would result in minor potential odor releases during construction or decommissioning, and no odors releases during project operations. The proposed gen-tie would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and impacts would be less than significant.



## Mitigation Measures

### Kern County

No mitigation measures are required.

### City of California City

No mitigation measures are required.

### Gen-Tie

No mitigation measures are required.

## Level of Significance

### Kern County

Impacts would be less significant.

### City of California City

Impacts would be less significant.

### Gen-Tie

Impacts would be less significant.

## Cumulative Setting, Impacts, and Mitigation Measures

With respect to cumulative air quality impacts, Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006) requires 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).

### **Impact 4.3-4: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.**

The project is located within the Kern County portion of the MDAB, which is an area that is designated as non-attainment for federal and State ozone standards as well as State PM<sub>10</sub> standards and is under the jurisdiction of the EKAPCD. The EKAPCD's approach for assessing cumulative impacts is based on the forecasts of attainment and ambient air quality standards in accordance with requirements of the federal and State clean air acts. With respect to determining the significance of a project's contribution to regional

emissions, Kern County, in its Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006), states that projects that produce emissions that exceed the adopted thresholds of the EKAPCD for ROG, NO<sub>x</sub>, and PM<sub>10</sub> shall be considered significant for a project level and/or cumulatively for impacts to air quality. Thus, based on Kern County's guidance, if an individual project results in air emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> that exceed the EKAPCD's thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these pollutants for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. Even though the project does not exceed applicable thresholds on an individual basis, the project may contribute to a cumulatively considerable net increase in construction emissions for NO<sub>x</sub> and PM<sub>10</sub>, as discussed below. The project would not result in a cumulatively considerable net increase in operations-related criteria pollutant emissions, as discussed below.

### Localized Impacts

A total of 29 projects, including several renewable energy projects, were considered as part of the cumulative project analysis and the primary source of criteria pollutant emissions would be generated during their respective construction phases. Five of these projects are located within 6 miles of the proposed project; two have been approved and three are being processed. 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 energy storage system 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 EKAPCD CEQA thresholds.

With respect to short-term localized construction emissions, given that the MDAB is currently designated as nonattainment for both O<sub>3</sub> and PM<sub>10</sub>, 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 projects would overlap with each other and with the proposed project, the localized effect could result in cumulatively significant construction emissions. Additionally, at a basin-wide level, the project, when considered with other reasonably foreseeable planned solar projects with the MDAB, could potentially result in significant cumulative construction emissions, in particular, for NO<sub>x</sub> and PM<sub>10</sub>. Even with the implementation of **MM 4.3-1KC/CC through MM 4.3-7KC/CC** and applicable rules for projects within the MDAB, the project would still result in a contribution to significant cumulative short-term, construction-related air quality impacts.

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.

### Localized Health Impacts from Regional Emissions – Operations

Impacts of criteria pollutant emissions are evaluated on a regional level with current environmental models designed for such analysis. Current environmental science models are not designed to be able to convert specific project emission levels of criteria pollutants emitted in a particular area to a localized human health

impact. As such, a qualitative discussion of the adverse health effect resulting from the project level criteria pollutants is all that can be feasibly provided at this time.

As previously discussed, the criteria air pollutant standards developed by the state are based on levels of air quality that are deemed necessary, with an adequate margin of safety, to protect public health. The EKAPCD and Kern County have established quantitative daily and annual thresholds for criteria pollutant emissions to enforce and meet these standards on a regional level. As such, projects that do not exceed the EKAPCD's daily operational significance thresholds and meet the EKAPCD's land use criteria for project operation would not have a significant impact on regional air quality and likewise resulting human health impacts related to criteria pollutants would be less than significant. As discussed above, criteria pollutant emissions generated from operations at the project sites would not exceed EKAPCD thresholds for any criteria pollutant either at individual sites or combined emissions for the project as a whole. Emissions of ozone precursors ROG and NO<sub>x</sub> would not exceed the project-level significance thresholds. Further criteria pollutant emissions generated from project operation would be below the EKAPCD significance threshold by an order of magnitude or more. As such, it is not expected that operation of the project would result in a substantial increase in criteria pollutant concentration regionally or locally. Therefore, related health effects would be less than significant.

### **Consistency with Existing Air Quality Plans**

The Kern COG Regional Conformity Analysis Determination demonstrates that the regional transportation expenditure plans in the Kern County portion of the Mojave Desert air quality planning area will not hinder the efforts set out in CARB's State Implementation Plan for the area's nonattainment pollutant (ozone). The analysis uses an adopted regional growth forecast governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between the City of Bakersfield, County of Kern, and Kern COG.

As discussed under Impact 4.3-1 above, with Mitigation Measures **MM 4.3-1KC** and **MM 4.3-2CC**, simultaneous construction of all aspects of the project would not exceed EKAPCD emissions thresholds for PM<sub>10</sub>. Operation of the project would not exceed any established EKAPCD emissions thresholds. During operations, the project is expected to be staffed by 20 operations personnel during normal weekday working hours. It is anticipated that these employees would be drawn from the existing Kern County population. The project would not generate population, households, or substantial employment for any of the traffic analysis zones used to determine conformity. Therefore, the project would be consistent with the adopted growth forecast and would be in conformance with the Kern COG Regional Conformity Analysis Determination. Therefore, this is considered a less than significant impact.

### **Cumulative Toxic Air Contaminants**

Combined TACs emission impacts from the project and other existing and planned projects are considered cumulatively significant when air quality standards are exceeded. Since the project would not be a significant source of TACs, it is not expected to pose a significant cumulative TAC impact. Since the majority of the projects are also solar plants, TACs would not be considered a significant impact for those

projects either. Therefore, TACs impacts would not be cumulatively considerable and impacts would be less than significant.

## Cumulative Carbon Monoxide (CO) – Mobile Sources

Traffic increases and added congestion caused by a project can combine to cause a CO “Hotspot”. No vehicular traffic other than sporadic maintenance, panel washing trucks, and employees are expected and due to the location of the site, potentially impacted intersections and roadway segments are anticipated to operate at a LOS of C or better during project operations. Therefore, cumulative CO “Hotspot” modeling was not conducted for this project and no concentrated excessive CO emissions are expected to be caused once the proposed project is completed. Additionally, as the majority of the other projects are also solar plants, traffic would be minimal and would not result in CO “Hotspots.” Therefore, CO impacts would not be cumulatively considerable and impacts would be less than significant.

## CARB Air Basin Emissions

The inventory of air emissions in California is maintained by CARB. ROG, NO<sub>x</sub>, and PM<sub>10</sub> emissions data for both the MDAB and the subset that is the Kern County portion of the MDAB (i.e., the area that is under the jurisdiction of the EKAPCD) was obtained from the CARB Emission Inventory database. Additionally, project emissions should be compared to the air basin’s current emissions inventory and projected emissions inventory. Emissions data for 2012 estimated annual average emissions and 2025 projected annual emissions for the Kern County portion of the MDAB and for the entire MDAB are presented in **Table 4.3-8, Emissions Inventory in Kern County Portion of MDAB**, and **Table 4.3-9, Emissions Inventory in MDAB**, respectively. Relative portions of emissions from stationary sources, area-wide sources, and mobile sources compared with the total inventory are included in the tables.

**Table 4.3-8. Emissions Inventory in Kern County Portion of MDAB**

Inventory Segment	2012 Emissions (tons/year)			2025 Emissions (tons/year)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Total Emissions	4,179	12,760	5,767	3,522	10,841	5,990
Percent Stationary Sources	11%	51%	18%	14%	75%	22%
Percent Areawide Sources	21%	2%	60%	28%	2%	59%
Percent Mobile Sources	68%	48	22%	58%	23%	19%
Total Stationary Sources	434	6,482	1,029	500	8,110	1,288
Total Areawide Sources	898	197	3,468	982	215	3,537
Total Mobile Sources	2,847	6,081	1,270	2,040	2,515	1,164
Source: Rincon 2020e (see Appendix C of this EIR).						

**Table 4.3-9. Emissions Inventory in MDAB**

Inventory Segment	2012 Emissions (tons/year)			2025 Emissions (tons/year)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Total Emissions	24,313	64,273	48,425	18,491	46,267	56,429
Percent Stationary Sources	24%	34%	44%	43%	66%	43%

Percent Areawide Sources	23%	1%	49%	20%	2%	52%
Percent Mobile Sources	53%	65%	7%	37%	33%	5%
Total Stationary Sources	5,873	22,024	21,228	7,964	30,459	24,218
Total Areawide Sources	5,490	785	23,988	3,643	715	29,675
Total Mobile Sources	12,950	41,464	3,208	6,884	15,093	2,537
Source: Appendix C of this EIR						

**Table 4.3-10, Bellefield Solar Project Emission Projections**, compares emissions generated by the project and the 2025 projected annual emissions for the Kern County portion of the MDAB as well as the MDAB as a whole.

**Table 4.3-10. Bellefield Solar Project Emission Projections**

Inventory Segment	2025 Emissions (tons/year)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Project	5.1	33.3	28.8
Kern County Portion of MDAB	3,522	10,841	5,990
MDAB	18,491	46,267	56,429
Project Percent of Kern County portion of MDAB	0.15%	0.31%	0.48%
Percent of MDAB	0.03%	0.07%	0.05%
Source: Rincon 2020e (see Appendix C of this EIR)			

As previously discussed and shown in **Table 4.3-4, Project Construction Emissions**, and **Table 4.3-5, Project Operational Emissions**, the project's construction and operational emissions would not exceed EKAPCD or the County's significance threshold with the implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-4KC** and **MM 4.3-1CC through MM 4.3-4CC**. Further, as shown in **Table 4.3-7, Health Risks Associated with Diesel Particulate Emissions during Construction of Project**, the project's contribution to regional air pollutant emissions in Kern County and the MDAB would be minimal and thus not cumulatively considerable in terms of county and region-wide emissions. Additionally, because operational emissions would not result in significant emissions of ozone, for which the EKAPCD and surrounding air districts of the San Joaquin Valley and MDAB are in nonattainment, the project would not significantly contribute to a long-term cumulative increase in nonattainment criteria pollutants. Furthermore, the project would introduce a non-fossil fuel-based energy source to the region thus providing a positive benefit to regional air quality, to the extent this results in a reduction in the levels of emissions from fossil fuel-based energy sources. Thus, project construction, decommissioning, and operations and maintenance would not result in a cumulatively considerable increase in emissions of nonattainment pollutants.

## Gen-Tie

The proposed gen-tie would require minimal ground disturbance and limited vehicle and construction equipment use. It is anticipated that the construction of the gen-tie line would add a small amount of additional ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions, but these would not substantially increase project construction emissions. Operation of the gen-tie would require minimal maintenance and no ongoing ground-disturbance. The gen-tie would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment with federal and state standards. The EKAPCD's standard

dust control measures (Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**), such as watering, would be implemented to further reduce emissions during construction.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-4KC** (refer to Impact 4.3-1) and **MM 4.3-5KC through MM 4.3-7KC** (refer to Impact 4.3-2).

### **City of California City**

Implementation of Mitigation Measures **MM 4.3-1CC through MM 4.3-4CC** (refer to Impact 4.3-1) and **MM 4.3-5CC through MM 4.3-7CC** (refer to Impact 4.3-2).

### **Gen-Tie**

Implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-4KC** (refer to Impact 4.3-1) and **MM 4.3-5KC through MM 4.3-7KC** (refer to Impact 4.3-2).

## **Level of Significance after Mitigation**

### **Kern County**

Even with implementation of the noted mitigation measures, the uncertainty of the potential for adverse health impacts associated with criteria air pollutants, such as PM<sub>10</sub>, including potential linkages between criteria pollutants and COVID-19 on vulnerable populations could result in significant and unavoidable cumulative air quality impacts.

### **City of California City**

Even with implementation of the noted mitigation measures, the uncertainty of the potential for adverse health impacts associated with criteria air pollutants, such as PM<sub>10</sub>, including potential linkages between criteria pollutants and COVID-19 on vulnerable populations could result in significant and unavoidable cumulative air quality impacts.

### **Gen-Tie**

Even with implementation of the noted mitigation measures, the uncertainty of the potential for adverse health impacts associated with criteria air pollutants, such as PM<sub>10</sub>, including potential linkages between criteria pollutants and COVID-19 on vulnerable populations could result in significant and unavoidable cumulative air quality impacts.

The uncertainty of the potential for adverse health impacts associated with criteria air pollutants, such as PM<sub>10</sub>, including potential linkages between criteria pollutants and COVID-19 on vulnerable populations could result in significant and unavoidable cumulative air quality impacts.

## Cumulative Impacts Summary

As discussed in **Section 4.3.4, *Regulatory Setting***, with mitigation, the construction emissions generated by the project individually would not exceed EKAPCD thresholds. Mitigation Measures **MM 4.3-1KC through MM 4.3-7KC** and **MM 4.3-1CC through MM 4.3-7CC** would reduce impacts related to NO<sub>x</sub> and PM<sub>10</sub> from diesel emissions, reduce dust generation, restrict worker trips, and address potential Valley Fever risk by implementing fugitive dust control measures, establishing a public complaint protocol for excessive dust generation, and requiring Valley Fever-related training for construction workers. However, assuming on a worst-case basis that the construction schedules for all cumulative projects would overlap with each other and with the proposed project, cumulative impacts during construction could remain significant and unavoidable related to NO<sub>x</sub> and PM<sub>10</sub> emissions.

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.

### Mitigation Measures

Implement Mitigation Measures **MM 4.3-1KC through MM 4.3-7KC** and **MM 4.3-1CC through MM 4.3-7CC**.

### Level of Significance after Mitigation

Cumulative impacts would be less than significant during temporary construction and decommissioning of the project after implementation of Mitigation Measures **MM 4.3-1KC through MM 4.3-7KC** and **MM 4.3-1CC through MM 4.3-7CC**, due to the incremental effects of the project. 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<sub>2.5</sub> along with indirect linkages of criteria pollutants and COVID-19 would result in significant and unavoidable cumulative level impacts.

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### **4.4.1 Introduction**

This section describes the affected environment and regulatory setting for biological resources that have been confirmed present, as well as those that have the potential to be present, in the project area. The physical and regulatory setting for the project is described, and the existing biological conditions on the project area and its vicinity are evaluated. The criteria used to evaluate the significance of potential impacts on biological resources are specified and the methods used in evaluating these potential impacts are described. The analysis is supported by the following reports included in the Appendices of this EIR:

- *Biological Evaluation* prepared by EnviroPlus Consulting, Inc. (EPC 2020a) (Appendix D.1, *Biological Evaluation*);
- *Wildlife Survey Report* prepared by EnviroPlus Consulting, Inc. (EPC 2020b) (Appendix D.2, *Wildlife Survey*);
- *Bellefield Solar Project Aquatic Resources Assessment* prepared by Rincon (Rincon 2020) (Appendix D.3, *Aquatic Resources Assessment*); and,
- *Bellefield Solar Farm Western Joshua Tree Census Report* prepared by EREMICO Biological Services, LLC and EnviroPlus Consulting, Inc. (EREMICO, EPC 2021) (Appendix D.4, *Western Joshua Tree Census Report*).

Information for the *Biological Evaluation* was generated from literature searches, multi-agency databases, maps, and other documents to include a 20-mile radius around the project area. A vegetation community assessment was conducted in August and September of 2019 and April and May of 2020. In addition, Mohave ground squirrel (MGS) (*Xerospermophilus mohavensis*) habitat suitability assessments were conducted in September of 2019 and March of 2020. Species specific surveys for federal or State listed rare, special-status, protected, threatened, or endangered wildlife were conducted between August and October of 2019 and between April and May of 2020.

### **4.4.2 Environmental Setting**

#### **Regional Setting**

The project area is located within southeastern Kern County. Kern County encompasses 8,161 square miles and is bordered by Monterey, Kings, and Inyo Counties to the northwest; Tulare County to the north; San Bernardino County to the east; Los Angeles County to the south; Ventura and Santa Barbara Counties to the southwest; and San Luis Obispo County to the west. The project area is located within the southern portion of Fremont Valley, with the eastern slopes of the Sierra Nevada and Tehachapi Mountains to the west. Antelope Valley, located to the south of the project area, generally lies between the Tehachapi and San Gabriel Mountains. Elevations within the project area range from approximately 2,798 feet above mean

sea level (amsl) in the northwest corner to approximately 2,532 feet amsl in the southern portion. The project area is relatively flat with increases in elevation to the west and east. The gen-tie corridor ranges in elevation from 2,541 feet amsl near the southeastern portion of the project to approximately 3,468 feet amsl at the northwestern corner of the Southern California Edison (SCE) Windhub Substation.

Specifically, the proposed project is situated partially within unincorporated southeastern Kern County and partially within the limits of California City. The project is generally located north and south of State Route (SR) 58, east of Mojave, and north/northwest and south/southwest of the 4,500-acre Hyundai-Kia Proving Grounds. There is a 1,626-acre conservation easement that lies immediately adjacent to the eastern portion of the project area on the Hyundai-Kia Proving Grounds property (California Department of Fish and Wildlife [CDFW] 2018a). The primary gen-tie corridor originates from the central portion of the proposed solar facility and extends to the west around the developed portions of Mojave, before paralleling Oak Creek Road to SCE's Windhub Substation.

The project site totals approximately 8,371 acres on 90 privately-owned parcels in unincorporated Kern County and California City. The solar energy facility site is located on 82 parcels totaling approximately 6,269 gross acres within unincorporated Kern County and 8 parcels totaling approximately 2,102 gross acres within California City. In addition, the project includes collector lines in Kern County (100.12 gross acres) and California City (26.7 gross acres).

Drainage in the northern portion of the project area is very gradual to the southeast along several washes. A few miles to the east, this drainage pattern turns to the northeast where it intercepts Cache Creek, a large wash that emanates from Tehachapi Canyon, and eventually drains into Koehn Lake located approximately 18 miles to the northeast. The terrain in the southeastern portion of the project area is dominated by a large, gradual grade with hills and undulating relief. The southeastern two-thirds of this area drains to the southwest along many washes into Rogers Lake located approximately 12 miles to the southeast. The northwestern one-third of this area drains to the northwest along several washes.

The project area is located approximately 10 miles southwest of the Desert Tortoise Research Natural Area (DTRNA). The DTRNA was established in 1974 and includes 39.5 square miles of desert habitat of which a majority of the private land inholdings have been purchased by the Bureau of Land Management (BLM), CDFW, and the Desert Tortoise Preserve Committee (DTPC) which is a 501(3)c non-profit organization (DTPC 2019). The southern and eastern boundary of the DTRNA is shared with California City. In 1980, the BLM designated the DTRNA as an Area of Critical Environmental Concern (ACEC) and perimeter fencing was installed as well as a visitor's center. The DTPC manages the DTRNA and over 30 years of research has been conducted there on the desert tortoise (DT) (*Gopherus agassizii*), MGS, and many other species of wildlife and plants.

The project area, at its closest point, is located approximately 16 miles southwest of federally designated Critical Habitat for DT at the BLM Fremont-Kramer ACEC.

## Climate

The desert area around Mojave and California City has an average annual temperature ranging from 48 degrees Fahrenheit (F) to 76 degrees F. The coldest month is December and the warmest month is July, with average temperatures ranging between 32 degrees F and 58 degrees F and between 67 degrees F and 97 degrees F, consecutively. The mean precipitation is approximately 6.5 inches with most of the annual precipitation, in the form of rain, falling between the months of November and March.

## Vegetation

The project area is located in the Mojave Desert Region of the Desert Floristic Province. Landforms in the region include granite-derived basin floors, floodplains, alluvial fans, small clay pans, and rock pediments. The project area supports a total of nine vegetation communities which include eight shrubland alliances and one woodland alliance. Specifically, the following vegetation communities were identified within the project area:

- Creosote bush-white bursage scrub (*Larrea tridentata* - *Ambrosia dumosa* Shrubland Alliance);
- Allscale scrub (*Atriplex polycarpa* Shrubland Alliance);
- Creosote bush scrub (*Larrea tridentata* Shrubland Alliance);
- White bursage scrub (*Ambrosia dumosa* Shrubland Alliance);
- Spinescale scrub (*Atriplex spinifera* Shrubland Alliance);
- Winter fat scrubland (*Krascheninnikovia lanata* Shrubland Alliance);
- Shadscale scrub (*Atriplex confertifolia* Shrubland Alliance);
- Rubber rabbitbrush scrub (*Ericameria nauseosa* Shrubland Alliance); and
- Joshua tree woodland (*Yucca brevifolia* Alliance).

In addition, unvegetated features consisting of paved roadways, structures, or other features and disturbed dirt roadways are also located throughout the project site. **Table 4.4-1, *Acreage of Vegetation Communities and Unvegetated Features on the Project Site***, provides the acreage of each vegetation community on the project site. As shown in **Table 4.4-1**, the largest vegetation community on the project area is the creosote bush - white bursage scrub (*Larrea tridentata* - *Ambrosia dumosa* Shrubland Alliance). The second largest vegetation community on the project area is allscale scrub (*Atriplex polycarpa* Shrubland Alliance).

## Sensitive Natural Communities

Sensitive Natural Communities are designated by the CDFW, or occasionally in local policies and regulations, and these communities are generally considered to have important functions or values for wildlife and/or are recognized as declining in extent and/or distribution. These communities are considered threatened enough to warrant some level of protection. For example, federal, State, and most local agencies consider wetlands and riparian habitat as Sensitive Natural Communities.

Of the nine vegetation communities present within the project area, three vegetation communities are designated as Sensitive Natural Communities by CDFW: spinescale scrub (*Atriplex spinifera* Shrubland Alliance), winter fat scrubland (*Krascheninnikovia lanata* Shrubland Alliance), and Joshua tree woodland (*Yucca brevifolia* Woodland Alliance). These Sensitive Natural Communities are described below.

### Spinescale Scrub (*Atriplex spinifera* Shrubland Alliance)

A total of 237.39 acres of spinescale scrub vegetation is present within the project area. This community is found between 50 and 800 meters in elevation on alluvial fans and on old lake beds perched above current drainages. Soils are moderately sandy clay loams to fine, silty clays that may be carbonate rich. On the

project site, this alliance surrounds clay pans and silty areas and is confined to the flood zones of Cache Creek and other drainages originating in the Tehachapi Mountains. It occurs nearly as a monotypic stand. Allscale is an occasional associate shrub.

### **Winter Fat Scrubland (*Krascheninnikovia lanata* Shrubland Alliance)**

A total of 172.15 acres of winter fat scrubland is present within the project area. This community typically occurs between 100 and 2,700 meters in elevation on alkaline flats around playas and along drainages, plains, and old lakebeds above current drainages. Soils are thin to moderately deep rocky to silty clay loams that are calcareous, moderately alkaline, and sometimes saline. Shrubs are less than 1.5 meters and the canopy is open to continuous. On the project site, this vegetation community occurs in areas with sandy loam. Other shrubs in this habitat include goldenhead (*Acamptopappus sphaerocephalus* var. *hirtellus*), white bursage, cheesebush (*Ambrosia salsola*), Anderson thornbush (*Lycium andersonii*), and Cooper's box thorn (*Lycium cooperi*). Western Joshua trees (*Yucca brevifolia*) also occur in low densities.

### **Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance)**

A total of 4.26 acres of Joshua tree woodland is present within the project limits. The Joshua tree woodland is recognized when western Joshua trees are evenly distributed at greater than or equal to one percent cover over the landscape. It generally occurs at an elevation of 750 and 1,800 meters on alluvial fans, ridges, and gentle to moderate slopes with soils that are comprised of coarse sands, very fine silts, gravel, or sandy loams. The western Joshua tree canopy and the shrub layer are open to intermittent. Understory shrubs within the gen-tie corridor vary by location and include either: 1) white bursage, cheesebush, sticky snakeweed (*Gutierrezia microcephala*), shadscale, allscale, winter fat, and box-thorn; or 2) cheesebush, brittle bush (*Encelia farinosa*), narrowleaf goldenbush (*Ericameria linearifolia*), spiny hop-sage (*Grayia spinosa*), and Mojave Desert California buckwheat (*Eriogonum fasciculatum* var. *polifolium*). In other vegetation communities on the project site, western Joshua trees are only scattered.

Although Joshua tree woodland was mapped during the vegetation community assessment, individual western Joshua trees were not recorded or mapped. Western Joshua trees are protected under the California Desert Native Plants Act (CDNPA) and are scattered throughout most of the project site. The western Joshua tree is also a protected desert native plant species pursuant to Kern County's Department of Agriculture and Measurement Standards (Kern County 2002). Harvesting, cutting, and salvaging of western Joshua trees in Kern County may only be completed under an approved permit by submitting a California Desert Native Plants Application to Harvest Native Plants (Kern County 2002).

Additionally, western Joshua trees were petitioned for listing with the U.S. Fish and Wildlife Service (USFWS) as an endangered or threatened species on September 28, 2015. The USFWS posted a 90-day Finding of their review of the petition on September 14, 2016 and found that "...the petition presents substantial scientific or commercial information indicating that listing the Joshua tree (*Yucca brevifolia*) may be warranted..." (USFWS 2016). However, in August of 2019, the USFWS released their Notice of 12-month Petition Findings and determined that listing of the western Joshua tree was not warranted at that time (USFWS 2019a).

On October 15, 2019, the California Fish and Game Commission (CFGF) received a petition to list the western Joshua tree as threatened under the California Endangered Species Act (CESA) (CBD 2019). In February 2020, the CDFW completed a review of the petition, as well as other scientific information available to CDFW. In its review, CDFW determined that "the petition provides sufficient scientific

information to indicate that the petitioned action may be warranted” (CDFW 2020). On September 22, 2020, the CFGC accepted for consideration the petition to list the western Joshua tree as threatened or endangered under the CESA and made the western Joshua tree a candidate species (CFGC 2020a). Subsequently, CFGC adopted a regulation authorizing incidental take of western Joshua tree during the candidacy period pursuant to Section 2084 of the Fish and Game Code for certain energy projects in Kern and San Bernardino Counties listed in the regulation (the “2084 Rule”). The Bellefield Solar Project is one of the projects listed in the 2084 Rule. This conditional incidental take authorization is codified in Section 749.10 of Title 14, California Code of Regulations (CFGC 2020b).

Additionally, the California Desert Native Plants Act protects native desert plants in certain plant families from harvesting in Kern County. The harvest, transport, sale, or possession of these plants requires a valid permit obtained from the County. Species protected under the California Desert Native Plants Act were recorded within the project site during surveys, including members of the cactus family (Cactaceae) and century plant family (Agavaceae) (EPC 2020b).

**Table 4.4-1. Acreage of Vegetation Communities and Unvegetated Features on the Project Site**

Vegetation Community	Acres				
	Kern County Project Parcels (%)	Kern County Collector Lines (%)	California City Project Parcels (%)	California City Collector Lines (%)	Total Acres (%)
Creosote bush-white bursage scrub ( <i>Larrea tridentata</i> - <i>Ambrosia dumosa</i> ) shrubland alliance	2,496.31 (44.1%)	7.52 (7.5%)	929.72 (44.2%)	14.20 (53.2%)	3,447.75 (43.7%)
Allscale scrub ( <i>Atriplex polycarpa</i> ) shrubland alliance	1,655.92 (29.3%)	58.28 (58.2%)	679.16 (32.3%)	6.81 (25.5%)	2,400.18 (30.5%)
Creosote bush scrub ( <i>Larrea tridentata</i> ) shrubland alliance	567.73 (10%)	0.62 (0.6%)	240.43 (11.4%)	1.61 (6.0%)	810.39 (10.3%)
White bursage scrub ( <i>Ambrosia dumosa</i> ) shrubland alliance	635.66 (11.2%)	11.12 (11.1%)	140.67 (6.7%)	1.54 (5.8%)	788.98 (10%)
Spinescale scrub ( <i>Atriplex spinifera</i> ) shrubland alliance	229.75 (4.1%)	7.22 (7.2%)	--	0.41 (1.5%)	237.39 (3.0%)
Winter fat scrubland ( <i>Krascheninnikovia lanata</i> ) shrubland alliance	57.77 (1.0%)	7.29 (7.3%)	107.08 (5.1%)	--	172.15 (2.2%)
Shadscale scrub ( <i>Atriplex confertifolia</i> ) shrubland alliance	6.68 (0.01%)	4.43 (4.4%)	--	--	11.11 (0.1%)
Joshua tree woodland ( <i>Yucca brevifolia</i> ) alliance	--	2.73 (2.7%)	1.53 (0.1%)	--	4.26 (0.1%)
Rubber rabbitbrush Scrub ( <i>Ericameria nauseosa</i> ) shrubland alliance	--	--	1.13 (0.1%)	--	1.13 (0.0%)
Unvegetated (developed: paved roadways, structures, or other features and disturbed dirt roadways, etc.)	4.54 (0.1%)	0.91 (0.9%)	2.92 (0.1%)	2.13 (8.0%)	10.50 (0.1%)
<b>Total Acres</b>	<b>5,654.36 (100%)</b>	<b>110.12 (100%)</b>	<b>2,102.64 (100%)</b>	<b>26.70 (100%)</b>	<b>7,883.82 (100%)</b>
Source: EPC 2020a; see Appendix D, <i>Biological Resources</i> , of this EIR. Note: Acreages do not add up to total project area, since a part of the northeastern project area was not accessible at the time of biological surveys and are not proposed for development as part of this project.					

## Special-Status Species

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 or State Endangered Species Acts. Other species have been designated as special-status on the basis of adopted policies and expertise of State resource agencies or 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 Plant Species

Based on the literature search, a total of 48 special-status plant species have been identified within the USGS quadrangles in and around the project area. Out of the 48 plant species identified, 22 plant species have the potential to occur within the project area. The literature research identified two special-status plants within or immediately adjacent to the project area: alkali mariposa lily (*Calochortus striatus*) and Mojave spineflower (*Chorizanthe spinosa*). Based on habitat requirements and elevational range, 26 species were identified as having no potential of occurring in the project area. The 22 species that are known to occur or have some potential of occurring include: 12 species that are listed as California Native Plant Society (CNPS) Rank 1B, defined as plants that are rare and endangered in California and elsewhere; one species that is listed as CNPS Rank 2B, defined as plants that are rare, threatened, or endangered in California, but are more common elsewhere; and 9 species that are listed as CNPS Rank 4, a watch list of plants with limited distribution (CNPS 2019). No potentially occurring species that are listed as threatened or endangered under the State or federal ESA (CDFW 2019a, USFWS 2018a) were determined to be present on the project site. On September 22, 2020 the CFGC accepted the Center for Biological Diversity's petition to list the western Joshua tree as a candidate species under the CESA. Candidate species are protected under CESA pursuant to Fish and Game Code Section 2085 during the remainder of the CESA listing. **Table 4.4-2, *Special-Status Plant Species with the Potential to Occur Within the Project Area***, identifies the regulatory status, habitat requirements, and blooming period for each plant species, as well as the potential for the species to occur in the project area. A detailed description of special-status plant species that have the potential to occur in the project area is provided in the *Biological Evaluation* located in **Appendix D.1, *Biological Evaluation***, of this EIR.

**Table 4.4-2. Special-Status Plant Species with the Potential to Occur Within the Project Area**

<b>Plant Species</b>	<b>Rank or Status</b>	<b>Habitat and Distribution Notes</b>	<b>Potential for Occurrence</b>
Horn's milk-vetch ( <i>Astragalus hornii</i> var. <i>hornii</i> )	Federal: -- State: -- CNPS: 1B.1	Flowering: May – October. 60-850 m. Lake margins, alkaline; meadows and seeps, playas. Old record southwest of project area.	<b>Low.</b> May occur on and around playas.
Lancaster milk-vetch ( <i>Astragalus preussii</i> var. <i>Laxiflorus</i> )	Federal: -- State: -- CNPS: 1B.1	Flowering: March – May. ± 700 m. Alkaline flat. Chenopod scrub. Known only from near Lancaster and Edwards Air Force Base (AFB).	<b>Moderate.</b> Chenopod scrubs (saltbush and winter fat scrubs) are common on the project site.
Alkali mariposa-lily ( <i>Calochortus striatus</i> )	Federal: -- State: -- CNPS: 1B.2	Flowering: April – June. 70-1595 m. Alkaline, mesic. Chaparral, chenopod scrub, Mohavean desert scrub, meadows and seeps. Known to occur in and near the project area.	<b>Present.</b> One occurrence along a collector line. Additional records are in adjacent areas. Habitat is present.
Desert cymopterus ( <i>Cymopterus deserticola</i> )	Federal: -- State: -- CNPS: 1B.2E	Flowering: March – May. 630-1500 m. Sandy. Joshua tree woodland, Mohavean desert scrub. Known to occur in the vicinity and south of the project area.	<b>Moderate.</b> Loose sandy soils, mainly north of SR 58.
Recurved larkspur ( <i>Delphinium recurvatum</i> )	Federal: -- State: -- CNPS: 1B.2E	Flowering: March – June. 3-790 m. Alkaline. Chenopod scrub, cismontane woodland, valley and foothill grassland. Old record in the vicinity of the project area.	<b>Moderate.</b> Chenopod scrubs (saltbush and winter fat scrubs) with alkaline soils common on project site.
Rosamond eriastrum ( <i>Eriastrum rosamondense</i> )	Federal: -- State: -- CNPS: 1B.1E	Flowering: April – May. 700-715 m. Alkaline hummocks, often sandy. Chenopod scrub (openings), vernal pools (edges). Known only from Rosamond and Rogers Dry Lake areas.	<b>Moderate.</b> In areas surrounding clay pans.
Barstow woolly sunflower ( <i>Eriophyllum mohavense</i> )	Federal: -- State: -- CNPS: 1B.2E	Flowering: March – May. 500-950 m. Gravelly, silty, sandy, or clay soils on level or sloping terrain, as well as in low-lying areas. Chenopod scrub, Mohavean scrub, playas. Known to occur in adjacent area to the north and east of the Project at the Hyundai-Kia Proving Grounds.	<b>High.</b> In low lying areas, clay pans, and shrub-less gravelly patches, particularly in areas west of the Hyundai- Kia Proving Grounds.
Red Rock poppy ( <i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i> )	Federal: -- State: -- CNPS: 1B.2E	Flowering: March – May. 680-1230 m. Volcanic tuff. Mohavean desert scrub. Known to occur north and east of the project in the El Paso Mountains and on AFB.	<b>Low.</b> Volcanic tuff likely not present, but included due to an unconfirmed record on Edwards AFB.
Pale-yellow layia ( <i>Layia heterotrichia</i> )	Federal: -- State: -- CNPS: 1B.1E	Flowering March – June. 300-1705 m. Alkaline or clay. Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Occurrences northwest of Mojave.	<b>Low.</b> On clay or alkaline soils west of SR 14.
Charlotte's phacelia ( <i>Phacelia nashiana</i> )	Federal: -- State: -- CNPS: 1B.2E	Flowering: March – June. 600-2200 m. Usually granitic, sandy or rocky areas on steep slopes or flats. Joshua tree woodland, Mohavean desert scrub; pinyon-juniper woodland. Known to occur north of the project area.	<b>Low.</b> In sandy washes.



Plant Species	Rank or Status	Habitat and Distribution Notes	Potential for Occurrence
California alkali grass ( <i>Puccinellia simplex</i> )	Federal: -- State: -- CNPS: 1B.2	Flowering: March – May. Alkaline, vernal mesic; sinks, flats, and lake margins. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. Occurs south of the project on Edwards AFB.	<b>Low.</b> In rivulets through larger clay pans.
Latimer's woodland-gilia ( <i>Saltugilia latimeri</i> )	Federal: -- State: -- CNPS: 1B.2E	Flowering: March – June. 400-1900 m. Rocky or sandy, often granitic, sometimes washes. Chaparral, Mohavean desert scrub, pinyon and juniper woodland. One occurrence west of project in Tehachapi Mountains.	<b>Low.</b> On hills and slopes with gravelly soils and in coarse sandy washes.
Sagebrush loeflingia ( <i>Loeflingia squarrosa</i> var. <i>Artemisarium</i> )	Federal: -- State: -- CNPS: 2B.2	Flowering: April – May. 700-1615 m. Sandy. Desert dunes, Great Basin scrub, Sonoran Desert scrub. Known to occur south and east of the project area.	<b>Moderate.</b> In sandy soils throughout the project area.
Kern County evening-primrose ( <i>Camissonia kernensis</i> ssp. <i>kernensis</i> )	Federal: -- State: -- CNPS: 4.3E	Flowering: March – May. 790-2130 m. Sandy or gravelly, granitic. Chaparral, Joshua tree woodland, pinyon and juniper woodland. Known to occur in the vicinity of the project area.	<b>Low.</b> In sandy or gravelly soils.
White pygmy-poppy ( <i>Canbya candida</i> )	Federal: -- State: -- CNPS: 4.2E	Flowering: March – June. 600-1460 m. Gravelly, sandy, granitic. Joshua tree woodland, Mohavean desert scrub, pinyon and juniper woodland. Known to occur in the vicinity of the project area.	<b>Moderate.</b> May occur throughout the project area, especially north of Mojave.
Mojave paintbrush ( <i>Castilleja plagiotoma</i> )	Federal: -- State: -- CNPS: 4.3E	Flowering: April – June. 300-2500 m. Great Basin scrub (alluvial), Joshua tree woodland, lower montane coniferous forest, pinyon and juniper woodland. Known to occur north and south of the project area.	<b>Low.</b> On alluvium soils in shadscale or winter fat scrub.
Mojave spineflower ( <i>Chorizanthe spinosa</i> )	Federal: -- State: -- CNPS: 4.2E	Flowering: March – July. 600-1300 m. Sometimes alkaline. Chenopod scrub, Joshua tree woodland, Mohavean desert scrub, playas. Known to occur in surrounding area to the north and east of the Hyundai-Proving Grounds.	<b>Present.</b> Observed at three locations during the vegetation community assessment (Aug/Sept 2019).
Mt. Pinos larkspur ( <i>Delphinium parryi</i> ssp. <i>purpureum</i> )	Federal: -- State: -- CNPS: 4.3E	Flowering: May – June. 1000-2600 m. Chaparral, Mohavean desert scrub, pinyon and juniper woodland. Known to occur in nearby mountains west of project area.	<b>Low.</b> May occur along westernmost gen-tie routes.
Golden goodmania ( <i>Goodmania lutelo</i> )	Federal: -- State: -- CNPS: 4.2	Flowering: April – August. 20-2200 m. Alkaline or clay. Mohavean desert scrub, meadows and seeps, playas, valley and foothill grassland. Known to occur south of the project area.	<b>Moderate.</b> In clay or alkaline soils throughout the project area.
Solitary blazing star ( <i>Mentzelia eremophila</i> )	Federal: -- State: -- CNPS: 4.2	Flowering: March – May. 700-1220 m. Canyons, rocky slopes, washes. Mohavean desert scrub. Known to occur north of project area.	<b>Low.</b> On gravelly hills and slopes and in coarse sandy washes.
Crowned muilla ( <i>Muilla coronata</i> )	Federal: -- State: -- CNPS: 4.2	Flowering: March – April. 670-1960 m. Chenopod scrub, Joshua tree woodland, Mohavean desert scrub, pinyon and juniper woodland. Known to occur north of project area.	<b>High.</b> Likely occurs throughout the project area in most soil types.

Plant Species	Rank or Status	Habitat and Distribution Notes	Potential for Occurrence
Lemmon's synrichopappus ( <i>Synrichopappus lemmonii</i> )	Federal: -- State: -- CNPS: 4.3E	Flowering: April – May. 500-1830 m. Sandy or gravelly. Chaparral, Joshua tree woodland, pinyon and juniper woodland. Known to occur southwest and west of project area.	<b>Low.</b> In sandy and gravelly soils along westernmost gen-tie routes.
Western Joshua tree ( <i>Yucca brevifolia</i> )	Federal: -- State: Candidate CNPS: --	Flowering: April – May. 400-2000 m. Desert flats, slopes. Chenopod scrub, Mohavean desert scrub, Joshua tree woodland. Known to occur on the project area.	<b>Present.</b> Occurs throughout the project area. Refer to <b>Table 4.4-4, Western Joshua Tree Census Results</b> , for a summary of the tree census report regarding total number of trees found onsite, by size classification.
Source: EPC 2020a; see Appendix D.1, <i>Biological Evaluation</i> , of this EIR Notes: CNPS ranks: 1B=plants rare and endangered in California and elsewhere; 4=plants of limited distribution – a watch list. The number following Rank is the Threat Code: .1=seriously endangered in CA; .2=fairly endangered in CA; .3=not very endangered in CA. Plants with an “E” are endemic to California.			

In addition, taxa protected under the CDNPA (Division 23 of the California Food and Agricultural Code, Section 80071-80075) (California Food and Agricultural Code 2005) were also considered. Plants protected by the CDNPA that may occur within the project area include golden cholla (*Cylindropuntia echinocarpa*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), and western Joshua tree (*Yucca brevifolia*). These plant species are all common and widespread throughout the West Mojave Desert.

#### Alkali mariposa-lily (*Calochortus striatus*)

The alkali mariposa lily is a CNPS Rank 1B plant, which includes plants that are rare, threatened, or endangered in California and elsewhere. This rare lily is threatened by down drafting of water tables from developments in nearby desert areas (CNPS 2019). The alkali mariposa-lily is a perennial herb arising from a bulb with a smooth, hairless stem. Basal leaves are few, grass-like, and 10-20 cm long; the leaves typically wither early. The elegant petals are white to lavender, striated with purple veins. The nectary at the base of each petal is oblong and densely tufted with long, thickened hair (Baldwin et al. 2012). Its flowering season is from April through June. It is found at springs and alkali seeps, from 800-1,400 m amsl in moist creosote bush scrub and saltbush scrub. It also occurs in washes, low flats, and seasonal water courses, many of which drain into dry lakes (CNPS 2019). Known from the desert slopes of the San Bernardino and San Gabriel Mountains and in Kern and Tulare Counties and western Nevada, it is present in the project area along a collector line and in nearby areas towards the south and southeast and at the Hyundai-Kia Proving Grounds (EPC 2020a).

#### Mojave spineflower (*Chorizanthe spinosa*)

Mojave spineflower is a CNPS Rank 4 plant that includes plants of limited distribution. It is an annual herb and a member of the buckwheat family. It grows 3-40 cm tall: stems are prostrate to ascending, with oblong leaves that can vary from 3-20 mm in length. Bracts of the inflorescence are usually 3 per node and lanceolate. The involucre tube is 2-2.5 mm, urn shaped, with one of five bracts longer than the others. Its white flowers are generally hairless, and the seeds are black. It blooms from April through July at elevations ranging from 600-1,300 m amsl. Because of its stout stems and involucre, Mojave spineflower skeletal remains persist in the environment long after the flowering period. This species is endemic to California

and is known from Rabbit Springs in Lucerne Valley, San Bernardino County, northwest to Red Rock Canyon, Kern County. It was once considered a rare plant before thousands of plants were reported from Rosamond to Boron, Kern County. It prefers sandy areas or low-lying open soils with fine gravels in desert scrub plant communities. Threats to the spineflower include surface mining, energy development, vehicles, and grazing (EPC 2020a). Senescent Mojave spineflowers were observed incidentally on three clay pans during the vegetation community assessment conducted in August through September 2019. Two locations were along collector lines and the third was in a proposed PV solar panel installation area (EPC 2020a).

## Wildlife

The Mojave Desert supports a variety of reptile, bird, and mammal species. Reptile species commonly occurring in the desert portion of Kern County include the side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), desert spiny lizard (*Sceloporus magister*), gopher snake (*Pituophis melanoleucus*), glossy snake (*Arizona elegans*), and Mojave rattlesnake (*Crotalus scutulatus*). Bird species common to the region include common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), and red-tailed hawk (*Buteo jamaicensis*). Mammal species typical of the area include white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beechyi*), and bat species including California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*) and western pipistrelle (*Pipistrellus hesperus*).

## Special-Status Wildlife

The literature research conducted for listed and special-status wildlife species identified a total of 45 species within the USGS quadrangles in and around the project area. Of the 45 species, only a total of 28 species have the potential to occur within the project area. Six of the 28 species are federal and/or State listed. Of these six species, only two have the potential to inhabit the project area: the State listed as threatened MGS and the federal and State listed as threatened DT. The federal and State listed as endangered California condor (*Gymnogyps californianus*), the State listed as threatened Swainson's hawk (*Buteo swainsoni*), the federal listed as threatened western snowy plover (*Charadrius alexandrinus nivosus*), and the State listed as threatened tricolored blackbird (*Agelaius tricolor*) are not known to nest within the limits of the project area but may potentially occur on-site to forage, hunt, roost, perch, drink, or migrate through. **Table 4.4-3, Special-Status Wildlife Species with the Potential to Occur Within the Project Area**, summarizes the special-status species, their habitat requirements, and their potential for occurrence in the project area. The following species have been determined to not have a potential for occurrence in the project area and are not included in **Table 4.4-3**: western snowy plover *Charadrius alexandrinus nivosus*, mountain plover (*Charadrius montanus*), and gray vireo (*Vireo vicinior*).

A detailed description of the special-status wildlife species identified with a potential for occurring in or near the project area is provided in the *Biological Evaluation* (EPC 2020a) located in **Appendix D.1, Biological Evaluation**, of this EIR.

**Table 4.4-3. Special-Status Wildlife with the Potential to Occur Within the Project Area**

WILDLIFE SPECIES	RANK OR STATUS					HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT AREA
	ESA	CESA CDFW	G-RANK	S-RANK	IUCN <sup>1</sup> XERCES <sup>2</sup>		
Pacific Townsend's Big-eared Bat ( <i>Plecotus townsendii</i> ssp. <i>townsendii</i> )	-	SSC SGCN	G3G4	S2S3	-	Limestone caves, lava tubes, agricultural valleys, hillsides with mixed vegetation, abandoned mines, tunnels, buildings and bridge structures. Desert washes, shrublands.	<b>Low to Moderate.</b> May forage throughout or migrate through the area. Records nearby.
Mohave Ground Squirrel ( <i>Xerpermophilus mohavensis</i> )	-	ST	G2G3	S2S3	-	Open desert shrubland habitats: creosote bush scrub, saltbush scrub, desert sink scrub, desert greasewood scrub, shadscale scrub, Joshua tree woodland, and mixed woody scrub. Deep, sandy to gravelly soils on flat to moderately sloping terrain.	<ul style="list-style-type: none"> <li>• <b>Project Area - Low to Moderate.</b> A mix of appropriate habitat and degraded habitats along with known occurrences near the project. Potential for dispersing juveniles to occupy habitat.</li> <li>• <b>Gen-tie Corridor – Low.</b> Some appropriate habitat but no nearby known occurrences.</li> </ul>
Desert Kit Fox ( <i>Vulpes macrotis arsipus</i> )	–	CCR, Title 14	-	-	-	Creosote bush scrub vegetation communities in friable soils with little or no relief for den excavation.	<b>Moderate to High.</b> Appropriate habitat and nearby known occurrences.
American Badger ( <i>Taxidea taxus</i> )	–	SSC	G5	S3	-	Desert shrublands, open areas in grasslands, and agricultural areas. Friable soils for excavating deep burrows.	<b>Low to Moderate.</b> Appropriate habitat and nearby known occurrences.
Agassiz's Desert Tortoise ( <i>Gopherus agassizii</i> )	FT	ST	G3	S2S3	-	Wide variety of desert habitats: alluvial fans, washes, canyons, and saltbush plains. Creosote bush scrub on alluvial fans and bajadas. Friable soils for excavating burrows.	<b>Moderately High to High.</b> Appropriate habitat and nearby known occurrences.
California Condor ( <i>Gymnogyps californianus</i> )	FE	SE	G1	S1	-	Reintroduced resident population in the Tehachapi mountains of Kern County; long-distance flights to forage. Wide variety of habitat types for scavenging to include roadways.	<b>Low to Moderate.</b> Year-round foraging opportunities throughout the area and nearby known occurrences.

<sup>1</sup> IUCN – E = Endangered<sup>2</sup> Xerces Society – E = Endangered; I = Imperiled

WILDLIFE SPECIES	RANK OR STATUS					HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT AREA
	ESA	CESA CDFW	G-RANK	S-RANK	IUCN <sup>1</sup> XERCES <sup>2</sup>		
Northern Harrier ( <i>Circus hudsonius</i> )	—	SSC	G5	S3	-	Summer migrant; breeds and forage in a variety of open and treeless habitats with low growing vegetative shrubland cover, weedy fields, pastures, alfalfa and grain croplands, desert sinks. Nest on the ground in patches of dense, tall vegetation in undisturbed areas.	<b>Moderate.</b> Appropriate habitat for foraging and perching in the area with suitable nesting habitats nearby; nearby known occurrences.
Cooper's Hawk ( <i>Accipiter cooperii</i> )	—	WL	G5	S4	-	Summer migrant; variety of desert habitats and nest in deciduous trees preferably near water sources.	<b>Low to Moderate.</b> Appropriate habitat for foraging and perching in the area with suitable nesting habitats nearby; nearby known occurrences.
Swainson's Hawk ( <i>Buteo swainsoni</i> )	BCC	ST	G5	S3	-	Summer migrant; nests in Joshua tree woodland, non-native roadside trees, pine, elm, and tamarisk, windrow trees in active or historical agricultural areas; high site fidelity. Forage in grasslands, native desert scrub and woodland habitats, agricultural lands, residential developments.	<b>Moderate to Moderately High.</b> Appropriate habitat for foraging and perching in the area with suitable nesting habitats nearby; nearby known occurrences. Not known to nest within 5 miles of the project area and nesting habitat is not present in the project area.
Ferruginous Hawk ( <i>Buteo regalis</i> )	BCC	WL	G4	S3S4	-	Winter resident/migrant September through mid-April; roost in open areas, lone trees, utility poles. Hunt cooperatively in a variety of desert habitats.	<b>Low to Moderate.</b> Appropriate foraging, perching, and roosting habitat and nearby known occurrences.
Golden Eagle ( <i>Aquila chrysaetos</i> )	BCC BGEP A	FP WL	G5	S3	-	Year-round resident. Nests in tall trees, high rocky cliffs, or on electrical transmission towers. Forages in a variety of desert habitats with suitable prey or will scavenge for carrion.	<b>Moderate to Moderately High.</b> Appropriate habitat for foraging and perching in the area with suitable nesting habitats nearby; nearby known occurrences.
Prairie Falcon ( <i>Falco mexicanus</i> )	BCC	WL	G3	S3	-	Year-round resident. Variety of desert habitats: annual and perennial grasslands, rangeland, some agricultural fields, and desert scrub. Sheltered cliff ledges for cover and nesting in cliffs, bluffs, or rock outcrops.	<b>Moderate to Moderately High.</b> Appropriate habitat for foraging and perching in the area with suitable nesting habitats nearby; nearby known occurrences.
Merlin ( <i>Falco columbarius</i> )					-	Winter migrant that requires dense trees close to bodies of water. Forage in a variety of desert and developed habitats.	<b>Low to Moderate.</b> Appropriate foraging, perching, and roosting habitat and nearby known occurrences.

WILDLIFE SPECIES	RANK OR STATUS					HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT AREA
	ESA	CESA CDFW	G-RANK	S-RANK	IUCN <sup>1</sup> XERCES <sup>2</sup>		
American Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	BCC	FP	G4T4	S3S4	-	Uncommon breeder and transient winter migrant. Forages within large concentrations of shorebirds at water filled desert playas in the winter; other locations include spring-fed wetlands, alkali meadows and mudflats used by shorebirds.	<b>None to Extremely Low.</b> No appropriate habitat on site; direct or indirect effects from project not anticipated but this species may forage or migrate through the project.
Burrowing Owl ( <i>Athene cunicularia</i> ssp. <i>hypugaea</i> )	BCC	SSC	G4	S3	-	Year-round resident or migrant in arid and semi-arid habitats with well drained, level to gently sloping areas with sparse vegetation and bare ground: annual and perennial grasslands, deserts, and scrublands with low growing vegetation.	<b>Moderate to High.</b> Appropriate habitat and nearby known occurrences.
Long-eared Owl ( <i>Asio otus</i> )	-	SSC	G5	S3	-	Year-round resident; nests in conifers, ornamental trees, tamarisk, Joshua tree, desert riparian, desert washes, pinyon-juniper, desert woodlands, or on the ground that are adjacent to open grasslands, meadows, and shrublands for foraging.	<b>Low.</b> No appropriate nesting habitat nearby and very few known occurrences in the proximity of the project.
Short-eared Owl ( <i>Asio flammeus</i> )	-	SSC	G5	S3	-	Winter migrant or rare breeder in wet years. Close association with water filled dry lakes and marshes adjacent to irrigated alfalfa or grain fields, salt- and fresh-water marshes, and ungrazed grassland or old pastures.	<b>Low.</b> No appropriate nesting habitat nearby and very few known occurrences in the proximity of the project.
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	BCC	SSC	G4	S4	-	Year-round or winter migrant; breeds in shrublands, open woodlands with grass cover, areas of bare ground. Tall shrubs, trees, desert scrub, sparse desert riparian, fence lines and posts, and power lines for perches, territory defense. Impaling sites required for prey.	<b>High.</b> Appropriate habitat and nearby known occurrences.
Black-tailed Gnatcatcher ( <i>Polioptila melanura</i> )	-	WL	G5	S3S4	-	Year-round resident in desert wash habitat, desert riparian, creosote bush scrub, and mesquite bosque.	<b>None to Low.</b> No appropriate habitat for nesting and nearest occurrences are not close to the project.
Yellow Warbler ( <i>Setophaga petechia</i> )	BCC	SSC	G5	S3S4	-	Summer migrant and local breeder with high site fidelity. Desert riparian and upland desert scrub for breeding and in migration: desert wash, Joshua tree woodland,	<b>Moderate.</b> Appropriate habitat for migration movements and nearby known occurrences.

WILDLIFE SPECIES	RANK OR STATUS					HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT AREA
	ESA	CESA CDFW	G-RANK	S-RANK	IUCN <sup>1</sup> XERES <sup>2</sup>		
						irrigated agricultural fields and deciduous orchards with open water nearby.	
Tricolored Blackbird ( <i>Agelaius tricolor</i> )	SC BCC	ST	G2G3	S1S2	-	Summer migrant and local colonial breeder in freshwater habitats: marshes with dense stands of cattails or bulrushes, agricultural fields and dairy farms. Forge in farm fields, pastures, cattle pens, and large lawns.	<b>Extremely Low.</b> No appropriate habitat for nesting. Nearest occurrences are not close to the project but they may be observed migrating to breeding sites nearby.
Yellow-headed Blackbird ( <i>Xanthocephalus xanthocephalus</i> )	-	SSC	G5	S3	-	Summer migrant and local colonial breeder in deep wet habitats: parks with ponds, water treatment plants, golf courses, dairy farms, and agricultural fields with tall emergent cattails and bulrush.	<b>Extremely Low.</b> No appropriate habitat for nesting. Nearest occurrences are not close to the project but they may be observed migrating to breeding sites nearby.
Crotch Bumble Bee ( <i>Bombus crotchii</i> )	-	CS	G2G3	S1S2	E	Statewide distribution in a variety of habitats and agricultural fields. Wet years with wildflower bloom.	<b>Very Low.</b> Not expected in dry years. Occurrences recorded in the region.
Western Bumble Bee ( <i>Bombus occidentalis</i> )	-	CS	G2G3	S1	V / I	Limited to agricultural lands and maybe other habitat types.	<b>Very Low.</b> Not expected on site. Occurrences recorded in the Fremont Valley region.
Mojave Dotted-blue Butterfly ( <i>Euphilotes mojave</i> )	-	-	G2G3	S1S2	I	Restricted to two buckwheat host plants: yellow turbans and kidney-leaf wild buckwheat in desert habitats with sandy washes and sandy areas. One flight mid-March to June.	<b>Moderate to Low.</b> Host plants are present throughout appropriate habitats within the project area.
Source: EPC 2020a; see <b>Appendix D.1</b> of this EIR. Notes: See Appendix D for definition of all Rank Codes. IUCN – E = Endangered Xeres Society – E = Endangered; I = Impaired							

## Protocol Surveys

Protocol wildlife surveys were conducted between August and October of 2019 and in April through May of 2020 for DT and burrowing owl (*Athene cunicularia*) (EPC 2020b). Other protected, special status, listed, and general wildlife species were incidentally included in the survey recordation and these results are also included below. The DT protocol survey effort adhered to the 2019 USFWS requirements. Under this protocol, the USFWS defines the “action area” of a project to include all areas to be affected directly or indirectly by a project action. The DT protocol survey “action area” included all project parcels to be developed and collector and gen-tie line alternatives. The “action area” excluded all existing public use paved and/or dirt roads. The “action area” is synonymous with the previously defined “project area”; to avoid confusion, the term “project area” will continue to be used from this point. The burrowing owl protocol survey effort adhered to the 2012 CDFW requirements. This included survey efforts within the project area as well as survey efforts within the required 150-meter wide buffer areas around the project area.

### Agassiz’s Desert Tortoise (*Gopherus agassizii*)

#### ***Unincorporated Kern County***

A total of five DTs were detected within the project area in unincorporated Kern County. This included three adult males and two adult females in observable healthy condition. Only one of these animals was not associated with a burrow at the time of the 2019 survey. Two of these DTs were located within 845 feet of each other within upland and wash habitats during the 2019 survey, with the surrounding area exhibiting an abundance of This Year scat along with multiple Class 1 and Class 2 burrows. The other three DTs were located north of SR 58 in upland and/or wash habitats during the 2019 and 2020 surveys. The spacing between these tortoises, from south to north, was approximately 5,500 feet between the 325 mm maximum carapace length (MCL) male and the 250 mm MCL female, and approximately 12,000 feet between the 250 mm MCL female and the 242 mm MCL male. The 325 mm MCL male was located in proximity to four other burrows (Class 1, 2, 4, and 5) with This Year scat present. The 250 mm MCL female was located in proximity to Class 4 burrows with no other sign present other than This Year scat at the burrow with which it was associated. The 242 mm MCL male was not recorded in association with a burrow; however, it was located within 500 to 3,000 feet from several Class 2, 3, and 4 burrows.

Fifty-two burrows were recorded within the project area in unincorporated Kern County of which nine were designated as Class 1 burrows, eight were designated as Class 2 burrows, four were designated as Class 3 burrows, 29 were designated as Class 4 burrows, and two were designated as Class 5 burrows. The majority of the Class 1 and Class 2 burrows were found in the active DT locations. A Class 2 burrow recorded in 2019 was found to have a live DT residing in it during the 2020 survey, indicating that Class 2 burrows can be upgraded to Class 1 burrows within a season.

DT sign was found in abundance which supports the detection of the five live tortoises and 17 Class 1 and 2 burrows. A Class 1 burrow had eggshell fragments in it and a total of 29 separate locations were recorded with scat observations of which there were a total of 116 scat that were determined to be deposited within the same year as the survey season (This Year). Only eight scat were determined to be older than the survey season or year (Not This Year).



A total of seven DT carcass remains were recorded. Four were adult sized, one was a possible subadult size, and two were unknown due to the lack of a sufficient number of bones and scutes. Of the seven carcasses, two were determined to be female and one was determined to be male with the remaining four unknowns. Cause of death is unknown with five of the remains estimated to have died over 4 years prior to the observation, one estimated to have died between 2 and 4 years prior to the observation, and one estimated to have died between 1 and 2 years prior to the observation (EPC 2020b). Five of the carcasses were located in the proximity of recent and older DT sign to include burrows, scat, and live desert tortoises. Two of the carcasses were not located in proximity to another DT sign. They were recorded near railroad tracks and SR 58.

#### ***City of California City***

Although DT were not detected within California City, a total of seven burrows were recorded. The Class 2 burrow, although not exhibiting any recent use, was located 515 feet south of a live DT male (250 mm MCL) located within the project area in unincorporated Kern County. It is highly probable that this burrow has been utilized by this male DT in the past and may be used by this or another animal in the future. Six of the seven burrows were designated as Class 4 burrows. No Class 1 burrows, scat, tracks, courtship rings, eggs or eggshell fragments, or drinking depressions were detected.

One adult sized carcass was located within California City, sex unknown, with disarticulated bones, and was estimated to have died over 4 years prior to the observation (EPC 2020b). This carcass was located in an area with no DT sign present, south of E. Altus Avenue. The closest desert tortoise sign was a Class 4 burrow located west of the carcass within 4,600 feet.

#### **Burrowing Owl (*Athene cunicularia*)**

##### ***Unincorporated Kern County***

A total of five burrowing owls were observed during the 2019 and 2020 survey seasons. Four of these burrowing owls were associated with a burrow site and the remaining individual was observed flushing and then flying southwest from the railroad tracks. The burrowing owl observed flushing was seen within 1,200 feet from a perch site located within the burrowing owl buffer survey area north of the railroad tracks. No active burrows were recorded in the area around this burrowing owl; however, two inactive burrows were recorded within 3,300 feet northwest of the burrowing owl. The remaining four burrowing owls were observed in close proximity to each other with both active and inactive burrows being recorded as well as numerous inactive and active desert kit fox (*Vulpes macrotis arsipus*) dens and one Class 4 DT burrow nearby.

A total of 9 active and 30 inactive burrowing owl burrows as well as the one perch location were recorded in the project area in unincorporated Kern County. Within the gen-tie corridor only one inactive burrow was recorded within a 12-inch road culvert. No other burrowing owl sign was found within the burrowing owl buffer survey areas.

#### ***City of California City***

Although no live burrowing owls were observed during the 2019 and 2020 survey seasons, one active burrow was recorded within California City. This active burrow, along with three nearby inactive burrowing owl burrows and multiple desert kit fox dens and/or den complexes, was located at the eastern most portion

of the project area, west of Neuralia Road. A total of three inactive burrows were recorded. No burrowing owl sign was found within the gen-tie corridor.

#### **Desert Kit Fox (*Vulpes macrotis arsipus*)**

A total of 368 active and inactive desert kit fox dens and/or den complexes were located within the project area. A total of 288 dens and/or den complexes were recorded within the project area in unincorporated Kern County in which 58 were active and 230 were inactive. A total of 80 dens and/or den complexes were recorded within California City, in which 11 were active and 69 were inactive. Den complexes varied in the number of entrances from one to 23. Eleven active and 59 inactive dens and/or den complexes were recorded within the burrowing owl buffer survey area, as well as within the gen-tie corridor. There were no pupping dens detected during either the 2019 or 2020 survey seasons.

#### **American Badger (*Taxidea taxus*)**

A total of nine sign locations attributed to American badger (*Taxidea taxus*) were located within the project area. These included one active den, two possible inactive dens, one recent scat, and five hunting site excavations. All American badger sign was detected within the project area in unincorporated Kern County.

#### **Mohave Ground Squirrel (*Xerospermophilus mohavensis*)**

The project area is located on the western edge of the geographic range of MGS. The CNDDDB includes two records of visual observations of this species several miles north of Mojave, one in 1987 (Occurrence #284) and one in 1998 (Occurrence #300) (EPC 2020a). The only other evidence of MGS presence in this area was a single individual observed and trapped in 2002 at the site of the Hyundai-Kia Proving Grounds east of Mojave. Multiple live-trapping surveys have been conducted at six grids on the Hyundai-Kia Proving Grounds property since 2002, but no MGS have been detected. Protocol trapping surveys have been carried out in recent years at more than 50 sites to the west and south of Mojave, but no MGS have been captured. In addition, camera trapping was conducted in 2011 and 2014 at 11 sites on BLM lands in the vicinity of the project area and failed to detect the species. The only recent MGS records in the region are at two sites approximately 6 miles to the east.

MGS habitat requirements include soils suitable for burrow construction and native desert vegetation that provides adequate food resources and cover. The soils in the project area appear to meet the requirements for burrow construction. However, human land uses in the project area have resulted in significant degradation of native vegetation in some areas. Several hundred acres appear to have been in agricultural production in the past, with regrowth of very low diversity native vegetation. In addition, unregulated sheep grazing has been carried out over this entire region for over 100 years, resulting in severe impacts to both herbaceous and shrub community structure. The original diverse native herbaceous community has been replaced by invasive Mediterranean grasses (*Schismus* spp.) which have little to no food value for MGS. The region originally supported a diverse shrub community dominated by creosote bush scrub that included a number of other shrub species that provided important food resources for MGS. Sheep grazing has removed almost all shrub species that provide high quality forage for MGS.

Habitat conditions on the proposed development units and collector lines generally appear to be of low to moderate suitability for MGS. Although the native vegetation has been seriously impacted by agricultural activities and heavy sheep grazing for many decades, some of the existing plant communities still include a number of shrub species that are known to be utilized by MGS for cover and forage (EPC 2020a). However, the gen-tie corridor traverses through areas that do not appear to provide very suitable habitat for

MGS. These gen-tie lines pass through developed urban areas and along roadways with severely degraded habitat.

There is little evidence that the project area currently supports a resident MGS population. There have been no records of the species in the project area or the surrounding region for 17 years, in spite of extensive live-trapping and camera trapping surveys. The nearest recent documented occurrences are about 6 miles to the east. However, juvenile MGSs have been documented to disperse up to 4 miles from their natal sites, so there is some potential for the species to occur in the project area (EPC 2020a).

### Other Special-Status Species

A total of five additional special status species and/or their sign were observed during the 2019 and 2020 survey seasons. These species included Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus hudsonius*), prairie falcon (*Falco mexicanus*), loggerhead shrike (*Lanius ludovicianus*), and black-tailed gnatcatcher (*Poliophtila melanura*).

### Wildlife Movement Corridors

Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. The project area does not lie within a recognized wildlife connectivity area as mapped by the California Essential Habitat Connectivity Project. The project area and surrounding area contain expanses of open habitat with limited development and the site lacks any significant barriers to local wildlife movement. Wildlife would be expected to traverse the project area unimpeded during foraging and dispersal. Various species may travel between and among surrounding areas of low disturbance. The most likely areas for wildlife movement in this portion of the Mojave Desert would be within larger drainages, uninterrupted spans of native vegetation (creosote scrub, Joshua tree woodland, etc.), or along the foothills of the Tehachapi Mountains, or San Gabriel Mountains.

### Jurisdictional Waters

Jurisdictional waters include aquatic resources such as streams, creeks, lakes, riparian areas, wetlands, and certain aquatic vegetation communities, which are considered sensitive biological resources and can fall under the jurisdiction of federal and/or State regulatory agencies including the US Army Corps of Engineers (USACE), CDFW, and/or Lahontan Regional Water Quality Control Board (RWQCB).

The project area is located in the Fremont Valley Groundwater Basin in the Bissell Hills and Lower Cache Creek watersheds, Hydrologic Unit Code (HUC-10 1809020620 and 1809020604). The majority of the site is generally level and slope gradients across the site are extremely low. Topography in the majority of the western project area is rounded and not sharp or angular. Drainage in the northern area of the project area is very gradual to the southeast. A few miles to the east of the project area, this drainage pattern turns to the northeast where it intercepts Cache Creek, a large wash that emanates from Tehachapi Canyon. This eventually drains into Koehn Lake approximately 18 miles to the northeast of the site. The terrain in the southeastern portion of the project area is dominated by a large, gradual hill with undulating relief. The southeastern two-thirds of this area drain to the southwest into Rogers Lake, located approximately 12 miles to the southeast of the project area. The northwestern one-third of this area drains to the northwest along a few drainages.

Flowing water on-site occurs only during and immediately after high precipitation events. Hydromodification has fragmented drainage flow, primarily by construction of numerous dirt roads and larger roadways such as SR 58. Road maintenance activities on access roads through the project area and gen-ties include clearing and blading, which create large soil berms on each side of the roads and often block the flow of drainages at the road edges. Additionally, numerous off-road vehicle tracks and illegal dump sites interrupt the flow of small shallow channels.

According to the *Bellefield Solar Project Aquatic Resources Assessment* (Appendix D.3 of this EIR), a total of 29 isolated ephemeral drainages were identified, delineated, and mapped within the solar facility site based on the literature review, aerial photo interpretation, and field surveys. An additional 12 potentially jurisdictional drainages were identified along the gen-ties. These features are described in detail in the *Bellefield Solar Project Aquatic Resources Assessment* (Appendix D.3 of this EIR).

### **Potential USACE Jurisdiction**

All drainages within the proposed solar facility site and gen-tie routes are ephemeral, non-navigable features that convey hydrologic flows only during, and for short durations, after high precipitation events. The drainages do not support interstate or foreign commerce or cross state lines. Based on the USACE jurisdictional determinations that Koehn Dry Lake and Rogers Dry Lake are intrastate, isolated waters, the drainages delineated within the solar facility site and gen-ties that may reach these dry lakes are not jurisdictional waters of the U.S. The USACE is not expected to assert jurisdiction over the delineated ephemeral drainages (Rincon 2020).

### **Potential RWQCB Jurisdiction**

The solar facility site and gen-ties do not contain wetland or non-wetland waters of the State subject to the jurisdiction of the RWQCB pursuant to the Porter-Cologne Act. However, drainage features observed displaying an ordinary high water mark (OHWM) are expected to be considered jurisdictional waters of the State, pursuant to Porter-Cologne. A total of approximately 4.11 acres (91,367 linear feet) of potential RWQCB jurisdiction are located across the solar facility site (Rincon 2020).

### **Potential CDFW Jurisdiction**

Delineated drainages that contain evidence of a channel bed and bank or other OHWM indicators are likely subject to CDFW jurisdiction. Approximately 8.87 acres (91,367 linear feet) of potential CDFW jurisdictional areas were delineated within the solar facility site using standard CDFW delineation practices. No riparian habitat was present. No larger episodic stream systems were present within the solar facility site or gen-ties (Rincon 2020).

## 4.4.3 Regulatory Setting

### Federal

#### **Endangered Species Act of 1973 (USC, Title 16, Sections 1531 through 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 share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations (CCR) 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 CFR, Title 50, Sections 217, 220, and 222 for species under the jurisdiction of National Marine Fisheries Service.

Section 4(a)(3) and (b)(2) of the FESA 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 Section 3(5)(A) of the FESA: (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 through 711)**

The Migratory Bird Treaty Act (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. On December 22, 2017, the Office of the Solicitor of the Department of the Interior issued a Memorandum (Opinion M-37050) regarding the MBTA prohibition on incidental take, which substantially modifies the Department’s policy regarding the enforcement of the MBTA against the incidental taking or killing of migratory birds. The Solicitor’s Opinion is that the MBTA does not prohibit incidental take, such that “the statute’s prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs.”

### **Bald and Golden Eagle Protection Act of 1940 (USC, Title 16, Section 668, enacted by 54 Stat. 250)**

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles 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 through 1376)**

The federal Clean Water Act (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 RWQCBs each administer 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 (USEPA) 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.

### **Wetlands and Other Waters of the United States**

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies. USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or

ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as that portion that falls within the limits of the ordinary high-water mark.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (USACE 1987).

## **Desert Renewable Energy Conservation Plan**

The Desert Renewable Energy Conservation Plan (DRECP) is a landscape-level plan that streamlines renewable energy development while conserving unique and valuable desert ecosystems and providing outdoor recreation opportunities. The DRECP plan area encompasses 22.5 million acres in the desert regions and adjacent lands of seven California counties: Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The DRECP is a collaborative effort between the California Energy Commission (CEC), CDFW, BLM, and USFWS (BLM 2016).

The BLM signed the Record of Decision approving its Land Use Plan Amendment on September 14, 2016, completing Phase 1 of the DRECP. The BLM Plan Amendment covers the 10 million acres of BLM managed lands in the DRECP plan area and supports the overall renewable energy and conservation goals of the DRECP. Phase 2 of the DRECP would apply to private lands and focus on better aligning local, State, and federal renewable energy development and conservation plans, policies, and goals. It includes building off of the Renewable Energy Conservation Planning Grants (RECPG) that were awarded by the California Energy Commission to counties in the plan area (BLM 2016). No State or local government has adopted the DRECP for application to private lands and the DRECP therefore does not apply to the project site.

## **State**

### **California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)**

The CESA (CFGF Section 2050 et seq.) 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 California Fish and Game Code 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 an Incidental Take Permit under Section 2081(b) to remain in compliance with the CESA. See discussion below regarding details for CFGF Sections 2080 and 2081.

## Regional Water Quality Control Board

Under Section 401 of the CWA, the RWQCBs must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCBs also regulate waters of the State under the Porter-Cologne Act Water Quality Control Act (Porter Cologne Act). The RWQCBs require 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 RWQCBs typically require compensatory mitigation for impacts to wetlands and/or waters of the State. The RWQCBs also have jurisdiction over waters deemed ‘isolated’ or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the State and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the applicable RWQCB and comply with other requirements of Porter-Cologne Act. The project area is located within the jurisdiction of the Lahontan 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 Section 401 of the CWA. The project area is under the jurisdiction of the Lahontan RWQCB and its associated basin plan.

## California Fish and Game Code

**Sections 1600 through 1616.** Under these sections of the CFGC, the project operator 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.** Section 2080 of the California Fish and Game Code 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 Section 2081 of the code, 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 California Fish and Game Code, 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 unless authorized by rules or regulations approved by the Secretary of the Interior; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to California Fish and Game Code Section 3800.

**Sections 3511, 4700, 5050, and 5515.** Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species unless authorized pursuant to the Natural Community Conservation Planning Act or through specific legislative action.

**Sections 4000 through 4003.** Under Section 4000 of the California Fish and Game Code, it is unlawful to conduct activities that would result in the taking, possessing, or destroying of any fur-bearing mammals, including desert kit foxes, without prior authorization from the CDFW.

## **CEQA Guidelines, Section 15380**

Although threatened and endangered species are protected 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 may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code 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 effect 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 (California Fish and Game Code Sections 1900 through 1913)**

California's Native Plant Protection Act (NPPA) (California Fish and Game Code Sections 1900 through 1913) 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.

## **California Desert Native Plants Protection Act (California Food and Agricultural Code Sections 80071 through 80075)**

The California Desert Native Plant Protection Act affords protection to certain native desert plant species, including all species of the agave family (*Agavaceae*), all species of the genus *Prosopis*, all species of the genus *Cercidium*, and makes the harvest, transport, sale, or possession of these species unlawful unless a permit is first obtained.

## **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 in the Kern County General Plan applicable to biological resources, as related to the project, are described below.

## **Chapter 1. Land Use, Open Space and Conservation Element**

### **1.10. General Provisions**

#### **1.10.5. Threatened and Endangered Species**

##### **Goals**

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.

##### **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 30: The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and federal programs concerning endangered species conservation issues.
- 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**

#### ***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 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 in undisturbed land supporting State or federally protected plant and wildlife species.

## Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The objective, policies, and implementation measure in the Mojave Specific Plan for biological resources applicable to the project is provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

### Chapter 4. Conservation Element

Objective 4.4 Maintain and promote the retention of natural settings and use of native or adaptable vegetation.

Policy 4.4.3 For development projects that are located outside the identified urbanized non-sensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project proponent may demonstrate urbanized, non-sensitive status through the identification of applicable studies.

Policy 4.4.4 Encourage the preservation of western Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.

### Chapter 10. Implementation

Measure C-6a Require a biological survey to be conducted in nonurbanized sensitive areas (not - developed, not previously developed, or not previously mitigated) with potentially significant biological resources.

## California City General Plan

The goals, policies, and implementation measures in the California City General Plan for biological resources applicable to the project are provided below. As of May 11, 2021, the City of California has adopted Planning Commission Resolution No. 21-04, which updates Title 9, Chapter 2 Zoning, Article 4 of the California City Municipal Code to include solar and other renewable power generation as a conditional use in the O/RA zone district.

### Chapter 5. Open Space and Conservation Element

#### 5.15 Conservation Goals, Policies, and Implementation Measures

##### ***Goal***

Promote conservation of sensitive vegetation and wildlife.

***Policies***

Protect sensitive vegetation and wildlife species, in accordance with State and federal laws and regulations, and to provide for maintenance of supportive habitat for such species in balance with the needs of humans.

Maintain and promote the retention of natural setting and use of native or adaptable vegetation.

Encourage the preservation of western Joshua trees, known wildflower displays, or other biologically sensitive flora determined during biological surveys.

Ensure that development expands without adversely impacting significant natural resources.

Continue to require biota studies as a requirement of DRC for all new subdivisions, large apartment complexes, commercial and industrial projects.

***Implementation Measure***

Measure C-13: The City shall require the preservation of biological resources by implementation of the following measures:

Prior to issuance of a grading or building permit, new development proposals, including on previously disturbed land, shall be required to complete a general biological resources assessment to identify the presence of any sensitive biological resources, including but not limited to sensitive habitat, sensitive plant species, and sensitive wildlife species, jurisdictional drainage features, and wildlife corridors on the project site. Recommendations and/or mitigation measures shall be incorporated into project as conditions of approval.

**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:

***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.

## 4.4.4 Impacts and Mitigation Measures

### Methodology

Potential impacts to biological resources were evaluated using a variety of resources, including the *Biological Evaluation* (EPC 2020a), *Wildlife Survey Report* (EPC 2020b), *Bellefield Solar Project Aquatic Resources Assessment* (Rincon 2020), *Bellefield Solar Farm Western Joshua Tree Census Report* (EREMICO, EPC 2021), and CDFW Correspondence (2021) located in Appendices D.1, D.2, D.3, and D.4 of this EIR, respectively, as well as a thorough literature and database review. The potential for special-status species to occur on the project site is based on the results of database research, biological assessments, field surveys conducted on the project site, presence of suitable habitat, and the proximity of the project site to previously recorded occurrences that have been reported to the CDFW and CNPS. 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 biological resources. A project could have a significant adverse effect on biological resources if it:

- a. Has 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. Has 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. Has 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; or,
- e. Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. Conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in **Appendix A Notice of Preparation / Initial Study and Comments**, of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas and that no further analysis would be

needed in the EIR; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- 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.

The project is considered to be consistent with the Land Use, Open Space, and Conservation Element of the Kern County General Plan, Mojave Specific Plan, and the City of California City General Plan. The project area is located 10 miles southwest of the Desert Tortoise Research Natural Area (DTRNA). The DTRNA was established in 1974 and includes 39.5 square miles of desert habitat of which a majority of the private land inholdings have been purchased by the Bureau of Land Management (BLM), by the California Department of Fish and Wildlife (CDFW), and by the Desert Tortoise Preserve Committee (DTPC), a 501(3)c non-profit organization (DTPC, 2019). The southern and eastern boundary of the DTRNA is shared with California City. In 1980 the BLM designated the DTRNA as an Area of Critical Environmental Concern (ACEC) and perimeter fencing was installed as well as a visitor's center. The project site is also located within the Desert Renewable Energy Conservation Plan (DRECP) Development Focus area, which means that the area is expected to support fewer sensitive status species than areas identified with conservation potential and is therefore more likely to be appropriate for renewable energy development. However, the DRECP only applies to public lands managed by the Bureau of Land Management and is not an adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). The proposed project would be located on private land and therefore is not subject to the DRECP.

There are no other adopted conservation plans for protection of biological resources governing the project area. No impact would occur as the proposed project would not conflict with the provisions of an adopted habitat conservation plan. No further analysis in the EIR is warranted.

## 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 CDFW or USFWS.**

### Overview

The project has the potential to impact special-status plants and wildlife through the loss of habitat as well from as direct and indirect impacts on wildlife, such as mortality of individuals or interference with reproductive success. Potential impacts to special-status plants and wildlife from construction, operation and maintenance, and decommissioning are discussed below.

### Construction

#### Special-Status Plant Species

Potential permanent, direct impacts to special-status and other protected plants, where present, could occur in association with habitat loss from implementation of the proposed project from removal of existing vegetation and permanent development of the PV solar facility and associated gen-tie. In addition, grading

associated with these activities could result in mortality of special-status plant individuals. Potential permanent, indirect impacts to special-status plant species, if present, may arise from population fragmentation and introduction of non-native weeds. Population fragmentation could affect pollinator activity and adversely affect gene flow. Further, the introduction and establishment of invasive weeds within, or adjacent to, special-status plant populations can adversely affect native species by reducing growth and recruitment. Such impacts would be avoided or reduced to less than significant through implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC**, **MM 4.4-10KC through MM 4.4-13KC**, **MM 4.4-1CC through MM 4.4-8 CC**, and **MM 4.4-10CC through MM 4.4-13CC**. These mitigation measures include preparation and implementation of a construction Worker Environmental Awareness Program (WEAP), general protective measures, requirements for preconstruction rare plant surveys, and development of a Habitat Mitigation Plan, if required by wildlife agencies, to ensure adequate knowledge, management, and conservation of botanical resources, control weed infestations, and limit worker access to habitat outside of designated work areas.

Additionally, the loss of more than 10 percent of habitat occupied by special-status plant species (i.e., alkali mariposa-lily, Mojave spineflower), where present within the project site or potentially occurring within the project site, would be considered significant. However, this potentially significant impact can be mitigated to less than significant through the implementation of Mitigation Measures **MM 4.4-12KC** and **MM 4.4-12CC**.

Loss of plants protected under the California Desert Native Plants Act (i.e., silver cholla, diamond cholla, beavertail, and western Joshua tree), where present within the project site or potentially occurring within the project site, would be considered significant if their removal was undertaken without a permit. However, this potentially significant impact would be mitigated to less than significant with implementation of Mitigation Measures **MM 4.4-13KC**, **MM 4.4-13CC**, **MM 4.4-14KC** and **MM 4.4-14CC** as applicable, although it should be noted that impacts to western Joshua trees would still be significant under the CESA without appropriate mitigation. The available options for mitigation at this time are described in the next section below.

In addition, potential temporary, indirect significant impacts to special-status plant species located off-site could arise from runoff and sedimentation, erosion, fugitive dust, and/or unauthorized access by construction workers. Runoff, sedimentation, and erosion can adversely affect plant populations by damaging individuals or by altering site conditions sufficiently to favor other species that could competitively displace the special-status species. Construction-generated fugitive dust can also adversely affect plants by reducing the rates of metabolic processes such as photosynthesis and respiration. Unauthorized access by construction workers and their vehicles could trample and destroy individuals outside of, but immediately adjacent to, the proposed construction areas. These impacts would be avoided or reduced to less than significant levels, however, through implementation of the general project avoidance and minimization measures as identified in Mitigation Measures **MM 4.4-1KC**, **MM 4.4-4KC through MM 4.4-8KC**, **MM 4.4-10KC**, and **MM 4.4-11KC**; and, **MM 4.4-1CC**, **MM 4.4-4CC through MM 4.4-8CC**, **MM 4.4-10CC**, and **MM 4.4-11CC**.

### **Western Joshua Tree**

Western Joshua trees were found scattered throughout most of the project area and west of SR 14. Joshua tree woodland within the project area has been calculated at 4.26 acres, with 2.73 acres along the Kern County collector lines and 1.53 acres in the California City project parcels. In addition to being present within Joshua tree woodlands, western Joshua trees are separately scattered throughout several additional

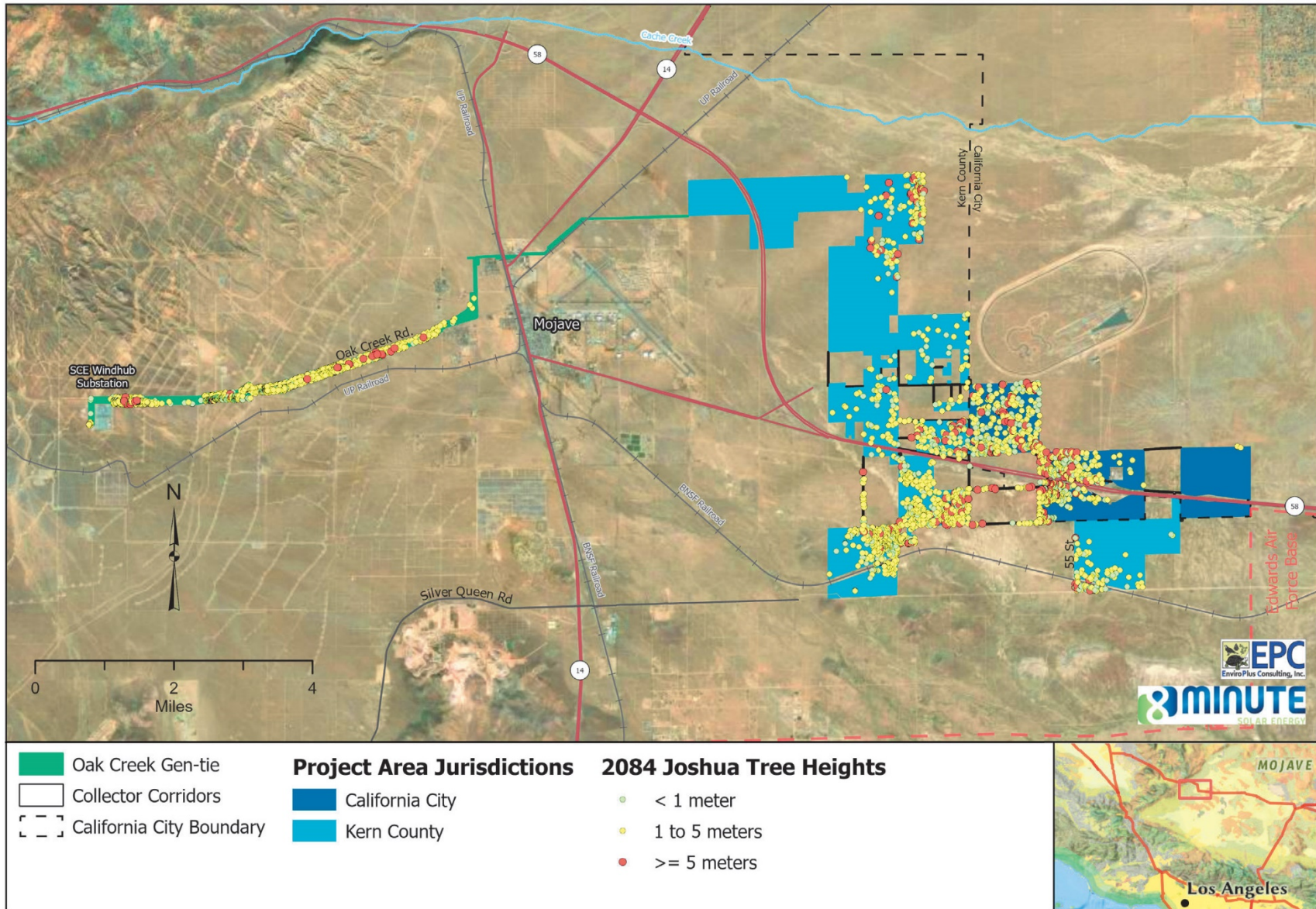


vegetation communities including but not necessarily limited to creosote bush-white bursage scrub (*Larrea tridentata-Ambrosia dumosa*) shrubland alliance, allscale scrub (*Atriplex polycarpa*) shrubland alliance, white bursage scrub (*Ambrosia dumosa*) shrubland alliance, Cooper goldenbush scrub (*Ericameria cooperi*) provisional shrubland alliance, shadscale scrub (*Atriplex confertifolia*) shrubland alliance, winter fat scrubland (*Krascheninnikovia lanata*) shrubland alliance.

According to the *Bellefield Solar Farm Western Joshua Tree Census Report* (Appendix D.4 of this EIR), a total of 6,547 western Joshua trees were recorded within the project area. **Table 4.4-4**, *Western Joshua Tree Census Results*, provides the western Joshua tree distribution in each size class recorded within the project area. Based on the results of the western Joshua tree census, the project impact area for western Joshua trees was calculated to be 62.20 acres (Appendix D.4 of this EIR). Please refer to **Figure 4.4-1**, *Distribution of Western Joshua Trees Onsite*, which illustrates the distribution of this tree species across the project site, by size classification.

**Table 4.4-4. Western Joshua Tree Census Results**

	Western Joshua Tree by Height Class (count)			Total (count)
	Less than 1 m	1 m to less than 5 m	5 m or greater	
<b>Project Area</b>	2,515	3,766	266	6,547
Source: EREMICO, EPC 2021; see Appendix D.4 of this EIR.				

**Figure 4.4-1: Distribution of Western Joshua Trees Onsite**

Potential permanent, direct impacts to on-site western Joshua trees primarily include the complete loss of this species and this sensitive natural community within the boundaries of the project area from removal of existing vegetation and permanent development of the PV solar facility and associated gen-tie. Potential permanent, indirect impacts to western Joshua trees may arise from population fragmentation in regards to surrounding regional occurrences of this species and this habitat type. Such impacts would be reduced to less than significant through implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-7KC**, **MM 4.4-12KC**, **MM 4.4-1CC** through **MM 4.4-7CC**, and **MM 4.4-12CC**. In addition, Mitigation Measures **MM 4.4-13KC** and **MM 4.4-13 CC** would apply if western Joshua tree is no longer listed as a 'candidate,' 'threatened,' or 'endangered' species under the CESA at the time of issuance of a building or grading permit, whereas **MM 4.4-14KC** and **MM 4.4-14CC** would apply if western Joshua tree is still listed as a 'candidate,' 'threatened,' or 'endangered' species under the CESA at the time of issuance of a building or grading permit in areas that would involve the removal of western Joshua trees.

### **Special-Status Wildlife**

#### **Mohave Ground Squirrel**

Multiple live-trapping surveys were conducted at six grids on the Hyundai-Kia Proving Grounds property since 2002; no MGS were detected (EPC 2020a). Protocol trapping surveys have been carried out in recent years at more than 50 sites to the west and south of Mojave, but no MGS have been captured. In addition, camera trapping was conducted in 2011 and 2014 at 11 sites on BLM lands in the vicinity of the project site and failed to detect the species. The only recent MGS records in the region are at two sites approximately 6 miles to the east. As such, there is little evidence that the project area currently supports a resident MGS population. There have been no records of the species in the project area or the surrounding region for 17 years, in spite of extensive live-trapping and camera trapping surveys (EPC 2020a). However, juvenile MGSs have been documented to disperse up to 4 miles from their natal sites, so there is some potential for the species to occur in the project area (EPC 2020a). MGS are subject to similar direct impacts that could also occur to DT, burrowing owls, desert kit fox, and American badger. Direct impacts from construction and/or decommissioning activities may include site grading, heavy equipment operation, and general vehicle traffic that could kill or injure MGS as a result of collisions with construction equipment or entombment in burrows. Construction activities could also result in disturbance or harassment.

Indirect impacts to MGS could include increased predator depredation resulting from increases in coyote, badger, domestic or feral dog, raven, and raptor population numbers increasing. Increases in predator populations can be due to various factors and conditions which may include but not be limited to the provision of new perching sites and temporarily ponding water from solar panel cleaning and in the proposed infiltration basins, as well as potential food items in unsecured trash containers. Such impacts would be considered significant.

Implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-11KC**, **MM 4.4-14KC** through **MM 4.4-15KC**, **MM 4.4-21KC**, **MM 4.4-1CC** through **MM 4.4-11CC**, **MM 4.4-14CC** through **MM 4.4-15CC**, **MM 4.4-21CC**, which avoid and minimize impacts to MGS and other wildlife, includes acquisition of compensatory lands to mitigate for the loss of any suitable MGS habitat that would reduce potential project-related impacts to this species to less than significant.

#### **Desert Tortoise**

Potential direct impacts to DT include the potential for mortality of individuals during construction, operation, and decommissioning activities. DTs are subject to similar direct impacts that could also occur

to MGS, desert kit fox, American badger, and burrowing owl. Direct impacts from construction and/or decommissioning activities include site grading, heavy equipment operation, and general vehicle traffic that could kill or injure DT as a result of collisions with construction equipment or entombment in burrows. Construction activities could also result in disturbance or harassment. A total of five DTs were detected within the project area in unincorporated Kern County which included three adult males and two adult females in observable healthy condition were detected during the August through October of 2019 and April through May of 2020 surveys. No DT were detected within California City during the August through October of 2019 and April through May of 2020 surveys. Appropriate measures will be implemented to ensure no incidental take occurs during construction activities as described in Mitigation Measures **MM 4.4-1KC through MM 4.4-11KC, MM 4.4-15KC, MM 4.4-21KC, MM 4.4-1CC through MM 4.4-11CC, MM 4.4-15CC, and MM 4.4-21CC.**

Indirect impacts to DT could include increased common raven depredation resulting from increases in raven population numbers due to the provision of new perching sites and temporarily ponding water from solar panel cleaning and in the proposed infiltration basins, as well as potential food items in unsecured trash containers. New project development can also increase the presence of other desert tortoise predators such as coyote, badger, and domestic or feral dogs. Such potential impacts to DT would be considered significant. Additionally, common ravens are a predator of DT and their population numbers in the Mojave Desert have been enhanced through human development, posing a threat to desert tortoise populations. The project operator would be required to implement Mitigation Measures **MM 4.4-21KC and MM 4.4-21CC**, which includes project specific measures to manage raven populations during construction and/or decommissioning of the project. Impacts to DT and other wildlife resulting from potential increases in common raven populations in the project area as a result of the project are addressed further in the common raven management discussion below. With implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-11KC, MM 4.4-15KC, MM 4.4-21KC, MM 4.4-1KC through MM 4.4-11KC, MM 4.4-15KC, and MM 4.4-21KC** potential impacts on DT would be reduced to less than significant.

### **Western Burrowing Owl**

A total of five burrowing owls were observed in the project area in unincorporated Kern County during the August - October of 2019 and April - May of 2020 surveys. Although no live burrowing owls were observed during the August - October of 2019 and April - May of 2020 surveys, one active burrow was recorded within California City. Burrowing owl could winter, breed, or forage within or adjacent to the project site. Vehicle traffic during construction, site operations and maintenance, and decommissioning activities could result in vehicle strikes and mortality of burrowing owls. Site grading could collapse or fill occupied burrows, potentially trapping and killing burrowing owls, as well as affecting reproductive success through nest destruction. The take of breeding and wintering habitat through development of the solar arrays, associated facilities and access roads, transmission lines, substations, and other project components would also be considered a direct impact.

Indirect impacts could include degradation of breeding and wintering habitat off-site through increases in noise and light due to project construction, operation, and/or decommissioning activities, potentially affecting breeding and wintering burrowing owls. Such activities could result in reproductive failure should nests be located near to the project footprint as well as result the potential loss of foraging habitat for this species. Potentially significant impacts to burrowing owl would be reduced to less than significant levels through implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC, MM 4.4-10KC through MM 4.4-11KC, MM 4.4-16KC through MM 4.4-17KC, MM 4.4-19KC through MM 4.4-21KC,**

**MM 4.4-1CC through MM 4.4-8CC, MM 4.4-10CC through MM 4.4-11CC, MM 4.4-16CC through MM 4.4-17CC, and MM 4.4-19CC, through MM 4.4-21CC.**

#### **Desert Kit Fox**

Desert kit fox active, inactive, and pupping dens were observed throughout the entire project area during the August - October 2019 and April - May 2020 surveys. A total of 80 dens and/or den complexes were recorded within California City in which 11 were active and 69 were inactive. A total of 288 dens and/or den complexes were recorded within the project area in unincorporated Kern County in which 58 were active and 230 were inactive. Since the potential for desert kit fox has a moderate to high occurrence throughout the project area, construction and/or decommissioning activities that may include site grading, heavy equipment operation, and/or general vehicle traffic could kill or injure desert kit fox as a result of collisions with construction equipment or entombment in dens. Construction and decommissioning activities could also result in disturbance or harassment of individuals. Conversion of potential habitat to a PV solar facility may also result in local reductions in foraging and dispersal habitat for desert kit fox. However, with implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC, MM 4.4-10KC, MM 4.4-11KC, and MM 4.4-18KC; and, MM 4.4-1CC through MM 4.4-8CC, MM 4.4-10CC, MM 4.4-11CC, and MM 4.4-18CC**, potential impacts to desert kit fox would be reduced to less than significant.

#### **American Badger**

A total of nine sign locations attributed to American badger were located within the project area. These included one active den, two possible inactive dens, one recent scat, and five hunting site excavations. All American badger sign was detected within the project area in unincorporated Kern County. American badger may forage on or disperse through the project area. Because their potential for occurrence on the project site is low to moderate, construction and decommissioning activities, including site grading, heavy equipment operation, and general vehicle traffic could kill or injure badgers as a result of collisions with equipment or entombment in dens. Construction and/or decommissioning activities could also result in disturbance or harassment of individuals. Conversion of potential habitat to a PV solar facility could result in local reductions in foraging and dispersal habitat for American badger. However, with implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC, MM 4.4-10KC, MM 4.4-11KC, MM 4.4-18KC, MM 4.4-1CC through MM 4.4-8CC, MM 4.4-10CC, MM 4.4-11CC, and MM 4.4-18CC**, potential impacts on American badger would be reduced to less than significant.

#### **Golden Eagle and Other Raptors**

Cooper's hawk, northern harrier, and prairie falcon were observed during August - October of 2019 and April - May 2020 surveys. Golden eagle was not observed during the August -October 2019 and April - May 2020 surveys. There is potential for species of raptor to utilize the project area for foraging and perching. The SR 58 corridor could be a source for carrion for the golden eagle and the presence of MGS, other diurnal and crepuscular small mammals (i.e., cottontails and ground squirrels), lizards and snakes, and small birds could be a foraging source for both the eagle and the falcon.

Access to power poles and other tall perching structures can provide these two species with an excellent view of the desert landscape for detecting prey as well as utilizing the perch to consume their prey. Shorter perch locations may include the many large stemmed western Joshua trees on site and could be a foraging benefit for species of raptors observed during the August - October 2019 and April - May 2020 surveys. Some raptors, such as red-tailed hawk, may nest in trees in nearby Boron or at rural residences nearby. The

close proximity between nesting sites and foraging opportunities are important factors for raptors such as red-tailed hawk. The same conditions that factor into the potential presence of golden eagle and prairie falcon also factor into the presence of the observed species.

Potential direct impacts to these raptor species include construction of gen-tie lines and collector transmission lines which could provide additional perching structures that pose a high risk of electrocution and death for large birds. This potential impact would be mitigated to less than significant through implementation of Mitigation Measures **MM 4.4-19KC** through **MM 4.4-21KC**, and **MM 4.4-19CC** through **MM 4.4-21CC**.

Potential indirect impacts to raptors include the loss of foraging habitat and interference with reproductive success at nearby or potential on-site nests due to noise and human presence associated with project construction and/or decommissioning activities. For instance, if red-tailed hawks were nesting within 500 feet or line of sight, project-related activities could potentially result in a nest failure. This potential impact would be mitigated to less than significant through implementation of Mitigation Measures **MM 4.4-20KC** through **MM 4.4-22KC** and **MM 4.4-20CC** through **MM 4.4-22CC**.

#### **Other Migratory or Nesting Migratory Songbirds**

Loggerhead shrike and black-tailed gnatcatcher were observed within the project area during the 2019 and 2020 survey seasons. Further, the project site provides suitable nesting habitat for year-round and seasonal avian residents as well as migrating songbirds that could occur in the area. These species are protected under the MBTA and various provisions of the California Fish and Game Code. Many of these species are likely to forage within or adjacent to the project site; establish nesting territories (i.e., resident and migratory songbirds such as verdin [*Auriparus flaviceps*], blue-gray gnatcatcher [*Polioptila caerulea*], black-throated sparrow [*Amphispiza bilineata*], greater roadrunner [*Geococcyx californianus*]); or migrate through during spring and fall migrations.

Project-related direct impacts on nesting birds could include mortality of individuals and destruction of nests and eggs during project construction and/or decommissioning. Indirect impacts could include interference with reproductive success and nest abandonment due to project-related noise and increases in human activity. Additionally, artificial lighting could increase predation on individuals and eggs and disrupt reproductive behaviors. The conversion of open land to a PV solar facility would also result in loss of some potential breeding and foraging habitat. Some birds, such as mourning dove and other ground nesting birds may continue to nest beneath the constructed arrays. The installation of transmission lines and buildings could provide new perches for predators, such as ravens and raptors, which could contribute to declines in local songbird populations. Finally, the installation of uncapped vertical, hollow poles, such as may be used to mount the solar panels and are used in chain link fencing, could result in entrapment and death of songbirds. These would be considered significant impacts on nesting birds. However, with implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-8KC**, **MM 4.4-10KC**, **MM 4.4-11KC**, **MM 4.4-19KC**, **MM 4.4-21KC**, **MM 4.4-1CC** through **MM 4.4-8CC**, **MM 4.4-10CC**, **MM 4.4-11CC**, **MM 4.4-19CC**, and **MM 4.4-21CC** potential impacts to nesting birds would be reduced to less than significant.

#### **Common Ravens**

Common raven numbers have grown substantially in the past few decades in the west Mojave Desert. Between 1968 and 1988, the number of ravens in the Mojave Desert increased by over 1,500 percent and this increase is likely higher in the western Mojave Desert. Ravens are not considered a special-status



species; however, they are protected by the MBTA even though they are known predators of hatchling and juvenile desert tortoise, MGS, the eggs and fledglings of burrowing owls, as well as many other songbird species, small mammal species, and reptile species. Ravens will compete with other birds such as raptors for prey and nesting sites. Raven numbers have become so great that they pose a serious threat to many desert species; the species' population growth is directly attributed to human development and the subsidies created by humans (i.e., trash and food waste at landfills, in open dumpsters and garbage cans, strip malls and fast food restaurants, highway rest stops, etc.) that support this adaptable species.

As indicated above, the project could provide new roosting, nesting, and perching sites for the common raven from the installation of new facilities (e.g., transmission towers, PV solar panels, fences, and buildings). The proposed project could potentially contribute to maintaining artificially high numbers of common ravens, which threatens desert wildlife, including federal and State listed species. However, this significant impact would be reduced to less than significant with implementation of Mitigation Measures **MM 4.4-21KC** and **MM 4.4-21CC**, which would require the project operator to prepare a Raven Management Plan in consultation with the USFWS and CDFW. Contribution to the Regional Common Raven Management Fund would also reduce project impacts from common raven on DT and MGS and other desert wildlife to less than significant.

## **Operations and Maintenance**

Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because construction of the project would remove habitat for the special-status species on the project site, although wildlife movement through or around the project site (i.e., desert tortoise fencing) would still allow limited movement. However, maintenance activities on the project site could impact the special-status plant species if avoidance measures are not implemented. Project operation could also result in direct or indirect impacts to wildlife in proximity to vehicle movements, vegetation maintenance and nighttime lighting. However, 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. All project lighting 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 stipulated in Mitigation Measures **MM 4.1-5KC** and **MM 4.1-5CC** (see **Section 4.1, Aesthetics**, for full Mitigation Measure text). Mitigation Measures **MM 4.4-15KC** through **4.4-17KC**, **MM 4.4-19KC**, **MM 4.4-21KC**; and, **MM 4.4-15CC** through **4.4-17CC**, **MM 4.4-19CC**, and **MM 4.4-21CC** would mitigate potential direct or indirect impacts to sensitive ground dwelling wildlife during operations, to less than significant.

### **Swainson's Hawk and Other Raptor Species**

Potential indirect impacts to foraging raptors from the operations and maintenance phase of the project may occur through "stranding" if the species lands within the site fencing. In addition, solar panels have elements thought to mimic water or suitable related habitat, at least to the human eye. As a result, some have theorized that solar panels may attract species that mistake the panels for bodies of water, potentially leading to increased collision-related and other risks commonly referred to as the "fake lake effect." The installation of PV solar panels has the potential to cause impacts to Swainson's hawk and other raptor species associated with collisions due to the "fake lake effect". The "fake lake effect" refers to the hypothesis that PV solar panels and power tower heliostats are reminiscent of a large body of water or open sky and may attract waterfowl or wading birds. It is thought the phenomenon could attract birds to solar project sites, thereby exposing the birds to greater risk of impacts such as potential collision with project infrastructure, the

possibility of being stranded within site fencing once they land, or other forms of distress. A report commissioned by the U.S. Department of Energy (NREL 2015) analyzed available avian mortality data from utility-scale solar energy facilities and concluded that, though it is apparent that solar energy facilities present a risk of fatality for birds, additional standardized and systematic fatality data would be needed to better understand and quantify the risks. That report further noted that, based on available data, there was no consistent pattern to support or refute the hypothesis that water-dependent species were more susceptible to mortality at solar facilities.

The causes of avian injuries and fatalities at commercial-scale solar projects continue to be evaluated by the USFWS, CDFW, and others. Even with monitoring data from other PV projects in California, there remains a great deal of uncertainty regarding the extent to which birds might be impacted by the proposed project because: (1) the mortality data from the other projects has been collected over a relatively short period of time and is still being evaluated; (2) in most cases, the cause of death is not clear; and (3) mortality information from one project location is not necessarily indicative of the mortality that might be found at another project location. Therefore, the “fake lake effect” does not have a significant direct or indirect impact on migratory birds including foraging raptors.

Although prey sources such as rodents and small birds are likely to still inhabit the area around solar panels on the project site, the solar panels may provide shielding and making them difficult to detect by raptors flying overhead. Raptors may be able to use the solar panels, perimeter fencing and utility structures surrounding the facilities as perch sites for hunting. It is not expected that the Swainson’s hawk would use the project site for foraging due to the absence of agricultural fields, which is this species’ preferred type of foraging habitat in the region. Therefore, while availability of potential foraging habitat would be reduced due to the presence of solar panels and associated facilities, this reduction would not be significant due to the low potential for Swainson’s hawk to occur onsite. In addition, solar PV panels consist of non-reflective glass that minimizes the “fake lake-effect”.

## Mitigation Measures

### Kern County:

Implement Mitigation Measure **MM 4.1-5KC** (see **Section 4.1, Aesthetics**, for full Mitigation Measure text), regarding compliance with the Kern County Dark Skies Ordinance.

**MM 4.4-1KC:** Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by United States Fish and Wildlife Service and California Department of Fish and Wildlife to oversee compliance with protection measures for all listed and other special-status species. The project Lead Biologist shall be on-site during all fencing and ground disturbance activities throughout the construction phase. The project Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures described herein. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The project Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.



**MM 4.4-2KC:** Prior to the issuance of grading or building permits, and for the duration of construction activities, all new construction workers at the project site shall attend a Worker Environmental Awareness Program (WEAP), developed and presented by the project Lead Biologist. As part of the WEAP training, the project Lead Biologist shall perform the following training-related tasks:

- a. Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, nighttime construction limitations), and applicable fire protection measures. WEAP training shall also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered.
- b. Send a copy of all WEAP training materials to the Kern County Planning and Natural Resources Department.
- c. Maintain a list on-site of all employees who have undergone WEAP training. A copy of this list shall be provided to the Kern County Planning and Natural Resources Department as necessary.

**MM 4.4-3KC:** The Worker Environmental Awareness Program (WEAP) shall be presented by the Lead Biologist and shall include information on the life history of each federal and state-listed species, as well as other special-status wildlife, natural communities, and plant species that may be encountered during construction activities, their legal protections, the definition of “take” under the federal and State Endangered Species Acts, measures the project operator is implementing to protect special-status species, reporting requirements, specific measures that each worker shall employ to avoid take of special-status wildlife species, and penalties for violation of the acts. Training shall be documented as follows:

- a. An acknowledgement form signed by each worker indicating that environmental training has been completed.
- b. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker.
- c. A copy of the training transcript/training video and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgements forms shall be submitted to the Kern County Planning and Natural Resources Department.

**MM 4.4-4KC:** During construction and decommissioning the anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided. The construction crews and contractor(s) shall be held responsible for

unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

**MM 4.4-5KC:** New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, a biological resources survey shall be conducted by the Lead Biologist or by biological monitor(s) under the Lead Biologist's supervision to determine if listed or special-status species would be impacted. Impacts shall be avoided to the maximum extent practicable or shall be fully mitigated for. Construction shall not begin until the route is cleared for biological resources. The route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction and use.

**MM 4.4-6KC:** Spoils shall be stockpiled in disturbed areas. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project-related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.

**MM 4.4-7KC:** All ground disturbance construction and decommissioning activities shall be monitored by the qualified Lead Biologist or by biological monitors under the Lead Biologist's supervision to ensure compliance with avoidance and minimization measures.

**MM 4.4-8KC:** The project operator and/or contractor shall implement the following during project decommissioning:

- a. All applicable construction phase general protection measures shall be implemented during decommissioning.
- b. A 25-mile-per-hour speed limit on paved or stabilized unpaved roads shall be applied for travel during decommissioning activities. Travel shall be confined to existing roads and previously disturbed areas.
- c. If any special-status wildlife is detected in the work area during decommissioning activities, no work shall be conducted until the individual moves on its own outside of the work area.
- d. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours.

**MM 4.4-9KC:** During construction and decommissioning the project operator and/or contractor shall implement the following general avoidance and protective measures:

- a. Prior to issuance of grading or building permits but after consulting with the United States Fish and Wildlife Service and California Department of Fish and Wildlife, the solar facility project site shall be fenced with a permanent desert tortoise exclusion fence to keep any desert tortoises and Mohave ground squirrels that may

be using habitat adjacent to the facility from entering during construction, operations and maintenance, and dismantling and restoration (decommissioning) phases. The project proponent shall submit a fencing plan that outlines the location, type of fence, and construction methods to United States Fish and Wildlife Service and California Department of Fish and Wildlife for review. The fencing type shall follow current fence specifications established by the United States Fish and Wildlife Service. Desert tortoise-proof gates shall be established at all photovoltaic solar facility entry points, unless otherwise approved by United States Fish and Wildlife Service and California Department of Fish and Wildlife. Workers installing the exclusion fencing shall have undergone the worker training program mandated in Mitigation Measure **MM 4.4-2KC** and a biological monitor under the authority of the project Lead Biologist shall be present during exclusion fencing installation.

- b. The fencing shall be routinely inspected with inspections after precipitation events of more than one inch at each ephemeral drainage crossing. Any damage to the fencing shall be repaired immediately or no later than 2 days following the observation.
- c. Following the construction of exclusion fencing around the solar facility perimeters, clearance surveys shall be conducted by the Lead Biologist to ensure that no desert tortoises, Mohave ground squirrels, or other listed wildlife species are trapped within the fenced area. The Lead Biologist may be assisted by biological monitors under the supervision of the Lead Biologist. The clearance surveys shall be conducted no more than 30 days prior to ground disturbing activities associated with construction, O&M, or decommissioning. Clearance surveys shall adhere to the current United States Fish and Wildlife Service clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes to be completed after desert tortoise-proof fencing is installed, which shall coincide with heightened desert tortoise activity from late March through May and September through October. The Designated Biologist(s) shall perform pre activity surveys for desert tortoise and shall remain on-site daily until the construction period ends or exclusion fencing has been installed to preclude desert tortoises from entering a given work area (work area is completely enclosed with exclusionary fence). United States Fish and Wildlife Service and California Department of Fish and Wildlife may impose modified or additional fencing requirements in the project's final 2081 Permit and/or Habitat Conservation Plan, if required.
- d. If a desert tortoise or Mohave ground squirrel is found on the site during project construction, operation, or decommissioning, activity shall cease in the vicinity of the animal and the desert tortoise and/or Mohave ground squirrel shall be passively restricted to the area encompassing its observed position on the construction site and its point of entry shall be determined if possible. The Lead Biologist shall install a temporary tortoise-proof fence around this area. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization,

or mitigation measures that may be necessary. Once the desert tortoise and/or Mohave ground squirrel is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the activities of the desert tortoise and/or Mohave ground squirrel within the site; all fence construction, modification, and repair efforts; and movements of the desert tortoise and/or Mohave ground squirrel once again outside the permanent tortoise-proof fence. This report shall be submitted to wildlife and resource agency representatives and the Kern County Planning and Natural Resources Department. If passive relocation is not possible, desert tortoise and/or Mohave ground squirrel may also be translocated in accordance with a United States Fish and Wildlife Service and/or California Department of Fish and Wildlife approved Translocation Plan.

- e. Outside permanently fenced desert tortoise exclusion areas where desert tortoise may be present, the project operator shall limit the areas of disturbance in desert tortoise and Mohave ground squirrel habitat. Parking areas, new roads, pulling sites, and locations for staging, storage, excavation, and disposal shall be confined to the smallest areas possible. These areas shall be flagged, and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
- f. The Lead Biologist or biological monitor shall monitor any ground-disturbance activities that occur outside the desert tortoise exclusion fencing. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours where desert tortoise are determined to be present.

**MM 4.4-10KC:** During construction the project operator and/or contractor shall implement the following general avoidance and protective measures:

- a. The Lead Biologist or biological monitor shall monitor all ground-disturbance activities. Work shall only occur during daylight hours as practicable. Specialized testing activities, work on the project gen-tie line, and/or continuous operations (i.e. well drilling) may be conducted at night when necessary. Prior to conducting vegetation removal or grading activities inside the fenced area, a Lead Biologist or biological monitor under the supervision of a Lead Biologist shall survey the area immediately prior to conducting these activities to ensure that no listed or special-status animals or plants are present. The project Lead Biologist shall have the right to halt all activities that are in violation of the special species protection measures. Work shall proceed only after hazards to special species are removed and the species is no longer at risk. The project biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.
- b. At the end of each work day, the Lead Biologist shall ensure that all trenches, bores, and other excavations outside the permanently fenced area in suitable habitat for desert tortoise have been inspected for the presence of desert tortoise and backfilled, if no tortoise is present. If backfilling is not feasible, these excavations shall be modified to ensure that they cannot potentially entrap desert tortoises (e.g., equipped with desert tortoise escape ramps, covered to prevent desert tortoise access, enclosed with a desert tortoise exclusion fence). All

construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods and with a diameter of four inches or greater shall be thoroughly inspected for listed and special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe that section of pipe shall not be moved until the animal has moved off on its own. If the animal does not move in a timely manner, then the appropriate resource agency shall be consulted.

- c. Any construction pipe, culvert, or similar structure stored within desert tortoise habitat (i.e., outside areas with desert tortoise exclusion fencing) shall be inspected for desert tortoise before the material is moved, buried, or installed.
- d. Water used for dust abatement shall be minimized, as allowed by Kern County Engineering, Surveying, and Permit Services Department, or managed in such a manner as to prevent the formation of puddles that could attract common ravens, predators, and other wildlife species to or near the site.
- e. No vehicle or equipment parked outside the fenced areas shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of desert tortoise. If present, the desert tortoise shall be left to move on its own.
- f. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited. Vehicle speeds within the project site shall not exceed 25 miles per hour on roads within desert tortoise habitat.
- g. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills immediately and hazardous spills shall be cleaned up as soon as practical and the contaminated soil shall be properly disposed of at a licensed facility.
- h. A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.
- i. Workers shall be prohibited from bringing pets and firearms to the project and from feeding wildlife.
- j. Intentional killing or collection of either plant or wildlife species, including listed species, in the project site and surrounding areas shall be prohibited. The Lead Biologist, wildlife and resource agency representatives and Kern County Planning and Natural Resources Department shall be notified of any such occurrences within 24 hours.
- k. Construction monitoring shall be conducted by either the Lead Biologist or by biological monitors under the Lead Biologist's supervision. The biological monitors shall have experience in monitoring for special-status wildlife.

1. During construction, daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report for the wildlife and resource agencies and Kern County Planning and Natural Resources Department on a monthly basis, 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 biological resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities.

**MM 4.4-11KC:** The introduction of exotic plant species shall be avoided and controlled wherever possible and may be achieved through physical or chemical removal and prevention. Preventing exotic plants from entering the site via vehicular sources shall include measures such as implementing Trackclean or other method of vehicle cleaning for vehicles coming and going from the site. Earthmoving equipment shall be cleaned prior to transport to the project site. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced into the site during construction shall be eliminated by chemical and/or mechanical means

**MM 4.4-12KC:** In the event ground disturbance does not commence within two (2) years of the last rare plant surveys, the project operator and/or contractor shall conduct preconstruction special-status plant survey(s) during the appropriate blooming period in accordance with the guidelines established by California Department of Fish and Wildlife (2009). Copies of these preconstruction surveys shall be provided to the appropriate wildlife agency and to the Kern County Planning and Natural Resources Department.

If any botanical species with a California Native Plant Society rank of 1.B-2 or higher is found during the preconstruction surveys, the project operator and/or contractor shall delay ground disturbance activities and contact California Department of Fish and Wildlife for consultation. If required, in consultation with California Department of Fish and Wildlife, a Habitat Mitigation Plan shall be prepared that includes, at a minimum, the following:

- a. Wherever feasible, if special-status plant species are observed within the proposed project footprint, the proposed project shall be designed by the Lead Biologist, to reduce impacts to the species through the establishment of preservation areas and buffers. If avoidance or minimization measures are implemented on-site, a Habitat Mitigation Plan shall be developed to ensure adequate management and conservation of botanical resources on-site over the long term. A copy of the Habitat Mitigation Plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If the project would eliminate more than 10 percent of a local special-status plant population, the Habitat Mitigation Plan would also include the following:
  1. A figure illustrating the area of the population to be preserved, and the area of the population to be removed;

2. Identification of on-site or off-site preservation, restoration, or enhancement location(s);
3. Methods for preservation, restoration, enhancement, and/or population translocation;
4. A replacement ratio and success standard of 1:1 for occupied habitat lost unless a lower mitigation ratio and/or alternative mitigation is agreed to in coordination with California Department of Fish and Wildlife;
5. A five-year monitoring program to ensure mitigation success;
6. Adaptive management and remedial measures in the event that performance standards are not achieved; and
7. Financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.

**MM 4.4-13KC:** Prior to the issuance of grading or building permits, the project operator shall:

- a. Provide evidence to the Kern County Planning and Natural Resources Department that consultation with the Kern County Agricultural Commissioner has taken place regarding removal of plants protected under the California Desert Native Plant Act;
- b. If the Agricultural Commissioner determines that a permit is not required, the project operator shall provide a letter describing the consultation process and Commissioner's determinations, indicating that such authorization is not required. The letter shall also identify the Commissioner's points of contact and contact information;
- c. If required by the Agricultural Commissioner, the project operator shall provide evidence to the Kern County Planning and Natural Resources Department that a California Desert Native Plant Act removal permit has been obtained.

**MM 4.4-14KC:** The following measures shall be implemented to reduce direct impacts to Sensitive Natural Communities, with the exception of western Joshua tree, for which the project has an approved 2084 permit. To the extent feasible, the following avoidance and minimization measures shall be implemented:

- a. Where feasible, the project shall be designed to avoid disturbance of spinescale scrub (*Atriplex spinifera* Shrubland Alliance) and winter fat scrubland (*Krascheninnikovia lanata* Shrubland Alliance)
- b. Where it is not feasible to avoid direct impacts to the spinescale scrub (*Atriplex spinifera* Shrubland Alliance) and winter fat scrubland (*Krascheninnikovia lanata* Shrubland Alliance) identified within the project site the project operator shall implement the following measures:
  1. Compensatory mitigation for impacts to Sensitive Natural Communities shall occur either on-site or off-site and would occur at a ratio no less than 1:1 for each Sensitive Natural Community impacted. A Habitat Mitigation and

Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the California Department of Fish and Wildlife.

2. If on-site mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site that contain suitable characteristics for restoration or enhancement of sensitive habitat. Determination of mitigation adequacy shall be based on comparison of the restored or enhanced habitat with similar, undisturbed habitat in the vicinity of the development site. If mitigation is implemented off-site, compensatory lands shall contain similar or more well-developed habitat and preferably be located in the vicinity of the site or watershed. Off-site land shall be preserved through a conservation easement and the Plan shall identify an approach for funding assurance for the long-term management of the compensatory land.
- c. Where direct impacts to western Joshua trees are unavoidable, if western Joshua tree is listed as a 'candidate,' 'threatened,' or 'endangered' species under the California Endangered Species Act at the time of issuance of a building or grading permit in areas that would involve the removal of western Joshua trees, the project proponent may pursue one of the following mitigation options:
1. The project operator shall provide evidence to the Kern County Planning and Natural Resources Department demonstrating that that impacts to western Joshua tree have been mitigated in accordance with Section 2084 of the California Fish and Game Code; or
  2. The project operator shall mitigate for permanent impacts to western Joshua tree, should an Incidental Take Permit be required from California Department of Fish and Wildlife, through an approved mitigation bank, in-lieu fee program, or other California Department of Fish and Wildlife -approved process. Compensatory mitigation for permanent impacts to western Joshua tree shall be determined and acquired in consultation with the wildlife or resource agency. Verification of compliance shall be submitted to the Kern County Planning and Natural Resources prior to project construction in areas that would involve removal of western Joshua trees.

**MM 4.4-15KC:** The measures listed below shall be implemented prior to and during construction, operations, and decommissioning at the project site.

- a. The project operator has filed for an Incidental Take Permit for Mohave ground squirrel and desert tortoise with California Department of Fish and Wildlife, and a Habitat Conservation Plan with the United States Fish and Wildlife Service for desert tortoise. The project proponent shall mitigate for permanent impacts to suitable DT and MGS habitat, through an approved mitigation bank, in-lieu fee program, or other mechanism accepted by California Department of Fish and Wildlife and/or United States Fish and Wildlife Service, as outlined in each agencies respective permit. Compensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined and acquired in consultation



with the wildlife or resource agency and may be mitigated alongside impact on covered species. Compensatory mitigation would provide habitat for desert tortoise, Mohave ground squirrel, and/or burrowing owl, as well as rare plants, State Waters (only if impacted by the project), and features covered under the Project's Lake and Streambed Alteration Agreement. The Final Interim Take Permit and approved Habitat Conservation Plan shall be submitted to Kern County prior to the onset of activities that have the potential to impact covered species.

- b. Prepare a Habitat Mitigation and Monitoring Plan (if required, should an incidental take permit be required for the project) or provide a copy of the project's incidental take permit that outlines all project compensatory mitigation for desert tortoise, Mohave ground squirrel, and burrowing owl, in coordination with the California Department of Fish and Wildlife and the Regional Water Quality Control Board.
  1. Compensatory mitigation shall provide ecological benefits to covered species that are similar to or better than the projects impacts on covered species. Mitigation sites in the vicinity of the project (eastern Kern County or western San Bernardino County) are preferable.
  2. Mitigation shall meet California Department of Fish and Wildlife's durability requirements.
  3. The plan, or Interim Take Permit, shall identify conservation actions, where applicable, to demonstrate that the compensatory lands are managed to provide durable environmental benefits to the covered species.
  4. The plan or Interim Take Permit shall identify an approach for funding assurance for the long-term management of the conserved land.

**MM 4.4-16KC:** The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls.

- a. A project Lead Biologist shall be on-site during all construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows not more than 14 days prior to construction and/or prior to desert tortoise exclusion fencing installation. The survey methodology shall be consistent with the methods outlined in the Staff Report on Burrowing Owl Mitigation (CDFG 2012), and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with other pre-construction surveys). As burrows are searched, biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department.

- b. If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted within the distances specified in Table 2 of the Staff Report from an active burrow during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively), unless otherwise authorized by California Department of Fish and Wildlife. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with the table provided in Mitigation Measure **MM 4.4-17KC**), below, and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by California Department of Fish and Wildlife, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).
- c. During the nonbreeding (winter) season (October 16 to March 31), consistent with the table below (*Western Burrowing Owl Burrow Buffers*), all ground-disturbing work shall maintain a distance ranging from 164 feet to 1,640 feet from any active burrows depending on the level of disturbance. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be displaced from winter burrows according to recommendations made in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

**Western Burrowing Owl Burrow Buffers**

Location	Time of Year	Level of Disturbance (in feet)		
		Low	Medium	High
Nesting Sites	April 1 - Aug 15	656	1,640	1,640
Nesting Sites	Aug 16 - Oct 15	656	656	1,640
Any occupied burrow	Oct 16 - Mar 31	164	328	1,640
Source: CDFG 2012				

- d. Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the Lead Biologist and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Natural Resources Department. The plan shall include, at a minimum:
1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
  2. Type of scope to be used and appropriate timing of scoping to avoid impacts;
  3. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice

daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door).

4. How the burrow(s) shall be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);
5. Removal of other potential owl burrow surrogates or refugia on-site;
6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;
- e. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;
- f. How the impacted site shall continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.
- g. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion shall occur immediately after the end of the breeding season.
- h. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).
- i. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or heavy material shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.
- j. During construction and decommissioning activities, monthly and final compliance reports shall be provided to California Department of Fish and Wildlife, the Kern County Planning and Natural Resources Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

**MM 4.4-17KC:** The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls.

- a. Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented off-site in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) and in consultation

with California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:

1. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including de-compacting soil and revegetating.
  2. 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.
  3. Permanently protect or enhance mitigation land through coordination with California Department of Fish and Wildlife. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.
- b. Develop and implement a mitigation land management plan in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.
1. Fund the maintenance, management, or enhancement of mitigation land.
  2. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
  3. Mitigation lands or California Department of Fish and Wildlife-approved habitat enhancement projects should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present.
  4. Consult with the California Department of Fish and Wildlife when determining off-site mitigation.

**MM 4.4-18KC:** Prior to the issuance of grading or building permit the following shall be implemented:

- a. Preconstruction surveys shall be conducted by a qualified biologist for the presence of desert kit fox and American badger dens prior to installation of desert tortoise exclusion fencing. Copies of the completed surveys shall be submitted to Kern County Planning and Natural Resources Department.

- b. The survey shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes fallow agricultural land and scrub habitats. Surveys shall not be conducted for all areas of suitable habitat at one time; they shall be phased so that surveys occur within two weeks prior to disturbance of that portion of the site. If no potential American badger or desert kit fox dens are present, no further mitigation is required.
- c. If potential dens are observed, the following measures are required to avoid potential adverse effects to American badger and desert 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 badgers or foxes from reuse during construction.
  2. Passive relocation shall be prohibited during the pupping season, which is February 15 to June 1 for both species. If the qualified biologist determines that potential dens outside the breeding season may be active, the biologist shall notify the California Department of Fish and Wildlife. Entrances to the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three- to five-day period. After the qualified biologist determines that badgers and foxes have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction. The collapsing of active desert kit fox dens shall not occur without prior consultation with the California Department of Fish and Wildlife. A biologist shall remain on-call throughout construction in the event that badger or desert kit fox are present on the site.
  3. Construction activities shall not occur within 50 feet of active badger dens. The project operator shall contact California Department of Fish and Wildlife immediately if natal badger dens are detected to determine suitable buffers and other measures to avoid take.
  4. Construction activities shall not occur within 100 feet of active kit fox dens. The project operator shall contact California Department of Fish and Wildlife immediately if pupping kit fox dens are detected to determine suitable buffers and other measures to avoid take.

**MM 4.4-19KC:** Not more than 14 days prior to site clearing and/or ground disturbance in a given area, a qualified biologist shall conduct a preconstruction avian nesting survey. Copies of the completed surveys shall be submitted to Kern County Planning and Natural Resources Department. The surveys shall be conducted as follows:

- a. Surveys shall not be conducted for an entire project site at one time; they shall be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey shall cover all reasonably

potential nesting locations on and within 300 feet of the project site—this includes ground nesting species (e.g., western burrowing owl).

- b. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys for birds or additional measures are required.
- c. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before construction begins again.
- d. If active nests are found a 250-foot, no-disturbance buffer (or as otherwise determined in consultation with California Department of Fish and Wildlife) shall be created around the active nests. If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the birds have fledged or by relocating the project component(s) to avoid the area.
- e. All vertical tubes used in project construction, such as solar mounts and chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.

**MM 4.4-20KC:** Prior to issuance of a grading or building permit, the project operator shall Submit written documentation to the Kern County Planning and Natural Resources Department verifying that all power lines are designed in accordance with Avian Power Line Interaction Committee Guidelines. The project operator shall conform to the latest practices (as outlined in the 2006 Avian Power Line Interaction Committee Guidelines document) to protect birds from electrocution and collision.

**MM 4.4-21KC:** The project operator shall develop a site-specific Common Raven Management Plan in accordance with United States Fish and Wildlife Service guidelines and shall implement management measures for ravens in the project area. These measures may include but are not limited to designing structures to eliminate perches, waste management, road kill management, management of ponded water during construction and operations, and nest removal on structures within the photovoltaic solar facility site and along the transmission line.

### City of California City

Implement Mitigation Measure **MM 4.1-5CC** (see **Section 4.1, Aesthetics**, for full Mitigation Measure text), regarding compliance with the Kern County Dark Skies Ordinance

**MM 4.4-1CC:** Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by United States Fish and Wildlife Service and California Department of Fish and Wildlife to oversee compliance with protection measures for all listed and other special-status species. The project Lead Biologist shall be on-site during all fencing

and ground disturbance activities throughout the construction phase. The project Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures described herein. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The project Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.

**MM 4.4-2CC:** Prior to the issuance of grading or building permits, and for the duration of construction activities, all new construction workers at the project site shall attend a Worker Environmental Awareness Program (WEAP), developed and presented by the project Lead Biologist. As part of the WEAP training, the project Lead Biologist shall perform the following training-related tasks:

- a. Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, nighttime construction limitations), and applicable fire protection measures. WEAP training shall also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered.
- b. Send a copy of all WEAP training materials to the California City Community Development Department.
- c. Maintain a list on-site of all employees who have undergone WEAP training. A copy of this list shall be provided to the California City Community Development Department as necessary.

**MM 4.4-3CC:** The Worker Environmental Awareness Program (WEAP) shall be presented by the Lead Biologist and shall include information on the life history of each federal and state-listed species, as well as other special-status wildlife, natural communities, and plant species that may be encountered during construction activities, their legal protections, the definition of “take” under the federal and State Endangered Species Acts, measures the project operator is implementing to protect special-status species, reporting requirements, specific measures that each worker shall employ to avoid take of special-status wildlife species, and penalties for violation of the acts. Training shall be documented as follows:

- a. An acknowledgement form signed by each worker indicating that environmental training has been completed.
- b. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker.
- c. A copy of the training transcript/training video and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgements forms shall be submitted to the California Community Development Department.

- MM 4.4-4CC:** During construction and decommissioning the anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided. The construction crews and contractor(s) shall be held responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.
- MM 4.4-5CC:** New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, a biological resources survey shall be conducted by the Lead Biologist or by biological monitor(s) under the Lead Biologist's supervision to determine if listed or special-status species would be impacted. Impacts shall be avoided to the maximum extent practicable or shall be fully mitigated for. Construction shall not begin until the route is cleared for biological resources. The route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction and use.
- MM 4.4-6CC:** Spoils shall be stockpiled in disturbed areas. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project-related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.
- MM 4.4-7CC:** All ground disturbance construction and decommissioning activities shall be monitored by the qualified Lead Biologist or by biological monitors under the Lead Biologist's supervision to ensure compliance with avoidance and minimization measures.
- MM 4.4-8CC:** The project operator and/or contractor shall implement the following during project decommissioning:
- All applicable construction phase general protection measures shall be implemented during decommissioning.
  - A 25-mile-per-hour speed limit on paved or stabilized unpaved roads shall be applied for travel during decommissioning activities. Travel shall be confined to existing roads and previously disturbed areas.
  - If any special-status wildlife is detected in the work area during decommissioning activities, no work shall be conducted until the individual moves on its own outside of the work area.
  - Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours.
- MM 4.4-9CC:** During construction and decommissioning the project operator and/or contractor shall implement the following general avoidance and protective measures:



- a. Prior to issuance of grading or building permits but after consulting with the United States Fish and Wildlife Service and California Department of Fish and Wildlife, the solar facility project site shall be fenced with a permanent desert tortoise exclusion fence to keep any desert tortoises and Mohave ground squirrels that may be using habitat adjacent to the facility from entering during construction, operations and maintenance, and dismantling and restoration (decommissioning) phases. The project proponent shall submit a fencing plan that outlines the location, type of fence, and construction methods to United States Fish and Wildlife Service and California Department of Fish and Wildlife for review. The fencing type shall follow current fence specifications established by the United States Fish and Wildlife Service. Desert tortoise-proof gates shall be established at all photovoltaic solar facility entry points, unless otherwise approved by United States Fish and Wildlife Service and California Department of Fish and Wildlife. Workers installing the exclusion fencing shall have undergone the worker training program mandated in Mitigation Measure MM 4.4-2KC and a biological monitor under the authority of the project Lead Biologist shall be present during exclusion fencing installation.
- b. The fencing shall be routinely inspected with inspections after precipitation events of more than one inch at each ephemeral drainage crossing. Any damage to the fencing shall be repaired immediately or no later than 2 days following the observation.
- c. Following the construction of exclusion fencing around the solar facility perimeters, clearance surveys shall be conducted by the Lead Biologist to ensure that no desert tortoises, Mohave ground squirrels, or other listed wildlife species are trapped within the fenced area. The Lead Biologist may be assisted by biological monitors under the supervision of the Lead Biologist. The clearance surveys shall be conducted no more than 30 days prior to ground disturbing activities associated with construction, O&M, or decommissioning. Clearance surveys shall adhere to the current United States Fish and Wildlife Service clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes to be completed after desert tortoise-proof fencing is installed, which shall coincide with heightened desert tortoise activity from late March through May and September through October. The Designated Biologist(s) shall perform pre activity surveys for desert tortoise and shall remain on-site daily until the construction period ends or exclusion fencing has been installed to preclude desert tortoises from entering a given work area (work area is completely enclosed with exclusionary fence). United States Fish and Wildlife Service and California Department of Fish and Wildlife may impose modified or additional fencing requirements in the project's final 2081 Permit and/or Habitat Conservation Plan, if required.
- d. If a desert tortoise or Mohave ground squirrel is found on the site during project construction, operation, or decommissioning, activity shall cease in the vicinity of the animal and the desert tortoise and/or Mohave ground squirrel shall be passively restricted to the area encompassing its observed position on the construction site

and its point of entry shall be determined if possible. The Lead Biologist shall install a temporary tortoise-proof fence around this area. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the desert tortoise and/or Mohave ground squirrel is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the activities of the desert tortoise and/or Mohave ground squirrel within the site; all fence construction, modification, and repair efforts; and movements of the desert tortoise and/or Mohave ground squirrel once again outside the permanent tortoise-proof fence. This report shall be submitted to wildlife and resource agency representatives and the California City Community Development Department. If passive relocation is not possible, desert tortoise and/or Mohave ground squirrel may also be translocated in accordance with a United States Fish and Wildlife Service and/or California Department of Fish and Wildlife approved Translocation Plan.

- e. Outside permanently fenced desert tortoise exclusion areas where desert tortoise may be present, the project operator shall limit the areas of disturbance in desert tortoise and Mohave ground squirrel habitat. Parking areas, new roads, pulling sites, and locations for staging, storage, excavation, and disposal shall be confined to the smallest areas possible. These areas shall be flagged, and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
- f. The Lead Biologist or biological monitor shall monitor any ground-disturbance activities that occur outside the desert tortoise exclusion fencing. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours where desert tortoise are determined to be present.

**MM 4.4-10CC:** During construction the project operator and/or contractor shall implement the following general avoidance and protective measures:

- a. The Lead Biologist or biological monitor shall monitor all ground-disturbance activities. Work shall only occur during daylight hours as practicable. Specialized testing activities, work on the project gen-tie line, and/or continuous operations (i.e. well drilling) may be conducted at night when necessary. Prior to conducting vegetation removal or grading activities inside the fenced area, a Lead Biologist or biological monitor under the supervision of a Lead Biologist shall survey the area immediately prior to conducting these activities to ensure that no listed or special-status animals or plants are present. The project Lead Biologist shall have the right to halt all activities that are in violation of the special species protection measures. Work shall proceed only after hazards to special species are removed and the species is no longer at risk. The project biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on-site.
- b. At the end of each work day, the Lead Biologist shall ensure that all trenches, bores, and other excavations outside the permanently fenced area in suitable habitat for desert tortoise have been inspected for the presence of desert tortoise

and backfilled, if no tortoise is present. If backfilling is not feasible, these excavations shall be modified to ensure that they cannot potentially entrap desert tortoises (e.g., equipped with desert tortoise escape ramps, covered to prevent desert tortoise access, enclosed with a desert tortoise exclusion fence). All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods and with a diameter of four inches or greater shall be thoroughly inspected for listed and special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe that section of pipe shall not be moved until the animal has moved off on its own. If the animal does not move in a timely manner, then the appropriate resource agency shall be consulted.

- c. Any construction pipe, culvert, or similar structure stored within desert tortoise habitat (i.e., outside areas with desert tortoise exclusion fencing) shall be inspected for desert tortoise before the material is moved, buried, or installed.
- d. Water used for dust abatement shall be minimized, as allowed by California City Community Development Department, or managed in such a manner as to prevent the formation of puddles that could attract common ravens, predators, and other wildlife species to or near the site.
- e. No vehicle or equipment parked outside the fenced areas shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of desert tortoise. If present, the desert tortoise shall be left to move on its own.
- f. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited. Vehicle speeds within the project site shall not exceed 25 miles per hour on roads within desert tortoise habitat.
- g. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills immediately and hazardous spills shall be cleaned up as soon as practical and the contaminated soil shall be properly disposed of at a licensed facility.
- h. A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.
- i. Workers shall be prohibited from bringing pets and firearms to the project and from feeding wildlife.
- j. Intentional killing or collection of either plant or wildlife species, including listed species, in the project site and surrounding areas shall be prohibited. The Lead Biologist, wildlife and resource agency representatives and California City Community Development Department shall be notified of any such occurrences within 24 hours.

- k. Construction monitoring shall be conducted by either the Lead Biologist or by biological monitors under the Lead Biologist's supervision. The biological monitors shall have experience in monitoring for special-status wildlife.
- l. During construction, daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report for the wildlife and resource agencies and California City Community Development Department on a monthly basis, 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 biological resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities.

**MM 4.4-11CC:** The introduction of exotic plant species shall be avoided and controlled wherever possible and may be achieved through physical or chemical removal and prevention. Preventing exotic plants from entering the site via vehicular sources shall include measures such as implementing Trackclean or other method of vehicle cleaning for vehicles coming and going from the site. Earthmoving equipment shall be cleaned prior to transport to the project site. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced into the site during construction shall be eliminated by chemical and/or mechanical means

**MM 4.4-12CC:** In the event ground disturbance does not commence within two (2) years of the last rare plant surveys, the project operator and/or contractor shall conduct preconstruction special-status plant survey(s) during the appropriate blooming period in accordance with the guidelines established by California Department of Fish and Wildlife (2009). Copies of these preconstruction surveys shall be provided to the appropriate wildlife agency and to the California City Community Development Department.

If any botanical species with a California Native Plant Society rank of 1.B-2 or higher is found during the preconstruction surveys, the project operator and/or contractor shall delay ground disturbance activities and contact California Department of Fish and Wildlife for consultation. If required, in consultation with California Department of Fish and Wildlife, a Habitat Mitigation Plan shall be prepared that includes, at a minimum, the following:

- a. Wherever feasible, if special-status plant species are observed within the proposed project footprint, the proposed project shall be designed by the Lead Biologist, to reduce impacts to the species through the establishment of preservation areas and buffers. If avoidance or minimization measures are implemented on-site, a Habitat Mitigation Plan shall be developed to ensure adequate management and conservation of botanical resources on-site over the long term. A copy of the Habitat Mitigation Plan shall be submitted to the California City Community Development Department.

- b. If the project would eliminate more than 10 percent of a local special-status plant population, the Habitat Mitigation Plan would also include the following:
  1. A figure illustrating the area of the population to be preserved, and the area of the population to be removed;
  2. Identification of on-site or off-site preservation, restoration, or enhancement location(s);
  3. Methods for preservation, restoration, enhancement, and/or population translocation;
  4. A replacement ratio and success standard of 1:1 for occupied habitat lost unless a lower mitigation ratio and/or alternative mitigation is agreed to in coordination with California Department of Fish and Wildlife;
  5. A five-year monitoring program to ensure mitigation success;
  6. Adaptive management and remedial measures in the event that performance standards are not achieved; and
  7. Financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.

**MM 4.4-13CC:** Prior to the issuance of grading or building permits, the project operator shall:

- a. Provide evidence to the California City Community Development Department that consultation with the Kern County Agricultural Commissioner has taken place regarding removal of plants protected under the California Desert Native Plant Act;
- b. If the Agricultural Commissioner determines that a permit is not required, the project operator shall provide a letter describing the consultation process and Commissioner's determinations, indicating that such authorization is not required. The letter shall also identify the Commissioner's points of contact and contact information;
- c. If required by the Agricultural Commissioner, the project operator shall provide evidence to the California City Community Development Department that a California Desert Native Plant Act removal permit has been obtained.

**MM 4.4-14CC:** The following measures shall be implemented to reduce direct impacts to Sensitive Natural Communities, with the exception of western Joshua tree, for which the project has an approved 2084 permit. To the extent feasible, the following avoidance and minimization measures shall be implemented:

- a. Where feasible, the project shall be designed to avoid disturbance of spinescale scrub (*Atriplex spinifera* Shrubland Alliance) and winter fat scrubland (*Krascheninnikovia lanata* Shrubland Alliance)
- b. Where it is not feasible to avoid direct impacts to the spinescale scrub (*Atriplex spinifera* Shrubland Alliance) and winter fat scrubland (*Krascheninnikovia lanata*

Shrubland Alliance) identified within the project site the project operator shall implement the following measures:

1. Compensatory mitigation for impacts to Sensitive Natural Communities shall occur either on-site or off-site and would occur at a ratio no less than 1:1 for each Sensitive Natural Community impacted. A Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the California Department of Fish and Wildlife.
  2. If on-site mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site that contain suitable characteristics for restoration or enhancement of sensitive habitat. Determination of mitigation adequacy shall be based on comparison of the restored or enhanced habitat with similar, undisturbed habitat in the vicinity of the development site. If mitigation is implemented off-site, compensatory lands shall contain similar or more well-developed habitat and preferably be located in the vicinity of the site or watershed. Off-site land shall be preserved through a conservation easement and the Plan shall identify an approach for funding assurance for the long-term management of the compensatory land.
- c. Where direct impacts to western Joshua trees are unavoidable, if western Joshua tree is listed as a 'candidate,' 'threatened,' or 'endangered' species under the California Endangered Species Act at the time of issuance of a building or grading permit in areas that would involve the removal of western Joshua trees, the project proponent may pursue one of the following mitigation options:
1. The project operator shall provide evidence to the California Community Development Department demonstrating that that impacts to western Joshua tree have been mitigated in accordance with Section 2084 of the California Fish and Game Code; or
  2. The project operator shall mitigate for permanent impacts to western Joshua tree, should an Incidental Take Permit be required from California Department of Fish and Wildlife, through an approved mitigation bank, in-lieu fee program, or other California Department of Fish and Wildlife -approved process. Compensatory mitigation for permanent impacts to western Joshua tree shall be determined and acquired in consultation with the wildlife or resource agency. Verification of compliance shall be submitted to the California City Community Development Department prior to project construction in areas that would involve removal of western Joshua trees.

**MM 4.4-15CC:** The measures listed below shall be implemented prior to and during construction, operations, and decommissioning at the project site.

- a. The project operator has filed for an Incidental Take Permit for Mohave ground squirrel and desert tortoise with California Department of Fish and Wildlife, and a Habitat Conservation Plan with the United States Fish and Wildlife Service for desert tortoise. The project proponent shall mitigate for permanent impacts to suitable desert tortoise and Mohave ground squirrel habitat, through an approved

mitigation bank, in-lieu fee program, or other mechanism accepted by California Department of Fish and Wildlife and/or United States Fish and Wildlife Service, as outlined in each agencies respective permit. Compensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined and acquired in consultation with the wildlife or resource agency and may be mitigated alongside impact on covered species. Compensatory mitigation would provide habitat for desert tortoise, Mohave ground squirrel, and/or burrowing owl, as well as rare plants, State Waters (only if impacted by the project), and features covered under the Project's Lake and Streambed Alteration Agreement. The Final Interim Take Permit and approved Habitat Conservation Plan shall be submitted to California City Community Development Department prior to the onset of activities that have the potential to impact covered species.

- b. Prepare a Habitat Mitigation and Monitoring Plan (if required, should an incidental take permit be required for the project) or provide a copy of the project's incidental take permit that outlines all project compensatory mitigation for desert tortoise, Mohave ground squirrel, and burrowing owl, in coordination with the California Department of Fish and Wildlife and the Regional Water Quality Control Board.
  1. Compensatory mitigation shall provide ecological benefits to covered species that are similar to or better than the projects impacts on covered species. Mitigation sites in the vicinity of the project (eastern Kern County or western San Bernardino County) are preferable.
  2. Mitigation shall meet California Department of Fish and Wildlife's durability requirements.
  3. The plan, or Interim Take Permit, shall identify conservation actions, where applicable, to demonstrate that the compensatory lands are managed to provide durable environmental benefits to the covered species.
  4. The plan or Interim Take Permit shall identify an approach for funding assurance for the long-term management of the conserved land.

**MM 4.4-16CC:** The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls.

- a. A project Lead Biologist shall be on-site during all construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows not more than 14 days prior to construction and/or prior to desert tortoise exclusion fencing installation. The survey methodology shall be consistent with the methods outlined in the Staff Report on Burrowing Owl Mitigation (CDFG 2012), and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with other pre-construction

surveys). As burrows are searched, biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the California City Community Development Department.

- b. If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted within the distances specified in Table 2 of the Staff Report from an active burrow during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively), unless otherwise authorized by California Department of Fish and Wildlife. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with the table provided in Mitigation Measure MM 4.4-17c), below, and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by California Department of Fish and Wildlife, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).
- c. During the nonbreeding (winter) season (October 16 to March 31), consistent with the table below (*Western Burrowing Owl Burrow Buffers*), all ground-disturbing work shall maintain a distance ranging from 164 feet to 1,640 feet from any active burrows depending on the level of disturbance. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be displaced from winter burrows according to recommendations made in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

**Western Burrowing Owl Burrow Buffers**

Location	Time of Year	Level of Disturbance (in feet)		
		Low	Medium	High
Nesting Sites	April 1 - Aug 15	656	1,640	1,640
Nesting Sites	Aug 16 - Oct 15	656	656	1,640
Any occupied burrow	Oct 16 - Mar 31	164	328	1,640
Source: CDFG 2012				

- d. Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the Lead Biologist and approved by the



applicable local California Department of Fish and Wildlife office and submitted to the California City Community Development Department. The plan shall include, at a minimum:

1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
2. Type of scope to be used and appropriate timing of scoping to avoid impacts;
3. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door).
4. How the burrow(s) shall be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);
5. Removal of other potential owl burrow surrogates or refugia on-site;
6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;
- e. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;
- f. How the impacted site shall continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.
- g. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion shall occur immediately after the end of the breeding season.
- h. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).
- i. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or heavy material shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.

- j. During construction and decommissioning activities, monthly and final compliance reports shall be provided to California Department of Fish and Wildlife, California City Community Development Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

**MM 4.4-17CC:** The following measures shall be implemented during project construction and decommissioning activities with respect to burrowing owls:

- a. Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented off-site in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) and in consultation with California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:

1. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including de-compacting soil and revegetating.
2. 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.

3. Permanently protect or enhance mitigation land through coordination with California Department of Fish and Wildlife. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.
- b. Develop and implement a mitigation land management plan in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.
    1. Fund the maintenance, management, or enhancement of mitigation land.
    2. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
    3. Mitigation lands or California Department of Fish and Wildlife-approved habitat enhancement projects should be on, adjacent or proximate to the impact

site where possible and where habitat is sufficient to support burrowing owls present.

4. Consult with the California Department of Fish and Wildlife when determining off-site mitigation.

**MM 4.4-18CC:** Prior to the issuance of grading or building permit the following shall be implemented:

- a. Preconstruction surveys shall be conducted by a qualified biologist for the presence of desert kit fox and American badger dens prior to installation of desert tortoise exclusion fencing. Copies of the completed surveys shall be submitted to California City Community Development Department.
- b. The survey shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes fallow agricultural land and scrub habitats. Surveys shall not be conducted for all areas of suitable habitat at one time; they shall be phased so that surveys occur within two weeks prior to disturbance of that portion of the site. If no potential American badger or desert kit fox dens are present, no further mitigation is required.
- c. If potential dens are observed, the following measures are required to avoid potential adverse effects to American badger and desert 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 badgers or foxes from reuse during construction.
  2. Passive relocation shall be prohibited during the pupping season, which is February 15 to June 1 for both species. If the qualified biologist determines that potential dens outside the breeding season may be active, the biologist shall notify the California Department of Fish and Wildlife. Entrances to the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three- to five-day period. After the qualified biologist determines that badgers and foxes have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction. The collapsing of active desert kit fox dens shall not occur without prior consultation with the California Department of Fish and Wildlife. A biologist shall remain on-call throughout construction in the event that badger or desert kit fox are present on the site.
  3. Construction activities shall not occur within 50 feet of active badger dens. The project operator shall contact California Department of Fish and Wildlife immediately if natal badger dens are detected to determine suitable buffers and other measures to avoid take.
  4. Construction activities shall not occur within 100 feet of active kit fox dens. The project operator shall contact California Department of Fish and Wildlife

immediately if pupping kit fox dens are detected to determine suitable buffers and other measures to avoid take.

**MM 4.4-19CC:** Not more than 14 days prior to site clearing and/or ground disturbance in a given area, a qualified biologist shall conduct a preconstruction avian nesting survey. Copies of the completed surveys shall be submitted to California City Community Development Department. The surveys shall be conducted as follows:

- a. Surveys shall not be conducted for an entire project site at one time; they shall be phased so that surveys occur shortly before a portion of the site is disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey shall cover all reasonably potential nesting locations on and within 300 feet of the project site—this includes ground nesting species (e.g., western burrowing owl).
- b. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys for birds or additional measures are required.
- c. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before construction begins again.
- d. If active nests are found a 250-foot, no-disturbance buffer (or as otherwise determined in consultation with California Department of Fish and Wildlife) shall be created around the active nests. If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the birds have fledged or by relocating the project component(s) to avoid the area.
- e. All vertical tubes used in project construction, such as solar mounts and chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.

**MM 4.4-20CC:** Prior to issuance of a grading or building permit, the project operator shall Submit written documentation to the California City Community Development Department verifying that all power lines are designed in accordance with Avian Power Line Interaction Committee Guidelines. The project operator shall conform to the latest practices (as outlined in the 2006 Avian Power Line Interaction Committee Guidelines document) to protect birds from electrocution and collision.

**MM 4.4-21CC:** The project operator shall develop a site-specific Common Raven Management Plan in accordance with United States Fish and Wildlife Service guidelines and shall implement management measures for ravens in the project area. These measures may include but are not limited to designing structures to eliminate perches, waste management, road kill management, management of ponded water during construction

and operations, and nest removal on structures within the photovoltaic solar facility site and along the transmission line.

**Gen-Tie:**

Implement Mitigation Measures **MM 4.1-5KC** (see **Section 4.1, *Aesthetics***, for full Mitigation Measure text) and **MM 4.4-1KC** through **MM 4.4-21KC**.

**Level of Significance after Mitigation****Kern County:**

With implementation of Mitigation Measures **MM 4.1-5KC** (see **Section 4.1, *Aesthetics***, for full Mitigation Measure text) and **MM 4.4-1KC** through **MM 4.4-21KC**, impacts would be less than significant.

**City of California City:**

With implementation of Mitigation Measures **MM 4.1-5CC** (see **Section 4.1, *Aesthetics***, for full Mitigation Measure text) and **MM 4.4-1CC** through **MM 4.4-21CC**, impacts would be less than significant.

**Gen-Tie:**

With implementation of Mitigation Measures **MM 4.1-5KC** (see **Section 4.1, *Aesthetics***, for full Mitigation Measure text) and **MM 4.4-1KC** through **MM 4.4-21KC**, impacts would be less than significant.

**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, and regulations or by the CDFW or the USFWS.**

**Solar Facility**

Sensitive habitats and vegetation communities are those that are considered rare in the region, support special-status plant or animal species, or receive regulatory protection, including those that are of special concern to resource agencies or are afforded specific consideration through CEQA. In addition, vegetation communities listed by CDFW as having the highest inventory priorities are considered sensitive.

Of the nine vegetation communities present on the solar facility site, three vegetation communities are designated as sensitive natural communities by CDFW: spinescale scrub (*Atriplex spinifera* Shrubland Alliance), winter fat scrubland (*Krascheninnikovia lanata* Shrubland Alliance), and Joshua tree woodland (*Yucca brevifolia* Woodland Alliance). Project implementation would result in the direct removal of these Sensitive Natural Communities, which would be considered a potentially significant impact without mitigation; however, impacts would be reduced to less than significant with implementation of Mitigation Measures **MM 4.4-14KC** and **MM 4.4-14CC**.

According to the *Bellefield Solar Project Aquatic Resources Assessment* (**Appendix D.3** of this EIR), approximately 4.11 acres (91,367 linear feet) of potential RWQCB jurisdiction and approximately 8.87 acres (91,367 linear feet) of potential CDFW jurisdictional areas were delineated within the solar facility site. These are typically regarded as riparian resources. Construction activities from the proposed project

could permanently impact these potentially jurisdictional features as a result of grading and construction of the solar facility, including supporting infrastructure. If complete avoidance of jurisdictional waters is not feasible, impacts to jurisdictional areas would be considered significant but mitigatable through implementation of Mitigation Measures **MM 4.4-22KC**, **MM 4.4-23KC**, **MM 4.4-22CC** and **MM 4.4-23CC**.

### Gen-Tie

One sensitive natural community, Joshua tree woodland (*Yucca brevifolia* Woodland Alliance), is present within the gen-tie corridor (along Oak Creek Road). Project implementation would result in the direct removal of this sensitive natural community, which would be considered a potentially significant impact. Impacts would be reduced to less than significant with implementation of Mitigation Measure **MM 4.4-14KC**.

According to the *Bellefield Solar Project Aquatic Resources Assessment* (Appendix D.3 of this EIR), 12 potentially jurisdictional ephemeral drainages were identified along the proposed gen-tie corridor, which can be considered to be riparian resources. Construction activities from the project could permanently impact these potentially jurisdictional features as a result of project grading and construction, including supporting infrastructure. If complete avoidance of jurisdictional waters is not feasible, impacts to jurisdictional areas would be considered significant. Implementation of Mitigation Measure **MM 4.4-23KC** would reduce potential impacts to less than significant.

## Mitigation Measures

### Kern County:

**MM 4.4-22KC:** Prior to issuance of any grading or building permit, the project proponent/operator shall submit a report detailing how all identified ephemeral drainages are avoided to the extent practicable and shall be continually complied with during the life of the project. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board the Kern County Planning and Natural Resources Department. The report shall include information as shown below as a plan as necessary and shall outline compliance to the following:

- a. Potential jurisdictional features (ephemeral drainages) identified in the jurisdictional delineation report shall be avoided to the extent practicable. This may be shown in plan form.
- b. Any material/spoils from project activities should be located away from jurisdictional areas. Jurisdictional areas shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and/or straw bale barriers, as appropriate. Protection measures shall follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan and in the Hazardous Materials Business Plan.
- c. Prior to the start of construction activities, the project proponent/operator shall provide evidence that all fueling, hazardous materials storage areas, and operations

and maintenance activities shall be sited at least 100 feet away from onsite drainages and other water features, as identified in the project-specific delineation of wetlands and waters.

- d. Any spillage of hazardous material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.

**MM 4.4-23KC:** If it is determined during final siting that jurisdictional ephemeral drainages cannot be avoided, the project proponent shall notify the California Department of Fish and Wildlife of potentially jurisdictional features and, if necessary, obtain a Lake and Streambed Alteration Agreement. If waters of the State are impacted, the owner/operator shall notify the Lahontan Regional Water Quality Control Board, and obtain a Water Quality Certification pursuant to Section 401 of the Clean Water Act, if required.

#### **City of California City:**

**MM 4.4-22CC:** Prior to issuance of any grading or building permit, the project proponent/operator shall submit a report detailing how all identified ephemeral drainages are avoided to the extent practicable and shall be continually complied with during the life of the project. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board the California City Community Development Department. The report shall include information as shown below as a plan as necessary and shall outline compliance to the following:

- a. Potential jurisdictional features (ephemeral drainages) identified in the jurisdictional delineation report shall be avoided to the extent practicable. This may be shown in plan form.
- b. Any material/spoils from project activities should be located away from jurisdictional areas. Jurisdictional areas shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and/or straw bale barriers, as appropriate. Protection measures shall follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan and in the Hazardous Materials Business Plan.
- c. Prior to the start of construction activities, the project proponent/operator shall provide evidence that all fueling, hazardous materials storage areas, and operations and maintenance activities shall be sited at least 100 feet away from onsite drainages and other water features, as identified in the project-specific delineation of wetlands and waters.
- d. Any spillage of hazardous material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly

disposed. For all spills, the project foreman or designated environmental representative shall be notified.

**MM 4.4-23CC:** If it is determined during final siting that jurisdictional ephemeral drainages cannot be avoided, the project proponent shall notify the California Department of Fish and Wildlife of potentially jurisdictional features and, if necessary, obtain a Lake and Streambed Alteration Agreement. If waters of the State are impacted, the owner/operator shall notify the Lahontan Regional Water Quality Control Board, and obtain a Water Quality Certification pursuant to Section 401 of the Clean Water Act, if required.

**Gen-Tie:**

Implement Mitigation Measures **MM 4.4-14KC**, **MM 4.4-22KC** and **MM 4.4-23KC**

**Level of Significance after Mitigation**

**Kern County**

With implementation of Mitigation Measures **MM 4.4-14KC**, **MM 4.4-22KC** and **MM 4.4-23KC**, impacts would be less than significant.

**City of California City:**

With implementation of Mitigation Measures **MM 4.4-14CC**, **MM 4.4-22CC** and **MM 4.4-23CC**, impacts would be less than significant.

**Gen-Tie:**

With implementation of Mitigation Measures **MM 4.4-14KC**, **MM 4.4-22KC** and **MM 4.4-23KC**, impacts would be less than significant.

**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.**

**Solar Facility**

**Potential USACE Jurisdiction.** Due to the isolated nature of the waters within the Lahontan Region, features found on the solar facility site are not considered “waters of the United States” and therefore are not subject to regulation under the federal Clean Water Act. In addition, no areas were identified on the project site that exhibit characteristics of wetlands as defined by USACE. Therefore, the solar facility component of the project would have no impact on federally protected waters.

**Potential RWQCB Jurisdiction.** According to the *Bellefield Solar Project Aquatic Resources Assessment* (Appendix D.3 of this EIR), the project site does not contain wetland or non-wetland waters of the State



subject to the jurisdiction of the RWQCB pursuant to the CWA. However, ephemeral features displaying an OHWM are expected to be jurisdictional waters of the State, pursuant to the Porter-Cologne Water Quality Control Act. Approximately 4.11 acres (91,367 linear feet) of potential RWQCB jurisdiction were delineated within the solar facility site. These are typically regarded as riparian resources. Construction activities from the proposed project could permanently impact these potentially jurisdictional features as a result of grading and construction of the solar facility, including supporting infrastructure. Potential indirect impacts to these features could include sedimentation as a result of grading activities and surface runoff and introduction of pollutants (e.g., oil, hydraulic fluid) to the drainages during construction and operation.

**Potential CDFW Jurisdiction.** According to the *Bellefield Solar Project Aquatic Resources Assessment* (Appendix D.3 of this EIR), approximately 8.87 acres (91,367 linear feet) of potential CDFW jurisdictional areas were delineated within the solar facility site. These ephemeral drainages are typically regarded as riparian resources. Construction activities from the proposed project could permanently impact these potentially jurisdictional features as a result of grading and construction of the solar facility, including supporting infrastructure. Potential indirect impacts to these features could include sedimentation as a result of grading activities and surface runoff and introduction of pollutants (e.g., oil, hydraulic fluid) to the drainages during construction and operation.

As described in **Section 4.9, Hazards and Hazardous Materials** (see Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC**), the project operator would prepare a hazardous materials business plan that identifies all hazardous materials on site, and describes methods to be used to avoid spills and minimize impacts in the event of a spill. Additionally, **Section 4.10, Hydrology and Water Quality**, discusses the project operator is required to submit a Stormwater Pollution Prevention Plan (see Mitigation Measure **MM 4.10-1KC** and **MM 4.10-1CC**) for the project that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off-site and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. In addition, the project operator must prepare a drainage plan that is designed to minimize runoff and surface water pollution and would include engineering recommendations to minimize the potential for impeding or redirecting 100-year flood flows (see Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**). Mitigation Measures **MM 4.4-22KC** and **MM 4.22CC** require that a final Jurisdictional Delineation report be provided to the RWQCB, CDFW, the County, and the City prior to the issuance of any grading or building permit. In addition, Mitigation Measures **MM 4.4-23KC** and **MM 4.4-23CC** require consultation with the CDFW on the need for a streambed alteration agreement and with RWQCB on the need for a Water Quality Certification. Based on consultation with the CDFW and RWQCB, if permits are required for the project, appropriate permits shall be obtained prior to the disturbance of jurisdictional resources. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance along with copies of the permits obtained from CDFW and RWQCB shall be provide to the County and City. Project implementation would result in the direct loss of RWQCB and CDFW waters of the State, which would be considered a potentially significant impact without mitigation; however, impacts would be reduced to less than significant with implementation of Mitigation Measures **MM 4.4-22KC**, **MM 4.4-22CC**, **MM 4.4-23KC** and **MM 4.4-23CC**. These measures would serve to reduce impacts of the project to waters of the State to less than significant levels.

## Gen-Tie

Due to the isolated nature of the waters within the Lahontan Region, features found along the gen-tie corridor are not considered “waters of the United States” and therefore are not subject to regulation under the federal CWA. In addition, no areas were identified along the gen-tie route that exhibit characteristics of wetlands as defined by USACE. Therefore, the proposed gen-tie would have no impact on federally protected waters.

According to the *Bellefield Solar Project Aquatic Resources Assessment* (Appendix D.3 of this EIR), 12 potentially jurisdictional ephemeral drainages were identified along the proposed gen-tie corridor, which are considered to be resources regulated by the RWQCB and/or CDFW. Construction activities from the project could permanently impact these potentially jurisdictional features as a result of project grading and construction, including supporting infrastructure. Potential indirect impacts to these features could include sedimentation as a result of grading activities and surface runoff and introduction of pollutants (e.g., oil, hydraulic fluid) to the drainages during construction and operation. If complete avoidance of jurisdictional waters is not feasible, impacts to jurisdictional areas would be considered significant. Implementation of the same Kern County specific mitigation measures required for development of the solar facilities, as described above, would also reduce impacts within the Gen-Tie corridor to less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.9-1KC** (see **Section 4.9, Hazards and Hazardous Materials**, for full Mitigation Measure text), **MM 4.10-1KC**, **MM 4.10-2KC** (see **Section 4.10, Hydrology and Water Quality**, for full Mitigation Measure text), **MM 4.4-22KC** and **MM 4.4-23KC**.

### California City:

Implement Mitigation Measures **MM 4.9-1CC** (see **Section 4.9, Hazards and Hazardous Materials**, for full Mitigation Measure text), **MM 4.10-1CC**, **MM 4.10-2CC** (see **Section 4.10, Hydrology and Water Quality**, for full Mitigation Measure text), **MM 4.4-22CC** and **MM 4.4-23CC**.

### Gen-Tie:

Implement Mitigation Measures **MM 4.9-1KC** (see **Section 4.9, Hazards and Hazardous Materials**, for full Mitigation Measure text), **MM 4.10-1KC**, **MM 4.10-2KC** (see **Section 4.10, Hydrology and Water Quality**, for full Mitigation Measure text), **MM 4.4-22KC** and **MM 4.4-23KC**.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.4-22KC** and **MM 4.4-23KC**, impacts would be less than significant.

**City of California City:**

With implementation of Mitigation Measures **MM 4.9-1CC, MM 4.10-1CC, MM 4.10-2CC, MM 4.4-22CC and MM 4.4-23CC**, impacts would be less than significant.

**Gen-Tie:**

With implementation of Mitigation Measures **MM 4.9-1KC, MM 4.10-1KC, MM 4.10-2KC, MM 4.4-22KC and MM 4.4-23KC**, impacts would be 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.**

**Solar Facility**

The project site is not identified as a major terrestrial wildlife movement corridor. No wildlife nursery sites have been identified on or in the vicinity of the project site. The project may provide foraging grounds for special-status and otherwise protected raptors, including golden eagles, northern harrier, and other birds. Project related direct impacts on nesting migratory birds and raptors during construction could include crushing or vehicle collisions with nesting birds and/or destruction of nests and eggs through vegetation clearing and grading with heavy machinery. Indirect impacts could include interference with reproductive success and nest abandonment brought on by increased human presence and noise levels during construction within the breeding season. Additional indirect impacts to migratory birds and raptors from construction of the project could result from the conversion of open land to a solar facility, which would result in the loss of potential breeding habitat. However, with the implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-7KC, MM 4.4-9KC through MM 4.4-11KC, MM 4.4-18KC, MM 4.4-20KC; and MM 4.4-1CC through 4.4-7CC, MM 4.4-9 CC through MM 4.4-11CC, MM 4.4-18CC, and MM 4.4-20CC**, impacts to migratory birds and raptors would be less than significant.

In addition, all project lighting 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 stipulated in Mitigation Measures **MM 4.1-3KC and MM 4.1-3CC (Section 4.1, Aesthetics)**. This would help to reduce potential impacts on wildlife moving through the area. Therefore, the project is not expected to adversely impact wildlife movement. Impacts would be less than significant.

**Gen-Tie**

The gen-tie infrastructure is expected to encompass a relatively small footprint and would not impede wildlife movement. The gen-tie infrastructure would be constructed within and proximate to the existing Whirlwind Substation and connecting transmission corridor. Potential temporary, indirect impacts to the vegetation communities surrounding the disturbed area are not expected to due to limited ground disturbance and lack of vegetation within the disturbed and developed transmission corridor and Whirlwind Substation. Indirect impacts to wildlife movement are not expected to the already disturbed and fragmented nature of the landscape and the marginal habitat value of the overall site for most endemic species. Therefore, impacts associated with the gen-tie on wildlife movement would be less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.1-3KC** (see **Section 4.1, Aesthetics**, for full Mitigation Measure text) **MM 4.4-1KC** through **MM 4.4-7KC**, **MM 4.4-9KC** through **MM 4.4-11KC**, **MM 4.4-18KC**, and **MM 4.4-20KC**.

### City of California City:

Implement Mitigation Measures **MM 4.1-3CC** (see **Section 4.1, Aesthetics**, for full Mitigation Measure text), **MM 4.4-1CC** through **MM 4.4-7CC**, **MM 4.4-9CC** through **MM 4.4-11CC**, **MM 4.4-18CC**, and **MM 4.4-20CC**.

### Gen-Tie:

No mitigation measures are required.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.1-3KC**, **MM 4.4-1KC** through **MM 4.4-7KC**, **MM 4.4-9KC** through **MM 4.4-11KC**, **MM 4.4-18KC**, and **MM 4.4-20KC**, impacts would be less than significant.

### City of California City:

With implementation of Mitigation Measures **MM 4.1-3CC**, **MM 4.4-1CC** through **MM 4.4-7CC**, **MM 4.4-9CC** through **MM 4.4-11CC**, **MM 4.4-18CC**, and **MM 4.4-20CC**, impacts would be less than significant.

### Gen-Tie:

Impacts would be less than significant.

### **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.**

With the mitigation measures identified earlier to offset impacts to sensitive wildlife, plants, natural communities and aquatic resources, the proposed project is considered consistent with the Land Use, Open Space, and Conservation Elements of the Kern County General Plan, as well as the Open Space and Conservation Element of the California City General Plan.

The site is located within a Development Focus Area of the DRECP planning area, which means that the area is expected to support fewer sensitive status species than areas identified with conservation potential and is therefore more likely to be appropriate for renewable energy development. However, the DRECP at this time only applies to federal public lands managed by the BLM and is not an adopted HCP or NCCP. The proposed project would be implemented on private land and therefore is not subject to the DRECP.

The project is also located within the Mojave Specific Plan area. The Mojave Specific Plan encourages the preservation of western Joshua trees, Joshua tree woodlands, wildflower displays, or other biologically sensitive flora. Additionally, while the California Desert Native Plants Act is a State act, Kern County administers the permit program for removal of the species covered in the act. As indicated previously, the project would have the potential to result in impacts to western Joshua tree, as well as other native desert plants that may be directly impacted through construction or decommissioning or indirectly impacted through dust and soil compaction or other conditions leading to habitat degradation. Implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC, MM 4.4-10KC through MM 4.4-14KC, MM 4.4-1CC through MM 4.4-8CC, and MM 4.4-10CC through MM 4.4-14CC** would reduce project impacts to less than significant.

For the reasons above, the project would not result in significant impacts involving conflicts with County policies and permit programs, or California City planning policies, to protect biological resources. Impacts would be less than significant with mitigation incorporated.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC and MM 4.4-10KC through MM 4.4-14KC**.

### **City of California City:**

Implement Mitigation Measures **MM 4.4-1CC through MM 4.4-8CC, and MM 4.4-10CC through MM 4.4-14CC**.

### **Gen-Tie:**

Implement Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC and MM 4.4-10KC through MM 4.4-14KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC and MM 4.4-10KC through MM 4.4-14KC**, impacts would be less than significant.

### **City of California City:**

With implementation of Mitigation Measures **MM 4.4-1CC through MM 4.4-8CC, and MM 4.4-10CC through MM 4.4-14CC**, impacts would be less than significant.

### **Gen-Tie:**

With implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-8KC, and MM 4.4-10KC through MM 4.4-14KC**, impacts would be less than significant.

## 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, project impacts would be less than significant with implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-23KC** and **MM 4.4-1CC** through **MM 4.4-23CC**.

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 **Chapter 3, Project Description**, of this EIR, 29 projects, including other utility-scale energy production facilities, are presently underway or proposed within a 6-mile radius and the greater desert area of the project site. The geographic scope for analysis of cumulative impacts on biological resources is Fremont Valley. In general, bioregions are defined through physical and environmental features, including watershed boundaries and soil and terrain characteristics.

As described above, there are a number of special-status species that currently utilize the project site and surrounding vicinity. Implementation of the project in addition to the other projects underway or proposed within Kern County or California City may impact wildlife species, including burrowing owls, American badgers, DT, MGS, other raptors, and desert kit foxes. The project site contains habitat that support 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, most of which are expected to utilize the project site on a transient basis, if at all.

Given the number of present, and reasonably foreseeable future development projects in the Fremont Valley, the project, when combined with these projects, would have an incremental contribution to the cumulative loss of foraging and nesting habitat for special-status species. While the project would have less than significant impacts on sensitive biological resources with implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-21KC** and **MM 4.4-1CC** through **MM 4.4-21CC** at the project level, when combined with related development projects, cumulative impacts would be significant and unavoidable.

In addition, common raven numbers have grown substantially in the past few decades in the western Mojave Desert. Ravens are predators of the desert tortoise and burrowing owl, and compete with, as well as prey on, many special-status raptors and birds. Raven numbers are such that they pose a serious threat to many desert species. Additionally, the common raven population growth is directly attributed to human development and the subsidies it creates that support this adaptable species. Although the proposed project would implement measures to minimize the creation of human subsidies of food, trash, and water, and roost, nest, and perching sites for common ravens (e.g., monitoring water used to wash solar panels to ensure that puddles do not form, trash containment, etc.), the project would still provide new roosting, nesting, and perching sites for the common raven from the installation of new facilities (e.g., solar panels, fences, and buildings). When considered within the cumulative context of related projects as described above, the project's contribution to maintaining artificially high common raven populations when combined with other related projects, which threatens other desert wildlife including special-status species, is potentially significant. However, the contribution of the project, with Mitigation Measures **MM 4.4-21KC** and **MM 4.4-21CC** incorporated, would not be cumulatively considerable.

The residual effects on migratory birds of the project were determined to be less than significant. This cumulative analysis analyzes the potential for these incremental impacts of the project to combine with

other past, present, and reasonably foreseeable projects to cause or contribute to a significant cumulative effects within the Central Valley portion of the Pacific Flyway for the duration of the project. Identified cumulative projects that involve the installation of PV panels have the potential to cause impacts to migratory birds associated with collisions. Little is known about the potential for impacts to migratory birds associated with the “fake lake effect,” particularly within the Central Valley. However, evidence suggests that significant impacts to migratory birds could occur at the cumulative level. Population-level mortality of migratory birds would be considered significant under CEQA. Therefore, the proposed project, in combination with all identified cumulative projects, could result in a significant cumulative impact.

Impacts associated with construction of the gen-tie lines are expected to encompass a relatively small development footprint and would therefore result in minimal ground disturbance. Gen-tie infrastructure would not create barriers to wildlife movement and would be within disturbed and developed surrounding property. Because of the temporary nature of the construction and decommissioning phases and the small gen-tie development footprint, impacts to wildlife and the vegetation communities and habitats surrounding the gen-tie lines would be minimal and would be reduced to less than significant with implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-23KC** and **MM 4.4-1CC** through **MM 4.4-23CC**, as applicable.

Overall, the gen-tie line would not contribute to a significant impact to biological resources on a cumulative level due to the minimal ground disturbance, similarity of improvements to the existing transmission infrastructure in the region, the short construction/decommissioning timeframe, and the limited vehicle and equipment use required for construction, operation and maintenance, and/or decommissioning of the gen-tie line. Additionally, no impacts are expected to occur to adjacent areas during the operational phase of the gen-tie line. Therefore, the proposed gen-tie improvements would not contribute to significant cumulative impacts to biological resources in the region.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.4-1KC** through **MM 4.4-23KC**.

### **City of California City:**

Implement Mitigation Measures **MM 4.4-1CC** through **MM 4.4-23CC**.

### **Gen-Tie:**

Implement Mitigation Measures **MM 4.4-1KC** through **MM 4.4-23KC**.

## **Level of Significance after Mitigation**

### **Kern County**

Despite implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-23KC**, cumulative impacts would be significant and unavoidable due to the cumulative loss of habitat to special status and transient wildlife species, including desert tortoise, Mohave ground squirrel, migratory birds, American badger, and desert kit fox.

**City of California City:**

Despite implementation of **MM 4.4-1CC** through **MM 4.4-23CC**, cumulative impacts would be significant and unavoidable due to the cumulative loss of habitat to special status and transient wildlife species, including desert tortoise, Mohave ground squirrel, migratory birds, American badger, and desert kit fox.

**Gen-Tie:**

Despite implementation of Mitigation Measures **MM 4.4-1KC** through **MM 4.4-23KC**, cumulative impacts would be significant and unavoidable due to the cumulative loss of habitat to special status and transient wildlife species, including desert tortoise, Mohave ground squirrel, migratory birds, American badger, and desert kit fox.



### 4.5.1 Introduction

This section provides the prehistoric, ethnographic, and historical contextual background information for cultural resources in the project area. This section also analyzes the project's potential impacts to cultural resources and identifies mitigation measures that would reduce potential impacts to cultural resources to below a level of significance.

The analysis in this section is based on the *Bellefield Solar Project Cultural Resources Assessment Report* prepared by Rincon Consultants, Inc. (Rincon 2020a) and peer reviewed by Michael Baker International, in addition to Native American consultation conducted by the County for purposes of compliance with CEQA requirements prompted by Assembly Bill (AB) 52 and Senate Bill (SB) 18. The *Cultural Resources Assessment Report*, located in Appendix E of this EIR, includes a cultural resources records search, a Sacred Lands File search and Native American contacts program, a pedestrian survey of the project site, and preparation of the technical report according to the Archaeological Resources Management Report (ARMR) guidelines set by the California Office of Historic Preservation and in compliance with the requirements of California Public Resources Code (PRC) Section 5024.1 and the California Environmental Quality Act (CEQA). 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.

Methods used to identify archaeological, historic, and built architectural resources in the project area were implemented in compliance with CEQA and are described in more detail below and in Appendix E of this EIR.

For the purposes of CEQA, “cultural resources” generally refer to prehistoric and historical archaeological sites and the built environment. Cultural resources also include areas that are of cultural significance to, or affiliated with, California Native American tribes. Project impacts to tribal cultural resources are evaluated in **Section 4.15, Tribal Cultural Resources**, of this EIR.

### Cultural Resource Terminology

For the purposes of CEQA, “cultural resources” generally refer to prehistoric and historical archaeological sites and the built environment. Cultural resources also include areas that are of cultural significance to, or affiliated with, California Native American tribes (refer to **Section 4.15, Tribal Cultural Resources**, for more information on potential impacts to tribal cultural resources).

Definitions of key cultural resource terms used throughout this section are as follows:

- **Alluvium:** a fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on flood plains, in riverbeds, 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 Complex:** A complex is a specific archaeological manifestation that represents a general mode of life, characterized archaeologically by specific aspects of culture (e.g. technology, artifact types, economic systems, trade, burial practices).
- **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 (§ 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 Public Resources Code (PRC) § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 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. The Holocene period is often denoted as three distinct parts: Early Holocene (10,000 to 8,000 calibrated years before the present [cal BP]); Middle Holocene (9,000 to 5,000 cal BP), and Late Holocene (4,000 to 8,000 cal BP).

- **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 § 21083.2 and CEQA Guidelines § 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.
- **Native American Tribe:** A Native American tribe located in California that is on the contact list maintained Native American Heritage Commission (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups, and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073). Refer also to **Section 4.15, Tribal Cultural Resources**, of this EIR.
- **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  $2.588 \pm 0.005$  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 Assembly Bill (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)). Refer also to **Section 4.15, Tribal Cultural Resources**, of this EIR.
- **Unique Archaeological Resource:** This term is used for the purposes of CEQA and is defined in PRC § 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 project area is within the Fremont Valley region of the Mojave Desert, which is a flat, 523-square mile valley located southwest of Koehn Dry Lake in the western portion of the Mojave Desert. Situated in the westernmost area of the Mojave Desert at the eastern base of the Sierra Nevada Mountains, the Fremont Valley has a continental climate with hot, dry summers and cold, dry winters. The area is home to many dry lake beds (playas), saline ponds, and north-south trending mountain ranges that cast a rain shadow over the Valley. Between the mountains, the terrain is dominated by sand and gravel basins, which are characterized by their lack of water.

### Prehistoric Setting

The prehistory of the Mojave Desert spans 12,000 years and is usually characterized by four cultural and temporal periods: Pleistocene, Early Holocene, Middle Holocene Period, and Late Holocene. Within these periods, prehistory of the southern California deserts is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation that represents a general mode of life, characterized archaeologically by specific aspects of culture (technology, artifact types, economic systems, trade, burial practices, etc.). The four cultural and temporal periods of the Mojave are described below.

#### Pleistocene Period (12,000–10,000 cal BP)

The Pleistocene Period (12,000–10,000 cal BP) represents the first potentially documented Native American occupation of the region. However, claims of pre-Clovis (ca. before 11,500 BP) archaeological sites in the Mojave Desert remain controversial. Nonetheless, it is possible that such occupation occurred and sites with reliable early dates may yet be found, as has happened elsewhere in the Americas. This time period is highlighted by a transition from cool and moist conditions of the Late Pleistocene to the arid and hot conditions of the Early Holocene. The Clovis Complex is the earliest and only Paleo-Indian cultural complex widely accepted in the Mojave Desert. Dating to approximately 11,500 cal BP, this complex is defined predominantly by large lanceolate-shaped bifaces with fluting, prepared to thin and flatten the base of the artifact for hafting. Other tools associated with the Clovis Complex include large side scrapers, blades derived from prepared cores, and a mixture of expedient flaked tools. Paleo-Indian populations associated with fluted point technology consisted of small, mobile groups who hunted and gathered near permanent sources of water such as pluvial lakes. The tools associated with these populations are found most commonly in the drainage basins of the pluvial lakes.

Fluted points have been interpreted traditionally as tools used for hunting Pleistocene megafauna due to their clear association with megafaunal remains in the Great Plains and Southwest, but most fluted points found in California have lacked corroborating Pleistocene radiocarbon dates. One exception was found during excavations at China Lake in the early 1970s, where fluted points associated with burned remains of extinct megafauna were uncovered. Findings of the technical studies note that the sites at China Lake demonstrate that Paleo-Indians exploited many available resources, not just megafauna.

Evidence of terminal Pleistocene and early Holocene habitation in the Mojave Desert has remained sparse until recently. Evidence of late Pleistocene occupation was identified on the southern slopes of the Tehachapi Mountains near Cottonwood Creek in the form of a basal fragment of a fluted Clovis projectile point. Studies have found evidence of occupation near Pleistocene China Lake and Fort Irwin yielding radiocarbon dates from 9,500-8,000 cal BP.

### **Early Holocene (10,000 to 8,000 cal BP)**

Warmer temperatures, reduced precipitation, and the eventual drying up of the Pleistocene pluvial lakes mark the onset of the Early Holocene. These changes are believed to have caused an irregular distribution of resources available to the Early Holocene inhabitants. The shallow lakes and marshes of the Mojave Desert during this period were biologically productive, but surrounded by desert vegetation typical of later periods. The Lake Mojave Complex is the only clear complex in the region during this time and reflects an increasingly diversified subsistence strategy that was necessary for successful adaptation to climatic changes.

The Lake Mojave Complex is identified primarily by heavy, stemmed projectile points attributable to the Great Basin Stemmed series, such as Lake Mojave and Silver Lake. Other Lake Mojave Complex tools include bifaces, steep-edged unifaces, crescents, the occasional cobble-core tool, and, infrequently, ground stone implements. Settlement organization components include extensive residential accumulations, workshops, and small camps containing a handful of formed tools.

While earlier research presumed a dependence on lacustrine subsistence strategies, recent studies have found Lake Mojave Complex sites in other contexts. Studies have found that the Lake Mojave assemblages included tools that are “consistent with long-term curation and transport.” The presence of exotic lithic materials and marine shell beads in Lake Mojave Complex assemblages further supports the assertion that these people were highly mobile and possibly traded with groups over long distances.

### **Middle Holocene Period (9,000 to 5,000 BP)**

The middle Holocene climate was generally more arid than periods before and after, but experienced multiple oscillations between wetter and drier conditions throughout the middle Holocene. The desiccation of the lakes and marshes of the Pleistocene and early Holocene required the region’s inhabitants to rely on streams and springs for water, resulting in lower occupational densities. Average temperatures and aridity increased, peaking between 8,000 and 6,000 cal BP. Settlement patterns adapted, including a shift to upland settings where sources of water still existed and changes in tool assemblage content and diversity marking the emergence of the Pinto Complex.

During the latter part of the Early Holocene, archaeological data indicate that the Pinto Complex overlaps the Lake Mojave Complex. The Pinto Complex reflects shifts in subsistence patterns and adaptation to the shrinking of the Pleistocene lakes, including a greater emphasis on the exploitation of plants, with the continued pursuit of artiodactyls and smaller game. The broad distribution of this complex implies a high degree of residential mobility. The hallmarks of the Pinto Complex tool assemblage include concave base and bifurcate base projectile points with strong basal ears and more gradual shoulders. Other diagnostic artifacts of this complex include domed and keeled scrapers, large and small leaf-shaped bifaces, core/cobble tools, large metates and milling slabs, and shaped and unshaped handstones.

Near the end of the middle Holocene the climate became increasingly hotter and more arid. Very few sites date to this period, falling between 5,000 and 4,000 cal BP. This suggests that populations were very low. It is possible that some areas were abandoned during this hot period.

### **Late Holocene Period (4,000 cal BP to European Contact)**

The Late Holocene Period (4,000 cal BP to European Contact) is characterized by Native American populations expanding their territories. The climate of the late Holocene was similar to current conditions: cooler and moister than the middle Holocene, but not as cool and moist as the early Holocene. The climate remained highly variable with periods that included the Mojave lakes refilling to levels of earlier high stands, contrasted with at least two major droughts, circa 1,124 to 904 BP, and circa 807 to 660 BP. A cooler and wetter period occurred between 550 and 100 cal BP. These climatic changes at the onset of the late Holocene once again resulted in modified subsistence strategies and correlating tool kits of three progressive cultural complexes: Gypsum Complex, Rose Spring Complex, and Late Prehistoric Complex (or period).

Dart-point size projectile points including notched or eared (Elko), concave base (Humboldt), and small-stemmed (Gypsum) types characterized the projectile points of the Gypsum Complex. In addition to these diagnostic points, Gypsum Complex sites included leaf-shaped points, rectangular-based knives, flake scrapers, drills, and occasionally, large scraper planes, choppers, and hammerstones. Manos and milling stones were common, and the mortar and pestle were also introduced during this period. Other artifacts found at Gypsum Complex sites include split-twist animal figurines, Olivella shell beads, and Haliotis spp. beads and ornaments, which are indicative of trade with people from the southern California coast and southern Great Basin. The inhabitants of the Mojave Desert exported high-quality locally available tool stone such as obsidian, chalcedony, and chert in exchange for exotic materials.

By 1750 cal BP, a slightly cooler climate appears to have provided for increased population, based on a higher frequency of archaeological sites. The Rose Spring Complex was present from approximately 1815 to 915 cal BP, with regional temporal variations known as the Saratoga Springs, Haiwee, or Amargosa periods. The smaller Rose Spring projectile points replaced the dart-size points of previous complexes and heralded the introduction of the bow and arrow. The bow and arrow provided its user a way to rapidly fire multiple projectiles during hunting or warfare and from a position of relative security compared to the atlatl or spear. This technological innovation appears to correspond with the onset of the Numic expansion westward to the coast, which some researchers believe started from southeastern California. Bedrock milling features supplement portable milling stones in villages and ancillary sites within the California deserts.

The Late Prehistoric period (circa 900–250 cal BP) corresponds to the introduction of ceramic artifacts in the Mojave Desert region as well as replacement of Rose Spring projectile points with even smaller Desert Side-notched points and Cottonwood series points. Use of mortar and pestle became more widespread during this period and evidence of food storage facilities becomes increasingly common in the archaeological record. In the central Mojave Desert, the Mojave River became a primary focus of occupation, and trade networks increased along the Mojave River and over the San Gabriel Mountains.

Archeological evidence left by highly mobile hunter-gatherers in the Mojave Desert during the Late Prehistoric period is typified by sparse scatters of flaked stone, ground stone, and ceramic artifacts and features such as hearths, rock rings, and trails.

### **Ethnographic Setting**

The project area is within a transitional zone that was occupied by multiple cultural groups including the Serrano, Kitanemuk and Tataviam. All of these groups are better associated with portions of the surrounding

mountains—Serrano to the northeast, Kitanemuk to the northwest, Tataviam to the southwest—but all of them likely visited the Antelope Valley floor as part of their resource exploitation strategies. Ethnographic boundaries in the Mojave Desert are loosely defined, owing to the highly mobile nature of desert settlement and resource extraction strategies, as well as the variety of interpretations presented by previous researchers. A brief overview of the three groups likely to have ethnographically used the project area is provided in the following discussion.

## Serrano

The Serrano occupied an area in and around the San Bernardino Mountains. Their territory extended west of the Cajon Pass, east past Twentynine Palms, north of Victorville, and south to Yucaipa Valley. The two Serrano languages, Kitanemuk and Serrano, are closely related. Kitanemuk lands were northwest of Serrano lands. Serrano was spoken originally by a relatively small group located within the San Bernardino and Sierra Madre mountains, and the term “Serrano” has come to be ethnically defined as the name of the people in the San Bernardino Mountains. The Vanyume, who lived along the Mojave River and associated Mojave Desert areas and are also referred to as the Desert Serrano, spoke either a dialect of Serrano or a closely related language. Year-round habitation tended to be located on the desert floor, at the base of the mountains, and up into the foothills, with all habitation areas requiring year-round water sources.

Most Serrano lived in small villages located near water sources. Houses measuring 12 to 14 feet in diameter were domed and constructed of willow branches and tule thatching; they were occupied by a single extended family. Many of the villages had a ceremonial house, used both as a religious center and the residence of the lineage leaders. Additional structures within a village might include granaries and a large circular subterranean sweathouse. The sweathouses were typically built along streams or pools. A village was usually composed of at least two lineages. The Serrano were organized loosely along patrilineal lines and associated themselves with one of two exogamous moieties or “clans”—the Wahiyam (coyote) or the Tukum (wildcat) moiety.

The subsistence economy of the Serrano was one of hunting and collecting plant goods, with occasional fishing. They hunted large and small animals, including mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Plant staples consisted of seeds; acorn nuts of the black oak; piñon nuts; bulbs and tubers; and shoots, blooms, and roots of various plants, including yucca, berries, barrel cacti, and mesquite. The Serrano used fire as a management tool to increase yields of specific plants, particularly chía.

Trade and exchange were important aspect of the Serrano economy. Those living in the lower-elevation, desert floor villages traded foodstuffs with people living in the foothill villages who had access to a different variety of edible resources. In addition to inter-village trade, ritualized communal food procurement events, such as rabbit and deer hunts and piñon, acorn, and mesquite nut-gathering events, integrated the economy and helped distribute resources that were available in different ecozones.

Contact between Serrano and Europeans was relatively minimal prior to the early 1800s. As early as 1790, however, Serrano began to be drawn into mission life. More Serrano were relocated to Mission San Gabriel in 1811 after a failed indigenous attack on that mission. Most of the remaining western Serrano were moved to an asistencia built near Redlands in 1819.

A smallpox epidemic in the 1860s killed many indigenous southern Californians, including many Serrano. Oral history accounts of a massacre in the 1860s at Twentynine Palms may have been part of a larger

American military campaign that lasted 32 days. Surviving Serrano sought shelter at Morongo with their Cahuilla neighbors; Morongo later became a reservation. Other survivors followed the Serrano leader, Santos Manuel, down from the mountains and toward the valley floors and eventually settled what would later become the San Manuel Band of Mission Indians Reservation (formally established in 1891).

Both the San Manuel Band of Mission Indians and the Morongo Band of Mission Indians are federally recognized tribes and include Serrano. People of both tribes participate in cultural programs to revitalize traditional languages, knowledge, and practices.

## **Kitanemuk**

The Kitanemuk are one of the least-understood ethnographic groups in California, despite being considered by researchers as the primary aboriginal inhabitants of Antelope Valley. Kitanemuk territory extended from the Tehachapi Mountains at the northwestern edge of the Antelope Valley southeast to beyond Rosamond Lake, although their populations were most dense in the mountains at the southern end of the San Joaquin Valley. The Kitanemuk were primarily mountain dwellers who lived in semi-permanent village sites that functioned as year-round base camps; during the late winter and early spring, expeditions ventured onto the desert floor in pursuit of available seasonal resources.

The Kitanemuk were a subdivision of the Serrano, and thus spoke a language of the Takic family that was similar to dialects spoken by groups living as far south and east as Yucca Valley and Twentynine Palms. Although some aspects of Kitanemuk social organization are similar to those of other Takic speaking groups, research suggests that Kitanemuk ritual, mythology, and shamanism were most strongly shaped by their neighbors to the north (Kawaiisu and Tubatulabal) and west (Chumash). The Kitanemuk appear to have enjoyed particularly strong trade ties with coastal and inland Chumash groups. Modern-day descendants of the Kitanemuk live at the Tule River Reservation, Porterville, and Tejon Ranch.

## **Tataviam**

Like the Kitanemuk, the Tataviam were not well documented by early ethnographers. However, researchers today generally agree that the Tataviam spoke a Uto-Aztecan language, most likely a Takic language. Tataviam territory included the upper Santa Clara River from Piru Creek eastward, extending over the Sawmill Mountains to the southwest edge of the Antelope Valley. Their territory was bounded on the west and north by various Chumash groups; on the south by the Tongva (Gabrielino and Fernandeno, though some Tataviam were also identified as Fernandeno because of their association with Mission San Fernando); and to the east by the Kitanemuk and Serrano.

Exogamous marriage was common, with Tataviam intermarrying with Tongva, Chumash, and Kitanemuk neighbors. Researchers have hypothesized that the Tataviam relied on yucca as a food source more than their neighbors because of the predominance of large south-facing slopes within their territory. Additional food resources included acorns, sage seeds, berries, small mammals, and deer. Settlement size ranged from 10 to 200 persons, with small settlements often ancillary to large villages. Archaeological evidence from Bower's Cave—located between Newhall and Piru—combined with ethnographic evidence suggest their ritual organization was similar to both the Chumash and Gabrielino, whose lifestyles were distinct from one another. By 1810, the Tataviam were almost completely “missionized” through baptism at Mission San Fernando.



## Historic Context

Post-European contact history for the state of California is divided generally into three periods: the Spanish Period (1769 to 1822), the Mexican Period (1822 to 1848), and the American Period (1848 to present). The following discussion provides a general overview of the history of California following European contact.

### Spanish Period (1769 to 1822)

In 1542, Juan Rodriguez Cabrillo led the first European expedition to observe what is now called southern California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions, but they did not establish permanent settlements.

Gaspar de Portolá and Franciscan Father Junípero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. While Spanish missions were established in San Bernardino County, Native Americans in the region were influenced by other Native Americans migrating to the area, driven from their homelands by encroachment of the Spanish.

During this period, Spain also deeded ranchos to prominent citizens and soldiers, though very few in comparison to the following Mexican Period. To manage and expand herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population. The missions were responsible for administering the local people as well as converting the population to Christianity. Inevitably, this increased local population density and contact with diseases brought by Europeans greatly reduced the Native American population. Native American populations in San Bernardino County were less affected by the missions. However, in some cases, individuals were taken from their tribes to be educated at one of the missions before being sent back.

The first known Spanish explorers to enter the Mojave Desert were a group of soldiers led by Pedro Fages in 1772. In 1776, Friar Francisco Garcés traveled through the area coming from the Colorado River. Friar Garcés traveled as far as the Pacific coast along an ancient trade route, known as the Mojave Trail, and he named the Mojave River Arroyo de los Mártires (Stream of the Martyrs). The river was later named Rio de las Animas (River of Souls) by Fr. Joaquín Pasqual Nuez, who accompanied the 1819 expedition of Lt. Gabriel Moraga.

### Mexican Period (1822 to 1848)

The Mexican period commenced when news of the success of the Mexican Revolution (1810-1821) against the Spanish crown reached California in 1822. This period saw extensive interior land grant development as well as exploration west of the Sierra Nevada Mountains by American fur trappers. The California missions declined in power and were ultimately secularized in 1834. The hallmark of the Mexican period was large ranchos deeded to prominent Mexican citizens—frequently soldiers—by the governor. These ranchos became important economic and social centers. However, no ranchos were claimed in the arid Mojave Desert. Rancho San Bernardino, situated in the southwestern corner of San Bernardino County, was the closest land grant to the current project site, located approximately 160 kilometers (100 miles) to the west. Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time. During the Mexican period, trappers and explorers from the eastern United States repeatedly journeyed westward. Jedidiah Strong

Smith, one of these early American adventurers, traveled through the Mojave Desert in 1826 and 1827 and nicknamed the Mojave River the “Inconstant River” because of its frequent disappearance beneath the ground surface.

### **American Period (1848 to Present)**

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. In 1850, California was admitted to the Union as the 31st state.

The discovery of gold in northern California in 1848 led to the California Gold Rush and subsequent farming and city/town development in the northern/central portions of California. Southern California remained dominated by cattle ranches in the early American Period, though droughts and increasing population resulted in ranching being increasingly supplanted by farming and more urban professions through the late nineteenth century. By 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to immigrate into the state, particularly after the completion of the transcontinental railroad in 1869.

During the Gold Rush, thousands of people traveled the Mojave River Trail from points east, attempting to reach the fabled goldfields of California. Captain John C. Frémont called the Mojave River Trail the Old Spanish Trail until he met a group of Native Americans northeast of Victorville who told Frémont they had lived along the Mojave River and the mountains to the north and traded with other indigenous peoples in the region along the Mojave River Trail.

## **Existing Cultural Resources**

To evaluate the project’s potential impacts on significant cultural resources, a cultural resources assessment of the project area was prepared, which included a cultural resources records search and a pedestrian survey. The methodology of the cultural resources assessment is described in detail in Appendix E of this EIR. The records search and pedestrian survey findings are summarized below.

### **Records Search**

On August 9, 2019 and May 18, 2020, a records search of the project area, including a 0.5-mile radius buffer, was conducted by staff at the Southern San Joaquin Valley Information Center (SSJVIC) of California Historic Resource Inventory System (CHRIS). The search was conducted to identify previously recorded cultural resources and previously conducted cultural resources studies in the project vicinity. The records search also included a review of the following lists and databases:

- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- California Inventory of Historic Resources (1998)
- Archaeological Determinations Eligibility List

In addition to the CHRIS records search, the cultural resources assessment included a review of historical maps, aerials, and literature to identify potential cultural resource concerns on the project site. Aerial imagery and topographic maps were used to identify roads over 50 years old and to identify buildings that may be present on the project site. A detailed description of the results of this additional review is provided in Appendix E of this EIR.

## **Previous Studies**

The records search results identified 153 previously conducted cultural resources studies within 0.25-mile of the project area, of which 102 included the project area. A complete list of these studies is included in Appendix E of this EIR. A majority of previous studies that include the project site intersect small areas of the proposed gen-tie routes. Three studies (KE-01925, KE-03954, and KE-04038) covered vast swaths of the project site, and a fourth (KE-00633) discussed three previously recorded resources located within the project site.

## **Previously Recorded Resources**

The CHRIS records search conducted for the project identified 362 previously recorded resources within a 0.25-mile radius of the project site. Of those, 90 resources (40 sites, 50 isolates) have been recorded within or directly adjacent to the project site. Resources recommended eligible or ineligible have been previously evaluated as part of a previously conducted cultural resources study. Resources that are presumed eligible or ineligible have not been evaluated but are likely eligible or ineligible based on previous resource records. Resources recorded within or adjacent to the project site and within 0.25-mile of the project area are listed in Appendix E of this EIR.

## **Pedestrian Survey**

Rincon archaeologists conducted a pedestrian survey of the project area from August 19 to September 27, 2019 and May 13 to May 31, 2020. The pedestrian survey involved walking transects spaced 15 meters apart and oriented with the cardinal directions across the project area and oriented parallel to the proposed gen-tie alternatives for all alignments. All exposed ground surface was examined for artifacts (e.g., flaked stone tools, toolmaking debris, stone milling tools, ceramics, fire-affected rock [FAR]), ecofacts (marine shell and 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.

The pedestrian survey field-verified 13 of the 50 previously recorded isolates and identified 137 new isolates. During the field effort, 40 previously recorded sites were updated by the archaeologists and 71 new sites were identified and recorded. A complete list of these resources and summary information is provided in Appendix E of this EIR.

## **Resource Evaluations**

Each resource was evaluated for listing eligibility in the CRHR. A cultural resource is considered historically significant and eligible for the CRHR if:

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.

Isolates are typically ineligible for CRHR listing as their data potential is exhausted during the initial recording. Therefore, each of the identified isolates are considered as ineligible for the CRHR and are not discussed further.

Each non-isolate resource was evaluated against the four criteria listed above to identify an association with significant persons or events through a review of Bureau of Land Management (BLM) General Land Office (GLO) records, analysis of artifact types and features present, and review of the potential for the resource to extend to the subsurface. Resources were generally considered ineligible if no significant associations can be identified; if the resource does not have the potential to yield important information; if the data potential of the resource was exhausted during current or past recording efforts; and/or if the resource does not retain integrity. Most sites identified consist clearly of surface scatters of artifacts with no indication of a subsurface deposit that may provide additional data.

Of the resources identified, there were five newly identified cultural resources and five previously recorded cultural resources as potentially eligible for listing in the CRHR (archaeological resources P-15-010500, P-15-010501, BEL-S-013, BEL-S-066, BEL-S-107, BEL-S-108, and BEL-S-113 and historic-period built-environment resources P-15-003549, P-15-003927, and P-017305). These resources are discussed further below.

### **P-15-003549**

P-15-003549 includes water conveyance system and related features of the Los Angeles Aqueduct (aqueduct), the construction of which was completed in three phases beginning in 1908. First recorded in 1992, the site stretches from Mono Lake to the San Fernando Powerplant, a distance of 340 miles. Features of the conveyance system such as reservoirs, dams, siphons, tunnels, channels, spillways and power plants are included as part of the site. Following its initial recordation, several updates were prepared. In 2006, the site was recommended eligible for listing in the NRHP under Criterion D as the First Los Angeles Aqueduct Historical Archaeological District. An updated resource record prepared for the aqueduct in 2010 indicates that P-15-003549 is also eligible for listing in the CRHR under Criterion 1, for its association with the successful development of the Southern California Region and the City of Los Angeles, and under Criterion 2, for its association with the significant individual, William Mulholland. Based on the results of the recent survey, the Los Angeles Aqueduct appears eligible for listing in the NRHP and CRHR.

### **P-15-003927**

P-15-003927 is the registered California Point of Historical Interest, Twenty Mule Team Road. Twenty Mule Team Road is a historic-era road which supported the transportation of borax between Death Valley and Mojave by mule-drive wagons. The route was operated by the Harmony Borax Mining Company from 1884-1889 and ran 165 miles from the borax mines near Furnace Creek southwest to the railroad loading

dock in Mojave. After borax extraction declined in the area, the road continued to be used as a route from Mojave to tungsten mines at Atoll and gold mines at Randsburg. Archival research and a review of historic and contemporary aerial photographs and maps indicate portions of the road have been displaced since this time. These include portions that were displaced by construction of Mojave Marine Corps Auxiliary Station (present-day Mojave Air and Space Port) in the 1940s and California City in the 1950s and 1960s. Other portions near California City appear to have also been paved. Others west of California City could not be located on contemporary aerial imagery as part of this study and may no longer be present.

Twenty Mule Team Road and portions of its segments have been subject to previous study and designation over the last 50 years. The road in its entirety was designated a California Point of Historical Interest (#91) in 1968. A review of the California Built Environment Resources Directory also indicates a segment of the road in Inyo County was previously determined eligible for listing in the National Register of Historic Places in 1978 (14-005894). No documentation on either previous finding or designation could be located as part of this study. In 1993, two segments of the road (one near Mojave and the other California City) were recorded but not evaluated for historical significance.

Although the road is a designated California Point of Historical Interest, this designation does not result in the resource's automatic listing in the CRHR since it was designated prior to December 1997. Further, the segment of Twenty Mule Team Road which was formally determined eligible for listing in the NRHP in 1978 appears to be limited to that segment in Inyo County. As such, the current 1.7-mile segment does not appear to have been previously evaluated for NRHP or CRHR listing.

Based on the administrative record, Twenty Mule Team Road can be considered as a significant resource due to its association with historic events from early mining and commercial activities in the Mojave Desert and Death Valley. While the road appears to be significant for these associations under NRHP Criterion A and CRHR Criterion 1, there is insufficient information at this time to confirm if the road in its entirety contains sufficient integrity to be eligible for NRHP or CRHR designation. Furthermore, as portions of the road have been previously removed and paved, the road in its entirety, it cannot be considered intact and complete for designation purposes. For these reasons, the subject segment is recommended ineligible for NRHP or CRHR eligibility and it is therefore not considered a historical resource under CEQA.

However, given the potential historical significance of 20 Mule Team Road, the Cultural Resources Assessment noted that the property may warrant special consideration in local planning.

### **P-15-010500**

Site P-15-010500 consists of a temporary camp originally recorded in 2002. The site was relocated during the recent survey for the proposed project in a similar condition as originally recorded, though the site is now bisected by a fence line separating the current project site from the Hyundai-Kia Proving Grounds property. Updates to the recording of this site made with the 2020 evaluation increased the number of identified artifacts and expanded the site boundaries. The site consists of roughly 100 flakes of white and brown chert, jasper, and obsidian, and approximately 50 FAR fragments. There is also one banded rhyolite scraper tool.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). Thermal features

present a high likelihood of datable materials such as charcoal suggesting that the site may provide information about resource procurement, subsistence strategies, and the ability to place those activities within the timeline of prehistoric use of the region. Though the surface of the site was fully recorded during the recent survey and the data potential of the surface exhausted, it is possible that a subsurface component of the site exists. Thus, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. Based on the surface constituents, P-15-010500 appears potentially eligible for the CRHR.

### **P-15-010501**

Site P-15-010501 consists of a seasonal camp originally recorded in 2002. In 2005, the resource record indicates that a series of shovel test pits were excavated on the eastern half of the site and resulted in the identification of subsurface artifacts. No evaluation of the site is included in the resource record or in any reports listed by the SSJVIC. The location of the site was field-verified during the recent survey. The site remains in a similar condition as originally recorded, though the site is now bisected by a fence line separating the current project site from the Hyundai-Kia Proving Grounds property. Site constituents identified during the recent survey include approximately 15 flakes, roughly 700 FAR fragments, two projectile point tips, and three groundstone fragments.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). The presence of possible thermal features, associated groundstone, and bone fragments indicates that the site was likely used for food processing and is potentially the result of continued use over time. Thermal features also present a high likelihood of datable materials such as charcoal suggesting that the site may provide information about resource procurement, subsistence strategies, and the ability to place those activities within the timeline of prehistoric use of the region. The surface of the portion of the site on the current project site was fully recorded during the recent survey and the data potential of the surface exhausted. Portions of the site were subject to subsurface testing in 2005; a subsurface deposit was identified but no details were submitted to the SSJVIC. Based on the results of the recent survey and the known presence of a subsurface deposit, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. P-15-010501 appears eligible for the CRHR.

### **P-15-017305**

P-15-017305 is a segment of State Route 14/Aerospace Highway that originated as a portion of the Midland Trail, an unimproved wagon trail that dates to the 1860s. While a portion of the larger resource was recorded in 2013, an evaluation was not conducted at that time. For purposes of this EIR, the segment of State Route 14/Aerospace Highway is considered eligible for the CRHR under Criterion 1 for its significance as an early transcontinental transportation route.

### **BEL-S-013**

Site BEL-S-013 consists of a prehistoric lithic scatter of 94 flakes and one utilized flake. The resource is located directly adjacent to a drainage that may have resulted in alluvial deposition burying a possible subsurface deposit.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). Despite the relative paucity of surface artifacts and lack of formal features, the location of the site directly adjacent to an active drainage suggests a high likelihood of subsurface deposits obscured by alluvial deposition. Though the surface of the site was fully recorded during the recent survey and the data potential of the surface exhausted, it is possible that a subsurface component of the site exists. Thus, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. Based on the surface constituents, site BEL-S-013 may be eligible for the CRHR.

### **BEL-S-066**

Site BEL-S-066 consists of a temporary camp containing a deflated hearth comprised of roughly 15 FAR fragments, 19 groundstone fragments, roughly 130 flakes, and 15 lithic tools including bifaces, utilized flakes, and edge-modified flakes are also present.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). The presence of groundstone indicates that the site may have been used for food processing and is potentially the result of continued use over time. Though the surface of the site was fully recorded during the recent survey and the data potential of the surface exhausted, it is possible that a subsurface component of the site exists. Thus, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. Based on the surface constituents, site BEL-S-066 appears eligible for the CRHR.

### **BEL-S-107**

Site BEL-S-107 consists of a temporary camp containing 13 flakes and three deflated hearths comprised of roughly 81 FAR fragments.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). Despite the paucity of artifacts, the presence of multiple thermal features suggests continued use over time. Thermal features also present a high likelihood of datable materials such as charcoal suggesting that the site may provide information about resource procurement, subsistence strategies, and the ability to place those activities within the timeline of prehistoric use of the region. Though the surface of the site was fully recorded during past surveys and the data potential of the surface exhausted, it is possible that a subsurface component of the site exists. Thus, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. Based on the surface constituents, site BEL-S-107 appears eligible for the CRHR.

**BEL-S-108**

Site BEL-S-108 consists of a temporary camp containing a possible deflated hearth comprised of roughly 20 FAR fragments. One groundstone tool, roughly 17 flakes, and one edge-modified flake are also present.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). The presence of a thermal feature and groundstone indicates that the site may have been used for food processing and is potentially the result of continued use over time. Thermal features also present a high likelihood of datable materials such as charcoal suggesting that the site may provide information about resource procurement, subsistence strategies, and the ability to place those activities within the timeline of prehistoric use of the region. Though the surface of the site was fully recorded during the recent survey and the data potential of the surface exhausted, it is possible that a subsurface component of the site exists. Thus, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. Based on the surface constituents, site BEL-S-108 appears eligible for the CRHR.

**BEL-S-113**

Site BEL-S-113 consists of a temporary camp containing one lithic core and seven FAR fragments, three of which were partially buried. The site is located within a dune, which increases the possibility that erosional dynamics have created a subsurface deposit.

The resource cannot be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (does not meet Criterion 1/A) nor can it be associated with the lives of persons important in our past (does not meet Criterion 2/B). The site does not support any structures or features that embody any distinctive characteristics (does not meet Criterion 3/C). Despite the relative paucity of surface artifacts, the location of the site within a dune and the presence of partially buried FAR suggests a high likelihood of subsurface deposits. Though the surface of the site was fully recorded during the recent survey and the data potential of the surface exhausted, it is possible that a subsurface component of the site exists. Thus, the site has the potential to retain significant data potential (Criterion 4/D) to contribute to local research themes pertaining to prehistory. Based on the surface constituents, site BEL-S-113 appears eligible for the CRHR.

## **4.5.3 Regulatory Setting**

### **Federal**

#### **Section 106 of the National Historic Preservation Act (NHPA)**

The NHPA of 1966, as amended (16 USC 470f), and its implementing regulation- Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979 legislates the protection of archaeological resources. Prior to implementing an "undertaking" (e.g., issuing a federal permit), Section 106 of the NHPA requires federal



agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the NRHP. Under the NHPA, a resource is considered significant if it meets the NRHP listing criteria in § 36 Code of Federal Regulations [CFR] 60.4.

## **National Register of Historic Places**

The NRHP was established by the NHPA of 1966, as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (CFR 36 § 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria established by the U.S. Department of the Interior:

1. Are associated with events that have made a significant contribution to the broad patterns of our history;
2. Are associated with the lives of persons significant in our past;
3. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP listing. In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (US Department of the Interior 1995). The NRHP recognizes seven qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity, a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

## **State**

### **California Register of Historical Resources**

The CRHR 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 NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. 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 CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP 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 5024.1, Title 14 CCR, § 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. 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.

Typically, an archaeological site in California is recommended eligible for listing in the CRHR 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 CRHR.

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 Points of Historical Interest (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 CRHR. 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 § 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 (§ 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 § 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 § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 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 §§ 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of § 21084.1 of CEQA and § 15064.5 of the CEQA Guidelines 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 §§ 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the historical resource criteria provided in the CEQA Guidelines, then the site may be treated in accordance with the provisions of § 21083, which is a unique archaeological resource. As defined in § 21083.2 of CEQA 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 § 21083.2, the site is to be treated in accordance with the provisions of § 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 (§ 21083.1(a)). 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 § 15064.5(c)(4)).

## **Native American Heritage Commission**

PRC § 5097.91 established the 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 § 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**

Sections 6254(r) and 6254.10 of the California Public Records Act 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 “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 Native American Graves Protection and Repatriation Act (Cal NAGPRA) of 2001**

Codified in the California Health and Safety Code §§ 8010–8030, the Cal NAGPRA is consistent with the federal NAGPRA. Intended to “provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect,” Cal NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The Cal NAGPRA also provides a process for non-federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

### **California Health and Safety Code, Sections 7050 and 7052**

The California Health and Safety Code, § 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, § 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 §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**

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 cultural resources. The policies and implementation measures in the Kern County General Plan related to cultural resources 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. 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.

### **Mojave Specific Plan**

The Mojave Specific Plan was adopted in 2003 to guide land use decisions for the next 20-40 years within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The Plan works in tandem with the Kern County General Plan and Zoning Ordinance to direct land use and development decisions, establishing a single set of community-wide policies and implementation strategies. It contains Land Use, Conservation, Open Space, Circulation, Housing and Community Development, Noise, and Seismic and Safety Elements. None of these elements identify any goals, policies, or objectives pertaining to the conservation or protection of cultural resources.

### **California City General Plan**

The policies, goals, and implementation measures in the California City General Plan for cultural resources applicable to the project are provided below.

## Chapter 5. Open Space and Conservation

### 5.15 Conservation Goals, Policies, and Implementation Measures

#### Goal

- Promote conservation of historical and cultural resources.

#### Policy

- Preserve historical and cultural resources which may exist and are of significant value to the community now and in the future.
- Encourage public and private efforts toward preserving structures or sites which are of historic value to the community.

#### Implementation Measures

C-14: The City shall require the preservation of historical and cultural resources by implementation of the following measures:

- Encourage local groups and schools to enhance and promote historical resources and community activities for all residents within the General Plan Planning Area.
- Prior to issuance of a grading or building permit, new development proposals shall be required to complete records and literature search and/or a Phase 1 Assessment to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project as conditions of approval.

## 4.5.4 Impacts and Mitigation Measures

### Methodology

The project's potential impacts to cultural resources have been evaluated using a variety of resources. The analysis in this section is supported by the *Bellefield Solar Project Cultural Resources Assessment Report* located in Appendix E of this EIR. The *Cultural Resources Assessment Report* is based upon a cultural resources records search, a Sacred Lands File Search and Native American contacts program, and a pedestrian survey. 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 cultural resources.

- a. Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines § 15064.5;
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5; or,
- c. Disturb any human remains, including those interred outside of formal 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 4.15, *Tribal Cultural Resources***, of this EIR.

According to CEQA Guidelines § 15064.5(b), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The guidelines further state that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Impacts on cultural resources could result from ground-disturbing activities and/or damage, destruction, or alteration of historic structures. 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 archaeological resources including prehistoric and historic remains or human burials.

## Project Impacts

**Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historic resource, as defined in CEQA Guidelines Section 15064.5.**

### Solar Facility

#### Known Resources

As a result of the cultural resources studies conducted for the project, seven newly identified cultural resources and five previously recorded cultural resources were identified as potentially eligible for listing in the CRHR (historic-period built-environment resources P-15-003549, P-15-003927, and P-017305 and archaeological resources P-15-010500, P-15-010501, BEL-S-013, BEL-S-066, BEL-S-107, BEL-S-108, and BEL-S-113). These resources are summarized in **Table 4.5-1, *Potentially Eligible Resources***. The project's potential impacts on these resources are described below.



**Table 4.5-1. Potentially Eligible Resources**

<b>Primary Number</b>	<b>Trinomial Number</b>	<b>Temporary Designation</b>	<b>Age</b>	<b>Brief Description</b>
P-15-003549	CA-KER-3549H	-	Historic	Los Angeles Aqueduct
P-15-003927	CA-KER-3927	-	Historic	Twenty Mule Team Road
P-15-010500	CA-KER-6145	-	Prehistoric	Temporary camp
P-15-010501	CA-KER-6146	-	Prehistoric	Temporary camp
P-15-013568	CA-KER-7647H	-	Historic	Homestead remnants and refuse deposit
P-15-013622	CA-KER-7659	-	Prehistoric	Lithic scatter
P-15-017305	-	-	Historic	State Route 14
-	-	BEL-S-013	Prehistoric	Lithic Scatter
-	-	BEL-S-066	Prehistoric	Temporary camp
-	-	BEL-S-107	Prehistoric	Temporary camp
-	-	BEL-S-108	Prehistoric	Temporary camp
-	-	BEL-S-113	Prehistoric	Temporary camp

Source: Rincon 2020a (see Appendix E).

**P-15-010500**

Project implementation has the potential to impact Site P-15-010500 during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site P-15-010500, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-3KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-3KC**, impacts to Site P-15-010500 would be reduced to less than significant.

**P-15-010501**

Project implementation has the potential to impact Site P-15-010501 during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site P-15-010501, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-4KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-4KC**, impacts to Site P-15-010501 would be reduced to less than significant.

**P-15-013568**

Project implementation has the potential to impact Site P-15-013568 during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site P-15-013568, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-5KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-5KC**, impacts to Site P-15-013568 would be reduced to less than significant.

**P-15-013622**

Project implementation has the potential to impact Site P-15-013622 during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site P-15-013622, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-6KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-5KC**, impacts to Site P-15-013622 would be reduced to less than significant.

**BEL-S-013**

Project implementation has the potential to impact Site BEL-S-013 during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site BEL-S-013, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-7KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-7KC**, impacts to Site BEL-S-013 would be reduced to less than significant.

**BEL-S-0066**

Project implementation has the potential to impact Site BEL-S-066 during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site BEL-S-066, Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, and **MM 4.5-3CC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American

monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, and **MM 4.5-3CC**, impacts to Site BEL-S-066 would be reduced to less than significant.

#### ***BEL-S-107***

Project implementation has the potential to impact Site BEL-S-107 during construction, operation or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site BEL-S-107 Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-8KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-8KC**, impacts to Site BEL-S-107 would be reduced to less than significant level.

#### ***BEL-S-108***

Project implementation has the potential to impact Site BEL-S-108 during construction, operation or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site BEL-S-108, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-9KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-9KC**, impacts to Site BEL-S-108 would be reduced to less than significant.

#### ***BEL-S-113***

Project implementation has the potential to impact Site BEL-S-113 during construction, operation or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of Site BEL-S-113, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-10KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-10KC**, impacts to Site BEL-S-113 would be reduced to less than significant level.

## Gen-Tie

### ***P-15-003549***

The project proposes the construction of a gen-tie line that would cross the Los Angeles Aqueduct overhead. The project is not otherwise expected to directly or indirectly impact P-15-003549. No archaeological features associated with the First Los Angeles Aqueduct Historical Archaeological District are present within the gen-tie alignment. The Los Angeles Aqueduct is already crossed by utility lines in this area; thus the setting would not be altered. Construction of the gen-tie line would not modify the Los Angeles Aqueduct beyond its current state, as the project has been designed to avoid the resource. Therefore, the proposed project would not cause a substantial adverse change in the significance of P-15-003549 and no impact would occur.

### ***P-15-003927***

As noted above, the Twenty Mule Team Road in its entirety was designated a California Point of Historical Interest (#91) in 1968; segments of the road were previously determined eligible for listing in the National Register of Historic Places in 1978 (14-005894).

As designed, the gen-tie line would cross Twenty Mule Team Road, and a previously unrecorded 230-foot segment crosses a corner of the proposed solar array area. The Cultural Resource Assessment Report for the project analyzed this segment of Twenty Mule Team Road which spans approximately 1.7 miles. Avoidance of P-15-003927 is therefore recommended based on this consideration; however, if removal is completed, this project element would not result in a significant impact to a historical resource. Nonetheless, mitigation measures would be required, as described below.

The project is not otherwise expected to directly or indirectly impact P-15-003927. The setting of Twenty Mule Team Road has been substantially altered since the historic period. The addition of the proposed gen-tie line would not further modify the resource's setting beyond its current state which currently includes utility lines.

Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of P-15-003927, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-12KC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-12KC**, impacts to P-15-003927 would be reduced to less than significant.

### ***P-15-017305***

The project includes construction of gen-tie lines that cross State Route 14 overhead. The project is not otherwise expected to directly or indirectly impact P-15-017305. State Route 14 is already crossed by utility transmission lines at several locations along its alignment, thus the setting would not be altered. Physical construction of the gen-tie line would not modify State Route 14 beyond its current state. Therefore, the project would not cause a substantial adverse change in the significance of P-15-017305. No impact would occur.

## Unknown Resources

Given the number of resources identified on the project site, there is a potential to unearth previously unknown cultural resources. In the event that unknown archaeological resources are discovered during project construction, significant impacts could occur. However, with implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, **MM 4.5-1CC**, **MM 4.5-2CC**, and **MM 4.5-4CC**, potential impacts to previously unrecorded archaeological resources would be reduced to a less than significant level.

## Mitigation Measures

### Kern County

**MM 4.5-1KC:** Prior to issuance of building or grading permits, the project proponent/operator shall:

- a. Retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards as published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61) to carry out all Mitigation Measures related to archaeological and historical resources.
- b. The services of a qualified archaeological monitor and Native American monitor shall be retained by the project proponent/operator to monitor all ground-disturbing activities associated with the construction of the proposed project. The Native American monitor shall be selected from a list of Native American contacts with traditional ties to the project area, provided by the Native American Heritage Commission and/or consultation with Native American tribal groups who may have interest in the project area. The archaeological monitor shall work under the supervision of the qualified archaeologist.
- c. The qualified archaeologist, archaeological monitor and Native American monitor shall be provided all project documentation related to cultural resources prior to commencement of ground disturbance activities. Project 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 qualified archaeologist, archaeological monitor and Native American monitor.

**MM 4.5-2KC:** Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the project site, laydown area and/or transmission routes. The training shall be prepared and conducted by the qualified archaeologist and may include participation of the Native American monitor. The training may be in video format. The qualified archaeologist shall be available to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to:

- a. A discussion of applicable cultural resources statutes, regulations and related enforcement provisions;
- b. An overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups, provided by the Native American Monitor or tribal leader;
- c. A summary of the effects of the proposed project on cultural resources;
- d. Samples or visuals of artifacts that might be found in the project area;
- e. A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed;
- f. A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction;
- g. Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified archaeologist, in consultation with the Planning and Natural Resources Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance;
- h. An informational guide that identifies the reporting procedures in the event of a discovery;
- i. Other information as deemed necessary by the qualified archaeologist or Native American Monitor;
- j. An acknowledgement form signed by each worker indicating that environmental/cultural training has been completed.
- k. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental/ cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;
- l. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department.

**MM 4.5-3KC:** Following issuance of the CUP, but prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-010500. If avoidance is feasible, the area within 100 feet of Site P-15-010500 shall be designated as an Environmentally Sensitive Area and marked with

exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site P-15-010500 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance within 100 feet of Site P-15-010500 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-4KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-010501. If avoidance is feasible, the area within 100 feet of Site P-15-010501 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site P-15-010501 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance of 100 feet of Site P-15-010501 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified

archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-5KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-013568. If avoidance is feasible, the area within 100 feet of Site P-15-013568 shall be designated an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site P-15-013568 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance within 100 feet of Site P-15-013568 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the



Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-6KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site P-15-013622. If avoidance is feasible, the area within 100 feet of Site P-15-013622 shall be designated an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site P-15-013622 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance within 100 feet of Site P-15-013622 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-7KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-013. If avoidance is feasible, the area within 100 feet of Site BEL-S-013 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance.

Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site BEL-S-013 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance of 100 feet of Site BEL-S-013 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-8KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-107. If avoidance is feasible, the area within 100 feet of Site BEL-S-107 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site BEL-S-107 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance of 100 feet of Site BEL-S-107 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research

design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-9KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-108. If avoidance is feasible, the area within 100 feet of Site BEL-S-108 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site BEL-S-108 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance of 100 feet of Site BEL-S-108 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern

County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-10KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-113. If avoidance is feasible, the area within 100 feet of Site BEL-S-113 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

- a. If avoidance of Site BEL-S-113 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.
- b. If avoidance of 100 feet of Site BEL-S-113 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
- c. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
- d. If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-11KC:** In the event archaeological materials are encountered during the course of grading or construction for any project components, the project contractor shall cease any ground disturbing activities within 100 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 100-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrances to the area shall be avoided until the discovery is assessed by the qualified

archaeologist, as well as the Native American monitor if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The qualified archaeologist in consultation with the Native American monitor, if appropriate, 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 Guidelines (CEQA) 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 Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the 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. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified 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.

## City of California City

**MM 4.5-1CC:** Prior to issuance of building or grading permits, the project proponent/operator shall:

- a. Retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards as published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61) to carry out all mitigation measures related to archaeological and historical resources.
- b. The services of a qualified archaeological monitor and Native American monitor shall be retained by the project proponent/operator to monitor all ground-disturbing activities associated with the construction of the proposed project. The Native American monitor shall be selected from a list of Native American contacts with traditional ties to the project area, provided by the Native American Heritage Commission and/or consultation with Native American tribal groups who may have interest in the project area. The archaeological monitor shall work under the supervision of the qualified archaeologist.
- c. The qualified archaeologist, archaeological monitor and Native American monitor shall be provided all project documentation related to cultural resources prior to commencement of ground disturbance activities. Project 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 qualified archaeologist, archaeological monitor and Native American monitor.

**MM 4.5-2CC:** Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the project site, laydown area and/or transmission routes. The training shall be prepared and conducted by the qualified archaeologist and may include participation of the Native American monitor. The training may be in video format. The qualified archaeologist shall be available to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to:

- a. A discussion of applicable cultural resources statutes, regulations and related enforcement provisions;
- b. An overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups, provided by the Native American Monitor or tribal leader;
- c. A summary of the effects of the proposed project on cultural resources;
- d. Samples or visuals of artifacts that might be found in the project area;
- e. A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed;
- f. A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction;
- g. Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified archaeologist, in consultation with the California City Community Development Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance;
- h. An informational guide that identifies the reporting procedures in the event of a discovery;
- i. Other information as deemed necessary by the qualified archaeologist or Native American Monitor;
- j. An acknowledgement form signed by each worker indicating that environmental/cultural training has been completed.

- k. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental/ cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;
- l. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the California City Community Development Department.

**MM 4.5-3CC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid Site BEL-S-066. If avoidance is feasible, the area within 100 feet of Site BEL-S-066 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of Site BEL-S-066 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the California City Community Development Department.

If avoidance of 100 feet of Site BEL-S-066 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the California City Community Development Department prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.5-4CC:** In the event archaeological materials are encountered during the course of grading or construction for any project components, the project contractor shall cease any ground disturbing activities within 100 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 100-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all

entrances to the area shall be avoided until the discovery is assessed by the qualified archaeologist, as well as the Native American monitor if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The qualified archaeologist in consultation with the Native American monitor, if appropriate, 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 Guidelines (CEQA) 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 Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the California City Community Development Department, which may include data recovery or other appropriate measures. The California City Community Development Department shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified 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 California City Community Development Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

## Gen-Tie

Implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-11KC**.

**MM 4.5-12KC:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the segment of the Twenty Mule Team Road impacted by the project shall be documented. Documentation shall consist of the development of a historical narrative following the National Park Service (NPS) guidance for Historic American Landscapes Survey Level II documentation supported by archival research using primary and secondary sources. This may include, but not be limited to, historical maps, aerial photographs, written histories, newspapers, existing cultural resource reports, and historic photographs. Detailed maps of the road shall be made, and large-format black and white, archival quality photographs shall be taken following the NPS guidelines for Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey photography. The documentation report and photographs shall be printed on archival quality paper, saved onto an archival quality CD, and housed in an archival storage box. Copies shall be donated to local repositories.

After documentation of the segment of the Twenty Mule Team Road potentially impacted by the project is completed, the project developer in coordination with the qualified archaeologist shall determine if the construction zone can be narrowed or otherwise altered



to avoid Site P-15-003927. If avoidance is feasible, the area within 100 feet of Site P-15-003927 shall be designated an Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of Site P-15-003927 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Natural Resources Department.

If avoidance within 100 feet of Site P-15-003927 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; and surface artifact collection, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Natural Resources Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.5-1KC** through **MM 4.5-11KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.5-1CC** through **MM 4.5-4CC**, impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-11K**, impacts would be less than significant.

**Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource, as defined in CEQA Guidelines Section 15064.5.**

As discussed above under Impact 4.5-1, seven newly identified cultural resources and five previously recorded cultural resources were identified as potentially eligible for listing in the CRHR. As shown in **Table 4.5-1, *Potentially Eligible Resources***, the following were identified as archaeological resources: P-15-010500, P-15-010501, BEL-S-013, BEL-S-066, BEL-S-107, BEL-S-108, and BEL-S-113.

As noted in Impact 4.5-1, project implementation has the potential to impact the archaeological resources listed above during construction, operation, or decommissioning activities. Per CEQA Guidelines Section 15126.4(b)(3), project redesign and preservation in place is recommended as the preferred means to avoid impacts to historical resources. To ensure avoidance of archaeological resources, Mitigation Measures **MM 4.5-1KC** through **MM 4.5-4KC**, **MM 4.5-7KC** through **MM 4.5-11KC**, and **MM 4.5-1CC** through **MM 4.5-4CC** would be implemented. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of mitigation measures, impacts to archaeological resources would be reduced to less than significant.

**Mitigation Measures****Kern County**

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-4KC** and **MM 4.5-7KC** through **MM 4.5-11KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measures **MM 4.5-1CC** through **MM 4.5-4CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-11KC**, impacts would be less than significant.

**Level of Significance after Mitigation****Kern County**

With implementation of Mitigation Measures **MM 4.5-1KC** through **MM 4.5-11KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measures **MM 4.5-1CC** through **MM 4.5-4CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-11K**, impacts would be less than significant.

**Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.**

**Solar Facility**

There is no indication, either from the archival research results or the archaeological survey, that any particular location in the project 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 Mitigation Measure **MM 4.5-6** would ensure that any human remains encountered during project implementation are properly treated, thus reducing impacts to a less-than-significant level.

**Gen-Tie**

There is no indication, either from the archival research results or the archaeological survey, that any particular location within the gen-tie corridor 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 Mitigation Measure **MM 4.5-6** would ensure that any human remains encountered during project implementation are properly treated, thus reducing impacts to a less-than-significant level.

**Mitigation Measures**

**Kern County**

**MM 4.5-13KC:** If human remains are uncovered during project construction, the project contractor shall immediately halt work and an Environmentally Sensitive Area physical demarcation/barrier shall be constructed. The Kern County Planning and Natural Resources Department shall also be notified of the discovery. The County and the project proponent shall then immediately contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the project operator shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). Per Public Resources Code Section 5097.98, the project operator 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, as prescribed in this section (Public Resources Code Section 5097.98), 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 (7100 et seq.) directing identification of the next-of-kin will apply.

The Most Likely Descendant, identified by the Native American Heritage Commission, shall be allowed, under California Public Resources Code §5097.98(a), to: 1) inspect the site of the discovery; and 2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The Most Likely Descendant, County, and project proponent shall agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The Most Likely Descendant shall complete its inspection and make recommendations within 48 hours of the site visit, as required by California Public Resources Code §5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code §5097.98 (a) and (b). The Most Likely Descendant in consultation with the project proponent, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties shall be aware that the Most Likely Descendant may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The project proponent shall accommodate on-site reburial in a location mutually agreed upon by the parties.

It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The County Coroner, project proponent, and County shall be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code §6254(r).

### **City of California City**

**MM 4.5-5CC:** If human remains are uncovered during project construction, the project contractor shall immediately halt work and an Environmentally Sensitive Area physical demarcation/barrier shall be constructed. The California City Community Development Department shall also be notified of the discovery. The California City Community Development Department and the project proponent shall then immediately contact the Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the California Environmental Quality Act Guidelines. If the Coroner determines that the remains are Native American, the project operator shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). Per Public Resources Code Section 5097.98, the project operator 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, as prescribed in this section (Public Resources Code Section 5097.98), 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 (7100 et seq.) directing identification of the next-of-kin will apply.

The Most Likely Descendant, identified by the Native American Heritage Commission, shall be allowed, under California Public Resources Code §5097.98(a), to: 1) inspect the site of the discovery; and 2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The Most Likely Descendant, California City Community Development Department, and project proponent shall agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The Most Likely Descendant shall complete its inspection and make recommendations within 48 hours of the site visit, as required by California Public Resources Code §5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code §5097.98 (a) and (b). The Most Likely Descendant in consultation with the project proponent, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties shall be aware that the Most Likely Descendant may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The project proponent shall accommodate on-site reburial in a location mutually agreed upon by the parties.

It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, project proponent, and California City Community Development Department shall be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code §6254(r).

## **Gen-Tie**

Implement Mitigation Measure **MM 4.5-13KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measure **MM 4.5-13KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measure **MM 4.5-5CC**, impacts would be less than significant.

## Gen-Tie

With implementation of Mitigation Measure **MM 4.5-13KC**, impacts would be less than significant

## Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the projects, zone changes, and general plan amendment discussed in **Chapter 3, Project Description**, of this EIR, would have on cultural resources. The geographic area of analysis of cumulative impacts for cultural resources includes the Fremont Valley and western Antelope 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. The area considered is large enough to encompass any project effects 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 such resources. Multiple projects, including solar energy production facilities, are proposed throughout the Fremont Valley and western Antelope Valley. Cumulative impacts to cultural resources could therefore 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.

Development of the proposed 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, specific federal, State, and local laws are designed to protect such resources. These laws have led to the discovery, recordation, preservation, and curation of artifacts and historic structures.

As described above, mitigation measures are proposed to reduce potentially significant project impacts to cultural resources during construction of the proposed project. Mitigation measures include avoidance or, if avoidance is not possible, appropriate mitigation of significant resources; preparation of a long-term management plan for significant resources; monitoring of ground-disturbing activities by a qualified archaeologist and Native American monitor; and employee environmental/cultural training. With implementation of Mitigation Measures **MM 4.5-1KC** through **MM 4.5-12KC** and **MM 4.5-1CC** through **MM 4.5-4CC**, project impacts would be reduced to less than significant. Similarly, other cumulative projects would be required to avoid known resources through project design and/or to minimize potential adverse effects to such known or unknown resources to the extent feasible through implementation of mitigation measures. As such, with avoidance and/or implementation of the mitigation identified, it is not anticipated that the project would contribute to a significant cumulative impact on historic or cultural resources. Impacts would be reduced to less than significant.

With regard to human remains, although project construction has the potential to disturb human remains, implementation of Mitigation Measures **MM 4.5-13KC** and **MM 4.5-5CC** would ensure the appropriate protocol is followed with regard to identifying and handling human remains, if discovered during project ground disturbing activities. With implementation of Mitigation Measures **MM 4.5-13KC** and **MM 4.5-5CC**, impacts to human remains would be less than significant. It is anticipated that, in conformance with local State, and federal regulations, the cumulative projects considered would be designed to minimize or avoid impacts to human remains or would implement similar mitigation to ensure that impacts would be

reduced to the extent feasible. As such, with implementation of Mitigation Measures **MM 4.5-13KC** and **MM 4.5-5CC**, it is not anticipated that the project would contribute to a significant cumulative impact on human remains. Impacts would be reduced to less than significant.

Similarly, with conformance to applicable federal, State, and local regulations, combined with the evaluation of resource significance and implementation of mitigation measures in compliance with applicable legislation, it is anticipated that other cumulative development projects would be adequately addressed and impacts on historical and cultural resources and/or human remains would be reduced to the extent feasible. Therefore, individual project-level impacts associated with cultural resources at other proposed project sites would be less than significant with incorporation of mitigation measures similar to **MM 4.5-1KC** through **4.5-13KC** and **MM 4.5-1CC** through **4.5-5CC** to be imposed for the proposed project. Therefore, cumulative impacts relative to cultural resources would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.5-1KC** through **MM 4.5-13KC**.

### **City of California City**

Implement Mitigation Measures **MM 4.5-1CC** through **MM 4.5-5CC**.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.5-1KC** through **MM 4.5-13KC**, cumulative impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.5-1CC** through **MM 4.5-5CC**, cumulative impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, cumulative impacts would be less than significant.

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### 4.6.1 Introduction

This section of the EIR analyzes the energy implications of the project, focusing on the following energy resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section includes a summary of the project's anticipated energy needs and conservation measures. Information in this section is based primarily on the *Bellefield Solar Farm – Energy Consumption Technical Memorandum* prepared by HDR (HDR 2021) located in Appendix F, *Energy Consumption Technical Memorandum* 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**.

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*, which 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, *Energy Conservation*, 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.

### 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.

Electrical services in the project area are provided by Southern California Edison (SCE). SCE 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 sources, including fossil fuel, hydroelectric, nuclear, wind, and geothermal plants, and is fed into the electrical grid system serving Southern California.

SCE updates all load forecasts for gas and electricity services every year. Load growth forecasts for this area are currently determined using load growth projection tools that use a number of sources of data, including past peak loading, population, development characteristics, and temperature history information. **Table 4.6-1, *Electric Power Mix Delivered to Retail Customers in 2019***, shows the electric power mix that was delivered to retail customers for SCE compared to the statewide power mix for 2019, the most recent year in which data is available.

**Table 4.6-1. Electric Power Mix Delivered to Retail Customers in 2019**

Energy Resource	SCE Power Mix	2019 CA Power Mix <sup>2</sup>
Eligible Renewable	35.1%	31.7%
Biomass & bio-waste	0.6%	2.4%
Geothermal	5.9%	4.8%
Small hydroelectric	1.0%	2.0%
Solar	16.0%	12.3%
Wind	11.5%	10.2%
Coal	0%	3.0%
Large Hydroelectric	7.9%	14.6%
Natural Gas	16.1%	34.2%
Nuclear	8.2%	9.0%
Other	0.1%	0.2%
Unspecified sources of power <sup>1</sup>	32.6%	7.3%
<b>Total</b>	<b>100%</b>	<b>100%</b>
Source: SCE 2019.		
Notes:		
<sup>1</sup> Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.		
<sup>2</sup> Percentages are estimated annually by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.		

## 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, which is measured in terms of cubic

feet (cf), provides almost one-third of the state's total energy requirements. According to the US Energy Information Administration (EIA), California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2020a). The majority of California's natural gas is consumed by industrial uses (37 percent), followed by electric power generation (28 percent), and residential uses (22 percent) (EIA 2020a). While the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little, and imports 90 percent of its supply of natural gas.

In California, natural gas consumption for energy use is often inversely related to solar energy production. Natural gas and solar are the two most prevalent sources of electricity generation in California; however, solar generation is non-dispatchable. Grid operators use natural gas and, to a lesser extent, hydroelectricity and electricity imports from neighboring areas, to balance changes in electricity demand (EIA 2020b). Output from solar power will peak and then plateau by midday, rapidly declining by the evening as the sun sets. As solar output declines, natural gas-fired generators often have to ramp up, or increase their output, considerably in the afternoon and early evening hours (EIA 2020b).

At the project level, Southern California Gas Company (SoCalGas) is the natural gas provider in Kern County; however, because the project site is currently undeveloped, there is no known natural gas service for the project site. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities. In the California Energy Commission's (CEC) California Energy Demand mid-energy demand scenario, natural gas demand is projected to have an average annual growth rate of negative 0.01 percent in SoCalGas' service territory between 2012 and 2024 (CEC 2014). Natural gas consumption is not projected to increase due to higher consumer utility prices and statewide natural gas efficiency standards and programs.

## Transportation

According to the CEC, transportation accounted for nearly 37 percent of California's total energy consumption in 2014 (CEC 2017). In 2019, California consumed 15.6 billion gallons of gasoline and 3.1 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2020). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (CEC 2020). However, the state is now 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 2020). 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 2018). According to the California Air Resources Board's (CARB) EMFAC2017 Web Database, Kern County's on-road transportation sources consumed approximately 454 million gallons of gasoline and 308 million gallons of diesel fuel in 2018 (CARB 2019).

## 4.6.3 Regulatory Setting

### Federal

#### Corporate Average Fuel Standards

Established by the US 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 US Environmental Protection Agency (USEPA) jointly administer the CAFE standards (NHTSA 2019). The US 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 and NHTSA 2016).

#### Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase the nation’s energy security, develop renewable fuel production, and improve vehicle fuel economy. The act included the first increase in fuel economy standards for passenger cars since 1975 and a new energy grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

### 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, update on trends in California's sources of crude oil, update on California's nuclear plants, and other energy issues.

## **California's Renewable Portfolio Standard**

The California Public Utilities Commission (CPUC) and the CEC jointly implement the Renewables Portfolio Standard (RPS) Program (CPUC 2021). 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.

**SB 350.** In October 2015, Governor Brown signed SB 350, which expands and increases the target of the RPS Program to 50 percent by the end of 2030.

**SB 100.** 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.

## **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**

### ***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 5 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.

### ***Regulations 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<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> 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, 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.

### **California Environmental Quality Act**

In accordance with CEQA and Appendix F, *Energy Conservation*, of the 2018 *CEQA Guidelines*, and to ensure 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. 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.

### Mojave Specific Plan

The Mojave Specific Plan (Kern County 2003) guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The objective, policies, and implementation measure in the Mojave Specific Plan for energy applicable to the project are provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

## **Chapter 4. Conservation Element**

### **Objective**

Objective 4.3 Encourage conservation of energy resources.

### **Policies**

Policy 4.3.1 Promote energy conservation measures contained in Title 24 of the California Code of Regulations.

Policy 4.6.3 Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

### **Implementation Measure**

Implementation Measure N-3a) Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.

## **California City General Plan**

The goals, policies, and implementation measures in the California City General Plan (California City 2009) related to the conservation of energy resources are primarily applicable to land development projects. These goals and policies focus on promoting energy efficient development designs and encouraging energy conservation measures included within the California Building Code (Title 24 of the California Code of Regulations). There are no general plan goals, policies, and implementation measures that directly relate to utility-scale energy generation projects.

## **4.6.4 Impacts and Mitigation Measures**

### **Methodology**

This analysis addresses the project's potential energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation is assessed and specific analysis methodologies are discussed below. The assessment presented herein is on the *Bellefield Solar Farm – Energy Consumption Technical Memorandum* prepared by HDR (HDR 2021) located in Appendix F, *Energy Consumption Technical Memorandum*, of this EIR.

### **Construction**

Electricity is not expected to be consumed during project construction, as construction equipment and vehicles are typically diesel- or gas-powered, not electric. Therefore, electricity associated with construction-related activities was not calculated.

Natural gas is not expected to be consumed during project construction (i.e., no natural gas-powered equipment or vehicles). Therefore, natural gas associated with construction activities was not calculated.



Regarding transportation-related fuel consumption during construction, it is assumed that only diesel fuel would be used in off-road construction equipment and for haul trucks used during delivery of solar panels to the project site. On-road vehicles for construction workers are assumed to be solely powered by gasoline. The diesel and gasoline fuel consumptions for project construction were calculated using the carbon dioxide (CO<sub>2</sub>) emissions contained in the *Bellefield Solar Farm Project Air Quality and Greenhouse Gas Study* (Rincon 2020e), which is available as Appendix C, *Air Quality and Greenhouse Gas Study*, of this EIR, as well as USEPA's default emission rates of 19.4 pounds of CO<sub>2</sub> per gallon of gasoline and 22.2 pounds of CO<sub>2</sub> per gallon of diesel (USEPA 2005). The fuel consumption calculations are provided in Appendix A of the HDR Energy Consumption Technical Memorandum prepared for the project (available as Appendix F, *Energy Consumption Technical Memorandum* of this EIR).

## Operation

The operational phase of the project would require electricity for multiple purposes, such as operation of the operation and maintenance building (i.e., electricity consumption from staff use of lighting, space heating and cooling units, general appliances, water heating), as well as project site lighting (i.e., roadway lighting and security lighting at access gates, inverter stations, and substations).

Natural gas is not expected to be consumed during project operations (i.e., no natural gas-powered equipment or vehicles). Therefore, natural gas associated with operation of the project was not calculated.

During operation, it is estimated that the project would result in consumption of both diesel fuel and gasoline associated with on-site and off-site vehicle trips and facility maintenance equipment associated with occasional washing of solar panels. It is expected that the project would require an operational staff of up to 20 full-time employees. On-site vehicle trips would include the use of light pick-up trucks, water trucks, and service vehicles, which would use both gasoline and diesel fuel. Off-site vehicle trips would include the use of passenger vehicles and light trucks used by employees to access the project site, delivery trucks, and service vehicles, would use both gasoline and diesel fuel. The amount of gasoline and diesel fuel consumed during project operation is calculated using the project's estimated emissions of carbon dioxide equivalent (CO<sub>2</sub>e). These emissions estimates are provided in the air quality and GHG emissions report, available as Appendix C, *Air Quality and Greenhouse Gas Study*, of this EIR.

## Thresholds of Significance

As established in Appendix G of the *CEQA Guidelines*, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria to determine if a project could potentially have a significant impact on energy and energy resources.

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 construction or operation.**

### Construction and Decommissioning

#### *Electricity*

As stated above, electricity is not expected to be consumed during construction- or decommissioning-related activities, as construction equipment and vehicles are not electric powered (the majority of construction equipment is either diesel- or gas-powered). Therefore, electricity associated with construction- or decommissioning-related activities was not calculated. Electricity for construction or decommissioning would be provided by SCE and a hookup would be installed on the project site (and this hookup would also provide electricity on-site for the operational phase of the project); however, construction or decommissioning-related electricity usage from this connection is anticipated to be minimal (i.e., mostly for security lighting), and the project would have a less than significant impact on electricity consumption.

#### *Natural Gas*

Natural gas is not expected to be consumed during construction-, decommissioning-, or operation-related activities by construction-related equipment (i.e., no natural gas-powered equipment or vehicles). Therefore, the proposed project would have no impact on natural gas consumption.

#### *Gasoline and Diesel*

Construction of the project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the project site. Project construction is expected to consume a total of approximately 595,932 gallons of diesel fuel from construction equipment and vendor, hauling, and water truck trips, and approximately 66,469 gallons of gasoline from construction worker vehicle trips.

Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a typical condition of the project. As shown in **Table 4.6-2, Fuel Consumption During Construction**, the gasoline consumed during construction represents approximately 0.02 percent of all gasoline sold within Kern County in 2018 (396 million gallons) (CEC 2019a). Further, as shown in **Table 4.6-2**, the diesel consumed during project construction would represent approximately 0.55 percent of all diesel sold in Kern County in 2018 (108 million gallons) (CEC 2019a). These volumes represent a negligible and insignificant increase in countywide totals.

Energy consumption associated with decommissioning activities are anticipated to be similar to construction activities. The consumption of fuels during construction and decommissioning would be irreversible. Although construction and decommissioning activities would be temporary, the project could result in a wasteful, inefficient, or unnecessary consumption of energy resources if available control measures are not implemented. The project does not propose any energy control measures during

construction. As a result, this impact would be potentially significant. Implementation of Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**, 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. Implementation of **MM 4.3-1KC** and **MM 4.3-1CC** would also ensure compliance with 13 CCR Section 2449 et seq., which imposes construction equipment idling restrictions. Compliance with Title 13 would also help to reduce unnecessary fuel consumption during project construction. With implementation of this mitigation, the project would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels and impacts would be reduced to less than significant.

**Table 4.6-2. Fuel Consumption During Construction**

<b>Fuel Consumption During Project Construction (gallons)</b>	<b>2018 Kern County Fuel Sales (gallons)</b>	<b>Project Fuel Consumption (% of Countywide Totals)</b>
<i><b>Gasoline</b></i>		
66,469	396,000,000	0.02
<i><b>Diesel</b></i>		
595,932.2	108,000,000	0.55

Source: HDR 2021 (see Appendix F).

## Operation

### ***Electricity***

Electricity required during operation, such as lighting, heating and cooling equipment, general appliances, and water heating for the operations and maintenance building, and security lighting at energy storage facilities and access gates, would be more than offset by the electricity produced by the solar facility. As discussed in **Section 4.8, Greenhouse Gas Emissions**, of this EIR, construction and operation of renewable energy facilities would offset GHG emissions by replacing energy generated by fossil-fueled power plants. Specifically, the project would generate approximately 3,696 GWh of electricity each year or approximately 110,869 GWh over a 30-year life span. This additional solar-generated energy 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 would be consistent with CARB's 2017 Scoping Plan Update (see **Impact 4.6-2** for information on the Scoping Plan). According to the CPUC, California's average residential electricity use is among the lowest in the nation, at 557 kWh per month or 6,684 kWh per year (CPUC 2015). This means that with the average residential use in California consuming 6,684 kWh (or 0.0067 GWh) of electricity annually, the project would generate enough electricity to power approximately 423,850 homes annually. Based on these considerations, the project would have a less than significant impact on electricity consumption.

### ***Natural Gas***

Natural gas is not expected to be consumed during operation-related activities by construction equipment (i.e., no natural gas-powered equipment or vehicles). Therefore, the proposed project would have a less than significant impact on natural gas consumption.

## ***Diesel and Gasoline***

During operations, it is estimated that the operational and maintenance activities would consume approximately 591 gallons of gasoline annually. The gasoline consumed during project operation would represent a negligible percentage (0.02 percent) of all gasoline sold within Kern County in 2018 (396 million gallons) (CEC 2019a). Therefore, operation-related fuel consumption by the project would not result in inefficient, wasteful, or unnecessary energy use.

## ***Gen-Tie***

### **Construction**

Construction of the gen-tie lines is incorporated into the construction schedule and equipment mix included in Appendix C, *Air Quality and Greenhouse Gas Study*, of this EIR). Therefore, because energy consumption utilized in this impacts discussion is based on the *Bellefield Solar Farm Project Air Quality and Greenhouse Gas Study*, energy consumption associated with the gen-tie are incorporated directly into the impacts associated with construction of the solar facility, which is discussed above. The energy consumption related to the gen-tie would be a small fraction of the proposed project's overall energy consumption occurring during project construction given that the proposed gen-tie would require minimal ground disturbance and limited vehicle and construction equipment use. If the gen-tie line should be decommissioned and removed at some future time, the energy consumption would be similar to and no more extensive than the impacts associated with initial construction. As such, the impact would also be less than significant. As described above, the solar facility would have a less than significant impact on electricity consumption and fuel consumption. The gen-tie would have no impact on natural gas consumption.

### **Operation**

Operation-related fuel consumption by the gen-tie would result from periodic use of maintenance vehicles. As such, fuel consumption would be minimal and would not result in inefficient, wasteful, or unnecessary energy use.

## **Mitigation Measures**

### **Kern County**

Implement construction Mitigation Measure **MM 4.3-1KC** as provided in **Section 4.3, *Air Quality***, of this EIR.

### **City of California City**

Implement construction Mitigation Measure **MM 4.3-1CC** as provided in **Section 4.3, *Air Quality***, of this EIR.

### **Gen-Tie**

Implement construction Mitigation Measure **MM 4.3-1KC** as provided in **Section 4.3, *Air Quality***, of this EIR.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measure **MM-4.3-1KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measure **MM-4.3-1CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measure **MM-4.3-1 KC**, impacts would be 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.**

### Construction

Construction equipment would comply with federal, state, and regional requirements where applicable. With respect to truck fleet operators, the USEPA and NHTSA have adopted fuel efficiency standards for medium- and heavy-duty trucks. 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 will result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. The USEPA and NHTSA 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. These regulations have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the latest fuel standards. The project's energy modeling for trucks discussed above (i.e., EMFAC2017) takes these fuel standards into account when projecting energy demand during project-related construction activities.

In addition, construction equipment and trucks are required to comply with CARB regulations (13 CCR Section 2485) regarding heavy-duty truck idling limits of five minutes at a location and the phase-in of off-road emission standards that can increase energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these regulations are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy. Project construction activities would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Future decommissioning activities would be similar to and no more intensive than initial construction activities and could occur over a shorter duration of time. As such, energy consumption would be similar to and possibly lower than the initial construction requirements and impacts would also be less than significant.

### Operations

The CARB *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan), which is discussed further in **Section 4.8, Greenhouse Gas Emissions**, of this EIR, was updated in 2017 to address the 2030 GHG reduction target established by SB 32 by establishing a proposed framework of action for California

to meet a 40 percent reduction in GHG emissions by 2030, as compared with 1990 GHG emissions levels. One of the key programs that the 2017 Scoping Plan builds on includes increasing the use of renewable energy in the state. In order to meet the SB 32 GHG emissions reduction mandate of 40 percent below 1990 levels by 2030, the 2017 Scoping Plan relies on achievement of the 50 percent RPS by 2030. 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. By generating approximately 3,696 GWh of electricity each year or approximately 110,869 GWh over the project's 30-40 year lifetime that would be added to the power grid, the project and other similar renewable energy projects are essential to achieving the RPS. Further, because the project would generate electricity from a renewable source of energy, operation of the project is expected displace energy production that would otherwise be generated by non-renewable energy facilities using a petroleum fuel, natural gas or coal. As discussed in **Section 4.8, Greenhouse Gas Emissions**, of this EIR, approximately 795,348 metric tons (MTCO<sub>2</sub>e) of net GHG emissions would be avoided by the implementation of the project annually, with approximately 23,845,920 MTCO<sub>2</sub>e of GHG emissions avoided over the lifetime of the project. This GHG emissions avoided would assist in the attainment of the state's goal to reduce GHG emissions to 40 percent below 1990 levels by 2030. This reduction in GHG emissions is a direct result of increasing the share of renewable energy available to investor-owned utilities required to meet RPS. The project directly aligns with the goals of RPS by generating solar-generated electricity.

The Office of the California Attorney General has listed examples of types of mitigation measures that local agencies may consider to further 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. Specifically, the project complies with the Attorney General's recommended measures:

- Install solar, wind, and geothermal power systems and solar hot water heaters.
- Include energy storage where appropriate to optimize renewable energy generation systems and avoid peak energy use (State of California Department of Justice, Attorney General's Office 2010).

As the project would generate up to 1,500 MW of renewable energy, including up to 1,500 MWh of energy storage, the project would be consistent with the Office of the California Attorney General's recommended measures to reduce GHG emissions. Therefore, the project would not conflict with or obstruct the adoption of the Attorney General's recommended measures regarding renewable energy.

As shown in **Table 4.11-2, Consistency Analysis with Kern County General Plan**, in the **Land Use section**, development of the project would be consistent with the goals and related policies in the Energy Element of the Kern County General Plan to encourage safe and orderly development of commercial solar facilities and transmission lines.

With regard to the operation and maintenance building proposed on the project site, this building would be subject to the Building Energy Efficiency Standards as required by the 24 CCR Part 6. The Building Energy Efficiency Standards are intended to save energy, increase electricity supply reliability, and avoid the need to construct new power plants. Pursuant to the California Building Standards Code and the Energy Efficiency Standards, the County would review the design components of the project's energy conservation measures when the project's building plans are submitted. These measures could include insulation; use of energy-efficient heating, ventilation, and air conditioning equipment (HVAC); solar-reflective roofing

materials; energy-efficient indoor and outdoor lighting systems; reclamation of heat rejection from refrigeration equipment to generate hot water; incorporation of skylights; and other measures. The project would also be subject to CALGreen (24 CCR Part 11), which requires 65 percent construction solid waste diversion.

Overall, because the main objectives of the project are to assist California investor-owned utilities in meeting their obligations under California's RPS Program, which would, in turn, assist California in meeting the GHG emissions reduction goal of 40 percent below 1990 levels by 2030, and higher levels of reduction beyond 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 RPS. Therefore, this impact would be less than significant.

## Mitigation Measures

### Kern County

No mitigation would be required.

### City of California City

No mitigation would be required.

### Gen-Tie

No mitigation would be required.

## Level of Significance

### Kern County

Impacts would be less than significant.

### City of California City

Impacts would be less than significant.

### Gen-Tie

Impacts would be less than significant.

## 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, **Table 3-4, Cumulative Projects List**, there are 29 related projects in Eastern Kern County within the vicinity of the project site, which represents the geographic context for the analysis of cumulative impacts on energy resources. Cumulative projects in the project area 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 CARB Scoping Plan. In order to meet the SB 32 GHG emissions reduction mandate, the CARB 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 sources of energy consumption from the proposed project and other cumulative projects would be from construction equipment usage, haul truck trips, and employee trips during the construction phase. Energy consumption during operations would primarily be generated by water truck trips, maintenance trips, and employee trips, as well as operation of the operations and maintenance buildings (i.e., lighting, as well as heating, cooling, and ventilation equipment). Cumulative impacts involving operational energy consumption would, therefore, consist mainly of minor levels of transportation-related energy consumption. Energy consumption during project construction would be finite and temporary, and would not be wasteful, inefficient, or unnecessary, as discussed above. Similarly, energy consumption during project decommissioning would also be finite and temporary, and not wasteful or inefficient. Further, the electricity required from the existing SCE grid during project operation associated with lighting, heating and cooling equipment, general appliances, and water heating for the operations and maintenance buildings would be greatly offset by the electricity produced by the various renewable energy projects.

Although the project would result in a contribution to cumulative energy consumption in California, construction of the project would implement Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**, as provided in Section 4.3, *Air Quality*, of this EIR, which would require the use of energy-efficient and alternatively fueled equipment during project construction. In addition, operation of the project could offset emissions from the electricity generation sector. The project would generate approximately 3,696 GWh of solar-generated electricity each year that would be added to the power grid and used in place of electricity generated by fossil-fuel sources. Based on the project's projected annual electricity generation and the GHG emissions generated due to fossil-fuel combustion to generate the same level of electricity, the project has the potential to displace 795,348 MTCO<sub>2</sub>e per year.

As stated above, a majority of the related projects are solar or wind farms that would have similar energy consumption characteristics to the proposed project during construction, operation, and decommissioning, which would be offset by renewable energy generation during project operation. Specifically, the other related projects would also be required to comply with federal, state, and regional regulations relating to energy efficiency and fuel consumption during construction, such as the USEPA and NHTSA fuel efficiency standards for medium- and heavy-duty trucks and CARB's regulations regarding heavy-duty truck idling limits. The related projects would also have minimal operational trips and electricity usage given the general nature of renewable energy generation facilities like the proposed project. Further, the related projects would be consistent with the CARB Scoping Plan / SB 32 GHG emissions reduction goals, as well as local goals and policies regarding renewable energy generation. Overall, cumulative impacts involving energy consumption would not result in wasteful or inefficient energy uses. Further, the project, combined with other existing and proposed utility scale renewable energy projects, would have a considerable beneficial impact in terms of implementing state and regional renewable energy plans. Long-term cumulative impacts would be less than significant.



## Mitigation Measures

### Kern County

Implement construction Mitigation Measure **MM 4.3-1KC**, as provided in **Section 4.3**, *Air Quality*, of this EIR.

### City of California City

Implement construction Mitigation Measure **MM 4.3-1CC**, as provided in **Section 4.3**, *Air Quality*, of this EIR.

### Gen-Tie

Implement construction Mitigation Measure **MM 4.3-1KC**, as provided in **Section 4.3**, *Air Quality*, of this EIR.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measure **MM 4.3-1KC**, cumulative construction impacts would be less than significant.

### City of California City

With implementation of Mitigation Measure **MM 4.3-1CC**, cumulative construction impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measure **MM 4.3-1KC**, cumulative construction impacts would be less than significant.

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### **4.7.1 Introduction**

This section describes the affected environment and regulatory setting for geology and soils. It also describes the impacts on geology and soils that would result from implementation of the proposed project, and identifies mitigation measures that would reduce these impacts, if applicable. This section also analyzes potential project impacts to paleontological resources. Information in this section is based primarily on the *CEQA Level Geotechnical Study* prepared by Stantec (Stantec 2020b) and the *Paleontological Resources Assessment* prepared by Rincon Consultants (Rincon 2020f), located in Appendix G and Appendix H of this EIR, respectively.

### **4.7.2 Environmental Setting**

#### **Geologic Setting**

##### **Regional Geological Setting**

The proposed project is located in the western portion of the Mojave Desert Geomorphic Province which is characterized by block-faulted mountain ranges and intervening valleys. The Mojave Desert is characterized by broad alluvial fans that have formed along the transition of the ranges and valleys. The western part of the Mojave Desert is bounded by two major active faults, the Garlock Fault to the north and the San Andreas Fault to the south.

Kern County is located in one of the more seismically active areas of California and may at any time be subject to moderate to severe ground shaking. This hazard exists because elastic strains accumulate deep within the earth, resulting in movement along a fracture zone that releases large amounts of energy. Seismicity is the geographic and historical distribution of earthquakes, including their frequency, intensity, and distribution. Seismic hazards include surface rupture, ground shaking, liquefaction, landslides, subsidence, and expansive soils.

##### **Local Geological Setting**

##### **Regional Faults**

The surface topography within the region is influenced by two sets of faults, a prominent northwest to southeast trending set (San Andreas Fault) and a secondary east to west trending set (Garlock Fault).

##### **San Andreas Fault**

The San Andreas Fault is a right-lateral, strike-slip fault that extends more than 700 miles from the Gulf of California to Cape Mendocino in Northern California. The segment of the San Andreas Fault within Kern

County is relatively short compared to its 700-mile length. However, it is important because this segment breaks from the system's predominantly 350-degree trending direction between the San Luis Obispo County and Los Angeles County line. This is an active fault capable of damaging the project area. Areas along this fault have been designated by the State of California as Alquist-Priolo Special Studies Zones. Several historical earthquakes on the San Andreas Fault Zone have produced significant seismic shaking in the vicinity of the proposed project.

### **Garlock Fault**

The Garlock Fault extends eastward from its point of intersection with the San Andreas Fault, near Lebec, for a distance of nearly 150 miles. The fault is located approximately 35 miles southeast of downtown Bakersfield. The Garlock Fault Zone is one of the most obvious geologic features in Southern California, clearly marking the northern boundary of the area known as the Mojave Block, as well as the southern ends of the Sierra Nevada Mountain Range and the valleys of the westernmost Basin and Range Province. While no earthquake has produced surface rupture on the Garlock Fault in historical times, there have been several sizable quakes recorded along the Garlock Fault Zone. The most recent was a magnitude 5.7 event near the town of Mojave on July 11, 1992. At least one section of the fault has shown movement in recent years. This is an active fault capable of damaging the project area.

## **Geologic Hazards**

### **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 breaks through to the surface. Fault ruptures almost always follow preexisting faults that are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking. Fault creep is the slow, continuous aseismic fault deformation of the earth's crust. Fault rupture is considered to be most likely to occur along the traces of identified active faults.

The project site is not located within a currently mapped Alquist-Priolo Special Studies Fault Zone (Stantec 2021b). The estimated distance of the project site to the nearest expected surface expression of major active faults is presented in **Table 4.7-1, *Faults in Proximity to the Project Site***. The nearest active faults are the Garlock (West) and Garlock (Center) faults, located approximately 7.5 miles and 10.8 miles from the project site, respectively. No active faults are known to underlie or project toward the project site. Therefore, the probability of surface fault rupture at the project site from a known active fault is considered low.

**Table 4.7-1. Faults in Proximity to the Project Site**

<b>Fault</b>	<b>Distance (miles) <sup>[1]</sup></b>	<b>Maximum Moment Magnitude</b>
Garlock (Center)	10.8	7.7
Garlock (West)	7.5	7.5
South Sierra Nevada	17.4	7.5
Lenwood-Lockhart-Old Woman Springs	19.2	7.5
Helendale – South Lockhart	25.6	7.4
South San Andreas	32.5	8.1

Source: Stantec 2021b; see Appendix G.

Note: <sup>[1]</sup> Measured from approximate center of site.

### Ground Shaking

Strong ground shaking from an earthquake can result in damage associated with landslides, ground lurching, structural damage, and liquefaction. The Southern California region is characterized by, and has a history of, fault stress and associated seismic activity. Earthquakes are classified by their magnitude, a measure of the amount of energy released during an event. During a seismic event, the project site may be subjected to high levels of ground shaking due to proximity to active faults in the area. The largest fault in the area is the San Andreas Fault, which is considered active. Strong ground shaking can be expected at the project site during moderate to severe earthquakes in the general region. However, this phenomenon is common to most areas in Southern California.

Information published by the United States Geologic Survey (USGS) indicates the peak ground acceleration (PGA) with a 2 percent probability of being exceeded at the site in 50 years is 0.42g, where g is the acceleration due to gravity determined in accordance with the US Seismic Design Maps website (Stantec 2021b).

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 on-site is dependent on the distance to causative faults and the earthquake magnitude (or measure of the amount of energy released during an earthquake event). **Table 4.7-2, *Historic Earthquakes in Project Area Vicinity***, shows some of the significant historical earthquakes that have occurred in the region and their magnitude.

**Table 4.7-2: Historic Earthquakes in Project Area Vicinity**

<b>Earthquake (Year)</b>	<b>Earthquake Magnitude</b>
Mojave (1992)	5.7
Tejon Ranch (1988)	5.4
Kern County (1952)	7.5
Ridgecrest (2019)	7.1, 6.4, and 5.4
Source: SCEDC 2020.	

The fault with likely the most potential to affect the site from a design standpoint is the Garlock Fault due to its location and earthquake magnitude potential. The Garlock Fault has a maximum moment magnitude

earthquake potential of 7.1, which is enough to cause substantive ground-shaking at the site. However, seismic events on other active faults of the region would also have the potential to cause ground-shaking at the project site.

### **Liquefaction**

Liquefaction of saturated sandy soils is generally caused by the sudden decrease in soil shear strength due to vibration. During seismic shaking, typically caused by an earthquake, the soil mass is distorted, and inter-particle stresses are transferred from the soil particles to the pore water. As pore pressure increases the bearing capacity decreases and the soil may behave temporarily as a viscous fluid (liquefaction) and, consequently, loses its capacity to support structures that may be present.

Engineering research of soil liquefaction potential indicates that generally three basic factors must exist concurrently in order for liquefaction to occur, namely:

- i. A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- ii. A relatively loose sandy soil fabric exhibiting a potential for volume reduction.
- iii. A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The project site is not located within a current, mapped California Liquefaction Hazard Zone. In addition, groundwater in the site vicinity is expected to be approximately 133 feet below the ground surface. Based on the near surface soil conditions and depth to groundwater, the potential for liquefaction related ground failure at the project site, including liquefaction, is low (Stantec 2021b).

### **Lateral Spreading**

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or “free” face such as an open body of water, channel, or excavation. This movement is generally due to failure along a weak plane and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free.

Due to the low potential for liquefaction, the depth of groundwater, and the fact that the project site is not located near free faces or bodies of water, the potential for lateral spreading is considered low (Stantec 2021b).

### **Subsidence**

Groundwater levels in the Antelope Valley adjacent to the east of the Fremont Valley have declined more than 270 feet since the 1970s in some parts of the groundwater basin, especially near the City of Lancaster. These groundwater level declines have caused the aquifer system to compact, resulting in land subsidence. Land subsidence within the Antelope Valley has been most recently evaluated by the USGS through the use of Interferometric Synthetic Aperture Radar between 1992 and 2009. Based on these recent studies, the project site is not within an area that has sustained measurable subsidence due to groundwater draw down. Due to the depth of groundwater and the fact that the site is not located in a mapped subsidence area, the potential for subsidence is considered low (Stantec 2021b).

### **Expansive Soils**

Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). The near-surface soils encountered during the geotechnical investigation are mostly sandy soils whose expansion potential is considered low (Stantec 2021b).

### **Landslides**

The project site is relatively flat, with a topographic gradient less than 2 percent. Permanent slopes steeper than 5:1 (horizontal to vertical) or higher than 5 feet are not anticipated for the project. Therefore, the potential for landslides to occur on or adjacent to the project site is considered low.

### **Erosion**

Soil erosion occurs when surface materials are worn away from the earth's surface due to land disturbance and/or natural factors such as wind and precipitation. The potential for soil erosion is determined by characteristics including texture and content, surface roughness, vegetation cover, and slope grade and length. Wind erosion typically occurs when fine-grained non-cohesive soils are exposed to high velocity winds, while water erosion tends to occur when loose soils on moderate to steep slopes are exposed to high-intensity storm events. Soil is naturally removed from the surface of the earth by water or wind action at close to the same rate that it is produced. However, human activities such as agriculture and development can accelerate natural soil erosion rates.

The project site is predominately underlain by coarse-grained soils. Such soils are potentially susceptible to erosion or the loss of topsoil due to surface water flows (Stantec 2021b).

## **Paleontological Setting**

### **Paleontological Resources**

Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve the understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well-represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates, and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiocarbon dating is possible.

### **Paleontological Sensitivity**

Paleontological sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and previously recorded fossil localities from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from any one specific survey. The Society of Vertebrate Paleontology (SVP) system outlined in the SVP *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010) is the generally accepted paleontological sensitivity classification scheme for projects on non-federal lands in California.

The SVP describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. The SVP sensitivity categories are:

**High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e.g., ashes or tephra) and some low-grade metamorphic rocks that contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.

**Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, or depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource mitigation program can be developed. In cases where no subsurface data is available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

**Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule (e.g., basalt flows or recent colluvium). Rock units with low potential typically do not require implementation of mitigation measures to protect fossils.

**No Potential.** Some rock units have no potential to contain significant paleontological resources such as high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection or implementation of mitigation measures relative to paleontological resources.

## Geology and Paleontology Sensitivity of the Project Area

Geologic mapping indicates that the project area is primarily underlain by the following geologic units at ground surface.



## **Quaternary (Holocene) Alluvium and Dune Sand**

Quaternary (Holocene) alluvium, derived from the Tehachapi Mountains to the northwest, form an unconsolidated layer of alluvial sand, silt, and gravel across much of the project area and Antelope Valley. Mapped at the surface within the eastern portion of the project area, the Quaternary (Holocene) dune sand deposits consist of loose, well-sorted, fine-grained sand deposited as dunes or thin veneers on alluvium and clay. Holocene-aged units are too young to contain scientifically significant paleontological resources and are considered to have low paleontological sensitivity. However, these younger deposits may grade downward into older Quaternary (i.e., Pleistocene) alluvial deposits which may preserve fossil remains at unknown depths within the project area. Consequently, unmapped Quaternary (Pleistocene) alluvial deposits are considered to have a high paleontological sensitivity (Rincon 2020f).

## **Quaternary (Pleistocene) Fanglomerate**

Quaternary (Pleistocene) fanglomerate deposits are mapped within the south-central project area and are composed of weakly consolidated, unbedded, poorly sorted, fanglomerate or boulder gravel with clasts of quartz monzonite or volcanic rocks. Due to the coarse and volcanic nature of these deposits, Quaternary (Pleistocene) fanglomerate sediments are unlikely to contain paleontological resources in the uppermost layers and are assigned a low paleontological sensitivity. However, these deposits may also grade downward into more fine-grained sediments at depth, which would be considered to have high paleontological sensitivity and may preserve fossil remains (Rincon 2020f).

## **Quaternary (Pleistocene) Alluvial Deposits**

Quaternary (Pleistocene) alluvial deposits with high paleontological sensitivity are mapped at the margins of the Tehachapi Mountains approximately 5 to 12 miles west of the PV portions of the project site. These units are not mapped within the project site but are expected to underlie the project area at shallow or unknown depths. Quaternary (Pleistocene) alluvial deposits would be expected to occur at shallow depths (less than 5 feet) near the margins of the basin; however, the depth at which Quaternary (Pleistocene) alluvial deposits occurs may vary throughout a basin, ranging from shallow to more than 100 feet depending on the local topography. In the absence of geotechnical data, the depth to Quaternary (Pleistocene) alluvial deposits cannot be reliably estimated; however, sensitive older deposits are unlikely to occur at depths of less than 5 feet at the project site based on the project site being situated toward the center of the basin.

Quaternary (Pleistocene) alluvial deposits are composed of loose to weakly consolidated, massive to poorly bedded, arkosic or granitic, fine to coarse-grained sand and silt with clasts of subrounded gravel and pebbles. Quaternary (Pleistocene) alluvial deposits have proven to yield significant vertebrate fossil localities in Kern County and throughout Southern California from the coastal areas to the inland valleys. Localities have produced fossil specimens of terrestrial mammals such as mammoth, horse, elephant, camel, bison, birds, rodents, and reptiles (Rincon 2020f).

## **Miocene Gem Formation and Mesozoic Intrusive Igneous Rocks**

The Miocene Gem Formation, mapped in the south-southeastern project area, includes massive to faintly flow laminated, unfossiliferous, light-colored volcanic rocks consisting of felsite, porphyritic felsite, and porphyry facies. Exposures of Mesozoic intrusive igneous rocks are also mapped in the south-southeastern project area and are composed of massive, medium- to coarse-grained, gray to white quartz monzonite with clasts of metamorphic rocks. Unlike sedimentary deposits, volcanic and intrusive igneous rocks typically

do not contain paleontological resources as their formation is not conducive to fossil preservation. Therefore, the Gem Formation and Mesozoic intrusive igneous rocks mapped within the project area are considered to have no paleontological resource potential (Rincon 2020f).

## Records Search

A records search for paleontological locality data within the project area and the vicinity was obtained from the Natural History Museum of Los Angeles County (Rincon 2020f). According to the records search, no previously recorded fossil localities have been recorded within the project area. However, there are at least four Pleistocene vertebrae fossil localities identified at depths less than 5 feet in the general vicinity of the project area, but in areas where sensitive units would be expected to occur at shallow depths. Note that none of the sites listed in **Table 4.7-3, Museum Records Search Results**, occur within the project site. A supplemental review of the museum records maintained in the University of California Museum of Paleontology online collections database did not yield records of any vertebrate fossil localities in the immediate vicinity of the project area (Rincon 2020f). The results of the museum records search are summarized in **Table 4.7-3, Museum Records Search Results**.

**Table 4.7-3: Museum Records Search Results**

Locality Number	Geologic Unit	Age	Taxa
LACM 3722	Qoa	Pleistocene	Horse ( <i>Equus</i> )
LACM 7853	Qoa	Pleistocene	Coachwhip ( <i>Masticophis</i> ), leaf-nosed snake ( <i>Phyllorhynchus</i> ), lyre snake ( <i>Trimorphodon biscutatus</i> ), desert iguana ( <i>Dipsosaurus dorsalis</i> ), whiptail lizard ( <i>Aspidoscelis tigris</i> ), alligator lizard ( <i>Elgaria</i> ), desert spiny lizard ( <i>Sceloporus magister</i> ), side-blotched lizard ( <i>Uta stansburiana</i> ), desert night lizard ( <i>Xantusia vigilis</i> ), skink ( <i>Plestiodon</i> ), cottontail rabbit ( <i>Sylvilagus audubonii</i> ), wood rat ( <i>Neotoma</i> ), deer mouse ( <i>Peromyscus</i> ), pocket gopher ( <i>Thomomys bottae</i> ), kangaroo rat ( <i>Dipodomys</i> ), pocket mouse ( <i>Perognathus</i> ), ground squirrel ( <i>Ammospermophilus leucurus</i> ), camel ( <i>Camelops</i> )
LACM 7884	Qoa	Pleistocene	Camel ( <i>Camelops hesternus</i> )
LACM 7891	Qoa	Pleistocene	Camel ( <i>Hemiauchenia</i> )
UCMP 1041	Qoa	Pleistocene	Proboscidean ( <i>Elephas</i> ), camel ( <i>Procamelus</i> )

Source: Rincon 2020f; see Appendix H.

### 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.

CEQA is the major environmental statute that guides the design and construction of projects on non-federal 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 as discussed below.

## Federal

### Clean Water Act (Erosion Control)

The federal Clean Water Act (CWA) (33 United States Code [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 surface water. 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), which includes best management practices (BMPs) 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*.

### Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 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 such as those that would be applicable to the proposed project.

### 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 is the Antiquities Act of 1906 (54 USC 320301-320303 and 18 USC 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 Highway 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 USC 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, USC 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.

### ***Paleontological Resources Preservation Act***

The Paleontological Resources Preservation Act offers provisions of paleontological resources identified on federal, Native American, or state lands and guidance for their management and protection, and promotes public awareness and scientific education regarding vertebrate fossils. The law also requires federal agencies to develop plans for inventory, collection, and monitoring of paleontological resources and establishes stronger criminal and civil penalties for the removal of scientifically significant fossils on federal lands. The project site itself is not sited on federal, Native American, or state lands; however, the potential gen-tie route may be sited on these lands.

## **State**

### **Alquist-Priolo Earthquake Fault Zoning Act (1972)**

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. In accordance with this law, the California Geological Survey (CGS) maps active faults and designates Earthquake Fault Zones along mapped faults. Three basic types of faults exist: active, potentially active, and inactive. Historic- and Holocene-age faults are considered active; Late Quaternary- and Quaternary-age faults are considered potentially active; and pre-Quaternary-age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be “sufficiently active” and “well defined” by detailed site-specific geologic explorations to determine that building setbacks should be established. Any project that involves the construction of buildings or structures for human occupancy, such as an operation and maintenance building, is subject to review under the Alquist-Priolo Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

### **Seismic Hazards Mapping Act (1990)**

In accordance with Public Resources Code, Chapter 7.8, Division 2, the California Department of Conservation, Division of Mines and Geology (now the CGS) is directed to delineate seismic hazard zones. The purpose of this act is to reduce the threat to public health and safety and to 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 CGS 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 development projects within seismic hazard zones.

## California Building Code (2019)

The State of California provides minimum standards for building design through the California Building Code (CBC). The CBC is based on the Uniform Building Code (UBC) which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions unique to California. In accordance with the CBC, a grading permit is required if more than 50 cubic yards of soil is moved during implementation of a proposed project. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

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 2019 edition of the CBC is based on the 2018 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2019 edition of the CBC was published by the California Building Standards Commission in 2019, and took effect starting January 1, 2020. The 2019 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-10, *Minimum Design Loads for Buildings and Other Structures*, provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes. A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure. 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 of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (1806), as well as foundations (Section 1808), shallow foundations (Section 1809),

and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an 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**

The State of California Public Resources Code (Chapter 1.7), Sections 5097.5 and 30244, include additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, and define the excavation, destruction, or removal of paleontological “sites” or “features” from public lands without the express permission of the jurisdictional agency as a misdemeanor. As used in Section 5097, “state lands” refers to lands owned by, or under the jurisdiction of, the state or any state agency. “Public lands” is defined as lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

## **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the SWRCB. The SWRCB and the nine RWQCBs are responsible for protecting California’s surface water and groundwater supplies. Section 13000 of the act directs each RWQCB to develop Water Quality Control Plans for all areas in its region, to designate the beneficial uses of California’s rivers and groundwater basins; these plans are the basis for each board’s regulatory program.

Lahontan Region Water Quality Control Plan (Basin Plan) gives direction on the beneficial uses of state waters in this part of Kern County, describes the water quality that must be maintained to support such uses, and includes programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The Lahontan Regional Water Quality Control Board implements the Basin Plan by issuing

and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges may affect water quality. These requirements are state Waste Discharge Requirements for discharge to land or federally delegated NPDES permits for discharges to surface water. Responsibility for implementing CWA Sections 401–402 and Section 303(d) is also outlined in the Porter-Cologne Water Quality Control Act.

## **State Regional Water Quality Control Board, Stormwater Construction General Permit**

The five-member 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 Construction General 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 Construction General Permit by submitting a Notice of Intent for coverage, developing a 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 Construction General Permit is through the Stormwater Multiple Application and Report Tracking System. Additionally, the SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through the individual regional boards.

## **California Environmental Quality Act (CEQA)**

Appendix G of the State CEQA Guidelines (California Code of Regulations Title 14, Chapter 3) provides an Environmental Checklist of questions intended to guide analysis pertaining to project level impacts to geology and soils and paleontological resources.

A project would have a significant impact to geology and soils under CEQA if it would place people in an area with significant geologic hazard and would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death. Impacts to geology and soils also include the loss of topsoil from a project site; locating a project on a geologic unit or soil that is unstable, or that would become unstable as a result of the project; locating a project on expansive soil; or, on soils incapable of adequately

supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available.

CEQA does not define “a unique paleontological resource or site.” However, the SVP has defined a “significant paleontological resource” in the context of environmental review. The SVP defines a significant paleontological resource as:

*Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) [p. 11] (SVP 2010).*

The loss of significant paleontological resources would be a significant impact under CEQA. The CEQA lead agency is responsible for ensuring that paleontological resources are protected in compliance with CEQA and other applicable statutes.

## Local

Construction and operation of the solar facility would be subject to policies and regulations identified within the Kern County General Plan, Mojave Specific Plan, Kern County Zoning Ordinance, the Kern County Code of Building Regulations, the California City General Plan and the California City Zoning Ordinance, all of which include policies 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 in nature 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 are incorporated by reference.

## Kern County General Plan

### Chapter 1. Land Use, Conservation, and Open Space

#### 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.

### ***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. General Provisions**

### ***1.10.1. Public Services and Facilities***

- 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.

### **1.10.3 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 Measure***

- Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

## **Chapter 4: Safety Element**

### **4.3. Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure**

#### ***Goal***

- Goal 1: Minimize injuries and loss of life and reduce property damage.

***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 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.

***Implementation Measures***

Measure D: Discretionary actions will be required to address and mitigate impacts from inundation, land subsidence, landslides, high groundwater areas, liquefaction and seismic events through the CEQA process.

**Mojave Specific Plan**

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The objective and policy in the Mojave Specific Plan for geology and soils applicable to the project is provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

**Chapter 9. Seismic and Safety Objectives and Policies*****Objective***

Objective 9.1 Minimize the potential damage to structures and loss of life that could result from earthquakes.

***Policy***

Policy 9.1.1 Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.

**California City General Plan****Chapter 5. Open Space and Conservation Element****5.15 Conservation Goals, Policies, and Implementation Measures*****Policy***

Policy 1: Prohibit use of septic systems in areas where it has been determined to be unsuitable for such systems and as described in City Resolution No. 08-01-1941.

**Chapter 6. Safety Element****6.5 Geology and Seismic Hazards Goals, Policies, and Implementation Measures*****Goal***

Goal 1: Protect the health, safety, and welfare of the community from hazards related to seismic activity.

***Policies***

Policy 1: Development shall be prohibited in areas where measures to correct identified geologic or seismic hazard are not feasible.

Policy 2: Minimize the potential damage to structures and loss of life that could result from earthquakes.

Policy 31: Safety measures required by the Uniform Building Code for Seismic Zone 4 for construction of new buildings are hereby incorporated by reference.

***Implementation Measures***

Measure S-1: The City shall require that all new development be subject to a preliminary geotechnical report to identify potentially hazardous geologic and soils conditions including the potential for seismic hazards. If the preliminary geologic report indicates that geologic or soils conditions could be unstable, a geotechnical investigation shall be prepared indicating the suitability of any proposed or additional development on the site and any corrective action needed to prevent structural defects or ground failure. The geotechnical investigation shall analyze: seismic hazards; geologic hazards; depth to groundwater; soil conditions (texture, consistency, structure, permeability, shrink-swell potential, strength); and the percentage of slopes and the potential for landslides.

Measure S-2: The City shall require geotechnical engineering studies for development proposals on properties in seismically hazardous areas (as identified on seismic hazard atlas or Alquist-

Priolo maps) to consider the design and intensity of the proposed use in relation to the potential seismic risk. This shall include the potential for the project to be subject to fault rupture, ground failure including liquefaction or subsidence or earthquake-induced landslides.

## **Kern County Code of Building Regulations (Title 17 of the Ordinance Code of Kern County)**

### **Chapter 17.08, Kern County Building Code**

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 located in Seismic Zone 4, a designation previously used in the 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.

### **Chapter 17.28, Kern County Grading Code**

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and the public welfare by regulating grading on private property. All requirements of the Kern County Grading Code would be applied during implementation of the proposed project. All required grading permit(s) would be obtained prior to commencement of construction activities. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

#### **Section 17.28.140C, Erosion Control**

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.

#### **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 that 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 1 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 1 to 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

### **Kern County Public Health Services On-site Wastewater Treatment System Permitting**

The Kern County Public Health Services Department is responsible for permitting, inspecting, and approving on-site 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**

Potentially significant impacts relative to geology and soils associated with the project site were identified based on a review of existing literature, the *CEQA Level Geotechnical Study* prepared by Stantec in 2021b (see Appendix G), and available data, including the Kern County General Plan. The *CEQA Level Geotechnical Study* presents findings, conclusions, and recommendations concerning development of the proposed project based on an engineering analysis of geotechnical properties of the subsurface conditions and evaluation of the underlying soils.

Project-specific potential impacts to paleontological resources within the project area were evaluated based on an analysis of existing paleontological data. The three components of the analysis of existing data included a geologic map review, a literature search, and an institutional record search. Appendix H, *Paleontological Resources Assessment*, of this EIR provides the results of the paleontological evaluation, including existing subsurface paleontological conditions within the project area and an analysis of the potential impacts to previously undiscovered paleontological resources as a result of project implementation.

A significant impact to paleontological resources would include the loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region. Direct impacts to paleontological resources primarily concern the potential destruction of previously undiscovered, nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information. This would constitute a significant impact. However, direct impacts can be mitigated to a less than significant level through the implementation of appropriate mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to “directly or indirectly destroy a significant paleontological resource or unique geologic feature.” In general, for projects that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For projects that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

## 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 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:
  - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - ii. Strong seismic ground shaking;
  - iii. Seismic-related ground failure, including liquefaction; or
  - iv. Landslides.
- b. Result in substantial soil erosion or the loss of topsoil;
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- 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 in areas where sewers are not available for the disposal of wastewater; or
- 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.**

### Solar Facility

The proposed solar facility would be located in the highly seismic, Southern California region within the influence of several fault systems, including the San Andreas and Garlock Fault systems. However, the solar facility would not be located within a State of California Alquist-Priolo Earthquake Fault Zone. The nearest active faults are the Garlock (West) and Garlock (Center) faults, located approximately 7.5 miles and 10.8 miles from the project site, respectively. No active faults are known to underlie or project toward the project site. Therefore, the probability of surface fault rupture at the project site from a known active fault is considered low.

The solar facility would include one or more operations and maintenance (O&M) buildings of approximately 40 feet by 80 feet in size, with associated on-site parking. The O&M building would include office space and storage space for spare parts and materials for the day-to-day operations and maintenance of the facility. The project could require an operational staff of up to 20 full-time employees during normal weekday working hours. Typically, the majority of the staff would work during the day shift (sunrise to sunset) and the remainder during the night shifts and weekend. Each employee shift would consist of approximately five persons, stationed at the O&M building. Personnel present during the construction, operation, or decommissioning phases of the proposed project would not be exposed to substantially increased fault rupture hazards as a result of project implementation beyond those that generally exist in the entire project region. Moreover, construction work would not exacerbate any known fault conditions and would not trigger a surface fault rupture, as no faults have been identified on site.

Construction of the solar facility would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the California City Building Code. Kern County and California City has adopted the CBC 2019 Edition (CCR Title 24), which imposes substantially the same requirements as the IBC, 2018 Edition, with some modifications and amendments. These requirements would ensure that project structures comply with minimum standards related to structural strength and general stability. Therefore, given the absence of any known active faults in the project area and required compliance with the Kern County Building Code and California City Building Code, impacts related to fault rupture would be less than significant.

### Gen-Tie

The seismic characteristics of lands affected by the proposed gen-tie infrastructure are substantially similar to the solar facility site. The proposed gen-tie route is entirely located within unincorporated Kern County. Therefore, construction of the gen-tie infrastructure would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). These requirements would ensure that the gen-tie infrastructure complies with minimum standards related to structural strength and general stability.



Therefore, given the absence of any known active faults in the project area and required project compliance with the Kern County Building Code, impacts related to fault rupture would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation would be required.

### **City of California City**

No mitigation would be required.

### **Gen-Tie**

No mitigation would be required.

## **Level of Significance**

### **Kern County**

Impacts would be less than significant.

### **City of California City**

Impacts would be less than significant.

### **Gen-Tie**

Impacts would be less than significant.

**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.**

## **Solar Facility**

As described above, the project is located in a highly seismic region within the influence of several fault systems, including the San Andreas and Garlock Fault systems that are capable of generating ground motions that could affect the project area. The project proponent would be required to design project infrastructure to withstand substantial ground shaking in accordance with applicable CBC and IBC seismic design standards, Kern County Building Code, Chapter 17.08 standards, California City Building Code, and as recommended by a California licensed professional geotechnical engineer in the site-specific geotechnical review.

Prior to the issuance of grading permits, the project proponent would be required to retain a licensed geotechnical engineer to design the solar facility to withstand probable seismically induced ground shaking at the site. 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 seismic recommendations by the California licensed professional geotechnical engineer in accordance with

California and Kern County Building Code and California City Building Code requirements. The required measures would encompass site preparation, foundation specifications, and protection measures for buried metal. The final structural design 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. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department and California City Community Development Department. Conformance with building code requirements and local agency enforcement would reduce impacts from ground shaking to less than significant.

In addition, Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC** would be implemented to require that a geotechnical study to evaluate on-site soil conditions and geologic hazards be prepared by a qualified geotechnical engineer. Further, Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC** would require that the proponent design the project facilities to withstand probable seismically induced ground shaking. 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 seismic recommendations provided by the California-registered professional engineer in accordance with California, Kern County, and California City 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 and California City Building Inspection Department. Final design requirements would be provided to the on-site construction supervisor and the Kern County and California City building inspectors to ensure compliance. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department and California City Community Development Department.

Adherence to the requirements of the Kern County Building Code, California City Building Code, IBC, and CBC, in combination with implementation of Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC**, would ensure that seismic hazards would be minimized. 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 on-site staff from potential hazards that could result from an earthquake event. Thus, with implementation of the above-described measures, project structures and personnel present during the construction, operation, or decommissioning phases of the project would not be exposed to substantial adverse effects, including the risk of loss, injury, or death resulting from strong seismic ground shaking. Impacts would be less than significant.

## Gen-Tie

The seismic characteristics of the land where the gen-tie infrastructure is proposed are substantially similar to the solar facility site. The proposed gen-tie route is entirely located within unincorporated Kern County. Therefore, the project proponent is required to design project infrastructure to withstand substantial ground shaking in accordance with applicable Kern County Building Code, Chapter 17.08 standards, and as recommended by a California licensed professional geotechnical engineer in the site-specific geotechnical review. Adherence to the requirements of the Kern County Building Code, the IBC, and the CBC, and implementation of Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC** would ensure that seismic hazards resulting from strong seismic ground shaking would be reduced to less than significant.

## Mitigation Measures

### Kern County

**MM 4.7-1KC:** Prior to the issuance of building or grading permits for the proposed project, the project proponent/operator shall conduct a final geotechnical study to confirm the findings of the preliminary geotechnical engineering report regarding soil conditions and geologic hazards on the project site.

1. The final geotechnical study must be signed by a California-registered and licensed professional engineer and must include, but not limited to the following:
  - a) Location of fault traces and potential for surface rupture and ground-shaking potential;
  - b) Maximum considered earthquake and associated ground acceleration;
  - c) Potential for seismically induced liquefaction, landslides, differential settlement, and mudflows;
  - d) Stability of any existing or proposed cut-and-fill slopes;
  - e) Collapsible or expansive soils;
  - f) Foundation material type;
  - g) Potential for wind erosion, water erosion, sedimentation, and flooding;
  - h) Location and description of unprotected drainage that could be impacted by the proposed development; and,
  - i) Recommendations for placement and design of facilities, foundations, and remediation of unstable ground and any seismic hazards.
2. The project proponent/operator shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent/operator shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting improvements on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, alternate setback distances may be proposed.
3. The final geotechnical study shall be submitted for review and approval by the Kern County Public Works Department. The Kern County Public Works Department shall evaluate final facility siting design prior to the issuance of any building or grading permits to verify that geological constraints have been avoided. Final design requirements shall also be provided to the on-site construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.

**California City**

**MM 4.7-1CC:** Prior to the issuance of building or grading permits for the proposed project, the project proponent/operator shall conduct a final geotechnical study to confirm the findings of the preliminary geotechnical engineering report regarding soil conditions and geologic hazards on the project site.

1. The final geotechnical study must be signed by a California-registered and licensed professional engineer and must include, but not be limited to the following:
  - a) Location of fault traces and potential for surface rupture and ground-shaking potential;
  - b) Maximum considered earthquake and associated ground acceleration;
  - c) Potential for seismically induced liquefaction, landslides, differential settlement, and mudflows;
  - d) Stability of any existing or proposed cut-and-fill slopes;
  - e) Collapsible or expansive soils;
  - f) Foundation material type;
  - g) Potential for wind erosion, water erosion, sedimentation, and flooding;
  - h) Location and description of unprotected drainage that could be impacted by the proposed development; and
  - i) Recommendations for placement and design of facilities, foundations, and remediation of unstable ground and any seismic hazards.
2. The project proponent/operator shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent/operator shall not locate project facilities on or immediately adjacent to a fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault trenching investigation may be performed to accurately locate the fault trace(s) to avoid siting improvements on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, alternate setback distances may be proposed.
3. The final geotechnical study shall be submitted for review and approval by the California City Public Works Department. The California City Public Works Department shall evaluate final facility siting design prior to the issuance of any building or grading permits to verify that geological constraints have been avoided. Final design requirements shall also be provided to the on-site construction supervisor and the California City Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the California City Community Development Department.

**Gen-Tie**

Implement Mitigation Measure **MM 4.7-1KC**.

## Level of Significance after Mitigation

### Kern County:

Impacts would be less than significant with the incorporation of Mitigation Measure **MM 4.7-1KC**.

### City of California City

Impacts would be less than significant with the incorporation of Mitigation Measure **MM 4.7-1CC**.

### Gen-Tie

Impacts would be less than significant with the incorporation of Mitigation Measure **MM 4.7-1KC**.

**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.**

## Solar Facility

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 due to increased pore water pressure. Liquefaction generally occurs when the depth to groundwater is less than 50 feet. Groundwater in the site vicinity is expected to be approximately 133 feet below the ground surface (Stantec 2021b). Thus, the potential for liquefaction at the surface is low. Furthermore, the project is not located within a current, mapped California Liquefaction Hazard Zone (Stantec 2019b). Structures constructed as part of the project would be required by state law to 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. Adherence to applicable regulations would avoid any potential impacts to structures resulting from liquefaction. Impacts would be less than significant.

## Gen-Tie

The seismic characteristics of land where the gen-tie infrastructure is proposed are similar to the solar facility site. The gen-tie infrastructure would be required by state law to 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. Adherence to all applicable regulations would avoid any potential impacts to gen-tie structures resulting from liquefaction. Therefore, impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation would be required.

### **City of California City**

No mitigation would be required.

### **Gen-Tie**

No mitigation would be required.

## **Level of Significance**

### **Kern County**

Impacts would be less than significant.

### **City of California City**

Impacts would be less than significant.

### **Gen-Tie**

Impacts would be 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.**

## **Solar Facility**

The project site is relatively flat, with a topographic gradient less than 2 percent. Permanent slopes steeper than 5:1 (horizontal to vertical) or higher than 5 feet are not anticipated to be constructed or built upon with installation of the solar facility. Due to the existing topography and the proposed grading, the potential for landslides on the project site is considered low. Adverse effects related to landslides are not anticipated to occur or pose a hazard to the solar facility or the surrounding area. Impacts would be less than significant.

## **Gen-Tie**

Similar to the solar facility site, the land where the gen-tie infrastructure is proposed is relatively flat. Due to the existing topography and the proposed grading, the potential for landslides is considered low. Adverse effects related to landslides are not anticipated to occur or pose a hazard to the gen-tie infrastructure or surrounding area. Impacts would be less than significant.

## Mitigation Measures

### Kern County

No mitigation would be required.

### City of California City

No mitigation would be required.

### Gen-Tie

No mitigation would be required.

## Level of Significance

### Kern County:

Impacts would be less than significant.

### City of California City:

Impacts would be less than significant.

### Gen-Tie:

Impacts would be less than significant.

## **Impact 4.7-5: The project would result in substantial soil erosion or the loss of topsoil.**

### Solar Facility

Site preparation activities for construction of the proposed project would include some minor grading activities that would disturb surface soils. 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. During rainfall events, and particularly during construction activities when surface soils are exposed, there is the potential for significant surface erosion and off-site sediment transportation. Trenching would be required for the installation of underground cables and circuits. Similar ground disturbance may also occur during project decommissioning with removal of the project components from the site. Project construction and/or decommissioning would therefore have the potential to result in erosion, sedimentation, and discharge of construction debris from the site. Additionally, clearing of vegetation and grading activities, for example, could lead to exposed or stockpiled soils susceptible to peak stormwater runoff flows and wind forces.

As described in Section 4.10, *Hydrology and Water Quality*, Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** require a SWPPP for the project per Kern County NPDES requirements that would contain all stormwater runoff on-site. The SWPPP would include various types of BMPs to prevent erosion and sedimentation from occurring during construction. All temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) and California City Grading Code would be included as

BMPs in the SWPPP. Per Mitigation Measures **MM 4.7-1KC**, **MM 4.7-1CC**, **MM 4.10-2KC**, and **MM 4.10-2CC**, the project would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) and California City Grading Code to the Kern County Public Works Department and California City Public Works Department to obtain required grading permits. As described in Section 4.10, *Hydrology and Water Quality*, of this EIR Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** entail preparation of a hydrologic study and final drainage plan. Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would ensure that the retention basin and other stormwater management features are consistent with existing regulatory requirements to minimize any erosion or sedimentation resulting from project implementation. Compliance with the Kern County NPDES program, Kern County Grading Code, and California City Grading Code would ensure that substantial erosion or the loss of topsoil does not occur. With implementation of Mitigation Measures **MM 4.7-1KC**, **MM 4.7-1CC**, **MM 4.10-1KC**, **MM 4.10-1CC**, **MM 4.10-2KC**, and **MM 4.10-2CC**, impacts would be reduced to less than significant.

During operation, maintenance vehicles and activities would have the potential to disturb topsoil and cause erosion. However, maintenance vehicles would use the proposed project's access roads, which would be compacted to provide greater stability thereby, minimizing potential ground disturbance on-site. Further, maintenance activities would be infrequent and would consist primarily of panel washing with water. Runoff water from such activities is expected to infiltrate into the ground surface and not result in substantial erosion or soil loss. Where permanent building improvements would occur, such as the O&M building, energy storage system (ESS) units, substation, etc. foundation materials and surface improvements would be impervious, thus eliminating erosion potential in those areas. Therefore, project operation would have a less than significant impact associated with soil erosion and topsoil loss.

## Gen-Tie

The soil characteristics of the land where the gen-tie infrastructure is proposed are substantially similar to the project site. Construction of the proposed gen-tie would involve earthwork activities that could expose soils to erosion. Trenching would be required for the portion(s) of the gen-tie that would be installed underground (see **Figure 3-3**, *Aerial Photograph*, in **Chapter 3**, *Project Description*, of this EIR). Per Mitigation Measure **MM 4.7-1KC**, the project would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Public Works Department to obtain required grading permits. As described in Section 4.10, *Hydrology and Water Quality*, Mitigation Measure **MM 4.10-1KC** requires a SWPPP for the project per Kern County NPDES Program requirements that would retain all stormwater runoff on-site. The SWPPP would include various types of BMPs to prevent erosion and sedimentation from occurring during construction. All temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) would be included as BMPs in the SWPPP. Furthermore, implementation of Mitigation Measure **MM 4.10-2KC**, as described in Section 4.10, *Hydrology and Water Quality*, of this EIR would require the preparation of a hydrologic study and final drainage plan. Compliance with the Kern County NPDES program and Kern County Grading Code, along with implementation of Mitigation Measures **MM 4.7-1KC** and **MM 4.10-1KC**, would ensure that substantial erosion or the loss of topsoil does not occur. Impacts would be reduced to less than significant.



## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.7-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC** (see Section 4.10, *Hydrology and Water Quality*, of this EIR).

### City of California City

Implement Mitigation Measures **MM 4.7-1CC**, **MM 4.10-1CC**, and **MM 4.10-2CC** (see Section 4.10, *Hydrology and Water Quality*, of this EIR).

### Gen-Tie

Implement Mitigation Measures **MM 4.7-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC** (see Section 4.10, *Hydrology and Water Quality*, of this EIR).

## Level of Significance After Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.7-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.7-1CC**, **MM 4.10-1CC**, and **MM 4.10-2CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.7-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**, impacts would be less than significant.

**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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.**

### Solar Facility

The project lies in a relatively flat-lying plain where landslides, lateral spreading, subsidence, liquefaction, and collapse are not expected to occur. Due to such conditions, adverse effects related to landslides are not anticipated to occur or to pose a hazard to the proposed solar facility or surrounding area. Impacts would be less than significant in this regard.

Groundwater in the site vicinity is expected to be approximately 133 feet below the ground surface (Stantec 2021b). Thus, the potential for liquefaction at the surface is low and is not anticipated to result in a substantial risk. As stated above, a final geotechnical study would be performed for the project site as part

of Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC**, which would confirm the findings of the conceptual geotechnical study regarding soil conditions and their ability to support the proposed improvements over the long term. The study would include recommendations to address any unstable soils including the potential for lateral spreading, seismic settlement, and collapse. Therefore, seismic settlement, lateral spreading, and/or collapse are not expected to result in significant impacts. Furthermore, the proposed structures would be subject to applicable ordinances of the Kern County Building Code (Chapter 17.08) and California City Building Code, as well as all applicable IBC and CBC earthquake construction standards, including those relating to soil characteristics. With implementation of Mitigation Measures **MM 4.7-1** and **MM 4.7-1CC**, impacts would be less than significant.

## **Gen-Tie**

The seismic and soil characteristics of the land where the gen-tie infrastructure is proposed are similar to the solar facility sites. The gen-tie infrastructure would be required by state law to be constructed in accordance with 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. Adherence to all applicable regulations and implementation of mitigation measures **MM 4.7-1KC** and **MM 4.7-1CC** would avoid potential impacts resulting from seismic settlement, lateral spreading, and collapse. With implementation of Mitigation Measures **MM 4.7-1** and **MM 4.7-1CC**, impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measure **MM 4.7-1KC**.

### **City of California City**

Implement Mitigation Measure **MM 4.7-1CC**.

### **Gen-Tie**

Implement Mitigation Measure **MM 4.7-1KC**.

## **Level of Significance**

### **Kern County**

With implementation of Mitigation Measure **MM 4.7-1KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measure **MM 4.7-1CC**, impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measure **MM 4.7-1KC**, impacts would be 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 direct or indirect risks to life or property.**

### **Solar Facility**

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 adjacent to such soils.

The near-surface soils encountered during the recent geotechnical investigation are mostly sandy soils whose expansion potential is considered low (Stantec 2021b). A final geotechnical study would be performed for the project site as part of Mitigation Measures **MM 4.7-1KK** and **MM 4.7-1CC**, which would confirm the findings of the conceptual geotechnical study regarding soil conditions and their ability to support the proposed improvements over the long term. The study would include recommendations to address any unstable soils including the potential for expansive soils and their potential to create risks to life or property. Furthermore, implementation of Kern County Building Code and California City Building Code requirements, as applicable, would further minimize the potential impact of expansive soils. Therefore, impacts related to expansive soils would be reduced to less than significant with the implementation of Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC**.

### **Gen-Tie**

The soil characteristics of the land where the gen-tie infrastructure is proposed are substantially similar to the project site. A final geotechnical study would be prepared for the project as part of Mitigation Measures **MM 4.7-1KC** to confirm the findings of the conceptual geotechnical study regarding soil conditions and their ability to support the proposed improvements over the long term. The study would include recommendations to address any unstable soils including the potential for expansive soils and their potential to create risks to life or property. Implementation of Kern County Building Code requirements, as applicable, would further minimize potential adverse effects related to expansive soils. Therefore, impacts related to expansive soils would be reduced to less than significant with the implementation of Mitigation Measures **MM 4.7-1KC**.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measure **MM 4.7-1KC**.

### **City of California City**

Implement Mitigation Measure **MM 4.7-1CC**.

### **Gen-Tie**

Implement Mitigation Measure **MM 4.7-1KC**.

## Level of Significance

### Kern County

With implementation of Mitigation Measure **MM 4.7-1KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measure **MM 4.7-1CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measure **MM 4.7-1KC**, impacts would be 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.**

## Solar Facility

As described in **Chapter 3, *Project Description***, of this EIR, the project includes development of a septic system and leach field for the O&M facilities located only within the Kern County solar arrays. The proposed septic system and leach field are anticipated to be located away from surface drainages and protected from potential surface runoff. Proper siting and design of the leach field would minimize the potential for a health impact from flooding. However, if not properly designed, or if soils are not capable of adequately accommodating the volume of wastewater generated, septic systems can result in health impacts, adversely affect natural habitat, and/or pollute underlying groundwater. Therefore, impacts related to construction of a septic system are considered potentially significant and mitigation is required.

The septic system and leach field would be constructed to comply with applicable requirements of the Kern County Environmental Health Services Division. The Environmental Health Services Division's "Standards for Land Development" include the aspects of sewage and preservation of environmental health and include measures to demonstrate the adequate drainage of wastewater prior to project approval. The standards are intended to safeguard public health and are enforced by the County's Environmental Health Division. Prior to construction of the septic system and leach field, percolation testing would be required for the proposed location of the septic system and leach field to ensure that percolation of water can meet minimum standards set by the County. Mitigation Measure **MM 4.7-2KC** would require the project operator to obtain all required permits and approvals from the Kern County Environmental Health Services Division and to implement all required conditions regarding the design and siting of the septic system and leach field. Implementation of mitigation measure **MM 4.7-2KC** would reduce impacts to less than significant.

### Gen-Tie

The proposed gen-tie would not require the disposal of wastewater or the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

## Mitigation Measures

### Kern County

**MM 4.7-2KC:** Prior to the issuance of any building permit for the operation and maintenance facility, the project operator shall obtain all required permits and approvals from Kern County Environmental Health Services Division, and shall implement all required conditions regarding the design and siting of the septic system(s) and leach field(s). A copy of the final permit shall be submitted to the Kern County Planning and Natural Resources Department.

### City of California City

No mitigation would be required.

### Gen-Tie

No mitigation would be required.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measure **MM 4.7-2KC**, impacts would be less than significant.

### City of California City

Impacts would be less than significant.

### Gen-Tie

Impacts would be less than significant.

**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.**

## Solar Facility

The surficial geology of the project area has a low paleontological sensitivity that increases with depth. Pleistocene sediments may underlie the Holocene sediments at unknown depths within the project site but are assumed to be approximately 5 feet below ground surface or deeper based on the distance to the surrounding hills and basin margins. Ground-disturbing activities in previously undisturbed portions of the proposed solar fields may result in significant impacts to paleontological resources if Quaternary (Pleistocene) sediments are impacted at 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. The project area is determined to have a low potential for paleontological resources at the surface to 5 feet in depth, and high paleontological sensitivity at depths exceeding 5 feet below ground surface. Activities with the potential to impact paleontological resources

include grading, excavation, trenching or other activity that disturbs geologic formations with a high paleontological sensitivity. As currently proposed, ground-disturbing activities associated with the mounting structures can extend up to 10 feet below ground surface and trenching for electrical conduits and other infrastructure would disturb sediments up to 4 feet. Therefore, grading and other earthmoving activities may potentially result in significant adverse direct impacts to paleontological resources. However, with implementation of Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC** and **MM 4.7-2CC through MM 4.7-4CC**, which would require Paleontological Resources Awareness Training for construction workers, use of a qualified paleontological monitor during construction activities, and appropriate treatment of accidentally uncovered paleontological resources, potential impacts to paleontological resources would be reduced to less than significant.

## Gen-Tie

As described above, the project area is determined to have a low potential for paleontological resources at the surface to 5 feet in depth, and high paleontological sensitivity at depths exceeding 5 feet below ground surface. Construction of the proposed gen-tie may involve excavation of dirt deeper than 5 feet; therefore, potential impacts to paleontological resources could occur. Potential impacts to paleontological resources along the gen-tie corridor would be reduced to less than significant with implementation of Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC**.

## Mitigation Measures

### Kern County

**MM 4.7-3KC:** The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards to carry out all mitigation measures related to paleontological resources.

1. Prior to the start of any ground-disturbing activities, the qualified paleontologist shall prepare 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.
2. The Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.
3. 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.
4. The Paleontological Resources Awareness Training Guides shall be kept on-site and available for all personnel to review and be familiar with as necessary.

**MM 4.7-4KC:** A qualified paleontologist or designated monitor shall be on-site initially to spot-check excavations below a depth of 1 foot below the ground surface in a given area. If it is determined that sediments consist of older alluvium, then full-time paleontological monitoring shall ensue. If sediments are determined to consist of Holocene Quaternary alluvium, paleontological monitoring shall be suspended until an excavation depth of 5 feet below the ground surface is reached in the area.

- a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department and shall be based on a review of geologic maps and grading plans.
  - i. During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.
- b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. 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.
- c. Following the completion of construction, 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, recovery and curation efforts, and 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 4.7-5KC:** If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment within 50 feet of the find until it is assessed for scientific significance and collected. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammals) require more extensive excavation and longer salvage periods. In this case, the paleontologist should have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.

Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County) along with all pertinent field notes, photos, data, and maps. The cost of curation is assessed by the repository and is the responsibility of the project owner.

At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and

recommendations. The final report shall be submitted to the Kern County Planning and Natural Resources Department. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

### **City of California City**

**MM 4.7-2CC:** The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards to carry out all mitigation measures related to paleontological resources.

1. Prior to the start of any ground-disturbing activities, the qualified paleontologist shall prepare 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 California City Community Development Department. The training guide may be presented in video form.
2. The Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.
3. 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.
4. The Paleontological Resources Awareness Training Guides shall be kept on-site and available for all personnel to review and be familiar with as necessary.

**MM 4.7-3CC:** A qualified paleontologist or designated monitor shall be on-site initially to spot-check excavations below a depth of 1 foot below the ground surface in a given area. If it is determined that sediments consist of older alluvium, then full-time paleontological monitoring shall ensue. If sediments are determined to consist of Holocene Quaternary alluvium, paleontological monitoring shall be suspended until an excavation depth of 5 feet below the ground surface is reached in the area.

- a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the California City Community Development Department and shall be based on a review of geologic maps and grading plans.
  - i. During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the California City Community Development Department, may adjust the level of monitoring to circumstances, as warranted.
- b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. 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.



- c. Following the completion of construction, 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, recovery and curation efforts, and 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 California City Community Development Department and to an appropriate repository such as the Natural History Museum of Los Angeles County.

**MM 4.7-4CC:** If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment within 50 feet of the find until it is assessed for scientific significance and collected. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammals) require more extensive excavation and longer salvage periods. In this case, the paleontologist should have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.

Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County) along with all pertinent field notes, photos, data, and maps. The cost of curation is assessed by the repository and is the responsibility of the project owner.

At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The final report shall be submitted to the California City Community Development Department. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.7-2CC through MM 4.7-4CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC**, impacts would be less than significant.

## Cumulative Setting, Impacts, and Mitigation Measures

### Solar Facility

Project impacts would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. Cumulative projects listed in **Table 3-3, Cumulative Projects List**, of **Chapter 3, Project Description**, of this EIR would also be subject to similar seismic hazards and potential geologic instability. However, the effects of these projects are not of a nature to cause cumulatively significant effects relative to geology or soils because such impacts are site specific and would only have the potential to combine with impacts of the project if they occurred in the same location as the project. None of the cumulative projects would be located on or adjacent to the project site.

Compliance with the Kern County Building Code, California City Building Code, CBC, and IBC, in combination with implementation of Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC**, which require implementation of recommendations from the Geotechnical Engineering Report prepared for the project, would ensure site stability to the maximum extent possible during construction and operation. Therefore, project impacts related to seismic hazards, ground shaking, and geologic instability would not be cumulatively considerable. Impacts would be less than significant with mitigation incorporated.

Development of the project, with conformance to regulatory requirements discussed above, would result in less than significant impacts related to the exposure of persons or structures to adverse geologic conditions or seismic hazards. 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 exposure of people and structures to related risks one that is more localized or even site-specific. Similar to the project, other projects in the area would be required to adhere to the Kern County Building Code and/or other applicable local building codes (if located in an incorporated city), 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 occur. Further, implementation of Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC**, which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation. Additionally, as the project would develop septic and leach field system(s), the system(s) would be designed to be suitable for the specific on-site soil characteristics, in accordance with Mitigation Measures **MM 4.7-2KC**, which require that all required permits, approvals, and conditions regarding the design and siting of the system(s) be implemented. Therefore, the 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 and/or seismic conditions. The project would result in less than significant cumulative impacts related to geology and soils.

However, 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 would be required to comply with applicable codes, standards, and permitting to mitigate erosion impacts. Development of the project site has the potential to contribute to soil erosion and loss of topsoil during construction. Potential impacts would be mitigated through the implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** (see Section 4.10, *Hydrology and Water Quality*, for full mitigation measure text), which require preparation and use of a SWPPP and appropriate BMPs.

Although construction activities have the potential to result in erosion on the project site, implementation of Mitigation Measures **MM 4.7-1KC**, **MM 4.7-1CC**, **MM 4.10-1KC**, and **MM 4.10-1CC** would significantly reduce such effects. Other cumulative projects would be required to adhere to similar requirements, thereby minimizing cumulative erosion impacts. Specifically, all planned projects in the project vicinity would be subject to environmental review and would be required to conform to the Kern County General Plan and Building Code and/or local building code (if located in an incorporated city), and would implement additional mitigation measures, as appropriate, to ensure soil stability, including that related to seismically induced erosion. Furthermore, the proposed project would implement Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, as described in Section 4.10, *Hydrology and Water Quality*, of this EIR, which would require preparation of a hydrologic study and final drainage plan. Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would ensure that the retention basin and other stormwater management features are consistent with existing regulatory requirements to minimize the potential for erosion or sedimentation resulting from project implementation. With implementation of Mitigation Measures **MM 4.7-1KC**, **MM 4.7-1CC**, **MM 4.10-1KC**, **MM 4.10-1CC**, **MM 4.10-2KC**, and **MM 4.10-2CC**, the project would not contribute to a significant cumulative impact relative to geologic or seismic hazards or related events. Moreover, implementation of these mitigation measures would ensure that the project does not result in soil erosion or substantial topsoil loss during project construction activities and operations. As a result, with implementation of mitigation, the project's contribution to cumulative impacts related to erosion and siltation would be reduced to less than significant.

The geographic scope for cumulative effects to paleontological resources is Fremont Valley, which includes the western edge of the Mojave Desert where the proposed project is located. Given similarities in geologic formations, this area is expected to contain similar types of paleontological resources. There is no temporal scope because direct impacts to paleontological resources are permanent. Cumulative impacts to paleontological resources in the Fremont Valley could occur if other related projects, in conjunction with the proposed project, had or would have impacts on paleontological resources that, when considered together, would be significant. Development of the proposed project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation measures are included in this EIR to reduce potentially significant project impacts to paleontological resources during construction. Implementation of Mitigation Measures **MM 4.7-3KC/CC** through **MM 4.7-5KC/CC** would require Paleontological Resources Awareness Training for construction workers, use of a qualified paleontological monitor during construction activities, and appropriate treatment of accidentally uncovered paleontological resources. With implementation of Mitigation Measures **MM 4.7-3KC** through **MM 4.7-5KC** and **MM 4.7-2CC** through **4.7-4CC**, as described above, the 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 Fremont Valley, cumulative impacts to paleontological resources would be less than significant.

## Gen-Tie

The seismic and soil characteristics of the land where the gen-tie infrastructure is proposed are substantially similar to the project site. A final geotechnical study would be performed for the project as part of Mitigation Measure **MM 4.7-1KC**, which would confirm the findings of the conceptual geotechnical study regarding soil conditions and their ability to support the proposed improvements over the long term. Furthermore, adherence to the requirements of the Kern County Building Code, the IBC, and the CBC would ensure that seismic and soil hazards along the gen-tie route would be minimized. With implementation of Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC**, the proposed gen-tie would not result in significant impacts to paleontological resources. Given this minimal impact and the requirement for similar mitigation for other projects in the Fremont Valley, the project's contribution to a cumulative impact on paleontological resources would be less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.7-1KC through MM 4.7-5KC** and **MM 4.10-2KC** (see **Section 4.10, *Hydrology and Water Quality***, of this EIR).

### City of California City

Implement Mitigation Measures **MM 4.7-1CC through MM 4.7-4CC**, and **MM 4.10-2CC** (see **Section 4.10, *Hydrology and Water Quality***, of this EIR).

### Gen-Tie

Implement Mitigation Measures **MM 4.7-1KC, MM 4.7-3KC through MM 4.7-5KC**, and **MM 4.10-2KC** (see **Section 4.10, *Hydrology and Water Quality***, of this EIR).

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.7-1KC through MM 4.7-5KC** and **MM 4.10-2KC** (see **Section 4.10, *Hydrology and Water Quality***, of this EIR), cumulative impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.7-1CC through MM 4.7-4CC**, and **MM 4.10-2CC** (see **Section 4.10, *Hydrology and Water Quality***, of this EIR), cumulative impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measures **MM 4.7-1KC**, **MM 4.7-3** through **MM 4.7-5**, and **MM 4.10-2KC** (see Section 4.10, Hydrology and Water Quality, of this EIR), cumulative impacts would be less than significant.

### **4.8.1 Introduction**

This section of the EIR describes the affected environment and regulatory setting relating to greenhouse gases (GHGs) for the proposed project. It also describes the impacts associated with GHGs that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable.

Information in this section is based primarily on the *Bellefield Solar Farm Project Air Quality and Greenhouse Gas Study* prepared by Rincon (Rincon 2020e), 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 (USEPA), and the applicable provisions of the California Environmental Quality Act (CEQA).

### **4.8.2 Environmental Setting**

As described in Chapter 3, *Project Description*, of this EIR, the project would include the development of a photovoltaic solar facility and associated infrastructure necessary to generate up to 1,500 megawatts (MW) of renewable energy, and up to 1,500 MW hours of storage capacity on approximately 8,371 acres of privately owned land. The project would be supported by a 230 kilovolt (kV) gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at Southern California Edison's Windhub Substation.

GHGs and climate change are a cumulative global issue. CARB and 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 emissions reduction. The project site is located in the Kern County portion under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD) and is located in the Mojave Desert Air Basin (MDAB).

### **Greenhouse Gases**

Constituent gases that trap heat in the earth's atmosphere are called GHGs, analogous to the way a greenhouse retains heat. GHGs play a critical role in the earth's radiation budget by trapping infrared radiation emitted from the earth's surface that would otherwise have escaped into space. Prominent GHGs contributing to this process include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons (CFCs).

Without the natural heat-trapping effect of GHG, a phenomenon known as the "greenhouse effect," the earth's surface would be about 34 degrees Fahrenheit (°F) cooler. However, anthropogenic (human-caused) emissions of GHGs in excess of natural ambient concentrations have led to unnatural changes to the earth's

climate, collectively known as global warming or climate change, or, more accurately, global climate disruption. Emissions of these gases that induce global climate disruption are attributable to human activities associated with industrial and manufacturing, utilities, transportation, residential, and agricultural sectors.

The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere. Individual GHG compounds have varying GWP and atmospheric lifetimes. The reference gas for the GWP is CO<sub>2</sub>, which possesses a GWP of 1. The calculation of the CO<sub>2</sub> equivalent (CO<sub>2</sub>e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. Methane's warming potential of 28 indicates that methane has a 28 times greater warming effect than CO<sub>2</sub> on a molecular basis. The larger the GWP, the more that a given gas warms the earth compared to CO<sub>2</sub> over that time period. The time period usually used for GWPs is 100 years. GWPs for the three GHGs produced by the project are as follows:

- Carbon dioxide (CO<sub>2</sub>) – GWP 1
- Methane (CH<sub>4</sub>) – GWP 28
- Nitrous Oxide (N<sub>2</sub>O) – GWP 265

A CO<sub>2</sub>e is the mass emissions of an individual GHG multiplied by its GWP. GHGs are often presented in units called tonnes (i.e., metric tons) of CO<sub>2</sub>e (MTCO<sub>2</sub>e). The principal GHGs are CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, sulfur hexafluoride (SF<sub>6</sub>), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), which are listed below (USEPA 2021).

## **Carbon Dioxide (CO<sub>2</sub>)**

CO<sub>2</sub> is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO<sub>2</sub> is produced when an organic carbon compound (such as wood) or fossilized organic matter (such as coal, oil, or natural gas) is burned in the presence of oxygen. CO<sub>2</sub> is removed from the atmosphere by CO<sub>2</sub> "sinks," such as seawater, ocean-dwelling plankton, forests, and grasslands. Under certain circumstances, however, these sinks can also be a source of CO<sub>2</sub>. Whereas the biosphere and ocean achieve a natural balance of CO<sub>2</sub> production and absorption, humankind has altered the natural carbon cycle since the industrial revolution. Beginning in the mid-1700s, the burning of coal, oil, natural gas, and wood has increased globally.

## **Methane (CH<sub>4</sub>)**

CH<sub>4</sub> is a colorless, odorless, combustible, nontoxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH<sub>4</sub> is the main constituent of natural gas, a fossil fuel. CH<sub>4</sub> is released when organic matter decomposes in low oxygen environments. Natural sources include decomposition processes generated by wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies, and buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH<sub>4</sub>. Other anthropogenic sources include fossil fuel combustion and biomass burning.

## **Nitrous Oxide (N<sub>2</sub>O)**

N<sub>2</sub>O is a colorless, nonflammable gas with a sweetish odor, commonly known as "laughing gas," and sometimes used as an anesthetic. N<sub>2</sub>O is naturally produced in the oceans and in rainforests. Man-made sources of N<sub>2</sub>O include agricultural fertilizers, nylon and nitric acid production, cars with catalytic converters, and the burning of organic matter. Concentrations of N<sub>2</sub>O also began to rise at the beginning of the industrial revolution.

## **Chlorofluorocarbons (CFCs)**

CFCs are gases formed synthetically by replacing all hydrogen atoms in CH<sub>4</sub> or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. In the 1970s, scientists discovered that CFCs destroy stratospheric ozone, leading to thinning of the earth's protective ozone layer. Since then there has been an ongoing global effort to halt their production, which has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

## **Hydrofluorocarbons (HFCs)**

Hydrofluorocarbons (HFCs) are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs, HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications such as automobile air conditioners and refrigerants.

## **Perfluorocarbons (PFCs)**

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays are able to destroy the compounds only in the upper atmosphere. Consequently, PFCs have very long lifetimes—between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

## **Sulfur Hexafluoride (SF<sub>6</sub>)**

Sulfur hexafluoride (SF<sub>6</sub>) is a man-made and extremely potent GHG. SF<sub>6</sub> is very persistent, with an atmospheric lifetime of more than a thousand years. Thus, a relatively small amount of SF<sub>6</sub> can have a significant long-term impact on global climate. SF<sub>6</sub> is used primarily by the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF<sub>6</sub> is used extensively in high-voltage circuit breakers and switchgear, and in the magnesium metal casting industry.



## Greenhouse Gas Emission Levels

### California

According to the EPA, in 2018, total GHG emissions in the U.S. were estimated to be approximately 6,677 million metric tons of CO<sub>2</sub>e (MMTCo<sub>2</sub>e) (USEPA 2021). According to CARB, California produced 425 MMTCo<sub>2</sub>e in 2018; refer to Appendix D of this EIR. California has a larger percentage of its total GHG emissions coming from the transportation sector (40 percent) compared to that of the U.S. (29 percent), and a smaller percentage of California's total GHG emissions from the electricity generation sector (15 percent) compared to that of the U.S. (27 percent). In 2016, statewide GHG emissions dropped below the 2020 GHG Limit required by the California Global Warming Solutions Act (Assembly Bill [AB] 32), discussed in further detail below. California's GHG emissions have remained below the 2020 GHG limit since 2016.

California GHG emissions by economic sector from 2009 to 2017 are summarized below in **Table 4.8-1, California Greenhouse Gas Emissions (Million Metric Tons CO<sub>2</sub>e)**, including the percentages by sector for 2017.

**Table 4.8-1. California Greenhouse Gas Emissions (Million Metric Tons CO<sub>2</sub>e)**

Emission Inventory Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	% of 2017 tonnage
Transportation	170.20	165.13	161.76	161.31	160.91	162.53	166.18	168.76	169.86	40.05%
Electricity Generation (In State)	53.33	46.75	41.10	51.02	49.42	51.68	49.88	42.28	38.45	9.07%
Electricity Generation (Imports)	48.04	43.59	46.87	44.50	39.98	36.79	33.93	26.32	23.94	5.65%
Commercial	12.89	13.58	13.71	13.41	13.30	12.52	12.67	13.14	13.02	3.4%
Industrial	87.90	91.50	90.17	91.08	93.69	94.02	91.48	89.49	89.40	21.08%
Residential	29.32	30.06	30.51	28.21	29.02	23.75	24.17	25.27	26.00	6.30%
Agriculture	32.85	33.68	34.34	35.46	33.99	35.06	33.75	33.51	32.42	7.64%
High Global Warming Potential	12.29	13.52	14.53	15.51	16.75	17.73	18.60	19.26	19.99	4.71%
Recycling and Waste	8.27	8.37	8.47	8.49	8.52	8.59	8.73	8.81	8.89	2.10%
<b>Total Gross Emissions</b>	<b>457.3</b>	<b>448.5</b>	<b>443.6</b>	<b>451.2</b>	<b>447.7</b>	<b>444.7</b>	<b>441.4</b>	<b>429.0</b>	<b>424.1</b>	<b>100%</b>

SOURCE: CARB 2019.

### Kern County

In 2012, the San Joaquin Valley Air Pollution Control District prepared a Communitywide GHG Inventory for Kern County (SJVAPCD 2012). Using the 2005 baseline GHG emissions, the 2020 emissions inventory was forecasted to be 27.3 MMTCo<sub>2</sub>e, of which the electricity consumption sector represents 31 percent, followed by the fossil fuel sector at 26 percent. **Table 4.8-2, Projected 2020 Kern County GHG Emissions**, presents the County's projected 2020 GHG emissions, minus sequestration.

**Table 4.8-2. Projected 2020 Kern County GHG Emissions**

Sector	MTCO <sub>2</sub> e	Percent of Total
Electricity Consumption	8,572,261	31%
Residential/Commercial/Industrial Combustion	1,689,414	6%
Transportation	4,823,756	18%
Fossil Fuels Industry	7,002,009	26%
Industrial Processes	2,348,754	9%
Waste Management	146,788	1%
Agriculture Fugitives	2,652,616	10%
Forestry and Land Use	14,669	<1%
Other Sources	22,442	<1%
<b>Total</b>	<b>27,272,709</b>	
Source: San Joaquin Valley Air Pollution Control District 2012.		
Note: MTCO <sub>2</sub> e = metric tons carbon dioxide equivalent		

## Potential Environmental Effects

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air, land, and water temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Long-term trends have found that 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 global combined land and ocean temperature data show an increase of about 0.89 degrees Celsius (°C) (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT, as well as sea surface temperatures, has increased. 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 (IPCC 2014).

According to the California Environmental Protection Agency's (CalEPA) 2010 *Climate Action Team Biennial Report*, potential impacts of climate change in California may include decreased snow pack, sea level rise, and increase in extreme heat days per year, high ground-level ozone days, large forest fires, and drought (CalEPA 2010). Below is a summary of some of the potential impacts that could be experienced in California because of climate change.

### Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in many areas of California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality.

However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CEC 2009).

## Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varied hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose 8 inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice in the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources 2008; California Climate Change Center 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not understood well. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling, the California Department of Water Resources projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historical average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (California Department of Water Resources 2008).

## Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. According to *The Impacts of Sea-Level Rise on the California Coast* prepared by the California Climate Change Center (2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 millimeters per year, which is double the observed twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013). As a result, sea levels averaged over the last decade were about 8 inches higher than those of 1880. Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise of 11–38 inches by 2100 (IPCC 2014). This prediction is more than 50 percent higher than earlier projections of 7 to 23 inches, when compared to the same emissions scenarios and periods. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to saltwater intrusion. In addition, increased CO<sub>2</sub> emissions can cause oceans to acidify due to the carbonic acid it forms.

Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

## **Agriculture**

California has a \$30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality.

## **Ecosystems and Wildlife**

Climate change and the potential resulting changes in weather patterns could have ecological effects on the local and global levels. Increasing concentrations of GHGs are likely to accelerate the rate and severity of climate change impacts. Scientists project that the average global surface temperature could rise by 1.0–4.5°F in the next 50 years, and 2.2–10°F during the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage.

# **4.8.3 Regulatory Setting**

## **Federal**

### **Environmental Protection Agency**

The US Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act (CAA). The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that establishes the GHG permitting thresholds that determine when federal CAA permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the US Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

## **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<sub>2</sub> 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<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>). 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<sub>2</sub> 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 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO<sub>2</sub> 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<sub>2</sub> standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO<sub>2</sub> standards for model year 2020 are 43.7 mpg and 204 grams per mile for passenger cars and 31.3 mpg and 284 grams of CO<sub>2</sub> per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal, if adopted, would also exclude CO<sub>2</sub>-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for N<sub>2</sub>O and CH<sub>4</sub> 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 Federal Register 57106–57513). The standards for CO<sub>2</sub>

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<sub>2</sub> 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<sub>2</sub>e emissions per year (USEPA 2011). Additionally, reporting of emissions is required for owners of SF<sub>6</sub>- and PFC-insulated 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 this 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**

The USEPA mandated to apply PSD requirements to facilities whose stationary source CO<sub>2</sub>e 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 CFR 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 S-1-07**

Executive Order (EO) S-1-07 recognizes that the main source of GHG emissions in California is from the transportation sector, and establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. As a result of EO S-1-07, CARB approved a proposed regulation to implement the Low Carbon Fuel Standard (LCFS) to reduce GHG emissions from the transportation sector in California by approximately 16 MMTCO<sub>2</sub>e by 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable

framework that establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

### **Senate Bill 97 (SB 97)**

SB 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in CEQA documents. In March 2010, the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

### **Executive Order S 3-05**

On June 1, 2005, the California governor issued EO S-3-05, which set the following GHG emission reduction targets:

- 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.

In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”).

The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies to ensure the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light-duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, and so on. In April 2015, the governor issued EO B-30-15, calling for a new target of 40 percent below 1990 levels by 2030; see Executive Order B-30-15, below.

### **Assembly Bill 1493**

AB 1493 (2002), California’s Advanced Clean Cars program (referred to as “Pavley”), requires CARB to develop and adopt regulations to achieve “the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” On June 30, 2009, the USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG,” regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be implemented fully, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

## **Assembly Bill 32 and the California Climate Change Scoping Plan**

AB 32 outlines California's major initiative for reducing GHG emissions; called the California Global Warming Solutions Act of 2006, AB 32 was signed into law in 2006 and codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020, 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. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMTCO<sub>2</sub>e. CARB approved the Scoping Plan on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan have been adopted (e.g., LCFS, Advanced Clean Car standards, and Cap-and-Trade) since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines CARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 statewide goals. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the state's longer-term GHG reduction strategies with other state policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (CARB 2014).

The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by SB 32, discussed below, and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the LCFS, and reduction of CH<sub>4</sub> emissions from agricultural and other wastes (CARB 2017).

## **Renewables Portfolio Standard**

In 2002, a state law established the basic policy framework for the increased use of renewable energy resources in California, known as the Renewables Portfolio Standard (RPS). Specific requirements were established for investor-owned utilities, including a 20 percent target and provisions for the types of renewable resources that could be used to meet the target. The major eligible renewable energy resources, as defined by the California Energy Commission (CEC), include biomass, geothermal, solar, wind, and small hydroelectric facilities. Under the law, publicly owned utilities (POUs) were directed to pursue voluntary actions to increase the use of renewable energy in their portfolios, but were allowed the flexibility to define their targets and the types of resources that could meet those targets. The CEC and the California Public Utilities Commission (CPUC) work collaboratively to implement the RPS.

In 2006, new state policy heightened the need to increase the use of renewable energy as part of the state's GHG reduction efforts. In April 2011, Governor Brown signed SB X1-2, which revised the RPS target to be 33 percent renewables by 2020. The new RPS standards apply to all electricity retailers in the state, including POUs, investor-owned utilities, electricity service providers, and community choice aggregators. In October 2015, Governor Brown signed SB 350, which expands and increases the target of the RPS program to 50 percent by the end of 2030. SBs X1-2 and 350 included new enforcement provisions and direct CARB to collect financial penalties for any Notice of Violation issued by the CEC to a POU for its failure to comply with requirements of the state's RPS Program.



## **Senate Bill 100**

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's RPS. SB 100 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. This further supports the reduction of GHG emissions from the electricity sector.

## **Executive Order B-55-18**

On September 10, 2018, the California governor issued EO 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 375**

SB 375 passed the Senate on August 30, 2008, and was signed by the governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions and contributes more than 40 percent of the GHG emissions in California, with automobiles and light trucks alone contributing almost 30 percent. SB 375 indicates that GHGs from automobiles and light trucks can be reduced by new vehicle technology. However, significant reductions from changed land use patterns and improved transportation are also necessary. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

## **Senate 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 and SB 1383 (see below). 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 6 metric tons (MT) CO<sub>2</sub>e by 2030 and 2 MTCO<sub>2</sub>e by 2050 (CARB 2017). 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 1383**

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

The bill also requires the California Department of Resources Recycling and Recovery, in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

## **Executive Order B-30-15**

On April 29, 2015, the California governor issued EO B-30-15, which added an interim target of GHG emissions reductions to help ensure that the state meets its 80 percent reduction by 2050 as set in EO S-3-05. The interim target is reducing GHG emissions by 40 percent by 2030. It also directs state agencies to update the Scoping Plan, update the Adaptation Strategy every three years, and take climate change into account in their planning and investment strategies. Additionally, it requires that the state's Five-Year Infrastructure Plan will take current and future climate change impacts into account in all infrastructure projects.

## **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 nonresidential 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<sub>2</sub>e 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.

## **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 2017). 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 manufacturers 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 (CAPCOA 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**

### **2018 Regional Transportation Plan/Sustainable Communities Strategy**

The Kern Council of Governments (Kern COG) 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. Kern COG serves as the federally designated metropolitan planning organization for Kern County. With respect to air quality planning and other regional issues, Kern COG has prepared the 2018 Regional Comprehensive Plan (RCP) for the region (Kern COG 2018). The 2018 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 assesses environmental impacts of proposed projects.

The Kern COG 2018 RTP includes a sustainable communities strategy (SCS) component in accordance with SB 375, the Sustainable Communities and Climate Protection Act of 2008 (see Senate Bill 375, above). 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. The 2020 target is a 5 percent per capita reduction and the 2035 target is a 10 percent per capita reduction from the 2005 base year.

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 2018 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 2018 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 SCS by reducing emissions in other sectors (e.g., energy consumption);

- Quantifies the effect of policies and programs in the RTP that reduce transportation-related emissions in the region; and
- Compares the emissions reductions anticipated with implementation of the SCS with the regional targets (Kern COG 2018).

## Local

### Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan provides goals, policies, and implementation measures applicable to air quality, and as related to the project, 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 5. Energy Element

#### Solar Energy Development

##### ***Goal***

Encourage safe and orderly commercial solar development.

##### ***Policies***

- Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuel and improve air quality.
- Policy 2: 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 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 should encourage solar development in the desert and valley regions previously disturbed, and discourage development of energy projects on undisturbed land supporting State or federally protected plant and wildlife species.

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 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 Climate Change Action Plan would ensure the goal of AB 32 can be attained with the project.

## Mojave Specific Plan

As noted in **Chapter 3, Project Description**, and in **Section 4.11, Land Use and Planning**, part of the project site is located within the boundaries of the Mojave Specific Plan and thus is also governed by the provisions of that plan. This includes policy elements pertaining to energy conservation and air quality, which have co-benefits of helping to reduce GHG emissions. Pertinent policy elements are identified below.

### Goals

Goal 1: Encourage safe and orderly commercial solar development.

Goal 2: Promote improvement of air quality

### Policies and Objectives

Objective 4.3: Encourage conservation of energy resources

Policy 4.3.1: Promote energy conservation measures contained in Title 24 of the California Code of Regulations

Objective 4.6: Promote the improvement of air quality and the maintenance of State and federal air quality standards in the Mojave area

Policy 4.6.1: Cooperate with the Kern County Air Pollution Control District to implement the Air Quality Attainment Plan

## California City General Plan

Following are provisions of this General Plan element that involve strategies to promote energy conservation and improve air quality, which would have co-benefits of reducing GHG emissions.

## Chapter 5. Open Space and Conservation Element

### 5.15 Conservation Goals, Policies, and Implementation Measures

#### Policies

Policy 1 Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

Policy 2 Promote energy conservation measures contained in Title 24 of the California Code of Regulations.

#### Implementation Measure

Measure C-5: The City shall participate with the California Air Resources Board (CARB) and/or the Kern County Air Pollution Control District (APCD) on programs to reduce mobile and stationary source emissions.

## Eastern Kern Air Pollution Control District

In 2012, the EKAPCD adopted an addendum to its *CEQA Guidelines* to address GHG impacts, including quantitative thresholds for determining significance for GHG emissions for new stationary sources where the EKAPCD serves as the lead CEQA review agency. A project is considered to have a significant project or cumulative considerable impact if it generates 25,000 tons or more of CO<sub>2</sub>e per year (22,680 MTCO<sub>2</sub>e). This impact would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to the EKAPCD that it is in compliance with a state GHG reduction plan such as AB 32 or future GHG reduction plan if it is more stringent than the state plan; or
- Project GHG emissions can be reduced by at least 20 percent below business as usual through implementation of one or more of the following strategies:
  - Compliance with Best Performance Standard;
  - Compliance with GHG Offset; and/or
  - Compliance with an Alternative GHG Reduction Strategy.

## 4.8.4 Impacts and Mitigation Measures

### Methodology

The proposed project's potential impacts to GHGs have been evaluated using a variety of resources, including the *Air Quality and Greenhouse Gas study* prepared for the project (Appendix D of this EIR) and relevant literature such as information and guidelines by CARB, USEPA, and the applicable provisions of CEQA. Additionally, the GHG savings from a 1,500 MW solar project were estimated.

### Construction and Decommissioning

Construction and decommissioning of the solar project would generate temporary GHG emissions primarily from the use of on-site construction equipment, vehicles transporting construction workers to and from the project site, and heavy-duty trucks used to export earth materials off-site. Site preparation and grading typically generate the greatest amount of emissions from grading equipment and soil hauling. Emissions associated with decommissioning the project were conservatively assumed to be equivalent to construction of the project, given the type of equipment required for decommissioning.

Based on information provided by the project proponent, construction assumptions for the project have been quantified using conservative assumptions of a reasonably worst-case scenario. Construction emissions were quantified using an Excel spreadsheet. The Excel spreadsheet model was deemed acceptable by the EKAPCD. The emissions calculations used CARB's 2017 Off-Road Equipment Inventory Model (OFFROAD2017) emissions factors for equipment exhaust and CARB Emission FACtor (EMFAC) 2017 emission factors for on-road vehicle exhaust.

Approximately 24 months of construction is anticipated for the proposed project. Air emissions calculations were performed for both before and after the incorporation of Mitigation Measures **MM 4.3-1KC to MM**

**4.3-3KC and 4.3-1CC to MM 4.3-3CC**, proposed by the project proponent. These mitigation measures include those typically required by Kern County for NO<sub>x</sub> (compliance with applicable CARB and EKAPCD rules) and PM<sub>10</sub> (watering program for dust control). See Appendix D 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 categorized as equipment powered by a USEPA-defined non-road engine. The off-road equipment exhaust emissions were calculated with emission factors from OFFROAD2017. This analysis 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, both on-site and off-site. Project construction 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, and emissions associated with worker trips.
- **Water Use:** The use of water in California can involve substantial energy consumption, depending on the source of the water and the use location relative to the source. Major portions of the state rely on imported water from the State Water Project (California Aqueduct), the Central Valley Project, the Colorado River Aqueduct, the All-American Canal, and similar large-scale water distribution systems. Moving water across the state involves considerable energy consumption for pumping and delivering the water to the use location. The use of groundwater can involve substantial energy consumption to pump water from deep aquifers. In addition to the energy consumption associated with wholesale water supply, energy is consumed during local treatment for potable use and for local delivery. Most of the energy associated with water supply is provided by electricity, which is generated from a variety of sources, including fossil-fueled power plants that produce GHGs. Consequently, the use of water for dust control and grading compaction during construction results in indirect GHG emissions. Based on the energy factors in CPUC's *Embedded Energy in Water Studies* (CPUC 2010) and assuming minimal treatment and delivery, it was estimated that each acre-foot of water requires 650 kilowatt-hours of electricity for project site delivery. The amount of GHG emissions associated with the 650 kilowatt-hours was based on the emissions profile for Southern California Edison provided in the California Emissions Estimator Model (CalEEMod).

The project has a tentative life of 30 to 40 years, at which time the operations may be renewed and on-site technology updated, or, alternatively, the project may be decommissioned. As decommissioning activities would be similar to the construction activities (using the same types of equipment and same general activities), the quantified emissions from construction are used as a surrogate for decommissioning activities. However, it is anticipated that the emissions from decommissioning activities would be less than those estimated for the construction activities, as the efficiencies of the construction equipment and on-road

vehicles would be consistent with the future decommissioning year, which would require full compliance with stringent emissions standards for heavy-duty construction equipment.

## Operations

Long-term operational emissions associated with the proposed project were also quantified using an Excel spreadsheet and calculated using EMFAC2017 emission factors for on-road vehicle exhaust. Long-term emissions result from operational mobile sources from new employees, service vehicles, equipment and material delivery vehicles, pickup trucks, utility and service vehicles, and water trucks, and water use resulting from cleaning of the solar panels. All assumptions and calculations are provided in Appendix C.

- **Vehicle Emissions:** Once placed into service, the project would be operated by up to 20 permanent employees. However, it is possible that the project would share personnel with nearby solar facilities, thus reducing the project's on-site operational staff. To provide a conservative estimate, off-site emissions were based on the maximum number of employees that would be traveling to the site in a single day to perform maintenance activities if the project required its own personnel (i.e., 20 total employees). Additionally, on-site mobile source emissions for pickup trucks, utility and service vehicles, and water trucks have been calculated based on a conservative estimate of 17,494 miles traveled per year, and off-site mobile source emissions for service vehicles and equipment and material delivery vehicles have been calculated based on a conservative estimate of 8,052 miles traveled per year.
- **Water Use:** The project would require water for solar PV panel washing and facilities at the operations and maintenance buildings during operation. Consistent with the indirect GHG emissions from water use calculations for project construction, it was estimated that each acre-foot of water requires 650 kilowatt-hours of electricity for project site delivery.

## Displaced Emissions Methodology

Operation of the project would create renewable energy over the planned 30- to 40-year project lifetime. This energy would displace GHG emissions that would otherwise be produced by existing power generation resources, including coal and natural gas/other nonrenewables. The project would deliver up to 1,500 MW of electricity to the point of interconnect at peak sun exposure. Annual energy generation or renewable energy generation in megawatt hours (MWh) was estimated based on solar radiation at the project site, annual operational time, and maximum capacity of 1,500 MW. Photovoltaic cell capacity is rated in terms of mega or kilowatts and indicates the amount of instantaneous power produced when operating at peak sun exposure. Total amount of electricity produced is measured in watt-hours and is dependent on operational time. Operational time of a solar panel is defined by the amount of time that the photovoltaic cells are actively converting solar energy into power, which depends on solar radiation. Solar radiation is the measure of energy emitted from the sun and varies daily depending on the time of day, season, local landscape, and geography. Refer to Appendix C of this EIR for detailed calculations related to the project's annual energy generation and associated displacement of emissions. The project is assumed to displace a fraction of existing current annual power generated by fossil fuels. Displaced GHG emissions were estimated assuming that generated solar energy would displace energy generated from fossil fuels in the California market and does not include the approximate 30 percent of the California electricity generated by non-combustion sources (CEC 2018). It should be noted that the project includes battery facilities to



store electrical energy from additional MW generated during the middle of the day. Discharging the batteries at night would extend the amount of time the project could deliver electricity to the point of interconnect, thereby further increasing the displacement of emissions.

## Thresholds of Significance

The *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.

According to the *CEQA Guidelines*, a project would have significant impacts on GHG emissions if it would:

- a) Generate GHG 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.

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's 2017 Scoping Plan is presumed to have less than significant GHG impacts.

In March 2012, the EKAPCD adopted the Addendum to its CEQA Implementation Document to address GHG impacts, including establishing quantitative thresholds for determining significance of GHG emissions when the EKAPCD is the CEQA lead agency. In these circumstances, a project is considered to have a significant impact or cumulatively considerable impact if it exceeds the following criteria:

- Generate 25,000 MTCO<sub>2</sub>e or more per year

The above impact would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to the EKAPCD that it is in compliance with a state GHG reduction plan such as AB 32 or future federal GHG reduction plan if it is more stringent than the state plan; or
- Project GHG emissions can be reduced by at least 20 percent below business as usual through implementation of one or more of the following strategies:
  - a) Compliance with a Best Performance Standard as set forth in Section VI of the Addendum to the EKAPCD CEQA Implementation Document;
  - b) Compliance with GHG Offset as detailed in Section VI of the Addendum to the EKAPCD CEQA Implementation Document; and/or
  - c) Compliance with an Alternative GHG Reduction Strategy as discussed in Section VII of the Addendum to the EKAPCD CEQA Implementation Document.

As such, project-generated emissions were compared to the applicable EKAPCD adopted GHG threshold of 25,000 metric tons per year.

## 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.**

### Solar Facility

#### Construction

The proposed project would generate GHG emissions directly and indirectly during construction, routine operational and maintenance activities, and decommissioning activities. The majority of emissions from the project would be generated during construction and decommissioning activities.

During construction, GHG emissions would be generated from operation of both on-road and off-road equipment. **Table 4.8-3, *Estimated Construction Emissions of Greenhouse Gases***, summarizes the construction GHG emissions from on-site and off-site emission sources. As shown, the estimated total GHG emissions during project construction would be approximately 7,866 MTCO<sub>2</sub>e over the 24-month construction period. The project's GHG emissions during construction would be below the EKAPCD threshold. Therefore, the GHG emissions from the proposed project would not have significant impacts on climate change.

**Table 4.8-3. Estimated Construction Emissions of Greenhouse Gases**

Year	Emissions Source (MTCO <sub>2</sub> e)				Total (MTCO <sub>2</sub> e)
	Off-road	On-site Mobile	Off-site Mobile	Indirect GHG Emissions from Water Use	
2021	433	3.9	292	23	753
2022	3,853	15.3	1,264	93	5,225
2023	1,051	8.8	758	70	1,888
<b>Total Construction</b>	<b>5,337</b>	<b>27.9</b>	<b>2,314</b>	<b>187</b>	<b>7,866</b>
Construction and Decommissioning (assume same levels for each)	10,674	56	4,628	374	15,731
<b>Amortized Emissions (30-year life)</b>	<b>356</b>	<b>2</b>	<b>154</b>	<b>12</b>	<b>524</b>
Source: Rincon 2020e (see Appendix C). Note: Numbers have been rounded to nearest metric tons.					

#### Decommissioning

It was conservatively assumed that decommissioning of the project would use the same type and amount of equipment in a similar schedule to construction; therefore, decommissioning of the project was estimated to generate an equivalent amount of emissions as construction. This is a conservative estimate because on-

road vehicles and off-site equipment would continue to improve in fuel efficiency and have increasingly reduced emissions; as such, decommissioning emissions in 30 years would likely be substantially lower than construction emissions. Estimated construction and decommissioning emissions related to the project amortized over 30 years, the anticipated project lifetime, would be approximately 524 MTCO<sub>2</sub>e per year, well below the EKAPCD threshold. Additional details on calculations can be found in Appendix C of this EIR.

## Operation

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 involving portable equipment and maintenance vehicles; and energy use associated with water consumption. As shown in **Table 4.8-4, Estimated Annual Operational Greenhouse Gas Emissions**, the project is estimated to emit 83 MTCO<sub>2</sub>e per year during operation. Indirect emissions from water use on-site account for approximately 50 percent of operational emissions. The total construction and decommissioning GHG emissions, amortized over 30 years, was added to the annual estimated operational emissions to estimate annual GHG emissions generated by the project. As shown, the project would emit 608 MTCO<sub>2</sub>e per year, throughout the operational life of the project (assumed 30 to 40 years).

**Table 4.8-4. Estimated Annual Operational Greenhouse Gas Emissions**

Location	Emissions Source (MTCO <sub>2</sub> e)				Total (MTCO <sub>2</sub> e)
	Off-road	On-site Mobile	Off-site Mobile	Indirect GHG Emissions from Water Use	
Operation	<0.1	20	22	42	83
Amortized Construction and Decommissioning Emissions	356	2	154	12	524
Annual Total	356	22	176	54	608
	Annual Displaced GHG Emission (MT/year)				-795,348
	Net Annual GHG Emissions (MT/year)				-794,740
EKAPCD CEQA/GHG Threshold					25,000
Significant Impact?					No
Source: Rincon 2020e (see Appendix C).					
Note: Numbers have been rounded to the nearest metric ton.					

## Displacement of Greenhouse Gases

Operation of the project would create renewable energy over the planned 30-year project lifetime. This energy would displace GHG emissions that would otherwise be produced by existing power generation resources, including coal and natural gas/other nonrenewables. The project has the capacity to generate approximately 1,500 MW of electricity at peak sun exposure.

However, the construction and operation of new renewable energy facilities would offset GHG emissions by replacing fossil-fueled power plants. The project would generate approximately 3,696 gigawatt-hours

(GWh) of solar-generated electricity each year that would be added to the power grid and used in place of electricity generated by fossil-fuel sources. Based on the project's projected annual electricity generation and the GHG emissions generated due to fossil-fuel combustion to generate the same level of electricity, the project has the potential to displace 795,348 MTCO<sub>2</sub>e per year. Therefore, the net generation of annual GHG emissions would be -794,740 MTCO<sub>2</sub>e, as shown in **Table 4.8-4, *Estimated Annual Operational Greenhouse Gas Emissions***. As such, the project would be consistent with state GHG reduction plans such as AB 32 and SB 32. Further, the project would result in an overall lifetime reduction estimated at 23,842,210 MTCO<sub>2</sub>e and would therefore be regionally beneficial.

### **Sulfur Hexafluoride (SF<sub>6</sub>)**

The proposed on-site substations may feature circuit breakers that contain SF<sub>6</sub> gas, used as an insulator and an arc suppressor in the breakers. SF<sub>6</sub> is inert and nontoxic and is encapsulated in the breaker assembly. SF<sub>6</sub> is a GHG with substantial GWP because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF<sub>6</sub> would be released only in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New circuit breaker designs have been developed to minimize the potential for leakage, compared to that of past designs, and the amount of SF<sub>6</sub> that could be released by the solar facility equipment would be minimal. Impacts would be less than significant.

### **Gen-Tie**

The proposed gen-tie would require minimal ground disturbance, vehicle trips, and construction equipment use during construction activities. Operation of the gen-tie would generate no GHG emissions. Impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation measures are required.

### **City of California City**

No mitigation measures are required.

### **Gen-Tie**

No mitigation measures are required.

## **Level of Significance**

### **Kern County**

Impacts would be less than significant.

### **City of California City**

Impacts would be less than significant.

## Gen-Tie

Impacts would be 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 gases.**

## 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 4.8-5, California Greenhouse Gas Emission Reduction Strategies**. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of 100 percent of the RPS by 2045 as well as the other measures listed in **Table 4.8-6, 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 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 4.8-5. 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 with 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.
Hydrofluorocarbon Reduction: (1) Ban retail sale of HFC in small cans; (2) require that only low GWP 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; and (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 1 to 4 percent biodiesel displacement of California diesel fuel.	Not applicable
Alternative Fuels – Ethanol: Increased use of ethanol fuel.	Not applicable

Strategy	Project Design/Mitigation to Comply with Strategy
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 2 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 (which apply to newly constructed buildings and additions to and alterations to existing buildings).	The project would be consistent with state law.
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its appliance energy efficiency standards (which 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 ITS, traveler information/traffic control, and 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

Strategy	Project Design/Mitigation to Comply with Strategy
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 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 1,500 MW. Therefore, the project would help support and not conflict with this strategy.

**Table 4.8-6. Applicable Scoping Plan Strategies for Project**

ID #	Sector	Strategy Name
T-1	Transportation	Advanced Clean Cars
T-2	Transportation	Low Carbon Fuel Standard
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	SF6 Leak Reduction Gas Insulated Switchgear
Source: CARB 2014		

Action T-1 relates to the Advanced Clean Cars program, in which the project's employees would purchase vehicles in compliance with the CARB vehicle standards that are in effect at the time of the vehicle purchase. In addition, as it related to the LCFS, under Action T-2, motor vehicles driven by the project's employees would use compliant fuels.

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 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 (CEC 2019b). 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 1,500 MW. 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 1,500 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 existing wells or by truck. The water use during operation of the project would be done efficiently so as to reduce impacts to local water resources.

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 SF<sub>6</sub> from leakage of gas-insulated switchgear use in electricity transmission and distribution systems by setting limits on leakage rates and implementing best management practices for the recovery and handling of SF<sub>6</sub>. Consistent with this action, the project would comply with any and all applicable regulatory requirements for any SF<sub>6</sub> containing switchgear.

## Kern Council of Governments 2018 Regional Transportation Plan

The 2018 RTP incorporates local land use projections and circulation networks in city and county general plans. The 2018 RTP is not directly applicable to the project because the underlying purpose of the 2018 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 2018 RTP. In addition, the project would not impact local transportation or land use during operation.

## Other Federal/State/Local Policies

**Table 4.8-7, *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 4.8-7. Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions**

Adopted Plan, Policy, or Regulation	Consistency Determination	Project Consistency
<b>Federal</b>		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.	Not applicable	The project would have direct CO <sub>2</sub> e 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 <sub>2</sub> e operating emissions that are well below the 75,000 ton/year rule trigger.
<b>State</b>		
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.



<b>Adopted Plan, Policy, or Regulation</b>	<b>Consistency Determination</b>	<b>Project Consistency</b>
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 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.).

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.

### **Consistency with Kern County/California City General Plans**

Additionally, the project would be consistent with the County's General Plan policy to encourage solar development to conserve fossil fuels and improve air quality, and with California City's General Plan policies to promote energy conservation and improve air quality. Given that Kern County and California City have not yet adopted a GHG reduction plan, there are no other local measures or policies applicable to the proposed project. The project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, impacts 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 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 GHG 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 1,500 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.

### **Gen-Tie**

The proposed gen-tie would require minimal ground disturbance, vehicle trips, and construction equipment use during construction activities. Operation of the gen-tie would generate no GHG emissions and promote government policies aimed at reducing GHG emissions. Impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation measures are required.

### **City of California City**

No mitigation measures are required.

### **Gen-Tie**

No mitigation measures are required.

## **Level of Significance**

### **Kern County**

Impacts would be less than significant.

**City of California City**

Impacts would be less than significant.

**Gen-Tie**

Impacts would be less than significant.

## **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 *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 emissions and global climate change impacts. 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. However, the EKAPCD has recently adopted the Addendum to its CEQA Guidelines titled “*Addressing GHG Emission Impacts for Stationary Source Projects When Serving as the Lead CEQA Agency*.” This addendum is the policy that the EKAPCD will use when it is the lead agency for CEQA to determine the project-specific and cumulative significance of GHG emissions from new and modified stationary source (industrial) projects. Under this policy, a project is considered to have a cumulatively considerable impact if it generates 25,000 metric tons or more of CO<sub>2</sub>e per year.

Construction emissions would be finite and temporary and would cease at the end of construction activities. Once the project is constructed and operational, the proposed project would have no major stationary emission sources and would require minimal vehicular trips. Operational emissions would be negligible and would not exceed the EKAPCD threshold; refer to **Impact 4.8-1**. In addition to the project's GHG emissions, other cumulative projects in the Fremont Valley and western Antelope Valley, identified in **Table 3-3, Cumulative Projects List**, in **Chapter 3, Project Description**, largely consist of utility-scale alternative 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 SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 50 percent of California's energy coming from renewable sources by 2030. As previously discussed, the RPS target was updated in September 2018 under SB 100 to 60 percent by 2030. The project and other similar projects are essential to achieving the RPS.

The main contribution of GHG emissions from the project would be from construction equipment usage during the construction phase and motor vehicles trips by employees and maintenance vehicles during project operations. The major source of GHGs in California is associated with transportation, contributing more than 40 percent of the state's total GHG emissions. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector. As stated, construction emissions from the proposed project and other projects identified in **Table 3-3, Cumulative Projects List**, would be finite and temporary and would cease at the end of construction activities.

As discussed in **Impact 4.8-1**, although the project would result in a short-term contribution to cumulative GHG emissions in California, operation of the project would offset emissions from the electricity generation sector. It is estimated that the project would displace approximately 795,348 MTCO<sub>2</sub>e annually over the

project's maximum 30-40 year lifespan. Therefore, the total GHG construction emissions associated with the project would likely be offset by less than one month of operations. Overall, the project would not contribute to cumulative GHG emissions in California because project operations would provide electric power with negligible operational GHG emissions over the long term when compared to traditional fossil-fueled generation technologies. In contrast, as a solar PV facility, the project would help reduce regional GHG emissions in California during operation. Combined with other proposed renewable energy projects listed in **Table 3-3, *Cumulative Projects List***, which would also offset GHG emissions from nonrenewable energy sources, there would be a beneficial cumulative impact in terms of reduction in GHG emissions associated with electrical power production in the region. 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 noncumulative GHG emission impacts from a climate change perspective. Causes and effects are not just regional or statewide, they are worldwide. Because the project's operational GHG emissions would be offset and no mitigation is required, any other feasible reductions would be accomplished through CARB regulations adopted pursuant to AB 32. Cumulative impacts of the project on global climate change would be less than significant.

## **Gen-Tie**

The proposed gen-tie would require minimal ground disturbance, vehicle trips, and construction equipment use during construction activities. Operation of the gen-tie would generate no GHG emissions and promote government policies aimed at reducing GHG emissions. Therefore, the proposed gen-tie would not have a cumulatively considerable impact on global climate change, and cumulative impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation measures are required.

### **City of California City**

No mitigation measures are required.

### **Gen-Tie**

No mitigation measures are required.

## **Level of Significance**

### **Kern County**

Cumulative impacts would be less than significant.

**City of California City**

Cumulative impacts would be less than significant.

**Gen-Tie**

Cumulative impacts would be less than significant.

## Section 4.9

# Hazards and Hazardous Materials

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### 4.9.1 Introduction

This section discusses the existing conditions and regulatory setting related to hazards and hazardous materials in the project area and describes the environmental setting for hazardous materials and waste, airports, and wildfire hazards. It also describes the project's potential impacts on residents and other sensitive receptors that could be exposed to potential hazards and/or hazardous materials and identifies mitigation measures where applicable. Impact analyses and determinations in this section are based on information provided in the *Bellefield Solar Phase I Environmental Site Assessment* prepared by Stantec (Stantec 2020d) and supplemented by the *Construction Support Plan* prepared by ECM Consultants (ECM 2020), located in Appendices I1 and I2, respectively, of this EIR.

### 4.9.2 Environmental Setting

This section discusses the existing conditions related to hazards and hazardous materials in the project area, and describes the environmental setting for hazardous materials and waste, airports, electromagnetic fields (EMFs), and wildfire hazards. Residences and other sensitive receptors such as schools are also described as their proximate location to the project site affects their exposure to the potential hazards described below. A description of the project site relative to hazards and hazardous materials can also be found below.

As described in **Chapter 3, Project Description**, the project includes the development a solar facility and associated infrastructure with the capacity to generate up to combined 1,500 megawatts (MW) of renewable electrical energy and up to 1,500 megawatt hours (MWh) of energy storage capacity on approximately 8,371 acres of privately owned land. The facility would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance facilities. The energy would originate from one or more on-site substations and ultimately be transferred to the Southern California Edison (SCE) Windhub Substation.

### Existing Setting

The project site is located on lands within unincorporated Kern County, including within the Mojave Specific Plan Area, and lands within the municipal limits of the city of California City. The rural community of Mojave is located adjacent to the northwestern corner of the project site. The nearest uses in this area consist of non-residential and airport uses. Mojave generally consists predominantly of scattered single-family homes and the Mojave Airport. Additionally, the smaller, rural communities of Fleta, Sanborn, and Bissell are located to the southwest, south, and southeast of the project site. Existing land uses in the surrounding area are primarily undeveloped.

Several scattered rural residences are located approximately 1.2 miles southwest of the southwest corner of the project site. The closest residences are located off Dalton Avenue, in the community of Sanborn. The Hacienda Elementary School is located approximately 5.6 miles to the northeast of the site in California

City. The Hyundai Proving Ground, a 3,840-acre testing site for Hyundai new automobile and powersports products, is adjacent to the project site to the north and east. Edwards Air Force Base is directly southeast of the project site. The BNSF railway is a single track through the Gen-tie Corridor that becomes a double track line railroad through the project area. The railroad generally parallels the east-west portion of State Route (SR) 58 approximately 1 mile to the south.

According to Cal Fire, Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, the solar facility site and portions of the gen-tie route are classified as being in a Local Responsibility Area (LRA) Moderate (Cal Fire 2007a). Thus, portions of the proposed improvements would be subject to a moderate risk of wildfire.

Additionally, the Mojave Air and Space Port, which is operated by the East Kern Airport District, is located approximately 1.3 mile west of the project site. The western portion of the solar facility is located within an area governed by the Kern County Airport Land Use Compatibility Plan (ALUCP). The proposed gen-tie route is also located within several compatibility zones of the Mojave Air and Space Port.

## 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.

## Recognized Environmental Conditions

A Recognized Environmental Condition (REC) is one of the terms used to identify environmental liability within the context of a Phase I ESA. The American Society for Testing and Materials (ASTM) defines an REC as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.” “De minimis” conditions are minor occurrences of contamination that generally do not present a material risk to human health and would not likely be subject to enforcement action if brought to the attention of governmental agencies. A Phase I Environmental Site Assessment (ESA) was conducted on the project site in January of 2020 (Stantec 2020d) to review, evaluate, and document present and past land uses and practices, and visually examine site conditions in order to identify RECs. Based on the Phase I ESA, there are no identified RECs in connection to the project site.

## Photovoltaic Solar Panels and Cadmium Telluride

Photovoltaic (PV) solar panels that would be installed on the project site are made from polycrystalline silicon or thin film technology. Polycrystalline silicon solar panels may include small amounts of solid materials that are considered to be hazardous. Because such materials are in a solid and non-leachable state, broken polycrystalline silicon solar panels would not be a source of pollution to surface water, stormwater, or groundwater. Polycrystalline silicon panels removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility. In addition, the energy storage facility could include ion batteries which contain chemical contents that are considered hazardous, as well as lead acid, sodium sulfur, and sodium or nickel hydride.

Although the specific type of PV solar modules has not been selected for the project, it is conceivable that the modules may utilize Cadmium Telluride (CdTe) thin film technology. The semiconductor layer in the CdTe modules 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 3-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 1 C-size flashlight NiCd battery.

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.

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, CdTe PV modules do not present an environmental risk. CdTe releases are also 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 CdTe module collection and recycling services. Since 2005, the 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 and/or State law.

## Electromagnetic Fields

Electromagnetic fields (EMFs) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to human-made sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.



Commonly known human-made sources of EMFs are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. Generally, in most environments, the levels of such radiation added to natural background sources are low.

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

On January 15, 1991, the California Public Utilities Commission (CPUC) initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, the California EMF Consensus Group, was created by the CPUC to advise it on this issue. The California EMF Consensus Group's fact-finding process was open to the public, and its report incorporated public concerns. Its recommendations were filed with the CPUC in March 1992. Based on the work of the California EMF Consensus Group, written testimony, and evidentiary hearings, CPUC's decision (93-11-013) was issued on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

*"We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value."*

This continues to be the stance of the CPUC regarding standards for EMF exposure. Currently, the State has not adopted any specific limits or regulations regarding EMF levels from electric power facilities.

## 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 land is covered with structures (e.g., concrete buildings and asphalt roads) which absorb and store significantly more heat during the day than undeveloped earth. Additionally, energy-consuming devices (e.g., engines, appliances, and heating, air-conditioning, and ventilation [HVAC] systems) also generate waste heat.

Solar arrays consist of PV panels mounted on aluminum and steel support structures, restricting sunlight from reaching the ground surface. The project site would not be covered entirely with solar panels. Additionally, 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 also include energy-consuming devices (e.g., inverters). Therefore, marginal amounts of waste heat may be generated on the project site. There is nothing in the record to date that would indicate that the project would significantly increase ambient air temperatures outside the project site.

Fthenakis and Yu from Columbia University and Brookhaven National Laboratory combined models with field data to determine the extent to which PV facilities altered ambient air temperatures (Fthenakis and Yu 2013). Temperatures surrounding the facility were found to cool completely at night and the researchers determined that the PV facility "did not induce a day-after-day increase in ambient temperatures, and

therefore, adverse micro-climate changes from a potential PV plant are not a concern.” This study also concluded that increases in temperatures completely dissipated approximately 5-18 meters above the facility and that thermal energy “promptly dissipated” with distance from the facility. Remote sensing research produced by Edalat and Stephen from the University of Nevada of Las Vegas in 2017 supports the conclusions of Fthenakis and Yu (2013), demonstrating that land surface temperatures surrounding a solar facility were not significantly impacted by the solar facility (Edalat and Stephen 2017).

## Increased Noise

Noise from construction would be temporary over a period of 18 to 24 months. Ambient noise levels in the project area are typically low, especially during the evening and nighttime hours. The primary sources of noise on-site and in the surrounding area include motor vehicles, wind, and fauna (birds, small mammals, etc.). The greatest vehicle noise in the area is generated by cars traveling on SR 58. Additional area noise sources include aircraft associated with the Mojave Air and Space Port and vehicles operating at the Hyundai California Proving Ground.

The project site is generally isolated from noise-sensitive receivers (i.e., residential uses). The nearest residences in the community of Mojave are approximately 2.0 miles from the nearest project parcel and the nearest residences in California City are approximately 2.9 miles from the easternmost project parcel. Kern County land near the project site is mostly vacant and undeveloped; several isolated residences are located approximately 1.3 miles south of the southwestern most project parcel (near the unincorporated community of Actis). Several of the proposed routes considered for the gen-tie corridor would run adjacent to noise-sensitive receivers in Mojave such as single-family residences and motels/hotels. Refer also to **Figure 4.12-3, Locations of Noise-Sensitive Receptors Closest to the Project Site**.

As discussed in Section 4.12, *Noise*, of this EIR, construction activities could cause periodic increases in ambient noise levels at the nearest sensitive receptors when compared to the relatively quiet environment in the project area. However, such increases would be temporary and would not substantially disrupt or otherwise adversely affect residential uses.

## High Winds

Solar panel structures and supports would be designed to meet applicable wind code requirements per the California Building Code (CBC). The project site itself is not in a special wind speed zone, so equipment would be designed to withstand standard building code wind speeds of up to 80 to 90 miles per hour (mph). Equipment wind ratings would be a function of the racking system design and the final panel choice (to a lesser extent). Design features such as the sizes of posts, supports, and brackets can be adjusted to account for higher winds. All manufacturers' standard equipment would be designed to meet standard International Building Code (IBC) and CBC requirements.

The wind tolerance of a tracking system can also be maximized by rotating the panels to the proper stow angle during a high wind event. This angle is typically horizontal or near horizontal, depending on the individual manufacturer's design. This minimizes the cross section of the panel that is exposed to the wind and consequently, minimizes the potential for damage.

## Hazardous Materials Transportation

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. The project site straddles SR 58, and SR 14 runs near the northwestern border of the project site. According to Section 2.5.4 of the Kern County General Plan Circulation Element, SR 58 and SR 14 are designated as adopted commercial hazardous materials shipping routes.

## Airports

The western portion of the solar facility site is located in an area covered by the Kern County ALUCP. The Mojave Air and Space Port is located approximately 1.3 mile west of the project site. Portions of the project site are located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern.” Refer to **Figure 3-5, ALUCP Designations**.

The proposed gen-tie route is located in the following compatibility zones of the Mojave Air and Space Port:

- Zone B2 – Extended Approach/Departure Zone
- Zone C – Common Traffic Pattern
- Zone D – Other Airport Environs
- Zone E1 – Special Land Use
- Zone E2 – Special Land Use

According to Table 2A – Compatibility Criteria of the Kern County ALUCP, Compatibility Zone B2 is subject to significant noise levels; Compatibility Zone C is subject to frequent noise intrusion; Zone D is subject to potential for annoyance from overflights; and Zone E is subject to compatibility issues.

**Table 4.9-1, ALUCP Compatibility Criteria**, describes the Compatibility Criteria for each zone. The project site is located within the military fly over area, and per the Kern County Zoning Ordinance (Section 19.08.160), which requires military review for all wind turbines and communication towers over 80 feet, and all other structures over 100 feet above ground surface elevation. **Figure 4.9-1, Restricted Use and Special Use Airspace Over the Project Site**, identifies the location of the project within the Airport Influence Area and the R-2508 Complex.

**TABLE 4.9-1: ALUCP COMPATIBILITY CRITERIA**

Zone	Location	Impact Elements	Maximum Densities		Required Open Land
			Residential (du/ac)	Other Uses (people/ac)	
A	Runway Protection Zone or within Building Restriction Line	<ul style="list-style-type: none"> <li>High risk</li> <li>High noise level</li> </ul>	0	10	All Remaining
B1	Approach/Departure Zone and Adjacent to Runway	<ul style="list-style-type: none"> <li>Substantial risk – aircraft commonly below 400 feet AGL or within 1,000 feet of runway.</li> <li>Significant noise</li> </ul>	0.1	60	30%
B2	Extended Approach/Departure Zone	<ul style="list-style-type: none"> <li>Significant risk – aircraft commonly below 800 feet AGL.</li> <li>Significant noise</li> </ul>	0.5	60	30%
C	Common Traffic Pattern	<ul style="list-style-type: none"> <li>Limited risk – aircraft at or below 1,000 feet AGL.</li> <li>Frequent noise intrusion</li> </ul>	15	150	15%
D	Other Airport Environs	<ul style="list-style-type: none"> <li>Negligible risk</li> <li>Potential for annoyance from overflights</li> </ul>	No Limit	No Limit	No Requirement
E	Special Land Use	<ul style="list-style-type: none"> <li>Compatibility issues</li> </ul>	15	150	No Requirement

Source: Kern County 2012.

Note: Additional criteria are provided in Table 2A of the Kern County Airport Land Use Compatibility Plan.

## Fire Hazard Areas

The California Department of Forestry and Fire Protection (Cal Fire) 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.

According to Cal Fire, Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, the solar facility site is classified as Local Responsibility Area (LRA) Moderate (Cal Fire 2007a). Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. Approximately two miles of the western portion of the gen-tie route is located within a SRA classified as a moderate FHSZ (Cal Fire 2020a).

6242021\_1N41spain178902GISMXD/Restricted Use and Special Use Airspace.mxd

Naval Air Weapons Station China Lake

PROJECT SITE

Edwards Air Force Base

Lancaster

Loz Padres

Legend

Project Boundary

Township/Range

**Military Review Requirements**

All structures over 500-feet

No Review

No review requirement. County to provide building permit summary

All structures over 200-feet

All wind turbines & communication towers over 80-feet. All other structures over 100-feet

GPA #2, Map 195

ZCC #2, Map 195

ZCC #57, Map 196

CUP #1, Map 195

CUP #57, Map 196

SPA #31, Map 196

Source: Kern County (2020), Kern County Zoning Ordinance, Section 19.08.160 ArcGIS Online, Protected Areas Database of the United States (PADUS)

0 7.5 15 Miles

## **4.9.3 Regulatory Setting**

### **Federal**

#### **U.S. Environmental Protection Agency (EPA)**

The U.S. Environmental Protection Agency (EPA) was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The EPA's mission is to protect human health and to safeguard the natural environment – air, water, and land – upon which life depends. The EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for using permits and for monitoring and enforcing compliance. Where national standards are not met, the EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

#### **Federal Toxic Substances Control Act (TCSA)/Resource Conservation and Recovery Act (RCRA)/Hazardous and Solid Waste Act**

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 established a program administered by the EPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. 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.

#### **Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law (42 United States Code [USC] 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 revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulations [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.

#### **Clean Water Act/Spill Prevention, Control, and Countermeasure Rule**

The Clean Water Act (CWA) (33 USC 1251 et seq., formerly known as the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological

integrity of waters of the United States. As part of the CWA, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons; the total aboveground oil storage capacity exceeds 1,320 gallons; or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “Navigable Waters” of the United States.

## **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 the CWA; 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.

## **Occupational Safety and Health Administration**

The Occupational Safety and Health Administration’s (OSHA’s) mission is to ensure the safety and health of U.S. workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910, which include preparation of Health and Safety Plans (HASP). HASPs identify potential hazards associated with a proposed land use and may provide appropriate mitigation measures as required. 29 CFR Section 1910.120(e) requires all employees working onsite potentially exposed to hazardous substances, health hazards, or safety hazards, as well as the supervisors and management responsible for the site, to receive formal training before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards.

## **National Weather Service**

Under extreme fire weather conditions, the National Weather Service issues red flag warnings and fire weather watches to alert fire departments of the onset, or possible onset, of critical weather and dry conditions that have the potential to cause wildfire activity. A red flag warning is the highest alert and is issued for weather events which may result in extreme fire behavior within 24 hours. A fire weather watch is issued when weather conditions conducive to fire hazards may exist in the next 12-72 hours. The project site is located in Fire Watch Zone 299 (GACC 2021). Criteria for red flag warnings in Fire Watch Zone 299 are the following:

- Relative humidity of 15 percent or less with sustained winds 25 miles per hour (mph) or greater for a duration of eight hours or more (GACC 2021).



## Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, private, and military airports, such as Edwards AFB, located approximately eight miles southwest of the project site. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 14 CFR Part 77. The U.S. and California Departments of Transportation also require the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. According to 14 CFR Part 77.5, notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in 14 CFR Part 77, requires issuance of a permit from the California Department of Transportation's Aeronautics Program. The FAA regulates aviation at regional, public, private, and military airports, such as Edwards AFB, located approximately 8 miles southwest of the project site. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 14 CFR Part 77. The U.S. and California Departments of Transportation also require the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. According to 14 CFR Part 77.5, notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in 14 CFR Part 77, requires issuance of a permit from the California Department of Transportation's Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

As described in 14 § CFR 77.9 (Construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

- (a) Any construction or alteration that is more than 200 feet above ground level (AGL) at its site.
- (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
  - (1) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 feet in actual length, excluding heliports.
  - (2) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.
  - (3) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.
- (c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the



highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

- (d) Any construction or alteration on any of the following airports and heliports:
  - (1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;
  - (2) A military airport under construction, or an airport under construction that will be available for public use;
  - (3) An airport operated by a Federal agency or the DOD.
  - (4) An airport or heliport with at least one FAA-approved instrument approach procedure.
- (e) You do not need to file notice for construction or alteration of:
  - (1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;
  - (2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;
  - (3) Any construction or alteration for which notice is required by any other FAA regulation.
  - (4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Per 14 CFR 77.7, notification requirements include sending one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. The notice required must be submitted at least 45 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin, or (2) the date an application for a construction permit is to be filed.

A permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

As described in 14 § CFR 77.9 (Construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

- (a) Any construction or alteration that is more than 200 feet above ground level (AGL) at its site.
- (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
  - (1) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 feet in actual length, excluding heliports.

- (2) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.
- (3) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.
- (c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.
- (d) Any construction or alteration on any of the following airports and heliports:
  - (1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;
  - (2) A military airport under construction, or an airport under construction that will be available for public use;
  - (3) An airport operated by a Federal agency or the DOD.
  - (4) An airport or heliport with at least one FAA-approved instrument approach procedure.
- (e) You do not need to file notice for construction or alteration of:
  - (1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;
  - (2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;
  - (3) Any construction or alteration for which notice is required by any other FAA regulation.
  - (4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Per 14 CFR 77.7, notification requirements include sending one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. The notice required must be submitted at least 45 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin, or (2) the date an application for a construction permit is to be filed.

The U.S. Air Force (USAF) implements FAA and Department of Defense (DoD) policy and guidance regarding Special Use Airspace and Airspace for Special Use through various instructions, processes and organizations. The Air Force Flight Standards Agency, AF/A30, Headquarters Air Force (HAF) Encroachment Management Working Group, major command (MAJCOM) and Unit Airspace Managers

are responsible for identifying and evaluating projects which may adversely affect operations associated with military airfields, ranges, and airspace.

## 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 (CPUC) General Order 95 (GO 95): Rules for Overhead Electric Line Construction

Adopted in 1941 and updated most recently in 2012, GO 95 is the key standard governing the design, construction, operation, and maintenance of overhead electric lines within the State of California. 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:

- GO 95: Rule 35, *Tree Trimming*, defines minimum vegetation clearances around power lines. Rule 35 guidelines require 10-foot radial clearances for any conduction of a line operating at 110,000 Volts or more, but at less than 300,000 Volts. This requirement would apply to the proposed 230 kilovolt (kV) lines.
- GO 95: Rule 31.2, *Inspection of Lines*, requires that lines be inspected frequently and thoroughly to ensure 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) and Exemptions (14 CCR 1255)**

With respect to minimum clearance requirements, 14 CCR 1254 presents guidelines pertaining to nonexempt utility poles. Some utility poles are exempt under 14 CCR 1255; exemptions are determined by utility pole characteristics such as conductor continuousness and fire propagation potential. 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 8 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.

A Hazardous Materials Business Plan (HMBP) must be submitted to the local Certified Unified Program Agency (the Kern County Public Health Services Department/Environmental Health Services Division) if the facility handles, uses, or stores a hazardous material or mixture containing a hazardous material that has a quantity equal to or greater than 55 gallons of liquid, 500 pounds of a solid substance, or 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any amount. A HMBP must include the following:

- Inventory of hazardous materials at a facility;
- Emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; and

- Training for all new employees and annual training for all employees in safety procedures in the event of a release or threatened release of a hazardous material (California Governor's Office of Emergency Services 2014).

## **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 Department of Toxic Substances 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 On-site 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 Division of the Kern County Public Services Department.

## **California Environmental Protection Agency (Cal/EPA)**

The 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, and Department of Pesticide Regulation 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 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 (OES)**

In order to protect public health and safety, and the environment, the California 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 on-site to firefighters, public safety officers, and regulatory agencies. Typically this information is 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 such materials into the workplace or 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 is required to 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 (Cal/OSHA)**

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 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, Mojave Specific Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, as well as the California City

General Plan and California City Zoning Ordinance, all of 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**

The goals, policies, and implementation measures in the Kern County General Plan for hazards and hazardous materials applicable to the project are provided below.

### **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.

### **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[s], 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, 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**

#### Policy

- Policy 2: Innovative technologies to manage hazardous waste streams generated in Kern County will be encouraged.

#### 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 on-site 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.

## Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The objective and policy in the Mojave Specific Plan for hazards and hazardous materials applicable to the project are provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

### Chapter 9. Seismic and Safety Element

#### Objective

Objective 9.3: Protect the community from human-caused hazards related to air and ground transportation, hazardous materials, and other human activities.

#### Policy

Policy 9.3.2: Ensure that hazardous materials used in business and industry are properly handled, and that information on their handling and use is available to fire protection and other safety agencies in accordance with the Fire Code.

## California City General Plan

### Chapter 6. Safety Element

#### 6.7 Human-Induced Hazards Goals, Policies and Implementation Measures

##### Goals

- Protect residents, businesses, and structures from human-induced hazards related to ground transportation, aircraft over flight, hazardous materials, and other human activities.

##### Policies

- Ensure that hazardous materials used by commercial and industrial land uses are properly transported, handled, and used, and that information on their handling, transport, and use is available to the California City Fire Department and other safety agencies in accordance with the Fire Code.
- Require that new development proposals be consistent with the Kern County Airport Land Use Compatibility Plan in order to eliminate hazards due to land use conflicts with the California City Municipal Airport, the Mojave Airport, Edwards Air Force Base, and other military over flight activities.
- Coordinate with the State to identify and monitor hazardous sites located within and/or adjacent to the General Plan Planning Area.

##### Implementation Measures

- S-7: The City shall require commercial and industrial businesses to meet the procedures for the proper transport, use, storage, and disposal of hazardous waste as required by the Kern County Waste Management Department, the California City Fire Department, and Kern County Department of Environmental Health Services. These procedures shall include, but are not limited to, the following:
- Submittal of a business plan for small quantity waste generators to the Kern County Department of Environmental Health Services and the California City Fire Department.
  - Submittal of a source reduction plan for large quantity generators that addresses the potential of treating waste on site and the proper transportation and disposal of waste off site. These plans are reviewed by the Kern County Department of Environmental Health services and the California City Fire Department.
  - Evaluation of funding sources for waste management and disposal programs.
  - Coordination with the State Department of Health Services.
- S-9: The City shall require that transporters of hazardous waste travel on designated Commercial Hazardous Waste Shipping Routes.
- S-12: The City shall require that new development proposals be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated into the conditions of the project approval to address compatibility with the California City Municipal Airport, the Mojave Airport, and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

## **Kern County Multi-Hazard Mitigation Plan**

The latest Kern County Multi-Hazard Mitigation Plan was developed in 2006. 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. The Federal Emergency Management Act (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 Fire Department (KCFD) Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the State Responsibility Areas (SRAs) within the County. The 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 2016 California Fire Code and the 2015 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; to condition hazardous to life or property in the occupancy and use of buildings and premises; to regulate the operation, installation, construction, and location of attendant equipment; to regulate the installation and maintenance of adequate means of egress; and to provide for the issuance of permits and collection of fees.

## **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 divided 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 1 (Central Mountains/Desert) which is within a moderate fire hazard severity zone within the Tehachapi fire plan management area (KCFD 2018).

## **Fire Prevention Standard No. 503-507 Solar Panels**

The KCFD 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 2019 County Fire Code and is an official interpretation of the Kern County Fire Marshal's Office. The Standard outlines installation requirements for PV ground-mounted and roof-mounted solar panels. Ground mounted solar panel requirements identified by this Standard address water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD 2019).

## **Kern County Public Health Services Department/Environmental Health Services Division**

The Kern County Public Health Services Department/Environmental Health Services Division/Hazardous Materials Section is the CUPA for the project area, which provides site inspections of hazardous materials programs (i.e., above ground storage tanks, underground storage tanks, 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 effect 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 on-site 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.

## **Kern County Airport Land Use Compatibility Plan**

The Kern County Airport Land Use Compatibility Plan establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. The ALUCP maps airport influence areas as zones as A, B1, B2, C, D, E1 and E2, ranging from the most restrictive Zone A to the least restrictive Zone E, and identifies policies and compatibility criteria within each of those zones.

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 ALUCP are (1) exposure to aircraft noise; (2) land use safety with respect to both people and property on the ground and the occupants of the aircraft; (3) protection of airport airspace; and (4) general concerns related to aircraft overflights.

The proposed solar facility would be located within the Airport Influence Area of Mojave Air and Space Port. Section 4.9 of the ALUCP addresses the Mojave Air and Space Port and land uses and procedures relative to its aviation, as well as height restrictions and other compatibility criteria.

In addition, due to the location of the site within the R-2508 Complex and proximity to the Edwards AFB, the project falls within the following notification categories established in Section 4.17.3 of the ALUCP:

- Any structure within 75 miles of the R-2508 Complex that is greater than 50 feet tall.
- Any environmental document or discretionary project within 25 miles of the military installation boundaries.
- Any project that would create environmental impacts (e.g., visibility, elevated obstructions) within 25 miles of the R-2508 Complex.
- Any project within 25 miles of the centerline of any route/corridor.

## **Kern County Zoning Ordinance**

The Kern County Zoning Ordinance identifies regulations regarding maximum permitted heights, both within specific zone districts and in districts with the H (Airport Approach Height) Combining District. The purpose of the H Combining District is to minimize aviation hazards by regulating land uses, restricting the height of buildings and vegetation, and specifying design criteria necessary to promote aviation safety. Structure height is restricted to prevent aesthetic impacts and to provide privacy for neighboring properties. Height limits are also established for structures within the Joint Service Restricted R-2508 Complex (which is part of a Special Use Airspace) that require written concurrence from the military authorities responsible for operations in the area.

## **4.9.4 Impacts and Mitigation Measures**

### **Methodology**

The methodology for determining impacts related 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; (2) hazards related to the Kern County ALUCP; and, (3) 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**

As established in Appendix G of the CEQA Guidelines, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria 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 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. 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 well-being of the majority of the surrounding population.

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the project would not result in significant impacts to some of these environmental issue areas; and that no further analysis would be required in the EIR. Thus, the following issue areas are scoped out of further analysis in this EIR:

- c. Emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;

There are no existing or proposed schools located within one-quarter mile of the project site. The nearest schools in unincorporated Kern County are Mojave Elementary School and Mojave Jr/Sr High School, located east of the project site at 15800 and 15732 O Street, respectively, in the community of Mojave. Both schools are approximately 2.5 miles from the project site at the closest point. The closest school in California City is California City High School, at 8567 Raven Way in California City, is located approximately 6 miles northeast of the project site at the closest point. The project would not generate hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impacts are anticipated; therefore, further analysis of this issue is not warranted.

- 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 create a significant hazard to the public or the environment; and

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: California Environmental Protection Agency's (CalEPA) Cortese List including the California Department of Toxic Substances and Control's EnviroStor (DTSC 2020) database of hazardous substances release sites; and Geotracker, (SWRCB 2020) the California database of leaking underground storage tanks. Finally, as provided by CalEPA, there are no active Cease and Desist Orders or Clean Up and Abatement Orders for hazardous materials/facilities in the immediate project vicinity of the project site (CalEPA 2020). Therefore, no impacts are anticipated, and further analysis is not warranted.

- h. 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 well-being of the majority of the surrounding population.

Project-related facilities would not result in features or conditions that could potentially provide habitat for vectors such as mosquitoes, flies, cockroaches, or rodents. During construction and operation, workers would generate small quantities of solid waste (i.e., trash, food containers, etc.) that would be stored in enclosed containers, then transported to and disposed of at approved disposal facilities. Construction and operation of the proposed solar arrays and associated facilities would not produce uncontrolled wastes that could support vectors and would not generate any standing water or other features that would attract nuisance pests or vectors. Therefore, impacts are considered to be negligible and further analysis is not required.

## 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.**

### Solar Facility

#### Construction

The project would not involve the routine transport, use, or disposal of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. Most of the hazardous waste generated by the project would occur during the construction period and would consist of liquid waste, including cleaning fluids, dust palliative, herbicides, and solvents. Some solid hazardous waste, such as welding materials and



dried paint, may also be generated during construction. These materials would be transported to the project site during construction and any hazardous materials that are produced as a result of construction would be collected and transported away from the site. During project construction, material safety data sheets for hazardous materials present on-site would be made readily available to on-site personnel to ensure awareness and proper handling in accordance with required BMPs as part of a Stormwater Pollution Prevention Plan (see Section 4.10, *Hydrology and Water Quality*). Workers would be trained to properly identify and handle all hazardous material.

During construction of the facility, non-hazardous construction debris would be generated and disposed of in local landfills. Sanitary waste would be managed using portable toilets located at a reasonably accessible on-site location. As discussed in Section 4.16, *Utilities and Service Systems*, of this EIR, Mitigation Measures **MM 4.16-1KC** and **4.16-1CC** would require debris and waste generated to be recycled to the extent feasible during construction, operation, and decommissioning and designation of a Recycling Coordinator to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

Fuels and lubricants used on field equipment would be subject to a Material Disposal and Solid Waste Management Plan, and a SPCC plan. Recyclable materials including wood, shipping materials, and metals would be separated when possible for recycling. Liquids and oils in the transformer and other equipment would be used in accordance with applicable regulations. The disposal of oils, lubricants, and spent filters would be performed in accordance with applicable regulations. Overall, the relatively limited use of hazardous materials, as well as the transport and disposal of such materials, during construction would be controlled through compliance with applicable regulations, including the *Kern County and Incorporated Cities Hazardous Waste Management Plan* which was adopted by both Kern County and California City, along with other incorporated cities in the county. As such, project construction is not anticipated to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant.

## Operation

Operation and Maintenance (O&M) activities associated with a PV solar facility are minimal and would require limited use of hazardous materials. Those that would be used would be stored on-site and in designated, secured areas. The site would also be fenced to prevent public access to hazardous materials and the PV panels.

Operational activities would be limited to monitoring facility performance, conducting scheduled maintenance for on-site electrical equipment, and responding to utility needs. No heavy equipment would be routinely used during normal project operation. O&M vehicles would include trucks (pickup, flatbed), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar panel washing. Large heavy-haul transport equipment and cranes may be brought to the project site infrequently for equipment repair or replacement. Long-term maintenance and equipment replacement would be scheduled in accordance with manufacturer recommendations. Solar panels are warranted for 25 years or longer and typically have an operating life of 30 or more years. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be conducted as necessary. The project would also include operational and maintenance protocols that would be used to identify and remove damaged or defective PV solar modules during annual inspections. Implementation of Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** would ensure that all handling, storage, and disposal of hazardous

materials associated with project operation would be conducted in accordance with standard practices to minimize potential exposure of workers or the public.

The PV solar modules installed on the project site may utilize CdTe thin film technology. CdTe is generally bound to a glass sheet by a vapor transport deposition during the manufacturing process, followed by sealing the CdTe layer with a laminate material and then encapsulating it in a second glass sheet. The modules meet rigorous performance testing standards demonstrating durability in a variety of environmental conditions. The PV solar modules conform to the International Electrotechnical Commission (IEC) test standards IEC 61646 and IEC61730 PV as tested by a third party testing laboratory certified by the IEC. In addition, the PV solar modules also conform to Underwriters Laboratory (UL) 1703 a standard established by the independent product safety certification organization. In accordance with UL 1703, the PV solar modules undergo rigorous accelerated life testing under a variety of conditions to demonstrate safe construction and monitor performance. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV solar modules does not generate emissions of CdTe (Sinha et al. 2012). The project includes operational and maintenance protocols that would be used to identify and remove damaged or defective PV modules during annual inspections. The PV module manufacturer created the first global and comprehensive module collection and recycling program in the PV industry in 2005. Therefore, the use of a CdTe PV system would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during normal operations.

Environmental risks of both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, using U.S. Environmental Protection Agency (USEPA) fate and transport methods for potential emissions to air, water, and soil from non-routine events such as fire and field breakage. Based on comparisons with USEPA health screening levels, crystalline silicon and thin film CdTe PV technologies do not present a health risk in the event of fire or breakage, with regards to their use of lead and cadmium compounds, respectively (Sinha et al. 2018, 2019).

Project operations would require the use of transformer oil at the project substation(s) and the energy storage facility could contain battery acids, as well as lead acid, sodium sulfur, and sodium or nickel hydride. All transformers would be equipped with spill containment areas and battery storage would be in accordance with OSHA requirements such as inclusion of ventilation, acid resistant materials, and spill response supplies. All components would have a comprehensive SPCC plan, in accordance with all applicable federal, State, and local regulations. Dust palliatives and herbicides, if used during operations to control vegetation, may be transported to the project site. These materials would be stored in appropriate containers to prevent accidental release. In addition, implementation of Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** would require 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; such requirements would further reduce impacts related to hazards to a less than significant level.

Further, implementation of the project would not result in the significant risk of EMFs associated with overhead power lines, as each facility would interconnect into the existing Windhub Substation. To the extent commercially feasible, the project intends to utilize previously approved and/or existing interconnection facilities associated with other generating and transmission projects to minimize potential environmental impacts. In addition, the project would not construct sensitive uses under the existing lines but would adhere to applicable CPUC requirements on location of any gen-tie lines or gen-tie connections. As the State has not adopted any specific limits or regulations regarding EMF levels from electric power facilities, impacts in this regard would be less than significant.

## Decommissioning

During the decommissioning process, it is anticipated that all project structures would be fully removed from the ground. Above-ground equipment that would be removed would include electrical wiring, equipment on the inverter pads, and the interconnection transformer pad and associated equipment. 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. Removal of the solar modules would include removal of the racks on which the solar panels are attached, and their placement in secure transport crates and a trailer for storage, for ultimate transportation to an off-site facility for disposal. Once the PV solar modules have been removed, the racks themselves would be disassembled, and the structures supporting the racks would be removed. All other associated site infrastructure would be removed, including fences/gates, concrete pads that may support the inverters, transformers and related equipment, and underground conduit/electrical wiring, and all materials would be recycled to the extent feasible. The affected land area would be thoroughly cleaned and all debris removed. As discussed above, the majority of the panel materials would be recycled, thereby resulting in minimal disposal of solid waste in area landfills, consistent with applicable regulations.

It is anticipated that the PV solar module manufacturer would provide CdTe module collection and recycling services. Current CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, which means they would not pose a significant risk for cadmium leaching if they reached a landfill. As noted above, several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV solar modules. 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 solar 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. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV solar modules do not generate emissions of CdTe (Fthenakis 2003). These studies have consistently concluded that use of CdTe PV solar modules do not present an environmental risk.

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: <https://www.seia.org/initiatives/seia-national-pv-recycling-program>.

As described in Section 4.16, *Utilities and Service Systems*, Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would require that an on-site recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition waste. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and local regulations that are in effect at the time. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department and California City Community Development Department prior to issuance of building permits. Given that the normal use and disposal of CdTe PV modules would not present an environmental risk, project implementation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during decommissioning activities. Implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would further reduce impacts related to hazards to a less than significant level.

## Gen-Tie

The proposed gen-tie would not involve the routine transport, use, or disposal of hazardous materials as defined by the Hazardous Materials Transportation Uniform Safety Act. However, as described in Section 4.16, *Utilities and Service Systems*, Mitigation Measure **MM 4.16-1KC** would require that an on-site recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition waste. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and local regulations that are in effect at the time. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. Further, the gen-tie would be subject to all applicable federal, State, and local laws and regulations during construction, operation, and decommissioning including those regulations that relate to hazardous materials.

Additionally, as appropriate, gen-tie components would have a comprehensive SPCC plan, in accordance with applicable federal, State, and local regulations. Dust palliatives and herbicides, if used during operations to control vegetation, may be transported to the gen-tie site and used on an as-needed basis. In addition, implementation of Mitigation Measures **MM 4.9-1KC** would require 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; such requirements would further reduce impacts related to hazards to a less than significant level.

Implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.9-1KC** would ensure that potential impacts related to hazards remain less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measure **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

**MM 4.9-1KC:** During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, 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 at <http://cers.calepa.ca.gov/> for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section.

- a. The Hazardous Materials Business Plan shall:
  1. Delineate hazardous material and hazardous waste storage areas;
  2. Describe proper handling, storage, transport, and disposal techniques, including which routes will be used to transport hazardous materials;
  3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill;

4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction;
  5. Establish public and agency notification procedures for spills and other emergencies including fires; and
  6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.
- b. The project proponent/operator shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.
  - c. A copy of the approved Hazardous Materials Business Plan shall be submitted to the Kern County Planning and Natural Resources Department.

### City of California City

Implement Mitigation Measure **MM 4.16-1CC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

**MM 4.9-1CC:** During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, 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 at <http://cers.calepa.ca.gov/> for review and acceptance by the City of California City.

- a. The Hazardous Materials Business Plan shall:
  1. Delineate hazardous material and hazardous waste storage areas;
  2. Describe proper handling, storage, transport, and disposal techniques, including which routes will be used to transport hazardous materials;
  3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill;
  4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction;
  5. Establish public and agency notification procedures for spills and other emergencies including fires; and
  6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.
- b. The project proponent/operator shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.
- c. A copy of the approved Hazardous Materials Business Plan shall be submitted to the California City Community Development Department.

**Gen-Tie**

Implement Mitigation Measure **MM 4.9-1KC** and Mitigation Measure **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

**Level of Significance after Mitigation****Kern County**

With implementation of Mitigation Measures **MM 4.9-1KC** and **MM 4.16-1KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measures **MM 4.9-1CC** and **MM 4.16-1CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measures **MM 4.9-1KC** and **MM 4.16-1KC**, impacts would be less than significant.

**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.**

**Solar Facility****Construction**

Construction of the project may result in temporary hazards related to the transport and use of hazardous materials, including those used for construction vehicle use and maintenance (i.e., diesel fuel, motor oil, etc.), construction waste, components of construction materials (i.e., cement), or other such materials. Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC**, as described above, would be implemented to reduce the potential for impacts related to the accidental release of hazardous materials into the environment to a less-than-significant level.

Although not anticipated, nearby sensitive receptors could also be exposed to pollutant emissions during project construction, resulting in a potentially significant impact. An adverse risk related to public exposure to hazardous materials could result from application of herbicides or other construction processes. Implementation of Mitigation Measures **MM 4.9-2KC** and **MM 4.9-2CC**, which would regulate the use of herbicides as described below, would reduce such potential impacts on sensitive receptors to less than significant.

Additionally, to further address the potential for the project to create a significant hazard to the public or the environment involving the release of hazardous materials into the environment during construction, Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would be implemented to require that an on-site recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator would be responsible for ensuring that

wastes requiring special disposal are handled according to State, County, and other local regulations that are in effect at the time of disposal. The name and phone number of the coordinator would be provided to the Kern County Planning and Natural Resources Department and the California City Community Development Department prior to issuance of building permits. Implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would further reduce impacts related to hazards to a less than significant level.

The Phase I ESA prepared for the project did not identify any RECs on the project site and/or in the immediate vicinity. No further investigation was recommended as a result (Stantec 2020d). However, the following conditions and/or sites were identified and further discussed in the Phase I ESA.

#### *Mojave Gunnery Range “C”*

According to the United States Army Corps of Engineers (USACE) Formerly Used Defense Sites (FUDS) Portal online database, the northeastern portion of the solar facility is located within the boundary of a FUDS identified as Mojave Gunnery Range. The Mojave Gunnery Range “C,” portions of which are located within the boundaries of Kern County and California City, was used for practice bombing and strafing by units stationed at Marine Corps Air Station, Mojave. Based on past conversations with the DTSC and USACE on similar sites in the region, there is the potential for unexploded ordnance (UXO) and/or munitions and explosives of concern (MEC) to be present at the site. Quantities and types of ordnance used at the site could not be determined from the available information during the Phase I ESA investigation (Stantec 2020d). As the site was not identified as an REC, it is not anticipated that such conditions would pose a potential significant hazard to the public or the environment from the release of hazardous materials into the environment.

However, the Phase I ESA recommended that the project proponent seek consultation and guidance from a MEC/UXO professional to evaluate the appropriate course of action and associated costs related to assessment, remediation, and construction support. As a result, further evaluation was undertaken and a Construction Support Plan was prepared that identifies proper procedures and applicable safety and health requirements to conduct and observe MEC anomaly avoidance procedures during operations within the identified Munitions Response Sites (MRSs) identified in the project area. The Construction Support Plan also includes a Health and Safety Plan that incorporates applicable federal, State, and local regulations pertaining to maintaining safety on-site during project ground disturbing activities.

Although impacts in this regard, relative to the Mojave Gunnery Range “C,” would be less than significant, Mitigation Measures **MM 4.9-3KC** and **MM 4.9-3CC** are proposed to require implementation of the measures identified in the Construction Support Plan to ensure that potential hazards remain below a level of significance and that public safety is maintained. Impacts in this regard would be less than significant.

#### *Potential Groundwater Wells*

No groundwater wells were observed during the field reconnaissance conducted for the Phase I ESA. One well was identified through the regulatory database search in the northern portion of the site (northeastern corner of APN 235-024-41 as shown in Appendix I1); however, this well may no longer be present or visible at the land surface (Stantec 2020d). The Phase I ESA therefore recommended that any known and unknown (those encountered during proposed development activities) groundwater wells be abandoned in accordance with applicable regulations (unless the wells would be utilized as in support of the proposed development). This is to avoid potential contamination of groundwater if there were a release of hazardous materials by construction activities that somehow traveled into a well, and also to avoid construction that

could be over or within a portion of a well that would be extremely unstable. To ensure that the project does not create a significant hazard to any known or unknown well through such circumstances, Mitigation Measures **MM 4.9-4KC** and **MM 4.9-4CC** would be implemented to reflect this recommendation and to reduce potential impacts to less than significant.

### **Operation**

The routine transport, use, and disposal of hazardous materials can result in hazards to the public through the potential for accidental release. Such hazards are typically associated with certain types of land uses, such as chemical manufacturing facilities, industrial processes, waste disposal, and storage and distribution facilities.

Operation of the proposed project is not anticipated to produce hazardous waste. The PV solar modules and inverters would not produce hazardous waste during operation. Each enclosed transformer at the substation would include mineral oil; however, secondary containment would be provided in accordance with applicable federal, State, and local laws and regulations. The mineral oil contained in each transformer does not normally require replacement, and mineral oil disposal would occur in accordance with all applicable federal, State, and local laws and regulations.

As stated above, it has been demonstrated that standard operation of polycrystalline silicon PV solar systems does not result in pollution emissions to air, water, or soil. Polycrystalline silicon panels removed from the site would be recycled or otherwise disposed of at an appropriate off-site waste disposal facility. Hazardous materials are unlikely to occur during accidental breakage of the polycrystalline silicon PV panels. Similarly, fire damage would not result in the release of hazardous materials. The polycrystalline silicon PV solar panels therefore do not pose a threat to nearby residences in surrounding communities relative to the release of hazardous materials.

CdTe releases are unlikely to occur from accidental breakage of or fires involving PV solar modules. CdTe is a highly stable semiconductor compound due to strong chemical bonding that translates to extremely low solubility in water, low vapor pressure, and a melting point greater than 1,000 °C. Potential impacts to soil, air, and groundwater quality from broken CdTe PV solar modules are highly unlikely to pose a potential health risk as they are below both human health screening levels and background levels (Sinha et al. 2012).

Potential CdTe emissions from fire are unlikely to occur at the project site because of the lack of fuel to support a sustained wildfire. Grass fires are the most likely fire exposure scenario for ground-mounted PV solar systems, and these fires tend to be short-lived due to the thinness of grass fuels. As a result, these fires are unlikely to expose PV solar modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe, which has a melting point of 1,000 °C. Moreover, even if a desert wildfire could reach that temperature, the actual CdTe emissions from a PV solar module would be insignificant (~0.04 percent) due to encapsulation in the molten glass matrix (Sinha et al. 2012).

Potential CdTe emissions from broken PV modules exposed to precipitation are also unlikely. Based on warranty return data, the breakage rate of CdTe PV solar modules is low, one percent over 25 years, which translates to an average of 0.04 percent per year. This breakage rate is an overestimate because over one third of PV module breakage occurs during shipping and installation. Modules that break during shipping and installation are removed from the construction site and returned to a manufacturing facility for recycling. Even if the CdTe semiconductor layer becomes exposed to the environment, it strongly resists being released from the PV solar module into the environment, and CdTe has a low solubility in water.



The CdTe PV modules would not pose a threat to nearby residences. The use of CdTe PV solar modules at the project site would not result in human or aquatic exposure of cadmium. A research article, “Fate and Transport Evaluation of Potential Leaching Risks from Cadmium Telluride Photovoltaics” (Sinha et al., 2012), further substantiates that during operation, CdTe PV modules do not pose a threat to human health or the environment due to its construction. The study evaluates the worst-case scenario to estimate potential exposures to CdTe compounds in soil, air or groundwater. The results show that exposure point concentrations in soil, air, and groundwater are one to six orders of magnitude below human health screening levels and below background levels, indicating that it is highly unlikely that exposures would pose potential health risks to on-site workers or off-site residents.

Operational environmental risks for both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, concluding that they 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).

In addition, the hazardous materials that would be present in the energy storage facility (i.e., batteries) would be contained in conformance with specifications that follow applicable federal, State, and local requirements. Adherence to OSHA requirements for the inclusion of appropriate ventilation, acid resistant materials, and presence of spill protection supplies further reduce the potential for significant hazard to the public or the environment.

Routine removal and/or maintenance of on-site vegetation may require the use of pesticides and herbicides during project operation. If not handled properly, use of these products could create a hazard to the public (i.e., maintenance workers, on-site employees, and/or nearby residences), resulting in a potentially significant impact. Implementation of Mitigation Measures **MM 4.9-2KC** and **MM 4.9-2CC** would reduce impacts related to the use of pesticides and herbicides to a less than significant level.

Project operation would not involve the routine transport, use, or disposal of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. The nearest designated routes for the transport of hazardous materials are SR 58 and SR 14. Adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials would minimize the potential for adverse health effects or public exposure to occur.

Overall, adherence to local, State, and federal regulations and standard protocols during the storage, transportation, and usage of any hazardous materials during project operation, combined with implementation of Mitigation Measures **MM 4.9-2KC** and **MM 4.9-2CC**, would reduce potential impacts to less than significant.

### **Decommissioning**

The decommissioning process is fully described under Impact 4.9-1, above. The majority of the PV solar panel materials would be recycled to the extent feasible, requiring minimal disposal of solid waste in local landfills, consistent with applicable regulations. Presently, CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, and therefore, they would not pose a significant risk for cadmium leaching if they were disposed of in a landfill. Additionally, batteries within the proposed energy storage facility would also be recycled to the extent feasible, thereby requiring minimal disposal of related wastes in local landfills. However, as such activities may create a significant hazard to the public from the release of hazardous materials into the environment, a significant impact may occur.

Implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would require that an on-site recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department and California City Community Development Department prior to issuance of building permits. Implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would reduce impacts related to hazards to less than significant.

## Gen-Tie

The proposed gen-tie would not involve the routine transport, use, or disposal of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. Construction of the gen-tie may result in temporary hazards related to the transport and use of hazardous materials, including those used for construction vehicle use and maintenance (i.e., diesel fuel, motor oil, etc.), construction waste, components of construction materials (i.e., cement), or other such materials. Mitigation Measure **MM 4.9-1KC** would be implemented to reduce the potential for impacts related to the accidental release of hazardous materials into the environment to a less-than-significant level.

Additionally, an adverse risk related to public exposure to hazardous materials could result from application of herbicides or other construction processes. Implementation of Mitigation Measure **MM 4.9-2KC**, which would regulate the use of herbicides, would reduce such potential impacts to less than significant.

To further address the potential for the project to create a significant hazard to the public or the environment involving the release of hazardous materials into the environment during construction, Mitigation Measure **MM 4.16-1KC** would be implemented to require that an on-site recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator would be responsible for ensuring that wastes requiring special disposal are handled according to State, County, and other local regulations that are in effect at the time of disposal. The name and phone number of the coordinator would be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. Implementation of Mitigation Measure **MM 4.16-1KC** would further reduce impacts related to hazards to a less than significant level.

As noted above, the Phase I ESA prepared for the project did not identify any RECs on the lands affected by the proposed improvements. No further investigation was recommended as a result (Stantec 2020d). However, the following conditions were identified and further discussed in the Phase I ESA.

### *Adjacent Gen-Tie Corridor Features*

An abandoned truck stop and an active gas station (Fastrip) are located on a gen-tie locations west of the Community of Mojave, adjacent to Highway 14. The gen-tie corridors near the central portion to southern portions of the project site run adjacent to the Niklor Chemical Company with large storage tanks south of the Community of Mojave. A disposal site is also located adjacent to the south of a proposed gen-tie corridor in the southern portion of the Property. These adjacent features would be a concern should the gen-tie corridors have an underground component. As project ground disturbance in these areas could result in a significant hazard to the public or the environment from the release of hazardous materials into the environment, this is considered to be a significant impact.

The Phase I ESA therefore recommended that if subsurface work is proposed for the installation of gen-tie lines or poles in areas within 20 feet of existing railroad tracks, that soil samples should be evaluated to determine whether metals concentrations in the soils are above California hazardous waste levels or regulatory thresholds that may pose a risk to future on-site construction workers. To address such conditions, Mitigation Measure **MM 4.9-5KC** would be implemented to require additional soil sampling in these areas to ensure that potential adverse impacts are reduced to less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.9-1KC** and **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

**MM 4.9-2KC:** During project construction and operation, the project proponent/operator shall continuously comply with the following:

- a. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. 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 to the Kern County Planning and Natural Resources Department.

**MM 4.9-3KC:** Prior to commencement of any on-site ground disturbing activities within 1,000 feet of the historical Munitions Response Site MRS-01 site (former Mojave Gunnery Range located in the northeastern portion of the solar facility site), the following measures shall be implemented:

- a. The project proponent shall implement all measures identified in the Construction Safety Plan prepared for the project (ECM Consultants 2020), including Unexploded Ordnance Awareness Training for site workers and construction support in any ground disturbing activities occurring within 1,000 feet of the historical MRS-01. The Unexploded Ordnance Awareness Training shall inform site workers of the potential munitions at the site and how to respond if such items are encountered.
- b. Where ground disturbance work is involved, a supervisor shall be Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response-trained in accordance with Standard 29 Code of Federal Regulations 1910.120 and hold a current certification;
- c. Where ground disturbance work is involved, contractors shall be trained in identifying Unexploded Ordnance/ Munitions and Explosives of Concern.
- d. If suspected munitions are encountered on-site at any time by an individual, the “3R’s of Explosives Safety” shall be followed. The “3R’s” include:
  1. Recognize: when something may be a munition and the dangers involved;
  2. Retreat: do not touch the potential munition and carefully leave the area; and,
  3. Report: immediately report the finding to local law enforcement.
- e. The project proponent shall submit proof of compliance with this measure to the Kern County Planning and Natural Resources Department.

**MM 4.9-4KC:** During project construction, the project proponent/operator shall be required to abandon, in accordance with all applicable local, State, and federal regulations and protocols, including those implemented by the Kern County Public Health Department, any known and/or unknown (i.e., discovered during project ground disturbance activities) water wells located on-site, unless such wells are proposed for continued operation as part of the development.

### **City of California City**

Implement Mitigation Measures **MM 4.9-1CC** and **MM 4.16-1CC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

**MM 4.9-2CC:** During project construction and operation, the project proponent/operator shall continuously comply with the following:

- a. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. 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 to the California City Community Development Department.

**MM 4.9-3CC:** Prior to commencement of any on-site ground disturbing activities within 1,000 feet of the historical Munitions Response Site MRS-01 site (former Mojave Gunnery Range located in the northeastern portion of the solar facility site), the following measures shall be implemented:

- a. The project proponent shall implement all measures identified in the Construction Safety Plan prepared for the project (ECM Consultants 2020), including Unexploded Ordnance Awareness Training for site workers and construction support in any ground disturbing activities occurring within 1,000 feet of the historical MRS-01. The Unexploded Ordnance Awareness Training shall inform site workers of the potential munitions at the site and how to respond if such items are encountered.
- b. Where ground disturbance work is involved, a supervisor shall be Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response-trained in accordance with Standard 29 CFR 1910.120 and hold a current certification;
- c. Where ground disturbance work is involved, contractors shall be trained in identifying Unexploded Ordnance/Munitions and Explosives of Concern;
- d. If suspected munitions are encountered on-site at any time by an individual, the “3R’s of Explosives Safety” shall be followed. The “3R’s” include:
  - 1. Recognize: when something may be a munition and the dangers involved;
  - 2. Retreat: do not touch the potential munition and carefully leave the area; and,
  - 3. Report: immediately report the finding to local law enforcement.
- e. The project proponent shall submit proof of compliance with this measure to the California City Community Development Department.

**MM 4.9-4CC:** During project construction, the project proponent/operator shall be required to abandon, in accordance with all applicable local, State, and federal regulations and protocols, including those implemented by the City of California City, any known and/or unknown (i.e., discovered during project ground disturbance activities) water wells located on-site, unless such wells are proposed for continued operation as part of the development.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.9-1KC** through **MM 4.9-2KC** and **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

**MM 4.9-5KC:** Prior to issuance of a grading or building permit, the project proponent/operator shall undertake evaluation of on-site soils for areas where the gen-tie corridor would be undergrounded to cross existing railroad tracks. If subsurface work is required for installation of gen-tie lines or poles in areas located within 20 feet of existing railroad tracks, soil sampling shall occur to determine whether metals concentrations in affected soils exceed California hazardous waste levels or regulatory thresholds that may pose a risk to future on-site construction workers.

If it is determined that California hazardous waste levels or regulatory thresholds are exceeded, the project proponent/operator shall be required to undertake measures in conformance with applicable local, State, and federal regulations and requirements, as appropriate, for the proper removal and off-site disposal of such soils in an approved facility and submit documentation of the removal and disposal to the Kern County Planning and Natural Resources Department.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.9-1KC** through **MM 4.9-4KC** and **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text), impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.9-1CC** through **MM 4.9-4CC** and **MM 4.16-1CC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text), impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-5KC**, and **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text), impacts would be less than significant.

**Impact 4.9-3: The project would result in a safety hazard for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Compatibility Plan.**

**Solar Facility**

As stated above, the western portion of the solar facility is located within an area covered by the Kern County ALUCP. The Mojave Air and Space Port is located approximately 1.3 mile west of the project site. The project site is located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern.” Refer to **Figure 3-5, ALUCP Designations**, for illustration of the ALUCP zones. According to Table 2A – Compatibility Criteria of the Kern County ALUCP, Compatibility Zone B2 is subject to significant risk and noise, and Compatibility Zone C is subject to limited risk and frequent noise intrusion.

As stated in **Chapter 3, Project Description**, the PV solar panels could reach up to 20 feet high, depending on the mounting system used and on County building codes. In addition, the project includes an on-site substation and energy storage system. Substations typically include a small control building (roughly 500 square feet) standing approximately 10 feet tall. The energy storage system modules, which could include commercially available lithium or flow batteries, typically consist of standard International Organization for Standardization containers (approximately 40 feet in length by 8 feet in width by 8 feet in height) housed in pad- or post-mounted, stackable metal structures, but may also be housed in a dedicated building(s) in compliance with applicable regulations. Therefore, the maximum height of any proposed structure within the solar facility is not expected to exceed 25 feet. These structure heights would not intrude into any navigable air space. The project would be required to comply with the County’s ALUCP and applicable FAA regulations regarding project approval to ensure that no conflict with airport operations occurs and that no safety hazards are presented.

Section 1.7.1 of the ALUCP requires that, prior to approval of any type of land use development, findings shall be made that such development is compatible with training and operational missions of relevant military operations. Section 4.17.3 of the ALUCP requires the notification of construction of the project to Edwards Air Force Base. Therefore, notification requirements would also apply to the Edwards Air Force Base to ensure no conflict would occur with their operations. As a result, with adherence to project notification requirements, impacts related to the ALUCP would be less than significant.

Furthermore, the project would not result in an increase in air traffic levels or a change in location of air traffic patterns that would result in a substantial safety risk, as air traffic patterns would not be affected. As previously discussed, and further detailed in Section 4.1, *Aesthetics*, the proposed solar panels would be composed of anti-reflective material. To ensure that potential glare effects from the project remain less than significant, Mitigation Measures **MM 4.1-6KC** and **MM 4.1-6CC** would be implemented, which would require the project proponent to demonstrate the solar panels and hardware are designed to minimize glare. Additionally, to further reduce glare potential, the project would be required to implement Mitigation Measures **MM 4.1-7KC** and **MM 4.1-7CC**, which require the use of non-reflective materials when feasible for on-site structures (i.e., O&M building, energy storage structures, etc.). Therefore, glare resulting from the project is not expected to be a concern for pilots operating within the vicinity of the project site.

For the reasons described above, the project would not result in safety or operational hazards to aircraft that would represent a safety hazard to people residing or working in the area. In addition, the nature of operation

of solar facilities is not known to result in operational issues for aircraft that would result in a public safety hazard.

Implementation of Mitigation Measures **MM 4.9-6KC** and **MM 4.9-5CC** would ensure project consistency with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate with the Department of Defense, FAA, public airports, and military installations in the area. Implementation of Mitigation Measures **MM 4.9-6KC** and **MM 4.9-5CC** would reduce impacts to less than significant.

## Gen-Tie

The proposed gen-tie route is located within an area covered by the Kern County ALUCP. The proposed gen-tie route is located in the following compatibility zones of the Mojave Air and Space Port:

- Zone B2 – Extended Approach/Departure Zone
- Zone C – Common Traffic Pattern
- Zone D – Other Airport Environs
- Zone E1 – Special Land Use
- Zone E2 – Special Land Use

According to Table 2A – Compatibility Criteria of the Kern County ALUCP, Compatibility Zone B2 is subject to significant noise levels; Compatibility Zone C is subject to frequent noise intrusion; Zone D is subject to potential for annoyance from overflights; and Zone E is subject to compatibility issues. Since overhead gen-tie lines are typically mounted on poles that reach 100 feet high, such overhead lines could represent an air traffic hazard and a conflict with the ALUCP.

The project would be required to comply with the County's ALUCP and applicable FAA regulations regarding project approval to ensure that no conflict with airport operations occurs and that no safety hazards result. As noted in the **Chapter 3, Project Description**, the gen-tie line within the ALUCP compatibility zones would be undergrounded, if needed, to avoid air traffic hazards. Section 1.7.1 of the ALUCP requires that, prior to approval of any type of land use development, findings shall be made that such development is compatible with training and operational missions of relevant military operations. Section 4.17.3 of the ALUCP requires that the project proponent provide notification of construction to Edwards Air Force Base to ensure that no conflicts with military operations would occur.

The proposed gen-tie would not cause an increase in air traffic levels or a change in location of air traffic patterns that would result in a substantial safety risk, as air traffic patterns would not be affected. As previously discussed, and further detailed in Section 4.1, *Aesthetics*, the gen-tie would be constructed with materials similar to existing transmission and power line infrastructure within the project vicinity. The gen-tie would not require operational lighting or be made of materials that could introduce glare that may affect airport operations.

Additionally, the project proponent would be required to undertake an airspace analysis in accordance with Title 14 of the Code of Regulations (CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, to identify potential airspace conflicts. Based on the results, the project proponent would work with Mojave Air and Space Port as appropriate to select and modify the route and pole locations and to consider obstruction lighting requirements to avoid and minimize potential conflicts. Such coordination



with Mojave Air and Space Port staff would occur to ensure that potential conflicts are avoided and/or minimized.

Implementation of Mitigation Measure **MM 4.9-6KC** would ensure the project gen-tie would be consistent with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate with the Department of Defense, FAA, public airports, and military installations in the area. Implementation of Mitigation Measure **MM 4.9-6KC** would reduce impacts to less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.1-6KC** and **MM 4.1-7KC** (see Section 4.1, *Aesthetics*, for full mitigation measure text).

- MM 4.9-6KC:** Prior to issuance of building and grading permits for portions of the project that meet the Federal Aviation Administration's noticing requirements, the project proponent/operator shall comply with the following:
- a. Submit Form 7460-1 (Notification of Proposed Construction or Alteration) to the Federal Aviation Administration, in the form and manner prescribed in Code of Federal Regulation 77.17.
  - b. Obtain a Federal Aviation Administration issued "Determination of No Hazard to Air Navigation" or make the Federal Aviation Administration's recommended changes to the project.
  - c. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating the project would comply with the Kern County Zoning Ordinance Figure 19.08.160 that all project components in the flight area would create no significant military mission impact and a copy of the site plan has been provided to the appropriate military authority responsible for operations in the flight area.
  - d. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating that a copy of the final site plan has been provided to the operators of the Mojave Air and Space Port.

### City of California City

Implement Mitigation Measures **MM 4.1-6CC** and **MM 4.1-7CC** (see Section 4.1, *Aesthetics*, for full mitigation measure text).

- MM 4.9-5CC:** Prior to issuance of building and grading permits for portions of the project that meet the Federal Aviation Administration's noticing requirements, the project proponent/operator shall comply with the following:
- a. Submit Form 7460-1 (Notification of Proposed Construction or Alteration) to the Federal Aviation Administration, in the form and manner prescribed in Code of Federal Regulation 77.17.

- b. Obtain a Federal Aviation Administration issued “Determination of No Hazard to Air Navigation” or make the Federal Aviation Administration’s recommended changes to the project.
- c. Provide documentation to the California City Community Development Department demonstrating the project would comply with the Kern County Zoning Ordinance Figure 19.08.160 that all project components in the flight area would create no significant military mission impact and a copy of the site plan has been provided to the appropriate military authority responsible for operations in the flight area.
- d. Provide documentation to the California City Community Development Department demonstrating that a copy of the final site plan has been provided to the operators of Mojave Air and Space Port.

### Gen-Tie

Implement Mitigation Measure **MM 4.9-6KC**.

## Level of Significance

### Kern County

With implementation of Mitigation Measures **MM 4.1-6KC** and **MM 4.1-7KC** (see Section 4.1, *Aesthetics*, for full mitigation measure text), and Mitigation Measure **MM 4.9-6KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.1-6CC** and **MM 4.1-7CC** (see Section 4.1, *Aesthetics*, for full mitigation measure text), and Mitigation Measure **MM 4.9-5CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measure **MM 4.9-6KC**, impacts would be less than significant.

**Impact 4.9-4: The project would impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan.**

### Solar Facility

As discussed in the NOP/IS (Appendix A of this EIR), the project would not physically impede an existing emergency response plan, emergency vehicle access, or personnel access to the project site. The project site is located in an area with several alternative access roads allowing access in the event of an emergency. As required by routine and standard specifications administered by Kern County, access would be maintained throughout construction, operation, and decommissioning, and appropriate detours would be provided in the event of any potential road closures. Therefore, no significant impacts related to impairment of the

implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would occur.

The limited size of the operational work force would not generate significant traffic volumes during an emergency evacuation scenario that could complicate area-wide emergency evacuation efforts. Driveways built to connect to existing local roads for direct site access would not affect designated emergency evacuation routes, as these are small local streets and the driveways would not conflict with potential evacuation routes for surrounding land uses. Proposed amendments to the County General Plan and Mojave Specific Plan Circulation Elements to remove section and mid-section line road reservations would not affect any existing roadways or planned evacuation routes. Additionally, California City would be required to determine which section and mid-section line road reservations would be preserved and which ones would be removed during the Conditional Use Permit process (Sec. 9-2-2501 of the California City Municipal Code).

Therefore, the project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

### **Gen-Tie**

Similar to the PV solar facility site, the proposed gen-tie route would be located in a rural area with the primary access roads allowing adequate egress/ingress in the event of an emergency. Sufficient access exists within the gen-tie line easement(s) to allow for emergency access. Access would be maintained during construction, operation, and decommissioning and appropriate detours would be provided in the event of any potential road closures, if needed. Therefore, the gen-tie would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Thus, no mitigation measures are required and impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation measures are required.

### **City of California City**

No mitigation measures are required.

### **Gen-Tie**

No mitigation measures are required.

## **Level of Significance**

### **Kern County**

Impacts would be less than significant.

**City of California City**

Impacts would be less than significant.

**Gen-Tie**

Impacts would be less than significant.

**Impact 4.9-5: The project would expose people or structures, either directly or indirectly, 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.**

**Solar Facility**

Refer also to Section 4.17, *Wildfire*, for additional discussion. According to the Draft Fire Hazard Severity Zone Map for Kern County prepared by Cal Fire, the project site is not located in or near state responsibility areas or lands classified as high or very high hazard severity zones (Cal Fire 2007a). According to the Cal Fire, Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, the project site is classified as LRA Moderate (Cal Fire 2007a). Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. However, there is still a potential risk of wildfire.

The site supports relatively sparse vegetation and site preparation would involve the removal of additional vegetation, although some natural vegetation may be maintained if it does not interfere with project construction. The project includes a battery storage component which, while such elements generally burn with difficulty, can burn or become damaged by fire and generate fumes and gases that are corrosive. Dry chemical, carbon dioxide (CO<sub>2</sub>), and foam are the preferred methods for extinguishing a fire involving batteries, as water is not effective in battery fires. Class D extinguishers are used for lithium-metal fires only. To further increase safety, the battery units are usually low voltage, encased in a steel enclosure, and are distanced from combustible materials on-site. They are typically constructed with a thermal management system that includes coolant pumps, fans, and a refrigerant system to maintain cool temperatures within the unit.

Common sources of fires within the desert environment are most often lightning strikes or vehicle exhausts. With regard to the proposed project, there is the potential for lightning to hit the collection system or energy storage facility, potentially causing a wildfire. The use of vehicles during project construction or operation may also increase fire risk due to the driving of heated mufflers and possibly scraping of loose metal pieces over vegetated areas which could cause a spark. Such conditions may result in a slight increase in the risk of wildfire ignition.

As discussed in Section 4.13, *Public Services*, of this EIR, the project proponent would implement Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**, which would require the preparation and submittal of a Fire Safety Plan to the Kern County Fire Department and California City Fire Department 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 also address fire hazards of the different components of the project, including the energy storage system, and would include measures for fire suppression and extinguishment techniques if a fire were to occur.

Additionally, the proposed on-site energy storage systems would be situated internally to the project site, with access from a primary fire apparatus roadway, and would be separated from each other per setback requirements identified in the California Building Code, Section 608. Ongoing project maintenance and operations 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.

In a wildfire event, it is anticipated that any employees occupying the site during project construction or operation would be rapidly evacuated in conformance with applicable Kern County and California City evacuation directives put in place. Such measures would ensure that the exposure of project occupants to the risk of injury or death from wildfire would be minimized to the extent feasible. Similarly, local residents would be evacuated from the surrounding communities as needed to ensure public safety.

While construction, operation, or decommissioning of the PV solar facility are not anticipated to significantly increase the risk of wildfire, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would be implemented to require development and implementation of a Fire Safety Plan for project construction and operation. Although impacts would be less than significant without implementation of mitigation, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would further reduce the potential impacts from wildfire. Impacts in this regard would be less than significant.

## **Gen-Tie**

According to the Draft Fire Hazard Severity Zone Map for Kern County prepared by Cal Fire, approximately two miles of the western portion of the gen-tie route is located within a state responsibility area classified as a moderate fire hazard severity zone (Cal Fire 2007a). However, the proposed gen-tie would require minimal ground disturbance and vegetation removal on land adjacent to an existing electrical substation and transmission facilities.

While construction, operation, or decommissioning of the gen-tie line are not anticipated to significantly increase the risk of wildfire, Mitigation Measure **MM 4.13-1KC** would be implemented to require development and implementation of a Fire Safety Plan for project construction and operation. Although impacts would be less than significant without implementation of mitigation, Mitigation Measure **MM 4.13-1KC** would further reduce the potential impacts from wildfire. Impacts in this regard would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measure **MM 4.13-1KC** (see Section 4.13, *Public Services*, for full mitigation measure text).

### **City of California City**

Implement Mitigation Measure **MM 4.13-1CC** (see Section 4.13, *Public Services*, for full mitigation measure text).

**Gen-Tie**

Implement Mitigation Measure **MM 4.13-1KC** (see Section 4.13, *Public Services*, for full mitigation measure text).

**Level of Significance****Kern County**

With implementation of Mitigation Measure **MM 4.13-1KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measure **MM 4.13-1CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measure **MM 4.13-1KC**, impacts would be less than significant.

**Cumulative Setting, Impacts, and Mitigation Measures****Solar Facility**

As described in **Chapter 3, Project Description**, multiple projects, including several utility-scale solar energy facilities, are proposed throughout Kern County. Similar to the proposed project, many of these projects are located in the Fremont Valley and Mojave Desert. As shown in **Table 3-4, Cumulative Projects List**, approximately 29 solar energy and non-solar projects are proposed within a 6-mile radius of the project site. The geographic scope of impacts associated with hazardous materials generally encompasses the project site 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 on-site existing hazardous conditions and/or hazards caused by a 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.

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 or excavation, or 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 local regulations, as well as project safety design features and the implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-1CC**, **MM 4.9-2KC**, **MM 4.9-2CC**, **MM 4.16-1KC** and **MM 4.16-1CC** would further reduce the project's potential to contribute to a significant cumulative impact. In addition, implementation of appropriate safety measures during project construction, 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, it is not anticipated that the project would contribute to a significant cumulative impact. Therefore, project-level impacts would not be cumulatively significant.

Hazardous materials typically used during construction, operation, and decommissioning and removal activities would be 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 when and if they occur. While foreseeable cumulative projects would have the potential to cause similar impacts, it is assumed these projects would also implement similar BMPs. Conformance with existing federal, State, and local regulations, as well as implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-1CC**, **MM 4.9-2KC**, **MM 4.9-2CC**, **MM 4.13-1KC**, **MM 4.13-1CC**, **MM 4.16-1KC** and **MM 4.16-1CC**, would further reduce the potential for the project to contribute to a significant cumulative impact. In addition, implementation of appropriate safety measures during construction, operation, and decommissioning of the project, as well as for other cumulative projects, would be anticipated to reduce potential impacts to less than significant. Therefore, impacts related to the use of hazardous materials would not be cumulatively considerable.

Additionally, although no RECs were identified on lands affected by the project, several sites and/or conditions (i.e., Mojave Gunnery Range “C,” potential groundwater wells, adjacent gen-tie corridor features) would require mitigation to ensure that the project does not create a significant hazard to the public or the environment from release of hazardous materials into the environment, and that impacts are reduced to less than significant. Other cumulative projects would be evaluated on a site-specific basis to determine whether hazardous materials or conditions are present (or whether there is a potential for on-site conditions to have off-site effects) and to identify measures to reduce any impacts to a level of less than significant, or to the extent feasible. As project impacts in this regard would be reduced to less than significant, the project is not anticipated to contribute to a significant cumulative impact.

The project site is located within Compatibility Zone B2 and Zone C of the Mojave Air and Space Port. The project would be required to comply with the County’s ALUCP and applicable FAA regulations regarding project approval to ensure that no conflict with airport operations occurs and that no safety hazards result. Other cumulative projects located within the same ALUCP would be similarly required to conform to such regulations, as applicable, to reduce the potential for hazards relative to airport operations. Additionally, implementation of Mitigation Measures **MM 4.9-6KC** and **MM 4.9-5CC** would ensure the project would be consistent with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate with the Department of Defense, FAA, public airports, and military installations in the area. Thus, the project would not combine with other projects to contribute to a significant cumulative impact. Impacts would be less than significant.

As stated above, the PV solar facility is not anticipated to impair implementation of, or physically interfere with, an adopted response plan or emergency evacuation plan. Access on local roadways would be maintained at all times during project construction, operation, and decommissioning, and the project as designed would not remove or restrict emergency access in the short-or long-term. Other cumulative projects would be evaluated on a project-specific basis for their potential to affect local roadways and/or emergency routes in the area and would be required to provide measures to avoid or minimize any potential adverse effects, consistent with State and local regulations that may apply. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to impairment or interference with an adopted emergency response plan or emergency evacuation plan. Cumulative impacts in this regard are considered to be significant and unavoidable.

Due to the nature of the proposed utility improvements, the project would have the potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. While the PV solar facility is not anticipated to significantly increase the risk of wildfire, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would be implemented to require development and implementation of a Fire Safety Plan for project construction, operation, and decommissioning activities. Similarly, other cumulative projects would be evaluated for their specific location pertaining to wildfire risk, in addition to project characteristics and/or operations that may increase the risk of wildfire events or resulting damage. All cumulative projects, similar to the proposed project, would be subject to State and local regulations intended to avoid or minimize the risk of wildfire occurrence, and mitigation measures would be incorporated as needed. Although impacts resulting with construction, operation, and decommissioning of the proposed project would be less than significant without mitigation, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would be implemented to further reduce the potential for the project to contribute to a significant cumulative impact relative to wildfire. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects would have the potential to result in a cumulative impact from the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. As such, the project, in combination with other related projects, could result in a significant and unavoidable cumulative impact in this regard.

### Gen-Tie

Construction or decommissioning of the gen-tie could potentially release hazardous materials into the environment; however, such a release would not result in combined impacts if the same event were to occur at another site. Operation of the gen-tie is not anticipated to generate hazardous waste. The gen-tie would be subject to applicable federal, State, and local laws and regulations during construction, operation, and decommissioning activities relative to the transport, use, or disposal of hazardous materials. Implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-5KC**, and **MM 4.16-1KC** would reduce the potential for the project to contribute to a significant cumulative impact pertaining to hazards, as such measures would reduce project impacts to less than significant. Therefore, project impacts related to hazards and hazardous materials would not be cumulatively considerable.

As stated above, a portion of the proposed gen-tie is located within Compatibility Zones B2, C, D, E1, and E2 of the Mojave Air and Space Port. The project would be required to comply with the County's ALUCP and applicable FAA regulations regarding project approval to ensure that no conflict with airport operations would occur and that no safety hazards would result. Similarly, other cumulative projects located with proposed electrical transmission lines in the same ALUCP area would be evaluated on a site-specific basis relative to proximity to local airport operations and would be required to conform to applicable federal, State, and local regulations pertaining to such activities to minimize potential adverse effects. The project would implement Mitigation Measure **MM 4.9-6KC** to ensure project consistency with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate with the Department of Defense, FAA, public airports, and military installations in the area. Implementation of Mitigation Measure **MM 4.9-6KC** would reduce the project's potential contribution to a cumulative impact to less than significant. As such, in combination with other cumulative projects relative to airport hazards, cumulative impacts involving installation and maintenance of gen-ties are considered to be less than significant.

As stated above, the gen-tie is not anticipated to impair implementation of, or physically interfere with, an adopted response plan or emergency evacuation plan. Access on local roadways would be maintained at all times during gen-tie construction, operation, and decommissioning, and the project as designed would not



remove or restrict emergency access in the short-or long-term. Other cumulative projects would be evaluated on a project-specific basis for their potential to affect local roadways and/or emergency routes in the area and would be required to provide measures to avoid or minimize any potential adverse effects, consistent with State and local regulations that may apply. As such, the gen-tie is not anticipated to contribute to a significant cumulative impact relative to impairment of or physical interference with an adopted response plan or emergency evacuation plan.

As stated above, construction, operation, and decommissioning of the proposed gen-tie would require minimal ground disturbance and vegetation removal. Such activities would not significantly increase the risk of wildfire. However, Mitigation Measures **MM 4.13-1KC** would be implemented to require development and implementation of a Fire Safety Plan to reduce the potential for wildfire occurrence or resulting damage. Similarly, other cumulative projects with electrical transmission lines would be evaluated for their specific location pertaining to wildfire risk, in addition to project characteristics and/or operations that may increase the risk of wildfire events or spread. All cumulative projects, similar to the proposed project, would be subject to State and local regulations intended to avoid or minimize the risk of wildfire occurrence, and mitigation measures would be incorporated as needed. Although impacts resulting with construction, operation, and decommissioning of the proposed gen-tie would be less than significant without mitigation, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would be implemented to further reduce the potential for the project to contribute to a significant cumulative impact relative to wildfire. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects would have the potential to result in a cumulative impact from the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. As such, the project, in combination with other related projects, could result in a significant and unavoidable cumulative impact in this regard.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-6KC**, **MM 4.13-1KC** (see Section 4.13, *Public Services*, for full mitigation measure text), and **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

### City of California City

Implement Mitigation Measures **MM 4.9-1CC**, **MM 4.9-2CC**, **MM 4.9-5CC**, **MM 4.13-1CC** (see Section 4.13, *Public Services*, for full mitigation measure text), and **MM 4.16-1CC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

### Gen-Tie

Implement Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-5KC**, **MM 4.9-6KC**, **MM 4.13-1KC** (see Section 4.13, *Public Services*, for full mitigation measure text), and **MM 4.16-1KC** (see Section 4.16, *Utilities and Service Systems*, for full mitigation measure text).

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-KC**, **MM 4.9-6KC**, and **MM 4.16-1KC**, impacts would be less than significant. Cumulative impacts involving wildland fire hazards (Mitigation Measure **MM 4.13-1KC**) would be significant and unavoidable.

### City of California City

With implementation of Mitigation Measures **MM 4.9-1CC**, **MM 4.9-2CC**, **MM 4.9-5CC**, and **MM 4.16-1CC**, impacts would be less than significant. Cumulative impacts involving wildland fire hazards (Mitigation Measure **MM 4.13-1CC**) would be significant and unavoidable.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-5KC**, **MM 4.9-6KC**, and **MM 4.16-1KC**, impacts would be less than significant. Cumulative impacts involving wildland fire hazards (Mitigation Measure **MM 4.13-1KC**) would be significant and unavoidable.

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### **4.10.1 Introduction**

This section of the EIR describes the affected environment and regulatory setting relating to hydrology and water quality for the proposed project. It also describes the impacts associated with hydrology and water quality that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. The information and analysis in this section is largely based on the *Preliminary Hydrology Study for the Bellefield Solar Project* prepared by Westwood (Westwood 2019), the *Bellefield Solar Farm Project Aquatic Resources Assessment* prepared by Rincon (Rincon 2020c), and the *Bellefield Solar Project Water Supply Assessment* prepared by Rincon (Rincon 2020d). These are located in Appendices J, *Hydrology Report*, D.3, *Aquatic Resources Assessment*, and M, *Water Supply Assessment*, of this EIR, respectively.

### **4.10.2 Environmental Setting**

#### **Regional Setting**

The project site is located in the northern region of the Mojave Desert Basin (Basin), which is defined by surrounding mountain ranges that help create its generally dry conditions. The Basin contains numerous mountain ranges that create valleys, closed drainage basins, salt pans, and seasonal saline lakes when precipitation is high enough. Most of the valleys are internally drained, resulting in a closed system where all precipitation that falls within the valley does not ever find its way to the ocean. The project site is located in the northern portion of Fremont Valley, a desert region that drains the eastern slopes of the Tehachapi Mountains, as well as the Sierra Nevada, El Paso and Rand Mountains. Within Fremont Valley, surface water generally flows from surrounding mountains and valley to Koehn Dry Lake, the lowest point topographically in the enclosed basin, where surface water either evaporates or percolates into the ground.

#### **Fremont Valley Watershed**

The project site is located in the Fremont Valley watershed, which is part of the larger Antelope-Fremont Valleys watershed, Hydrologic Unit Code (HUC) 18090206. The Antelope Hydrologic Unit is part of the Lahontan Region of the Regional Water Quality Control Board (RWQCB). The Antelope Hydrologic Unit includes portions of Los Angeles, Kern, and San Bernardino Counties, and corresponds to the Antelope Valley Basin, which is a closed topographic basin with an area of about 2,400 square miles. Under the California Department of Water Resources mapping system used in the Lahontan Basin Plan, the Antelope Hydrologic Unit includes eight Hydrologic Areas: Chafee, Gloster, Willow Springs, Neenach, Lancaster, North Muroc, Buttes, and Rock Creek (SWRCB 2009). The project is located in the Willow Springs Hydrologic Area or sub-watershed. In Antelope Valley, water flows east toward Rosamond Lake. More specifically, the project site is located within the Bissell Hills and Lower Cache Creek watersheds, HUC-10 1809020620 and 1809020604.

## Climate

The project site is located in the Mojave Desert portion of Kern County, within the Mojave Desert Air Basin (MDAB). During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. Desert climates are characterized by an arid environment (low humidity/rainfall) with strong fluctuations in daily temperatures, hot summers and cold winters, and generally clear skies. Evaporation exceeds the mean annual precipitation. Wind is also a strong feature of this climatic regime, with dry winds in excess of 25 miles per hour in the late winter and early spring. According to the Western Regional Climate Center data records between 1904 and 2016, average annual temperatures in Mojave Station (045756) ranged between 49.9 and 75.8 degrees Fahrenheit, with the warmest temperatures occurring between July and August at a high of 97 degrees Fahrenheit and the coldest temperatures occurring between December and January at a low of 32.9 degrees Fahrenheit. The Mojave Desert receives an average rainfall of approximately 5.93 inches, with the most rain occurring between January and March (Rincon 2020d). Precipitation data available from the National Oceanic and Atmospheric Administration indicate that rainfall in the Freemont Valley Watershed during a 100-year storm event is 3.67 inches in the lower desert areas and 5.79 inches in the upper mountainous region.

## Site Hydrology

### Surface Hydrology and Drainage

The majority of the project site is mostly level with extremely low slope gradients across the project site. Topography in the western portion of the project site is rounded and not sharp or angular. Drainage in the northern area of the project site is very gradual to the southeast. A few miles to the east of the project site, this drainage pattern turns to the northeast where it intercepts Cache Creek, a large wash that emanates from Tehachapi Canyon. This eventually drains into Koehn Lake 18 miles to the northeast of the project site. The terrain in the southeastern portion of the project site is dominated by a large, gradual hill with undulating relief. The southeastern two-thirds of this portion of the project site drains to the southeast into Rogers Lake, located 12 miles to the southeast of the project site. The northwestern one-third of this area drains to the northwest along a few drainages.

Flowing water on-site occurs only during and immediately after high-precipitation events. Hydromodification has fragmented drainage flow, primarily by construction of numerous dirt roads and larger roadways, such as SR 58. Road maintenance activities on access roads through the project site and generation-transmission (gen-tie) lines include clearing and blading, which create large soil berms on each side of the roads and often block the flow of drainages at the road edges. Additionally, numerous off-highway vehicle tracks and illegal dump sites interrupt the flow of small shallow channels.

### Floodplains

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). According to the FIRM panels that cover the extent of the proposed project facility areas (06029C3325E, 06029C3350E, 06029C3700E, 06029C3310E), the project site is partially located within a Special Flood Hazard Area, Zone A, also known as a 100-year flood zone (which means it has a 1-percent annual chance of flooding). The proposed overhead and underground gen-tie lines transect FEMA FIRM panels 06029C3675E, 06029C3295E, 06029C3290E, 06029C3275E, and 06029C3285E, which

show that Special Flood Hazard Areas transect the community of Mojave from southeast to northwest. Portions of these Special Flood Hazard Areas are Zone AO, which are areas subject to shallow flooding during the 1-percent-annual-chance flood, where average depths are between 1 and 3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone. Flood velocities for alluvial fan hazards are also shown in Zone AO. Portions of Mojave include an average flood depth of 1 foot and flood velocities of 3 to 5 feet per second. Flood depths across the majority of the project area are estimated by Westwood to be less than 0.5 feet, with velocities of 1 foot per second. The proposed underground gentle routes west of the Mojave Air and Space port would transect a FEMA-designated Zone X, which represents a flood hazard area with a 0.2-percent annual chance of flooding (a 500-year flood hazard). As shown in **Figure 3-6, FEMA Flood Zones**, the northeastern and western portions of the project site are located within FEMA-designated Special Flood Hazard Areas, Zone A. Areas on-site with flooding depths greater than 1 foot are found in the center, south of the Hyundai Proving Grounds, and in the southwestern part, on both sides of the BNSF rail line, east of Sanborn.

## Soil Types and Erosion

The project area and gen-tie lines contain 15 mapped soil units, according to the USDA Soil Conservation Service's Soil Survey of Kern County in 1981. In general, the majority of the project area is underlain by sands, loamy sand, and sandy loam, with some areas of clay soils mapped in the southwestern portion of the project area. The major soil type in the project area is 137 Garlock loamy sand (2 to 9 percent slopes), which underlays the majority of the central and northern portions of the project area. Other soil types underlying the project area include 117 Cajon-Garlock sands (2 to 9 percent slopes) in the center of the project area, 151 Muroc-Randsburg sandy loams (5 to 9 percent slopes) on the east side of the project area, and 167 Randsburg sandy loam (2 to 5 percent slopes) on the southeast portion of the project area.

According to the *CEQA Level Geotechnical Study* prepared for the project by Stantec Consulting Services, Inc. (2020a), available as Appendix G *CEQA Level Geotechnical Study*, of this EIR, the predominantly coarse-grained soils underlying the project site are potentially susceptible to erosion or the loss of topsoil due to surface water flows. See also **Section 4.7.2, Geology and Soils**, for more information on soil erosion potential.

## Groundwater Resources

### Regional and Local Groundwater

The project site is also located within the Fremont Valley Groundwater Basin (FVGB), which is part of the Lahontan Hydrologic Region, and underlies approximately 335,000 acres of the Fremont Valley in eastern Kern County, with a small portion underlying northeastern San Bernardino County (FVBG 2018). The FVGB is bounded by the Antelope Valley to the south, the Rand Mountains to the north, the southern ranges of the Sierra Nevada Mountains to the west, and San Bernardino County to the east. Quaternary alluvium and lacustrine deposits are the most important water-bearing materials in the basin. Alluvium ranges in thickness along the margin of the basin and thins toward the middle of the basin near Koehn Lake. Groundwater in the alluvium is generally unconfined. The total storage capacity of the basin is calculated to be 4,800,000 acre-feet (AF). Groundwater data from an off-site location approximately 1.3 miles east of the northeast portion of the project site indicates that the depth to groundwater is approximately 133 feet below the ground surface (Stantec 2020a). Recharge to the FVGB is derived primarily from direct

percolation of precipitation on the valley floor and runoff from the surrounding tributary watersheds. Most of the runoff is caused by infrequent thunderstorms in the El Paso Mountains. The FVGB also receives subsurface flow from the Antelope Valley Groundwater Basin. Groundwater flow generally moves in an easterly direction along the surrounding mountains and then flows in the northerly direction towards Koehn Lake. Average annual well pumping was approximately 32,000 AF during the 1950s through the early 1960s. The FVGB is not an adjudicated basin and rights to the groundwater supply are not under legal restrictions. The California Department of Water Resources (DWR) has not identified the Fremont Valley groundwater basin as being in or projected to be in an overdraft condition (California Department of Water Resources 2004).

### **Seiche, Tsunami, and Mudflow**

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 over 70 miles northeast of the Pacific Ocean and there are no enclosed bodies of water within the project vicinity; therefore, the risk for tsunami or seiche in the project area is very low.

Mudflows describe a mass-movement landform and process characterized by a flowing mass of fine-grained earth material with a high degree of fluidity. The project area is relatively flat and has a low potential to be inundated by mudflow.

## **4.10.3 Regulatory Setting**

### **Federal**

#### **Clean Water Act**

The federal Clean Water Act (CWA) is the primary surface water protection legislation throughout the country. By employing a variety of regulatory and non-regulatory tools, including establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA aims to restore and maintain the chemical, physical, and biological integrity of surface waters to support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.” The CWA regulates both the pollutant content of point-source discharges, as well as addressing polluted runoff (nonpoint-sources).

As the Twenty Mule Team Creek runs through the project area, CWA Sections 401 and 404 permits may be required if construction, operation, or decommissioning activities would result in direct or indirect impacts to that waterway. CWA Section 404 requires that any project within waters of the United States have a permit for the discharging into such waters. CWA Section 401 requires that any discharge into navigable water must provide certification to the local RWQCB proving that such discharge complies with the applicable provisions of the CWA.

**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 Construction General Storm Water Permit (Water Quality Order 2009-0009-DWQ), referred to as the “Construction General Permit.” Construction activities can comply with and be covered under the Construction General Permit provided that they:

- Develop and implement a Stormwater 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 Lahontan 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 project proponent 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 Lahontan 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 US 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 Program**

The FEMA National Flood Insurance Program (NFIP) includes a flood hazard mapping program, in which FEMA identifies flood hazards and assesses flood risks. Under this program, FEMA produces FIRMs, which delineate flood risk areas and risk levels. Areas identified as at risk for flooding on the FIRMs are referred to as Special Flood Hazard Areas, which are those areas at risk of the 100-year flood (1-percent annual chance of flooding). It also delineates areas that are in moderate flood hazard areas, or those areas between a 0.2-percent annual chance of flooding (500-year flood) and 1.0-percent chance of flooding (a Special Flood Hazard Area). Special Flood Hazard Areas are further divided into zones, which provide information on the degree of flooding within the risk area, including average depth of flooding. 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 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, also referred to as Porter-Cologne, is contained in the California Water Code, Division 7, Section 13000 et seq. It is the principal law governing water quality regulation in California. It is the policy of the State, as set forth in Porter-Cologne, that the quality of all the waters of the State shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the state must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation. Porter-Cologne directs the SWRCB to formulate and adopt State policies for controlling water quality and designates the SWRCB as the state water pollution control agency for all purposes stated in the CWA. Porter-Cologne establishes the policies that are to be implemented and authorities that are to be used in achieving the goals of the CWA.

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 three 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 stormwater permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB 2015).

## **Regional Water Quality Control Boards**

California’s RWQCBs are established by the SWRCB via Porter-Cologne. The Lahontan RWQCB would review the project in accordance with the CWA. The Basin Plan sets the water quality standards for the basin, identifies water quality problems and control measures, and identifies monitoring activities for waste discharge requirements. The RWQCB would review the Stormwater Pollution Prevention Plan (SWPPP) and issue a Waste Discharge Identification Number for the project.

## **NPDES Permit for MS4**

The Central Valley Region of the California RWQCB Water Quality Order No. R5-2016-0040 (NPDES General Permit NO. CAS0085324) Waste Discharge Requirements General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4s) is the MS4 permit applicable to Kern County. It regulates any discharges from stormwater and other authorized waters from municipal separate stormwater systems. This is a single region-wide permit that replaces the previous Phase I and Phase II MS4 permits. The region-wide permit advocates for greater protection for water quality, program implementation efficiencies, and watershed coordination. Discharges from the MS4 may not cause or threaten to cause pollution, contamination, or nuisance as defined by Water Code Section 13050. Discharges from MS4s may not violate any applicable prohibition in the Basin Plans. Pollution control measures are required for certain non-stormwater discharges that are discharged through the MS4, including, but not limited to, the following sources that may apply to the proposed project: water line flushing, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, flows from riparian habitats and wetlands, and incidental runoff from landscaped areas.

The MS4 permit also requires development of a Post Construction Stormwater Management Program, which includes site design measures, source control measures, and low-impact development (LID) design standards. For projects that create or replace between 2,500 and 5,000 square feet of impervious surface, one or more of the following site design measures are required: stream setbacks and buffers, soil quality improvements, tree planting and preservation, rooftop and impervious surface area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns.

## **NPDES Stormwater Construction General Permit**

As the proposed project would disturb an area greater than 1 acre in size, the project proponent would need to obtain a NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-009-DWQ. The permit regulates stormwater runoff due to construction activities. Construction activities include any construction or demolition activity that causes more than 1 acre of land disturbance. A SWPPP must be developed in accordance with Part 7 of the

Construction General Permit. The SWPPP describes BMPs that would be implemented to comply with the permit requirements.

## **California Fish and Game Code – Section 1602**

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 of the California Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires that the CDFW be notified of all proposed activity that may cause 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 project construction, 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.

## **Sustainable Groundwater Management Act**

In September 2014, California Governor Jerry Brown signed a three-bill package known as the Sustainable Groundwater Management Act (SGMA) into law. The SGMA establishes a framework for local groundwater management and requires local agencies to bring overdrafted basins into balanced levels of pumping and recharge.

The California Statewide Groundwater Elevation Model Priority List ranks groundwater basins across the state with assessment rankings of High, Medium, Low, or Very Low. In unmanaged groundwater basins, the SGMA requires the formation of locally controlled groundwater sustainability agencies (GSA). GSAs are responsible for developing and implementing groundwater sustainability plans to guide groundwater management decisions and ensure long-term sustainability in their basins. In adjudicated basins, the court-identified Watermaster serves the purpose of the GSA, and the adjudication Judgment serves as the groundwater sustainability plan.

The FVGB has been designated as a “low” priority groundwater basin by the DWR, and a Groundwater Sustainability Plan is not required under the SGMA. Management of this basin is assumed by Kern County.

## 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, Mojave Specific 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 (Kern County 2009) and Mojave Specific Plan (Kern County 2003) 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

#### Chapter 1. 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 2: In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinance and programs. The ordinances will establish conditions, criteria and standards for the approval of development in hazard areas.
- Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.
- 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 Code 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.

**1.9 Resources****Policies**

- 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.

**1.10.6 Surface Water and Groundwater****Policies**

- Policy 33: Water related infrastructure shall be provided in an efficient and cost effective manner.
- Policy 34: Ensure that water quality standards are met for existing users and future development.
- 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.

**Mojave Specific Plan**

The Mojave Specific Plan (Kern County 2003) guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The implementation measures in the Mojave Specific Plan for hydrology and water quality applicable to the project are provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

### **Chapter 3. Land Use**

#### ***Policy***

Policy 3.6.3: New development shall provide adequate flood control to protect properties within the 100-year floodplain.

### **Chapter 4. Conservation Element**

#### ***Objective***

Objective 4.2 Maintain groundwater quality to allow local resources to meet local needs.

#### ***Policies***

Policy 4.2.1: Support regional efforts by the Lahontan Regional Water Quality Control Board to improve and protect water quality. Promote compliance with the measures contained in the California Water Code and other requirements.

Policy 4.2.2: If required, new development projects shall implement Best Management Practices (BMPs) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects. Investigate and implement methods as appropriate over time to address the control of pollutants stormwater runoff from development sites, and to encourage the recycling of runoff for groundwater recharge and similar beneficial purposes.

### **Chapter 9. Seismic and Safety Objectives and Policies**

#### ***Objective***

Objective 9.2: Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazards.

#### ***Policies***

Policy 9.2.1: Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.

Policy 9.2.3: Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.

### **City of California City General Plan**

The goals, policies, and implementation measures in the California City General Plan for hydrology and water resources applicable to the proposed project are provided below. Goals, policies, and implementation

measures included in the California City General Plan that are not specific to the proposed project are not listed below.

## 5.15 Open Space and Conservation Element

### ***Goals***

- Goal 1: Ensure an adequate water supply for existing residents and business and planned growth and development.
- Goal 2: Protect groundwater quality.

### ***Policies***

- Policy 1: Protect the community's environmental setting from deterioration, compromising the quality of life enjoyed by the existing and future residents.
- Policy 2: Provide sufficient water to meet the existing and projected needs of the community, while emphasizing conservation goals.
- Policy 3: Continue to promote and encourage water conservation to residents and businesses in the community.
- Policy 4: Establish a water conservation program encouraging and promoting xeriscaping and municipal recycled water usage.
- Policy 5: Groundwater quality shall be maintained to allow local resources to meet local needs.
- Policy 6: Require support of regional efforts by the Lahontan Regional Water Quality Control Board to improve and protect water quality. Compliance with the measures contained in the California Water Code and other requirements shall be required.
- Policy 7: New development proposals shall implement Best Management Practices (BMP's) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects.

### ***Implementation Measures***

- Measure C-3: The City shall implement the following measures to address water quality goals and policies in the General Plan Planning Area:

Work with local, regional, and State agencies to provide or a cost-effective and equitable means of reducing urban runoff and addressing water quality. If required, continue to use National Pollutant Discharge and Elimination System (NPDES) permits, including Best Management Practices (BMPs) for new development projects to help reduce runoff. Examples of BMPs include: schedule excavation and grading work for dry weather, covering stockpiles and excavated soil with tarps or plastic sheeting, sweeping dry spilled materials immediately, and never hosing down dirty pavement or impermeable surfaces where fluids have spilled.

Require new development proposals to provide evidence of how urban runoff will be reduced and water quality will be addressed prior to issuance of grading and/or building permits.

Require new development proposals to comply with City Resolution No. 08-01-1941 related to the suitability of new development to occur with a proposed use of a septic system.

Require new development proposals with a proposed septic system to conduct a soils analysis to determine if the soils are suitable for such systems.

## Kern County Floodplain Management Ordinance

Kern County Municipal Code Section 17.48 promotes the health, safety, and welfare of the public by minimizing flood losses in specific areas. The ordinance requires restricting or prohibiting uses that are dangerous or cause drastic increases in erosion or flood heights or velocities. It also requires that any uses that are vulnerable to flooding shall be protected against flood damage during construction. The ordinance controls the alteration of any floodplains or water bodies that help channel floodwaters. It also controls filling, grading, dredging, and other development that may result in increased flood damage as well as regulating the constructing of flood barriers that would unnaturally divert floodwaters and cause flood hazards in other areas. As part of the project area sits in a floodplain within the unincorporated areas of Kern County, the project must comply with this ordinance.

## Kern County Grading Code

Chapter 17.28 of the Kern County Municipal Code is referred to the Kern County Grading Code. Grading and other construction activities within Kern County must comply with the provisions of the Grading Code. 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.

A grading permit is required prior to commencement of grading activities within Kern County. Obtaining a grading permit from Kern County requires submittal of an application, which must include plans and specifications including but not limited to construction and material requirements, a soils engineering report, an engineering geology report, and engineering calculations and drainage computations. Plans must include information of the existing ground and details of terrain and area drainage, proposed elevations and



grading, surface and subsurface drainages that would be constructed as part of the project. Recommendations in the soils engineering report and the engineering geology report must be incorporated into plans and specifications.

## **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.

Division Four of the Kern County Development Standards include Standards for Drainage. Chapter XII, Natural Channels, requires that all natural channels are identified and clearly delineated on site plans with their appropriate floodplain designations. For natural channels with side slopes steeper than 2:1, a setback measures from the toe of the slope must be a 2:1 slope plus a 10-foot-wide buffer strip. For natural channels with slide slopes flatter than 2:1, the required setback must be a minimum of 10 feet from the floodway limit.

## **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 1 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 – NPDES Applicability Form

As closed systems that never contact the ocean or other waters of the United States, 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 1 or more acres, and requires the project proponent to provide information about construction activities and to identify whether stormwater 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 stormwater runoff be contained on-site and not discharge into any waters, no special actions are required. Should stormwater runoff discharge into waters of the United States, compliance with the SWRCB Construction General Permit SWPPP requirements is required. Should stormwater runoff not be contained on-site and drain to waters of the State or a terminal drainage facility, development of a SWPPP and BMPs would be required.

## Kern County Water Well Permitting

Kern County requires the submittal of an application to construct, reconstruct/modify, deepen, or destroy any water wells within the County's jurisdiction. For new wells, the application requires the disclosure of various details including but not limited to the well's location, depth, diameter, and sealing material, as well as the depth to groundwater at that location. A water sample must also be taken at the proposed well location. Any work related to water well construction cannot legally occur prior to approval of the well site from Kern County. Approval of water quality and final construction features is required before the water well is put to use (Kern County 2017a).

## 4.10.4 Impacts and Mitigation Measures

### Methodology

This section analyzes impacts on hydrology and water quality from the implementation of the proposed project based on changes to the environmental setting as described above, identified drainage conditions in the project site, and the current regulatory framework. The proposed project's potential hydrology and water quality impacts have been evaluated using the *Preliminary Hydrology Report for the Bellefield Solar Project* prepared by Westwood (Westwood 2019), located in Appendix J, *Hydrology Report*, of this EIR. Potential significant impacts associated with the project were evaluated based on a review of available data and information, which is summarized above, consideration of changes that would occur as a result of project implementation, in comparison to existing conditions.

### 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 effect on hydrology and water quality.

A project could have a significant adverse effect 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 on- or off-site;
  - ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
  - 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; or
  - iv. Impede or redirect flood flows.
- d. In 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 groundwater quality.**

### Solar Facility

#### Construction and Decommissioning

The project site is relatively flat. Project construction would involve minimal grading in areas to further flatten the site for facility installation. Earthmoving activities are expected to be limited to activities such as construction of the access roads, operations and maintenance (O&M) buildings, substations, water storage tanks, solar panel foundation supports, and energy storage facilities. Project grading would be minimized to the extent feasible to reduce unnecessary soil movement that may result in dust generation. Earthworks scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders may all be used in site preparation. Access roads may be compacted, as required, to support construction and emergency vehicles. Certain access roads may also be surfaced with aggregate or decomposed granite in conformance with emergency access requirements. Any grading would be balanced on-site, with no need for the export or import of soils. Additionally, on-site trenching for the placement of underground electrical and communication lines would occur.

Excavation would be required to install certain project facilities, including but not limited to substations and O&M buildings. Grading and excavation would disturb soil, which has the potential to result in sedimentation of stormwater and subsequent degradation of stormwater quality. Further, any construction activity that results in the accidental release of pollutants or hazardous or potentially hazardous materials could degrade stormwater quality. 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. If at some future time the project should be decommissioned and solar facilities removed, there could be impacts involving stormwater runoff and water quality; however, those impacts would be similar to and not more extensive than the initial construction impacts.

A discussion regarding the handling and storage of hazardous materials during project construction is available in **Section 4.9, *Hazards and Hazardous Materials***, of this EIR.

The project would result in a minor increase in impervious surfaces on the site from development; however, impervious surfaces would be limited to equipment foundations (footings and piles), as well as the O&M buildings, substations, transformers, inverter pads, and energy storage facilities. The access roads would not be paved. The improved roads would be constructed of compacted earthen or gravel materials that are pervious. Further, the photovoltaic panels used in the project would be installed on impervious footings, which would be surrounded by pervious materials, such as gravel. As such, the panels are not considered impervious surfaces because stormwater falling on the panels would run off and infiltrate into the ground below or run off during larger storm events into constructed drainage basins. The project site would be graded such that water would not pond around the photovoltaic panel footings. The project would leave large areas of pervious surfaces that would absorb stormwater runoff and would not result in a significant reduction of groundwater infiltration rates associated with precipitation.

To avoid impacts to water quality, the Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities that would disturb 1 or more acre within Kern County. Because stormwater runoff does not discharge to waters of the United States (lack of hydrologic connectivity to other traditionally navigable waters), acquisition of coverage under the State Construction General Permit for stormwater is not required. However, because the project would disturb more than 1 acre of ground surface and stormwater would not be contained on-site or discharged into a terminal drainage facility, the project proponent would be required to prepare and implement a SWPPP for the project.

As required by Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC**, the proposed project would implement a SWPPP that would include erosion control and sediment control BMPs designed to prevent soil erosion and to retain loose sediment on-site, thereby preventing runoff of water pollutants during project construction and ground disturbance. Project-specific BMPs would be identified in the SWPPP prepared pursuant to Mitigation Measures **MM4.10-1KC** and **MM4.10-1CC**; however, typical BMPs to be implemented may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;
- Implementing erosion controls;

- Properly managing construction materials;
- Proper protections for fueling and maintenance of equipment and vehicles; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

In addition, the project must comply with the Kern County Grading Ordinance and California City Grading Ordinance, which require implementation of dust control during all grading operations and the use of temporary drainage and erosion control measures on-site as needed. Furthermore, Mitigation Measure **MM 4.10-2KC** would require the preparation of a hydrologic study and drainage plan per the Kern County Development Standards and the Kern County Code of Building Regulations prior to issuance of a grading permit. Based on the findings of the hydrologic study, the drainage plan would recommend an on-site design that complies with all channel setback requirements and ensures facilities are located in such a way to lessen their impact on drainage areas and their water quality. Therefore, the concurrent ground disturbance required for construction of these facilities would mostly avoid drainage areas. The following measures may be included in the final storm drainage plan prepared pursuant to Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**: a series of on-site stormwater basins; a combination berm/ditch on portions of parcel perimeters to avoid off-site runoff, depending on the drainage pattern; and underground storage of stormwater if feasible. Implementation of Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would reduce proposed project-generated stormwater runoff to pre-project conditions, such that no off-site stormwater control measures would be necessary. Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** would require that project-related ground disturbance be minimized within drainage areas and timed to avoid the rainy season where possible. This would decrease the potential of stormwater mixing with construction-related materials and degrading water quality.

Further, as noted in **Section 4.9, Hazards and Hazardous Materials**, of this EIR, Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** would require the project proponent/operator to prepare a Hazardous Materials Business Plan 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. Therefore, potential impacts to stormwater quality from the accidental release of hazardous materials would be less than significant.

### Gen-Tie

Stormwater-related impacts resulting from the proposed gen-tie power lines would be less than those associated with the proposed solar facility. These gen-tie lines originate from the central portion of the project site and run west, around the community of Mojave, before reaching the Southern California Edison (SCE) Windhub Station. As some stretches of the proposed gen-tie lines, such as the alternatives that run by Mojave Air and Space Port, would be installed underground, construction would involve earthwork activities (i.e., trenching) that could expose soils to erosion. The proposed gen-tie routes that would be located underground and would require trenching are displayed in **Figure 3-3, Aerial Photograph** in **Chapter 3, Project Description**, of this EIR. As required by Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC**, the proposed project would implement a SWPPP that would include erosion control and sediment control BMPs designed to prevent soil erosion from occurring during rain events. These required BMPs would retain project-generated loose sediment on-site. In addition, the project must comply with the Kern County Grading Ordinance and the California City Grading Ordinance, which require implementation

of dust control measures during all grading operations and requires the use of temporary drainage and erosion control measures on-site as needed.

Further, Mitigation Measure **MM 4.9-1KC** would require the implementation of a Hazardous Materials Business Plan, which would ensure safe handling of construction-related hazardous materials on-site and would provide the means for prompt cleanup in the event of an accidental hazardous material release.

Implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-1CC**, **MM 4.10-1KC**, **MM 4.10-1CC**, **MM 4.10-2KC**, and **MM 4.10-2CC** would reduce impacts to a level less than significant level, for both construction and decommissioning activities involving the solar facility and gen-tie line(s).

## Operation

As the project site is currently undeveloped, the project would result in an increase in impervious surfaces on the site as compared with existing conditions. As stated above, the project would result in permanent impervious surfaces on the project site associated with equipment foundations, O&M buildings, substations, inverter pads, and energy storage facilities. The access roads would not be paved. The improved roads would be constructed of compacted earthen or gravel materials that are pervious. The panels are not considered impervious surfaces; stormwater falling on the panels would run off and either infiltrate into the ground below or run off during larger storm events into constructed drainage basins. The remaining, undeveloped portion of the site would be covered by pervious surfaces, such as gravel.

While not anticipated, a soil palliative may be applied on portions of the site or on all of the site that would affect drainage of the site. Soil palliatives are substances applied to the ground surface during operation of the project to reduce airborne dust. It is assumed that palliatives would be reapplied every few years as needed depending on surface disturbances associated with weather and vehicular traffic. If used, the final permeability of the ground, inclusive of the palliative, will be included in the final hydrology study, as required by Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**.

Operation of the proposed project would require limited use of certain hazardous materials for routine operations and maintenance, such as fuels, paints, coatings, lubricants, and transformer oil. Accidental release of such materials on-site could result in stormwater quality degradation. However, as described above, Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** would require the implementation of a Hazardous Materials Business Plan that would ensure safe handling of hazardous materials on-site and provide the means for prompt cleanup in the event of an accidental hazardous material release.

As noted in Chapter 3, *Project Description*, the project may include a water treatment facility to filter out certain chemicals from the groundwater used for solar panel washing. This would create a wastewater stream that may involve on- or off-site disposal subject to approval by the Lahontan RWQCB, to meet their regulatory standards for Waste Discharge Requirements. The project must comply with those standards and this will be further ensured through Mitigation Measures **MM 4.10-3KC** and **MM 4.10-3CC**.

Water quality could also be degraded by non-hazardous materials during operation activities. During dry periods, impervious surfaces (i.e., hardscape surfaces such panels and buildings) can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants can mix with stormwater and degrade water quality. However, as mentioned above, a final hydrologic study and drainage plan would be conducted and submitted to the Kern County Public Works Department prior to the issuance of a grading permit, which would evaluate the changes to hydrology on-site and recommend on-site control measures to minimize potential increases in runoff from the project site and to incorporate measures to prevent

sedimentation and soil erosion that could contaminate site runoff (refer to Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**). For example, retention basins can be designed to manage flow concentration so that erosion and sedimentation are minimized on-site during storm events during project operation. Due to the spacing of the equipment piles and geographic extent of the project parcels, it is not feasible to direct runoff from all of the solar arrays and support structures to a single retention basin. The final drainage plan would include the locations of planned retention basins throughout the site, which would be designed to retain approximately 17.33 acre feet of storage volume to maintain pre-project runoff volumes. Stormwater management measures included in the final drainage plan, prepared pursuant to Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, would prevent the off-site discharge of stormwater carrying non-sediment pollutants.

In summary, adherence to the requirements of the approved final hydrologic study and drainage plan, as required by Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, would minimize operational impacts to water quality. Apart from the minimal runoff resulting from the infrequent cleaning of solar panels that would likely percolate into the ground on-site, no other non-stormwater discharges are expected to occur when the project is operational. With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.9-1CC**, **MM 4.10-2KC** and **MM 4.10-2CC**, project operation would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality.

### Gen-Tie

Impacts from the proposed gen-tie would be substantially less than those associated with the proposed solar facility. Construction of the proposed gen-tie would involve earthwork activities that could expose soils to erosion. Trenching would be required for the portion(s) of the gen-tie that would be installed underground (see **Figure 3-3, Aerial Photograph**, in Chapter 3 of this EIR). Impacts from the installation and connection of the aboveground gen-tie lines to the SCE Windhub Substation would not significantly increase impervious area as the poles and associated concrete foundations would be widely spaced and surrounded by pervious materials (e.g., gravel and undeveloped desert landscape). These large areas of pervious surfaces would absorb stormwater runoff and would not contribute substantial volumes of stormwater runoff to the surrounding area, which could lead to sedimentation and conveyance of stormwater pollutants off-site. As such, with implementation of the mitigation measures identified below as applied to the gen-tie route, operation of the gen-tie lines would not substantially degrade surface or groundwater quality and impacts would be less than significant.

As required by Mitigation Measure **MM 4.10-1KC**, the proposed project would implement a SWPPP that would include erosion control and sediment control BMPs designed to prevent soil erosion from occurring and would retain sediment on-site. In addition, the project must comply with the Kern County Grading Ordinance, which requires implementation of dust control during all grading operations and the use of temporary drainage and erosion control measures on-site as needed.

## Mitigation Measures

### Kern County

Implement Mitigation Measure **MM 4.9-1KC** (see **Section 4.9, Hazards and Hazardous Materials**, for mitigation measure text.)

**MM 4.10-1KC:** Prior to issuance of a grading permit, and prior to engagement of decommissioning activities, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Regional Water Quality Control Board—Lahontan Region. 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 off-site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:

- a. Minimization of vegetation removal.
- b. Implementing sediment controls, including silt fences as necessary.
- c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas.
- d. Properly containing and disposing of hazardous materials used for construction on-site.
- e. Properly covering stockpiled soils to prevent wind erosion.
- f. Proper protections and containment for fueling and maintenance of equipment and vehicles.
- g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.
- h. Cleanup of silt and mud on adjacent street due to construction activity.
- i. Checking all lined and unlined ditches after each rainfall.
- j. Restoring all erosion control devices to working order to the satisfaction of the Lahontan Regional Water Quality Control Board after each rainfall runoff.
- k. Installing additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.

**MM 4.10-2KC:** Prior to the issuance of a grading permit, the project proponent/operator shall submit a final hydrologic study and drainage plan for review and approval by the Kern County Public Works Department. The final hydrologic study and drainage plan shall be designed to evaluate and minimize potential increases in runoff from the project site. The final hydrologic study and drainage plan shall include, but not be limited to the following:

- a. Numerical stormwater model for the project site, which would evaluate existing and proposed (with project) drainage conditions during storm events ranging up to the 100- year event.
- b. Consideration of the 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 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 on-site or off-site.
- d. The final design of the solar arrays shall include 1 foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar module sites located within a 100-year floodplain shall be graded to direct potential floodwaters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.
- e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code, Kern County Development Standards, Kern County Hydrology Manual and Kern County Floodplain Ordinance, California City Grading Code, and approved by the Kern County Public Works Department prior to the issuance of grading permits.

**MM 4.10-3KC:** Prior to issuance of a building permit for any on-site water treatment facilities, the project proponent/project operator shall provide evidence of compliance with any applicable Waste Discharge Requirements established by the Lahontan Regional Water Quality Control Board to the Kern County Public Works Department – Building and Development.

### City of California City

Implement Mitigation Measure **MM 4.9-1CC** (see **Section 4.9, Hazards and Hazardous Materials**, for mitigation measure text.)

**MM 4.10-1CC:** Prior to issuance of a grading permit, and prior to engagement of decommissioning activities, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Regional Water Quality Control Board—Lahontan Region. 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 off-site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:

- a. Minimization of vegetation removal.
- b. Implementing sediment controls, including silt fences as necessary.
- c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas.
- d. Properly containing and disposing of hazardous materials used for construction on-site.

- e. Properly covering stockpiled soils to prevent wind erosion.
- f. Proper protections and containment for fueling and maintenance of equipment and vehicles.
- g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.
- h. Cleanup of silt and mud on adjacent street due to construction activity.
- i. Checking all lined and unlined ditches after each rainfall.
- j. Restoring all erosion control devices to working order to the satisfaction of the Lahontan Regional Water Quality Control Board after each rainfall runoff.
- k. Installing additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.

**MM 4.10-2CC:** Prior to the issuance of a grading permit, the project proponent/operator shall submit a final hydrologic study and drainage plan for review and approval by the California City Public Works Department. The final hydrologic study and drainage plan shall be designed to evaluate and minimize potential increases in runoff from the project site. The final hydrologic study and drainage plan shall include, but not be limited to the following:

- a. Numerical stormwater model for the project site, which would evaluate existing and proposed (with project) drainage conditions during storm events ranging up to the 100- year event.
- b. Consideration of the 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 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 on-site or off-site.
- d. The final design of the solar arrays shall include 1 foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar module sites located within a 100-year floodplain shall be graded to direct potential floodwaters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.
- e. The hydrologic study and drainage plan shall be prepared in accordance with the California City Grading Code and approved by the California City Public Works Department prior to the issuance of grading permits.

**MM 4.10-3CC:** Prior to issuance of a building permit for any on-site water treatment facilities, the project proponent/project operator shall provide evidence of compliance with any

applicable Waste Discharge Requirements established by the Lahontan Regional Water Quality Control Board to the California City Public Works Department – Building and Safety Division.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.9-1KC** (see **Section 4.9, Hazards and Hazardous Materials**), **MM 4.10-1 KC**, and **MM 4.10-2KC**.

### **Level of Significance after Mitigation**

#### **Kern County**

With incorporation of Mitigation Measures **MM 4.9-1KC** (see **Section 4.9, Hazards and Hazardous Materials**), **MM 4.10-1KC**, **MM 4.10-2KC**, and **MM 4.10-3KC**, impacts would be less than significant.

#### **City of California City**

With incorporation of Mitigation Measures **MM 4.9-1CC** (see **Section 4.9, Hazards and Hazardous Materials**), **MM 4.10-1CC**, **MM 4.10-2CC**, and **MM 4.10-3CC**, impacts would be less than significant.

### **Gen-Tie**

With incorporation of Mitigation Measures **MM 4.9-1KC** (see **Section 4.9, Hazards and Hazardous Materials**), **MM 4.10-1KC**, and **MM 4.10-2KC**, impacts would be less than significant.

### **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.**

As stated above, the project site is located within the FVGB. The proposed project would source water from on- or off-site wells in the FVGB, and/or imported water (from the State Water Project) purchased from a local retailer through the Antelope Valley-East Kern Water Agency. The project would require the use of groundwater during construction and operation of the solar facility and the gen-tie lines. Project-related impacts to groundwater supplies during project construction and operation are described below.

#### **Solar Facility**

##### **Construction and Decommissioning**

Groundwater pumped from the FVGB would be required during the construction phase for such activities as dust suppression, soil compaction, and grading. Water may also be used at points of ingress/egress to minimize the tracking of dirt off-site onto local roadways from construction vehicles. Water usage during construction, primarily for dust-suppression purposes, is not expected to exceed 900 acre-feet over the 24-month construction period (450 acre-feet per year). Water required during construction would be supplied by on- or off-site groundwater wells, drawing from the FVGB. Drinking water for construction workers would be provided in bottles trucked to the project site. Further, restroom facilities would be provided as portable units to be serviced by licensed providers, which would not require on-site water. Concrete used

during construction for foundations and solar panel footings would be purchased from a local retailer, which would provide mixed concrete or would use trucks to mix concrete on-site. As discussed under Impact 4.16-2 in **Section 4.16, *Utilities and Service Systems***, increasing groundwater consumption by solar energy facilities are included in the forecasts of water demand and supply for the FVGB, which is not in an overdraft condition and not subject to regulatory oversight by a Watermaster, as this is a non-adjudicated water basin. As such, this temporary consumption of local groundwater would result in a less than significant impact on groundwater supplies and would not impede sustainable groundwater management of the FVGB.

If at some future time the project should be decommissioned and solar facilities removed, there could be impacts involving use of local groundwater for dust control or other purposes; however, those impacts would be similar to and not more extensive than the initial construction impacts.

### **Operation**

Project O&M would require approximately 200.8 acre-feet of water per year, which would be sourced from on-site wells or delivered via truck. 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. Operational water uses include safety precautions (fire water storage), washing of solar panels, and sanitary uses at the O&M building. Specifically, the Water Supply Assessment prepared for the project (Rincon 2020d; see Appendix M) assumes that up to three 80,000-gallon water storage tanks would be used on-site to store water for fire-suppression uses on an as-needed basis. Water would also be required for washing the solar panels to maximize energy efficiency. Because high concentrations of total dissolved solids would be present in groundwater obtained from the FVGB, the project would include a reverse osmosis/deionization water treatment system, which would reduce the total dissolved solids, which can leave behind a residue on the solar panels and decrease panel efficiency. Project operation would also require water for the O&M building, including water serving the restroom facilities. No operational water demands are associated with the project inverter stations, energy storage system, or substations.

According to the Water Supply Assessment prepared for the project (Rincon 2020d; see Appendix M), current and projected water supply and demand estimates are presented in the Integrated Regional Water Management Plan (IRWMP) for the Fremont Valley Basin region. As described in the IRWMP, there is a limited understanding of storage and withdrawal capacity in the basin and, because the basin is not adjudicated, pumping is not currently managed by a Watermaster. The IRWMP describes that the four largest industrial water user categories within the Fremont Valley Basin are the solar, cannabis, mining, and manufacturing industries. The Fremont Valley Groundwater Management Plan (GWMP) also describes that population in this area is expected to grow more than 35 percent by 2040, and that industrial uses including for the solar industry are expected to grow substantially over this same time frame. The Fremont Valley GWMP provides current and projected water demand rates for the primary water uses in the area, including industrial uses, which account for solar developments.

The GWMP also estimates that total water supplied within the Fremont Valley GWMP area is expected to increase by more than 60 percent by 2040 to match increasing water demands, accounting for agricultural growth rates of baseline, light, medium, and heavy, respectively. The Fremont Valley GWMP determined that the light and medium agricultural growth scenarios are likely to be sustainable, whereas the heavy agricultural growth scenario may not be sustainable and could produce a condition of overdraft.

Projections of water supply availability in the FVGB vary depending upon the source and are highly dependent upon projected imported and surface water supplies in the area. As mentioned, the FVGB is identified by DWR as low priority, meaning that overdraft conditions are not present or imminent, and future management of groundwater resources in the area will include development and implementation of a groundwater sustainability plan, which may impose pumping restrictions if needed to facilitate groundwater supply reliability. In conclusion, estimates of increasing water demands in the project area account for solar developments such as the project and, although estimates of water supply availability are not specific to groundwater, it is generally anticipated that water supply availability will match water demand through conjunctive use management of groundwater and surface water resources. As such, the project would not substantially decrease groundwater supplies and impacts would be less than significant.

Surface water flows on-site following storm events mainly percolate into the groundwater basin via the soil. Although the project would introduce impervious surfaces to some areas of the project site from solar panel installation and other facilities, solar panels would be supported by relatively thin poles that would not take up a very large surface area. Building foundations would be relatively small with respect to the rest of the site, and the security fence would not take up much surface area. A substantial amount of pervious surfaces would remain both on-site and in surrounding areas to provide areas for groundwater recharge via soil percolation. Therefore, the proposed project would not interfere substantially with groundwater recharge.

### **Gen-Tie**

Impacts from the proposed gen-tie lines would be less than those associated with the solar facility. During construction, groundwater would be required for dust suppression and truck wheel washing activities, similar to groundwater uses during solar facility construction described above. Construction-related water demand for trenching and installation of the gen-tie lines during the 24-month construction period is included within the 900 acre-feet value provided above. No operational water demands are associated with the gen-tie lines. Further, the gen-tie would not result in substantial interference with groundwater recharge as poles and concrete foundations would be widely spaced. The project would leave large areas of pervious surfaces that would absorb stormwater runoff and would not result in a significant reduction of groundwater infiltration rates associated with precipitation. Therefore, the proposed project would not substantially decrease groundwater supplies, nor would it interfere substantially with groundwater recharge. As such, impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation measures are required.

### **City of California City**

No mitigation measures are required.

### **Gen-Tie**

No mitigation measures are required.

## Level of Significance

### Kern County

Impacts would be less than significant.

### City of California City

Impacts would be less than significant.

### Gen-Tie

Impacts would be less than significant.

**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 which would result in substantial erosion and/or sedimentation on-site or off-site.**

## Solar Facility

### Construction and Decommissioning

The majority of the proposed project facilities and construction activities have been designed to avoid existing drainage areas so as not to intercept or alter the conveyance of ephemeral/episodic flows through the project site during storm events.

During construction and decommissioning, ground disturbance (via activities such as grading and excavation) within drainage areas as well as in non-drainage areas may alter drainage patterns of the site. These changes could concentrate flows from storms and construction water usage, and thus result in increased erosion of existing soils on-site and sedimentation of water. Ground disturbance in drainage areas has a higher likelihood of resulting in erosion and sedimentation since water flow is more concentrated in these areas and has a higher erosive power. However, as described above in Impact 4.10-1, the project proponent/operator would develop and implement a SWPPP during project construction and decommissioning that would include various BMPs designed to prevent soil erosion and sedimentation from occurring on-site, as required by Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC**. In addition, the project must comply with the Kern County Grading Ordinance and California City Grading Ordinance, which require implementation of dust control during all grading operations and the use of temporary drainage and erosion control measures on-site as needed. Furthermore, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would require the project to prepare a final hydrologic study and drainage plan per the Kern County Development Standards and the Kern County Code of Building Regulations prior to issuance of a grading permit. Per **MM 4.10-1KC** and **MM 4.10-1CC**, construction-related ground disturbance within drainage areas would be minimized and timed to avoid the rainy season to the maximum extent possible. The proposed project would also maintain pervious surfaces on-site in surrounding construction areas, which would help increase the potential for waters to percolate into the ground and reduce the likelihood of major erosion or sedimentation impacts following rain events.

With implementation of Mitigation Measures **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.10-1CC**, and **MM 4.10-2CC** and required compliance with applicable regulations, the potential for on-site and off-site erosion

and sedimentation that could occur from alterations to topography would be reduced during construction or decommissioning. Therefore, impacts in this regard would be less than significant.

### **Operation**

The proposed solar facilities may be placed within existing drainage flow paths, which could alter and intensify stormwater flows during a rain event that could result in sedimentation or erosion impacts. However, as described in Impact 4.10-1, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would require preparation of a hydrologic study and a drainage plan in accordance with the Kern County Development Standards and Kern County Code of Building Regulations as well as applicable drainage-related development standards and building regulations required of California City. Based on the findings of the hydrologic study, the drainage plan would recommend a design that would include post-construction BMPs such as on-site retention basins, which would retain runoff during project operation, thereby preventing erosion and sedimentation. The drainage plan would demonstrate that the project would be designed to ensure stormwater runoff outside of the project site would not exceed the runoff generated under current conditions. The proposed project would also maintain pervious surfaces on-site surrounding project facilities, which would help increase the potential for waters to percolate into the ground prior to causing major erosion or sedimentation.

### **Gen-Tie**

Construction and installation, as well as possible future decommissioning and removal of the gen-tie lines, would temporarily disturb surface soil conditions. As required by Mitigation Measure **MM 4.10-1KC**, the proposed project would implement a SWPPP that would include erosion control and sediment control BMPs designed to prevent soil erosion from occurring and retain loose sediment on-site.

Operation of the proposed gen-tie lines would not result in a substantial increase in impervious surfaces. As described above, the poles and associated concrete foundations associated with aboveground gen-tie lines would be widely spaced and surrounded by pervious surfaces, such as gravel. Underground gen-tie lines would retain a ground surface that would be pervious and would not substantially alter existing drainage patterns. Therefore, because the project would maintain large areas of pervious surfaces which would allow stormwater water runoff to percolate into the soil, project-related impacts associated with the gen-tie lines would be less than significant. Therefore, with implementation of Mitigation Measure **MM 4.10-2KC**, impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

### **City of California City**

Implementation of Mitigation Measures **MM 4.10-1CC** and **MM 4.10-2CC**.

### **Gen-Tie**

Implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.10-1CC** and **MM 4.10-2CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be 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 which would substantially increase the rate or amount of surface runoff which would result in flooding on- or off-site.**

### Solar Facility

#### Construction and Decommissioning

As shown in **Figure 3-6, FEMA Flood Zones**, the northeastern and western portions of the project site, within Kern County, are located within a FEMA-designated Special Flood Hazard Area (Zone A), which is also known as a 100-year flood zone. Further, proposed gen-tie lines transect Special Flood Hazard Areas (Zones A and AO) located near the Community of Mojave. None of the project parcels within California City are located in a FEMA flood zone. The alteration of surface topography via ground disturbance and construction of facilities that introduce impervious surfaces could potentially alter drainage patterns such that flooding could be exacerbated on-site during a rain event. Areas surrounding drainages are especially prone to flooding. However, the erosion control and sedimentation control BMPs required by the SWPPP and drainage control measures required by the Kern County Grading Ordinance and any comparable California City regulations would also help control flows on-site by maintaining existing vegetation or installing structures designed to slow and/or control flows. Further, implementation of Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would require preparation of a hydrologic study and drainage plan. The drainage plan would recommend an on-site design that complies with all channel setback requirements and ensure facilities are located in such a way to lessen their impact on drainage areas. Additionally, per Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC**, construction-related ground disturbance required within drainage areas would be minimized and timed to avoid the rainy season when possible. Therefore, ground disturbance within channels would be planned and timed to avoid exacerbation of flooding on-site. In summary, with implementation of Mitigation Measures **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.10-1CC**, and **MM 4.10-2CC**, as well as compliance with applicable regulations, project-related construction activities would not alter drainage patterns in the area in a way that would result in flooding on- or off-site and impacts would be less than significant. Alterations to surface drainage patterns during potential future



decommissioning activities would occur, but would remove impervious surfaces that increase runoff, and would likely be less extensive than the alterations that would occur during initial site construction. The temporary impact would be less than significant.

### **Operation**

Changes to drainage patterns on-site, including installation of facilities both in drainage areas and adjacent to drainage areas, could alter site drainage patterns and increase surface runoff such that increased flooding would result. However, as described in Impact 4.10-1, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would require preparation of a hydrologic study and a drainage plan in accordance with the Kern County Development Standards and Kern County Code of Building Regulations as well as any applicable drainage-related development standards and building regulations required by California City. The drainage plan would include post-construction BMPs such as retention basins that would collect and retain runoff during project operation, thereby preventing worsening of flooding on or off-site. Further, the final drainage plan would demonstrate that off-site stormwater discharge from the developed project site would not exceed the amount of stormwater runoff under existing conditions.

As the project site is partially within a FEMA-designed Special Flood Hazard Area (100-year flood plain), portions of the project site would be subject to flooding during storm events. Specifically, a Special Flood Hazard Area, Zone A is located on the northeast and east sides of the project site, meaning that these areas are subject to inundation by the 1-percent-annual-chance flood event. As shown in **Figure 3-6, FEMA Flood Zones**, the rest of the project site is designated as Zone X by FEMA (areas of minimal flood hazard). As described above, the project would result in an increase in impervious surfaces on the project site as compared with existing conditions resulting from development including equipment foundations, the O&M building, substations, and energy storage facilities. While the project would increase impervious surfaces to a minor extent, with the large majority of the project site maintained as pervious surfaces, these pervious surfaces would help maintain the drainage patterns of the existing site and would promote groundwater recharge, reducing the severity of flood events.

Since the project site is partially located in a FEMA Special Flood Hazard Area, the project would be required to comply with Kern County's Municipal Code for flood damage protection and regulations established in the County's Municipal Code Section 17.48 Floodplain Management. Specifically, the project would need to comply with Article III of Section 17.48, which details required construction standards for projects in Special Flood Hazard Areas. In compliance with Article III of Section 17.48, the project would be required to be constructed with materials and equipment that would be resistant to flood damage, and development would be required to include adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures. Similarly, the project would be required to comply with Title 8, Chapter 11, Flood Damage Prevention, of the California City Code of Ordinances, which applies to all Special Flood Hazard Areas within the City of California City and details construction standards for development within FEMA-designated Special Flood Hazard Areas. As stated above, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would require preparation of a hydrologic study and a drainage plan in accordance with the Kern County Development Standards and Kern County Code of Building Regulations, and any comparable regulations administered by California City, that would evaluate the changes to hydrology on-site and recommend measures to minimize potential increases in runoff from the project site. The drainage plan would be submitted for review and approval by the Kern County Public Works Department and California City Public Works Department. Based on the findings of the hydrologic study, the drainage plan would recommend a design that would include post-construction BMPs such as on-site stormwater storage that would retain runoff during project operation, thereby

preventing flooding on- and off-site. Hydraulic analysis would verify that the project would not result in an impact to the floodplain from construction of the facilities.

Therefore, with implementation of Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** and compliance with the County's design standards for projects within Special Flood Hazard Areas, impacts would be less than significant.

## **Gen-Tie**

As shown in **Figure 3-6, FEMA Flood Zones**, a portion of the proposed aboveground gen-tie line would transect a FEMA-designated Special Flood Hazard Area, which includes Zone A and Zone AO designated areas within the community of Mojave. The Zone AO designated land has a defined base flood elevation of 1 foot and is located in Mojave, immediately south of the Mojave Air and Space Port. In these zones, the supports for the gen-tie poles may be underwater in a 100-year flood and would need to be designed to withstand flood flows pursuant to the County's design standards for new construction within Special Flood Hazard Areas, discussed above. This design would be enforced through Mitigation Measure **MM 4.10-2KC**. Further, the proposed gen-tie would have a negligible impact on impervious area and runoff as the poles and associated concrete foundations would take up minimal area and be widely spaced, allowing water to infiltrate through the pervious areas surrounding the gen-tie lines. Future decommissioning and removal of the gen-tie line would result in less alteration to surface drainage patterns than the initial construction work and would have no impact on a permanent basis. As such, there would be a less than significant impact involving flooding.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

### **City of California City**

Implement Mitigation Measures **MM 4.10-1CC** and **MM 4.10-2CC**.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With incorporation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be less than significant.

### **City of California City**

With incorporation of Mitigation Measures **MM 4.10-1CC** and **MM 4.10-2CC**, impacts would be less than significant.

### Gen-Tie

With incorporation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be less than significant.

**Impact 4.10-5: 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 which would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.**

### Solar Facility

The project site does not contain any existing stormwater drainage systems on-site and no stormwater drainage systems are proposed for the project site. The site naturally drains via sheet flow and via existing natural drainages, and would do so during construction, operation, and decommissioning. Per Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, the proposed project would be required to design a drainage plan per the findings of a hydrologic study. Further, per Mitigation Measures **MM 4.10-3KC** and **MM 4.10-3CC**, any on-site water treatment facilities that may be built must comply with applicable Waste Discharge Requirements established by the Lahontan RWQCB, which would prevent additional sources of polluted runoff from such facilities. Based specifically on site characteristics, the drainage plan would recommend a project site designed to minimize flooding, and would require the implementation of any measures necessary, such as construction of a series of on-site retention basins or underground storage, if feasible, to collect and retain any excessive runoff generated so that the proposed project would not result in stormwater runoff outside of the project site that exceeds stormwater discharge under existing conditions. The proposed project would also maintain pervious surfaces on-site surrounding project facilities, which would allow for infiltration of stormwater on site. Pollution of runoff would be avoided per the measures detailed above in Impact 4.10-1. The proposed project would not construct any municipal storm drainage facilities, on- or off-site. If, at some future time, the solar facilities should be decommissioned and removed, there would be a reduction in impervious surfaces and thus reduced impacts involving site runoff. No off-site municipal storm drainage facilities would be impacted. Impacts would be less than significant.

### Gen-Tie

As stated above, the proposed gen-tie would have a negligible impact on impervious area and runoff as the poles and associated concrete foundations would be widely spaced and would be surrounded by pervious area, allowing stormwater infiltration. Further, there would be no stormwater drainage systems within the gen-tie lines. Therefore, the project would not result in impacts related to exceedance of drainage system capacity and impacts associated with polluted runoff would be less than significant with implementation of Mitigation Measure **4.10-2KC**. If, at some future time, the gen-tie facilities should be decommissioned and removed, there would be a reduction in impervious surfaces and thus reduced impacts involving site runoff. No off-site municipal storm drainage facilities would be impacted. Impacts would be less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.10-1KC** through **MM 4.10-3KC**.

### City of California City

Implement Mitigation Measures **MM 4.10-1CC** through **MM 4.10-3CC**.

### Gen-Tie

Implement Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.10-1KC** through **MM 4.10-3KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.10-1CC** through **MM 4.10-3CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be less than significant.

**Impact 4.10-6: 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 which would impede or redirect flood flows.**

## Solar Facility

As discussed above, the northeastern and western portions of the project site are located within a FEMA Special Flood Hazard Area (Zone A, 100-year flood zone). Therefore, the proposed project would introduce structures within flood zones. However, per Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, the drainage plan for the proposed project site would be designed to effectively control surface flows on-site, and project facilities would be designed to maintain 1 foot of freeboard clearance above the calculated maximum flood depths. Additionally, the drainage plan would demonstrate that the proposed project's stormwater runoff outside of the project site would not exceed the amount of stormwater runoff under current conditions. The proposed project would also maintain some existing pervious surfaces on-site and would be surrounded by pervious areas, which would help control any impeded or redirected flood flows. Further, as a portion of the project is located within a FEMA-designated Special Flood Hazard Area, the project would be required to comply with the County's design standards for new construction within Special

Flood Hazard Areas, such as using materials and equipment that would be resistant to flood damage, and including adequate drainage paths around structures to guide floodwaters around and away from proposed structures. If there should be a future decommissioning and removal of the solar facilities, there would be similar and likely less extensive temporary impacts to surface flows than during the initial construction activities. When decommissioning is completed, there would be no impact involving impeding or redirecting flood flows.

### **Gen-Tie**

As stated above, portions of the proposed aboveground gen-tie line would transect a FEMA-designated Special Flood Hazard Area, which includes Zone A and Zone AO designated areas within the town of Mojave. While the proposed gen-tie lines would transect these flood zones, the lines would have a negligible impact on impervious area and flood flows as the poles and associated concrete foundations would be widely spaced and surrounded by pervious surfaces allowing infiltration of floodwaters. As such, the proposed gen-tie lines would not impede or redirect flood flows.

Therefore, with implementation of Mitigation Measure **MM 4.10-2KC**, as well as compliance with the County's mandatory design measures for projects in Special Flood Hazard Areas, the project would not substantially alter the existing drainage patterns of the site in a manner which would impede or redirect flood flows, and impacts would be less than significant.

If there should be a future decommissioning and removal of the gen-tie line, there would be similar and likely less extensive temporary impacts to surface flows than during the initial construction activities. When decommissioning is completed, there would be no impact involving impeding or redirecting flood flows.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measure **MM 4.10-2KC**.

### **City of California City**

Implement Mitigation Measure **MM 4.10-2CC**.

### **Gen-Tie**

Implement Mitigation Measure **MM 4.10-2KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measure **MM 4.10-2KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measure **MM 4.10-2CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measure **MM 4.10-2KC**, impacts would be less than significant.

### **Impact 4.10-7: The project would result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.**

#### **Solar Facility**

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 as well as the proposed gen-tie lines are located over 70 miles northeast of the Pacific Ocean and there 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, the northeastern and western portions of the project site are located within the 100-year flood zone. The project's location within FEMA-designated Special Flood Hazard Areas and proposed alteration of surface topography could alter drainage patterns such that flooding could be exacerbated on-site during a rain event. Implementation of Mitigation Measures **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.10-1CC**, and **MM 4.10-2CC**, which include construction BMPs as outlined in a SWPPP, and would require Kern County and California City to approve the final hydrologic study and drainage plan, which would demonstrate how the project would not increase surface runoff when compared with current conditions, would help control flooding caused by project construction. In addition, the project would not include the use, storage, or disposal of substantial quantities of hazardous materials, which could be mobilized during a flood event. Further, as noted in **Section 4.9, Hazards and Hazardous Materials**, of this EIR, Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** would require the implementation of a Hazardous Materials Business Plan, which would ensure safe handling of construction-related hazardous materials on-site and would provide the means for prompt cleanup in the event of an accidental hazardous material release.

As the project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body, there would be no potential threat from tsunami or seiche waves. In this context, the project would not contribute to inundation by a flood hazard, tsunami, or seiche zones that would then increase the risk of pollutants release, and a less than significant impact would be expected. If the project should be decommissioned in the future, there would be no impacts involving flooding, tsunami or seiche. Potential release of water pollutants during decommissioning activities would be reduced to less than significant through implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC**.

### Gen-Tie

The proposed gen-tie 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 waves. The proposed gen-tie would not contribute to inundation by a flood hazard, tsunami, or seiche zones that would then increase the risk of pollutants release, and a less than significant impact would be expected. Future decommissioning and removal of the gen-tie line would result in no impacts involving tsunami or seiche. Potential release of water pollutants as a result of temporary flooding during decommissioning activities would be reduced to less than significant through implementation of Mitigation Measure **MM 4.10-1KC**.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**.

### City of California City

Implement Mitigation Measures **MM 4.9-1CC**, **MM 4.10-1CC**, and **MM 4.10-2CC**.

### Gen-Tie

Implement Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.9-1CC**, **MM 4.10-1CC**, and **MM 4.10-2CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**, impacts would be 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.**

As noted above, the project site is located within the Lahontan RWQCB and is subject to the applicable requirements of the Basin Plan. The Basin Plan sets the water quality standards for the basin, identifies water quality problems and control measures, and identifies monitoring activities for waste discharge requirements. As described in Impact 4.10-1, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would require preparation of a hydrologic study and a drainage plan in accordance with the Kern County Development Standards and Kern County Code of Building Regulations and any applicable drainage-related development standards required by California City that would evaluate the changes to hydrology on-site and recommend measures to minimize potential increases in runoff from the project site. This would apply to all solar facility and the gen-tie line. Based on the findings of the hydrologic study, the drainage plan would recommend a design that would include post-construction BMPs such as on-site retention basins or underground storage, which would retain runoff during project operation, thereby preventing erosion and sedimentation. The drainage plan would demonstrate that proposed project improvements would not result in an increase in off-site stormwater runoff as compared with existing conditions. The project would include required BMPs and drainage control requirements to satisfy County and City design standards that would

be consistent with the Basin Plan. With implementation of Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, impacts would be less than significant.

Water used during project construction and operation, and future decommissioning, is anticipated to be primarily obtained from on-site or off-site groundwater wells, with some water delivered to the project via truck by off-site commercial vendors. As stated above, the project site is located within the FVGB. The basin is neither adjudicated nor managed by a groundwater sustainability agency. In addition, the FVGB has been designated as a low priority basin by the California DWR and a groundwater sustainability plan would not be required under the SGMA. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

### **City of California City**

Implement Mitigation Measures **MM 4.10-1CC** and **MM 4.10-2CC**.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.10-1CC** and **MM 4.10-2CC**, impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-2KC**, impacts would be less than significant.

## **Cumulative Setting, Impacts, and Mitigation Measures**

As described in Chapter 3, *Project Description*, of this EIR, approximately 29 projects, 12 of which are solar projects, are proposed for development throughout the Fremont Valley and western Antelope Valley. The geographic scope used to identify projects listed in Table 3-3, *Cumulative Projects List*, is the FVGB.

Construction, operation, and decommissioning of the proposed project has the potential to degrade water quality. The proposed project would avoid impacts to water quality during construction and



decommissioning following compliance with the Kern County NPDES applicability form (which requires SWPPP development) and the Kern County and California City Grading Codes. The proposed project would avoid impacts to water quality by developing a final drainage plan based on a hydrologic study. Development of a Hazardous Materials Business Plan per Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** would avoid water quality impacts from hazardous materials during all project phases. Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would recommend an on-site design that complies with all channel setback requirements and ensures facilities are located in such a way to lessen their impact on drainage areas and their water quality. The drainage plan would also recommend incorporation of measures, such as retention basins, to manage flow concentration so that erosion and sedimentation are minimized on-site during storm events during project operation. The drainage plan would also demonstrate that the proposed project would manage stormwater such that operational stormwater flows discharged off-site would not exceed current stormwater flows under existing conditions. Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** would require that ground disturbance required within drainages is minimized and timed to avoid the rainy season where possible. The County requires these same measures for all projects, which would reduce cumulative impacts to less than significant.

Additionally, the proposed project may require the installation of new groundwater wells on-site, the installation of which could impact groundwater quality. The extraction of contaminated groundwater for subsequent use on the project site could also impact surface water quality. However, the project proponent/operator would be required to complete a water well application, including a water sample, for County review and approval for any new wells that are proposed on-site. Other projects in the region may also be required to install groundwater wells, but would be subject to the same County well permitting requirements. Other projects within the region would be subject to Kern County and/or California City regulations governing grading, construction stormwater controls, hazardous materials business plan requirements, hydrologic study/drainage plan requirements, and County well permitting requirements that would help avoid significant, cumulative impacts to water quality. Therefore, cumulative impacts to water quality would be less than significant.

With regard to impacts related to an aquifer deficit or substantial depletion of groundwater supplies, the proposed project would primarily depend on the FVGB for water during construction, operation, and decommissioning. The project would either obtain water from an adjacent existing groundwater well or from new groundwater wells drilled on-site. Other projects within the region would also likely depend on the groundwater basin for their water supply. Any new project that proposes to extract groundwater from the FVGB must provide evidence to California DWR to demonstrate that the new wells would not adversely affect other wells or adversely affect groundwater supplies. As noted in the discussion of project level impacts, the Fremont Valley GWMP has estimated future water demands with an expectation of continuing growth in demand from utility scale solar projects and has determined that there is sufficient long-term groundwater resources to meet those needs as well as other projected needs. Cumulative impacts on groundwater resources, therefore, are anticipated to be less than significant.

Ground-disturbing construction activities and the presence of impervious project facilities on-site during project operation could alter drainage paths of surface flows, which could result in erosion, sedimentation, and/or flooding. Erosion and sediment control BMPs implemented as part of the SWPPP, Kern County Grading Code, and California City Grading Code, during construction and decommissioning, would help avoid erosion and sedimentation from occurring, and could also help control surface flows and runoff so as to avoid flooding. Further, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** includes development of a drainage plan recommending an on-site design that complies with all channel setback requirements,

ensures facilities are located in such a way to lessen their impact on drainage areas, and includes post-construction BMPs such as on-site retention basins that would retain runoff during project operation, thereby preventing erosion and sedimentation. The proposed project would also maintain pervious surfaces on-site surrounding project facilities, which would help prevent excess flooding.

Implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** would require the minimization of ground disturbance needed within drainages and avoidance of ground disturbance in drainages during the rainy season when possible. Other projects would also be subject to the requirements of the Kern County Grading Code and any applicable California City standards, hydrologic study/drainage plan requirements, and SWPPP development (if applicable). Therefore, other projects would also implement measures to help reduce potential impacts related to erosion, sedimentation, and flooding. Cumulative impacts related to the alteration of drainage patterns and subsequent erosion, sedimentation, and flooding would be less than significant.

Given its relatively undeveloped nature, the majority of land in the region does not have existing stormwater drainage systems, and instead contains natural drainages. Per Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC**, the proposed project would be required to design a drainage plan per the findings of a hydrologic study. As stated above, the drainage plan would recommend an on-site design that complies with all channel setback requirements and would ensure that facilities are located in such a way to lessen their impact on drainage areas. Further, on-site stormwater management facilities, such as retention basins, would collect and retain excessive runoff so that project-generated runoff would not exceed existing runoff volumes. Further, as a portion of the project site is located within a FEMA-designated Special Flood Hazard Area, the drainage plan would recommend an on-site design that would comply with County drainage and construction design standards for structures constructed within a FEMA floodplain. The proposed project would also maintain pervious surfaces on-site surrounding project facilities, which would help prevent excess runoff. Pollution of runoff would be avoided per the measures described above related to reducing impacts to water quality. Other projects in the region would be subject to hydrologic study/drainage plan requirements and water quality degradation prevention measures. Cumulative impacts related to exceedance of drainage system capacity and polluted runoff would be less than significant.

Portions of the project site, within Kern County, are located within a FEMA-designated Special Flood Hazard Area (a Zone A, 100-year flood zone). Therefore, the project would introduce structures within these flood zones. Per Mitigation Measures **MM 4.10-2KC**, the drainage plan for the proposed project site would be designed to effectively control surface flows on-site, and project facilities would be designed to maintain 1 foot of freeboard clearance above the calculated maximum flood depths. The project would be required to comply with the County's Municipal Code for flood damage protection and regulations established in the County's Municipal Code Section 17.48 Floodplain Management. Specifically, the project would need to comply with Article III of Section 17.48, which details required construction standards for projects in Special Flood Hazard Areas, such as the requirements that construction projects use materials and equipment that would be resistant to flood damage, and that any development include adequate drainage paths to guide floodwaters around and away from proposed structures. The proposed project would also maintain some existing pervious surfaces on-site and be surrounded by pervious areas, which would help control any impeded or redirected flood flows. Many other projects in the region would also be located within FEMA-designated Special Flood Hazard Areas (100-year flood zones) but would be subject to similar drainage plan and design standards enforced by the County and/or City. Cumulative impacts related to the placement of structures within a 100-year flood hazard area would be less than significant.

Groundwater use for the construction of the gen-tie lines would be minimal and is not required for ongoing operations or maintenance. Due to the small amount of water required, water use would not result in a considerable contribution toward a significant cumulative impact. Because of the minimal impacts associated with construction and operation of the gen-tie lines, the proposed gen-tie lines would also not result in a considerable contribution toward a significant cumulative impact with respect to water quality degradation, groundwater resources, erosion, drainage, or flooding.

Based on the conclusions above, and continued implementation of County and California City construction and design standards, the project's contribution to cumulative impacts relating to hydrology and water quality would be less than cumulatively considerable, and overall, cumulative impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.9-1KC** and **MM 4.10-1KC** through **MM 4.10-3KC**.

### **City of California City**

Implement Mitigation Measures **MM 4.9-1CC** and **MM 4.10-1CC** through **MM 4.10-3CC**.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.9-1KC** and **MM 4.10-1KC** through **MM 4.10-3KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.9-1CC** and **MM 4.10-1CC** through **MM 4.10-3CC**, impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, and **MM 4.10-2KC**, impacts would be less than significant.

### **4.11.1 Introduction**

This section describes the affected environment and regulatory setting of the proposed project for impacts that may affect land use and planning. It also discusses the need for mitigation measures where applicable. The information in this section is based primarily on a review of the Kern County General Plan, Mojave Specific Plan, Kern County Zoning Ordinance, California City General Plan, and California City Zoning Regulations.

### **4.11.2 Environmental Setting**

#### **On-Site Land Uses**

The project site is located on lands within unincorporated Kern County, including within the Mojave Specific Plan Area, and lands within the municipal limits of the City of California City. The project site is currently vacant and undeveloped, and there are no residences or other structures on the property.

The project site consists of 90 parcels located in unincorporated Kern County and California City on approximately 8,371 acres of privately owned land. As shown on **Figure 3-2, Project Site Boundaries**, the project includes 82 parcels totaling 6,269 gross acres within unincorporated Kern County and 8 parcels totaling approximately 2,102 gross acres within California City.

#### **Kern County**

##### **Kern County General Plan and Mojave Specific Plan Designations**

As shown on **Figure 3-7, Existing General Plan Designations - Kern County and Mojave Specific Plan**, the project parcels located in unincorporated Kern County are designated as Mojave Specific Plan Map Codes 7.1 (Light Industrial) and 7.3 (Heavy Industrial), while the remaining unincorporated Kern County lands are designated as Kern County General Plan Map Codes 8.5 (Resource Management, minimum 20 acre parcel size) and 8.5/2.5 (Resource Management, minimum 20 acre parcel size/ Flood Hazard). Additionally, one parcel (parcel with APN 235-024-14) within the project site has the existing Kern County General Plan Map Code 1.1, State or Federal Land; however, the property is privately owned.

The project parcels located in unincorporated Kern County are subject to the provisions of the Kern County Zoning Ordinance. These parcels have zone classifications of A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 MH (Limited Agriculture - Mobile Home Combining), M-2 PD (Medium Industrial - Precise Development Combining), and M-3 PD (Heavy Industrial - Precise Development Combining). The existing zone classifications are specified in **Table 3-1, Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage** and are shown on **Figure 3-11, Existing Zoning – Kern County**.

## City of California City

As shown on **Figure 3-13**, *Existing General Plan Designations - California City*, the project parcels located in California City are designated by the General Plan as O/RA (Controlled Development & Open Space).

The project parcels located in California City are subject to the provisions of the California City Zoning Regulations. As shown on **Figure 3-14**, *Existing Zoning - California City*, the project parcels located in California City have a zone classification of O/RA (Open Space/Residential Agriculture). The existing California City zone classifications are specified in **Table 3-1**, *Project Assessor Parcel Numbers, Existing and Proposed Map Code Designations, Existing and Proposed Zoning, ALUCP Designations, and Acreage*.

## Surrounding Land Uses

The project site is in the southwestern Mojave Desert at the south end of the Fremont Valley and the northern portion of the Antelope Valley. To the west, the Mojave Desert is bordered by the Tehachapi Mountains to the southwest and the Sierra Nevada Mountain Range to the northwest. This portion of Kern County has been developed with several wind and solar energy facilities. Regionally, development is sparse. Several unincorporated rural communities are located near the project site. The rural community of Mojave is located adjacent to the northwestern corner of the project site; however, the nearest uses in this area consist of nonresidential and airport uses. Mojave generally consists of scattered single-family homes and the Mojave Air and Space Port. Additionally, the smaller, rural communities of Fleta, Sanborn, and Bissell are located to the southwest, south, and southeast of the project site.

The Mojave Air and Space Port, which is operated by the East Kern Airport District (EKAD), is located approximately 0.7 miles west of the project site. The Hyundai-Kia Proving Ground, which is a 3,840-acre testing site for Hyundai new automobile and powersports products, is adjacent to the project site to the north and east. Edwards Air Force Base (AFB) is directly southeast of the project site. The BNSF railway is a single track through the gen-tie corridor that becomes a double track through the project area. The railroad generally parallels the east-west portion of SR 58 a little over a mile to the south.

Existing land uses in the surrounding area are primarily undeveloped. Surrounding land uses are shown on **Figure 3-2**, *Project Site Boundaries*. **Table 4.11-1**, *Existing On- and Off-Site Land Use, General Plan Map Code and Specific Plan Map Code Designations, and Zoning*, identifies the project site and surrounding land uses.

**TABLE 4.11-1. EXISTING ON- AND OFF-SITE LAND USE, GENERAL PLAN MAP CODE AND SPECIFIC PLAN MAP CODE DESIGNATIONS, AND ZONING**

<b>Location</b>	<b>Existing Land Use</b>	<b>Existing General Plan and Specific Plan Map Code Designations</b>	<b>Existing Zoning</b>
<b>Kern County</b>			
<b>Project Site</b>	Undeveloped	Kern County General Plan: 1.1 (State and Federal Lands) 8.5 (Resource Management, minimum 20-acre parcel size) 8.5/2.5 (Resource Management, minimum 20-acre parcel size/ Flood Hazard)  Mojave Specific Plan: 7.1 (Light Industrial) 7.3 (Heavy Industrial)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 MH (Limited Agriculture, Mobile Home Combining) M-2 PD (Medium Industrial, Precise Development Combining) M-3 PD (Heavy Industrial, Precise Development Combining)
<b>North</b>	Undeveloped; California City; Hyundai-Kia Proving Ground	Kern County General Plan: 8.3 (Extensive Agriculture, min. 20-acre parcel size) 8.3 (Extensive Agriculture, min. 20-acre parcel size/Flood Hazard) 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 MH (Limited Agriculture, Mobile home Combining) E(2 ½) MH (Estate 2.5 Acres, Mobile home Combining)
<b>East</b>	Hyundai-Kia Proving Ground, Undeveloped; Unincorporated community of North Edwards	Kern County General Plan: 1.1 (State or Federal Land) 1.2 (Incorporated Cities) 8.5 (Resource Management, min. 20-acre parcel)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 H (Limited Agriculture, Airport Approach Height Combining) M1 (Light Industrial)
<b>South</b>	Edwards Air Force Base, Unincorporated communities of Sanborn, and Fleta	Kern County General Plan: 1.1 (State or Federal Land) 3.3 (Other Facilities) 5.7 (Minimum 5 Gross Acres/Unit) 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)	A-1 (Limited Agriculture)

<b>Location</b>	<b>Existing Land Use</b>	<b>Existing General Plan and Specific Plan Map Code Designations</b>	<b>Existing Zoning</b>
<b>West</b>	Mojave Air and Space Port, Undeveloped, Unincorporated community of Mojave	Kern County General Plan 8.5 (Resource Management, min. 20-acre parcel size) 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope) 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)  Mojave Specific Plan: 7.1 (Light Industrial) 7.1/2.5 (Light Industrial/Flood Hazard) 7.2 (Service Industrial) 7.3 (Heavy Industrial)	A (Exclusive Agriculture) A-1 (Limited Agriculture) A-1 H (Limited Agriculture, Airport Approach Height Combining) M-1 (Light Industrial) M-1 PD (Light Industrial, Precise Development Combining) M-1 PD H (Light Industrial, Precise Development, Airport Approach Height Combining) M-2 PD (Medium Industrial, Precise Development Combining) M-3 PD (Heavy Industrial, Precise Development Combining)
<b>City of California City</b>			
<b>Project Site</b>	Undeveloped	California City General Plan: O/RA (Controlled Development & Open Space)	O/RA (Open Space/Residential Agricultural)
<b>North</b>	Undeveloped; California City; Hyundai-Kia Proving Ground	California City General Plan: M1 (Light Industrial District)	M1 (Light Industrial District)
<b>East</b>	Hyundai-Kia Proving Ground, Undeveloped	California City General Plan: M1 (Light Industrial District)	M1 (Light Industrial District)
<b>South</b>	Unincorporated Kern County (see above descriptions)		
<b>West</b>	Unincorporated Kern County (see above descriptions)		

## 4.11.3 Regulatory Setting

### Federal

#### West Mojave Plan Habitat Conservation Plan

The West Mojave Plan is a habitat conservation plan and federal land use plan amendment that (1) presents a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel (MGS), and nearly 100 other sensitive plants and animals and the natural communities of which they are a part, and (2) provides a streamlined program for complying with the requirements of the California and federal

Endangered Species Acts (CESA and FESA, respectively). The 9,359,070-acre planning area is located north of the Los Angeles metropolitan area. The West Mojave Plan's conservation program applies to both public and private lands within this area. These lands include 3,263,874 acres of public lands administered by the Bureau of Land Management, 3,029,230 acres of private lands, and 102,168 acres of lands administered by the State of California.

## State

There are no applicable 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, Mojave Specific Plan, Kern County Zoning Ordinance, California City General Plan, California City Zoning Regulations, and the Airport Land Use Compatibility Plan (ALUCP). The Kern County General Plan and California City General Plan contain goals, objectives, and policies and provide an overall foundation for establishing land use patterns. For this land use impact analysis, this section lists all relevant goals, objectives, and policies related to the proposed project. The Kern County Zoning Ordinance contains regulations through which the Kern County General Plan's provisions are implemented. The California City Zoning Regulations contain regulations through which the California City General Plan's provisions are implemented. The ALUCP establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. 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. The Kern County General Plan includes the Land Use, Open Space, and Conservation Element, which provides for a variety of land uses for future economic growth while also ensuring the conservation of Kern County's agricultural, natural, and resource attributes. In 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) physical and environmental constraints overlay; (3) public facilities and services; (4) special treatment areas (accepted county plan areas, rural communities and specific plan required); (5) residential; (6) commercial; (7) industrial; and (8) resource.

As mentioned, the project parcels located in unincorporated Kern County are designated by the Kern County General Plan Map Codes 8.5 (Resource Management, minimum 20 acre parcel size) and 8.5/2.5 (Resource Management, minimum 20 acre parcel size/ Flood Hazard). Additionally, one parcel (parcel with APN 235-024-14) within the project site has the existing Kern County General Plan Map Code 1.1, State or Federal Land; however, the property is privately owned. 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, safety, 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 project are listed below.

## **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, 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 2: In order to minimize risk to Kern County Residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria and standards for the approval of development in hazard areas.

Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.

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.

#### **1.4 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.

##### ***Policy***

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.

##### ***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 time 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 3: Ensure the development of resource areas minimize effects on 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 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 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 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.
- Policy 19: Work with other agencies to define regulatory responsibility concerning energy-related issues.

**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 Measure**

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 Environmental 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 characterizes the quality of upper groundwater in the project vicinity and evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater quality. If the evaluation indicates 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 shall 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:
- a. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
  - b. 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<sub>10</sub> and PM<sub>2.5</sub> 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 PM<sub>10</sub> 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 the California Environmental Quality Act (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 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 United States Army Corps of Engineers, and the California Department of Fish and Game rules and regulations to enhance 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 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, to prevent the degradation of the watershed to the extent practical.

**Implementation Measures**

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.

**Chapter 2. Circulation Element****2.1 Introduction****Goal:**

- Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

**2.3.3 Highways Plan****Policy**

- 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.

**2.3.4 Future Growth****Policies**

- 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.

### ***2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements***

#### ***Goals***

- Goal 1: Provide a means for guiding decisions on vacating public roads.
- Goal 2: Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.

#### ***Policies***

- Policy 2: Provide a means for guiding decisions on vacating public roads. A study, prepared at the applicant's expense, shall accompany the road vacation application. The study should provide information that will aid in finding the importance of the entire length of the right-of-way. The study would include a review of existing and proposed land uses and localized traffic modeling. This will help Kern County decide what corresponding changes are needed to the Land Use, Open Space and Conservation Element, or affected specific plan. This also will help Kern County decide if additional public road services or other traffic management are required elsewhere.
- Policy 3: If the road vacation applicant is a private entity, all costs for the public hearing shall be borne by the applicant. Also, costs associated with providing any necessary additional public road services or other traffic management caused by the road vacation shall be paid by the applicant.
- Policy 4: The vacation of a road shall not take away legal access to adjacent properties or "land-lock" any legal lot or parcel of record. Legal access shall be determined through a report submitted with the application for road vacation.
- Policy 5: If Kern County determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized. An acceptable project shall be determined through a report submitted with the road vacation application and in keeping with traffic modeling parameters of this Plan.
- Policy 6: A road vacation may be authorized if physical conditions such as natural, or manmade topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined through a report submitted with the road vacation application.
- Policy 7: A road vacation shall only affect public, recorded rights-of-way or public service easements. The potential effects of a road vacation upon rights-of-way and easements are to be determined by a report submitted with the road vacation application. A vacation of private access or private service easement is not under County jurisdiction. Kern County considers these matters "civil" actions. These civil actions should be acted upon accordingly.



- Policy 8: A road vacation may be authorized if the right-of-way is not improved or used for its original purpose. Existing improvements and facility use shall be determined by a report submitted with the road vacation application.
- Policy 9: A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.
- Policy 14: A summary vacation shall be consistent with State of California Streets and Highway Code. A summary vacation may be used when the right-of-way does not exist, is unused, or moved. A summary vacation may be used where right-of-way is impassable, unnecessary for present or prospective public use, or is excess or public service easement land.

### **2.5.1 Trucks and Highways**

#### **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.

#### **Policy**

- Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

### **2.5.2 Airport Land Use Compatibility Plan**

#### **Goal:**

- Goal 1: Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.

#### **Policy:**

- Policy 2: To the extent legally allowable, prevent encroachment on public airport and military base operations from incompatible, unmitigated land uses.

#### **Implementation Measures:**

- Measure A: Review discretionary land use development applications within the airports influence area and the military base operating area as shown in the ALUCP for consistency.
- Measure B: Coordinate and cooperate with airport operators, the County Department of Airports, the California Department of Transportation, Division of Aeronautics, affected cities, Edwards Air Force Base, NAWS China Lake and the Department of Defense on the ALUCP, review of land use applications, public education and encroachment issues.

## Chapter 3. Noise Element

### **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 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.
- Policy 5: Prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Such mitigation shall be designed to reduce noise to the following levels:
- a. 65 db-Ldn or less in outdoor activity areas.
  - b. 45 db-Ldn or less within living spaces or other noise sensitive interior spaces.
- Policy 7: Employ the best available methods of noise control.

### **Implementation Measures**

- 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 Ldn and interior noise levels in excess of 45 dB Ldn.
- 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**

### ***Goal:***

Goal 1: Minimize injuries and loss of life and reduce property damage.

### ***Policies:***

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 2: The County will encourage the promotion of public education about fire safety at home and in the work place.

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 5: Require that all roads in wildland fire areas are well marked, and that homes have addresses prominently displayed.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

**Implementation Measure:**

- 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****Implementation Measures**

- 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 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 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.

## 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

### 5.2 General Policies

#### *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 Electricity Resources and Generation

#### *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.
- Policy 7: The processing of all discretionary energy project proposals shall comply with the State CEQA Guidelines directing that the environmental effects of a project must be taken into account as part of project consideration.
- Policy 8: The County should work closely with local, State, and Federal agencies to ensure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts on 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.

***Implementation Measure:***

Measure B: The County should work with affected State and federal agencies and interest groups to establish consistent policies for solar energy development.

***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.

***Policies:***

Policy 1: The County should encourage the development and upgrading of transmission lines and associated facilities (e.g., substations) as needed to serve Kern County's residents and access the County's generating resources, insofar as transmission lines do not create significant environmental or public health and safety hazards.

Policy 2: The County shall review all proposed transmission lines and their alignments for conformity with the Land Use, Conservation, and Open Space Element of this General Plan.

Policy 3: In reviewing proposals for new transmission lines and/or capacity, the County should assert a preference for upgrade of existing lines and use of existing corridors where feasible.

Policy 4: The County should work with other agencies in establishing routes for proposed transmission lines.

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

Policy 6: The County should encourage new transmission lines to be sited/configured to avoid or minimize collision and electrocution hazards to raptors.

***Implementation Measures:***

Measure A: The County should monitor the supply and demand of electrical transmission capacity locally and statewide.

Measure B: The County shall continue to maintain provisions in the Zoning Ordinance.

**Mojave Specific Plan**

The Mojave Specific Plan was drafted in 2003 for the unincorporated eastern Kern County community of Mojave. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and

implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The plan works in tandem with the Kern County General Plan and Zoning Ordinance to direct land use and development decisions, establishing a single set of community-wide policies and implementation strategies. The plan is intended to take the place of previous specific plans which are rescinded upon adoption of this Specific Plan. The Mojave Specific Plan includes the following elements: Land Use, Conservation, Open Space, Circulation, Housing and Community Development, Noise, and Seismic and Safety. The goal, policies, and implementation measures of the plan that are relevant to the proposed project are included below.

### **Chapter 3. Land Use Element**

#### **Objectives**

- Objective 3.2: Develop a balanced land use pattern to ensure that future growth provides a range of residential, employment, service, and recreational opportunities.
- Objective 3.6: Ensure that public services and utilities are provided commensurate with established needs and projected growth.

#### ***Policies***

- Policy 3.6.2: Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.
- Policy 3.6.3: New development shall provide adequate flood control to protect properties within the 100-year floodplain.
- Policy 3.6.4: Work with service providers to facilitate and encourage modifications and improvements to existing water, sewer, drainage, electric, natural gas, and other utility systems.

### **Chapter 4. Conservation Element**

#### ***Goal***

- Goal 5: Designate and control mineral extraction areas.

#### ***Objectives***

- Objective 4.2: Maintain groundwater quality to allow local resources to meet local needs.
- Objective 4.3: Encourage conservation of energy resources.
- Objective 4.4: Maintain and promote the retention of natural settings and use of native or adaptable vegetation.
- Objective 4.5: Conserve known areas of mineral resources by limiting encroachment of incompatible urban uses.
- Objective 4.6: Promote the improvement of air quality and the maintenance of State and federal air quality standards in the Mojave area.

***Policies***

- Policy 4.2.1: Support regional efforts by the South Lahontan Regional Water Quality Control Board to improve and protect water quality. Promote compliance with the measures contained in the California Water Code and other requirements.
- Policy 4.2.2: If required, new development projects shall implement Best Management Practices (BMPs) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects. Investigate and implement methods as appropriate over time to address the control of pollutants in stormwater runoff from development sites, and to encourage the recycling of runoff for groundwater recharge and similar beneficial purposes.
- Policy 4.3.1: Promote energy conservation measures contained in Title 24 of the California Code of Regulations.
- Policy 4.4.3: For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project applicant may demonstrate urbanized, nonsensitive status through the identification of applicable studies.
- Policy 4.4.4: Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.
- Policy 4.6.3: Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

**Chapter 6. Circulation Element*****Goal***

Goal 1: Provide for adequate circulation to support future growth.

***Objective***

Objective 6.1: Provide adequate transportation facilities to serve area residents and commercial and industrial businesses.

***Policies***

- Policy 6.1.1: Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.
- Policy 6.1.4: With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards.
- Policy 6.1.6: Coordinate with developers for the improvement of local streets in conjunction with an approved phased development, subject to approval of the Roads Department in accordance with the Kern County Land Division Ordinance and Kern County Development Standards.



- Policy 6.1.8: Maintain a minimum service level of “D” or better on Circulation Element roadways. Maintain a minimum service level of “C” or better on Caltrans roadways.
- Policy 6.1.9: Require new development to contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals required to meet the demand generated by the project.
- Policy 6.1.13: Roadways for new development shall be developed in accordance with Kern County Development Standards.
- Policy 6.1.14: Final driveway access locations and design shall be determined through acquisition of an encroachment permit from the Kern County Roads Department at the time development occurs.

### ***Implementation Measures***

- Measure F-4: As a part of discretionary permit approval, plans should be reviewed for street improvements, including landscaping and lighting. Where necessary, require establishment of a County Service Area (CSA) to maintain lighting and landscaping adjacent to County roads.
- Measure F-12a: New development projects will have conditions of approval applied requiring construction of roadway improvements, dedications, and/or payment of in-lieu fees to provide circulation system improvements consistent with the Specific Plan Circulation Element.
- Measure F-12d: No development or building permit will be approved unless the County finds that adequate circulation system capacity exists or can be made to exist to accommodate the demands of the use/development proposed.
- Measure F-12e: A traffic analysis shall be submitted with any submittal of a precise development plan, division application, or zone change that implements the plan, and/or conditional use permit. The traffic analysis shall provide a trip generation for all vehicular traffic, the necessary improvements to the existing circulation system and the project's pro-rata share of signalization, and improvements on Kern County and the State Department of Transportation network. The traffic analysis shall be reviewed and approved by the Kern County Roads Department and the State Department of Transportation. Recommendations, as approved by the Roads Department, shall become conditions of approval. This requirement may be waived by the Roads Department, in conjunction with the State Department of Transportation.
- Measure F-12f: Amendments to the Plan shall require preparation of a traffic study, including site-specific and regional current traffic counts for review and approval by the Roads Department and the State Department of Transportation. Recommendations for regional improvements and development contribution to maintain adopted Levels of Service shall be included.

## **Chapter 8. Noise Element**

### ***Goals***

- Goal 1: Evaluate transportation-related noise.
- Goal 2: Evaluate noise during land use planning efforts.

**Objectives**

Objective 8.1: Minimize the effects of transportation-related noise.

Objective 8.2: Minimize the effects of noise through proper land use planning.

**Policies**

Policy 8.1.1: Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures.

Policy 8.1.2: Incorporate sound-reduction designs in development projects impacted by transportation-related noise.

Policy 8.1.3: Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls) shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.

Policy 8.2.3: Ensure consistency of development proposals with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan to reduce potential for noise conflicts.

Policy 8.2.4: Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in this element.

Policy 8.2.6: Industrial uses adjacent to residences shall minimize potential noise and health hazards. Buffers may be required and shall be reviewed during the Precise Development review process and may be imposed when necessary to maintain noise standards. Landscaping, picnic areas, parking, offices, warehousing, or other more compatible uses may be incorporated within identified buffer zones.

Policy 8.2.7: Noise attenuation measures as defined by the Kern County Noise Element, Development Standards, and any pertinent noise studies (such as setbacks, clustering, berming, and sound walls) shall serve as a guide for future planning and development decisions.

Policy 8.2.9: Amendments to the plan proposing sensitive uses adjacent to noise contours above 65 CNEL (see Figure 8-2 and 8-1) shall require preparation of a site-specific noise study including proposed mitigation.

**Implementation Measures**

Measure G-2: Noise Attenuation Measures Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include: a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element. b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise. c) Between residential land uses and commercial or industrial land uses.

Measure G-3: Airport-Related Noise and Safety Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas: a) All

discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

Measure G-4: Vehicular Noise. Implement the following measures to reduce the impact of vehicle-related noise on development in adjacent areas:

- a. New construction shall include sound walls as recommended by required acoustic studies.
- b. New development shall be required to identify and mitigate for vehicular noise impacts as a condition of approval for construction of new noise-sensitive land uses.
- c. Request that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond County jurisdiction.
- d. Landscaping or other project design measures are required in all new public and private projects to address potentially significant aesthetics impacts associated with noise barriers.
- e. Regulate traffic flow and coordinate with the California Highway Patrol to enforce speed limits.
- f. Incorporate noise impact considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive uses.

## **Chapter 9. Seismic and Safety**

### ***Objectives***

- Objective 9.1: Minimize the potential damage to structures and loss of life that could result from earthquakes.
- Objective 9.2: Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazards.
- Objective 9.3: Protect the community from human-caused hazards related to air and ground transportation, hazardous materials, and other human activities.

### ***Policies***

- Policy 9.1.1: Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.
- Policy 9.2.1: Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.

- Policy 9.2.3: Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.
- Policy 9.3.2: Ensure that hazardous materials used in business and industry are properly handled, and that information on their handling and use is available to fire protection and other safety agencies in accordance with the Fire Code.
- Policy 9.4.2: Work with the Kern County Fire Department and the Kern County Sheriff's Department to ensure sufficient services can adequately protect and serve the community.
- Policy 9.4.3: Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.
- Policy 9.4.5: Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.

## **Chapter 10. Implementation**

### ***Implementation Measures***

- Measure C-6a: Require a biological survey to be conducted in nonurbanized sensitive areas (not developed, not previously developed, or not previously mitigated) with potentially significant biological resources.
- Measure H-4b: Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project approval.
- Measure L-1: Adequate Services: Require applicants to demonstrate the availability of fire, police, emergency response and solid waste disposal services during discretionary environmental review.
- Measure L-2: Fire and Police Protection Implement the following measures to ensure adequate fire and police protection in the Mojave community:
- Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area.
  - If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or payment of proportional share of services as a condition of development.
  - Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.
- Measure N-2b: Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval of any industrial zone changes and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.

Measure N-3a: Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.

## **City of California City General Plan**

The California City General Plan projects conditions and needs into the future in order to determine the long-term goals and policies that would provide the basis for decision-making related to the growth and development of the City and within its existing coterminous sphere of influence. The General Plan implements the City's vision through its goals, policies, and implementation measures.

Pursuant to Government Code Section 65300, the California City General Plan consists of the following General Plan elements: Land Use, Circulation, Housing, Noise, Safety, and Open Space and Conservation. Each element establishes goals, policies, and implementation measures that guide planning decisions in the city. The goals, policies, and implementation measures relevant to the project are listed below.

The project parcels located in California City are designated by the General Plan as O/RA (Controlled Development & Open Space).

### **O/RA (Controlled Development & Open Space)**

For lands designated O/RA, strong consideration shall be given to the development of park/open space and public/quasi-public uses which benefit the entire community on those parcels of land which were originally created for that purpose. The Controlled Development category also provides for industrial uses, commercial uses, recreational uses, large lot subdivisions, open space uses, and agricultural and horticultural uses. Very low-density residential uses (one dwelling unit per 20 acres) may be developed on an interim basis. Further subdivisions of land (of parcels less than 20 acres in size) and/or the development of uses other than those specified by the General Plan would require detailed plans to be provided by the owner and/or developer of such lands.

## **Chapter 2. Land Use Element**

### ***Goals***

- To facilitate and implement growth and development coordinated with the provision of infrastructure, public facilities, and public services.
- Accommodate new development which is compatible with and complements existing land uses within the General Plan planning area.
- Accommodate new development which is sensitive to and capitalizes on the General Plan planning area's natural environmental setting.
- Accommodate new development that is compatible with natural and manmade hazards that affect the General Plan planning area.

### **Policies**

- The developer shall be responsible for all on-site costs incurred as a result of a proposed project, in addition to a proportional share of off-site costs incurred in service extension or improvements. The availability of public or private services or resources shall be evaluated during discretionary

project consideration. Availability may affect project approval or result in a reduction in size, density, or intensity.

- In the areas of the City outside the central core, all developments must provide complete public infrastructure improvements including community water distribution and sewage collection and treatment systems. These developments may be permitted a density increase up to 20 percent if the developments include an affordable homes component. All land division activities shall be consistent with the provision.

## **Chapter 5. Open Space and Conservation Element**

### **5.14 Open Space**

#### ***Policy***

- Encourage maximum cooperation among all levels of government, private interests, and individuals in the management, conservation, and protection of open space resources.

### **5.15 Conservation**

#### ***Goals***

- Promote the improvement of air quality and the maintenance of State and federal air quality standards.
- Encourage conservation of energy resources.
- Promote conservation of sensitive vegetation and wildlife.
- Promote conservation of historical and cultural resources.

#### ***Policies***

- Require compliance for development projects with the requirements of the California Water Code Section 10910 regarding water supply.
- Cooperate with the Kern County Air Pollution Control District (APCD) to implement the APCD's Air Quality Attainment Plan.
- Continue to enforce the City's grading Code, along with dust control and other rules and measures through the Air Pollution Control District to mitigate air quality effects during the construction of new development.
- Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.
- Protect sensitive vegetation and wildlife species, in accordance with State and federal laws and regulations, and to provide for maintenance of supportive habitat for such species in balance with the needs of humans.

- Preserve historical and cultural resources which may exist and are of significant value to the community now and in the future.

## **Chapter 6. Safety Element**

### **6.5 Geologic and Seismic Hazards**

#### ***Goal***

- Protect the health, safety, and welfare of the community from hazards related to seismic activity.

#### ***Policies***

- Development shall be prohibited in areas where measures to correct identified geologic or seismic hazards are not feasible.
- Minimize the potential damage to structures and loss of life that could result from earthquakes.

### **6.6 Flood Hazards**

#### ***Goal***

- Minimize the potential for personal injuries and property damage and economical loss caused by inundation in flood hazard areas.

#### ***Policy***

- Ensure that residential, commercial, industrial, and other land development is adequately protected from the hazards which occur from flooding and storm water runoff.

### **6.7 Human-Induced Hazards**

#### ***Goal***

- Protect residents, businesses, and structures from human-induced hazards related to ground transportation, aircraft over flight, hazardous materials, and other human activities.

#### ***Policies***

- Ensure that hazardous materials used by commercial and industrial land uses are properly transported, handled, and used, and that information on their handling, transport, and use is available to the California City Fire Department and other safety agencies in accordance with the Fire Code.
- Require that new development proposals be consistent with the Kern County Airport Land Use Compatibility Plan in order to eliminate hazards due to land use conflicts with the California City Municipal Airport, the Mojave Airport, Edwards Air Force Base, and other military over flight activities.

## 6.8 Public Safety

### *Goals*

- Provide and implement effective emergency services that will protect the health, safety, and welfare of residents and workers within the community.
- Protect the health, safety and welfare of residents, businesses, and property from fire danger.

### *Policies*

- Ensure that new development does not create a burden on adequate levels of emergency response services, including fire protection services and law enforcement services.
- Work with the Fire Department and Police Department to ensure sufficient services can adequately protect and serve the community.
- Review all new development proposals for fire safety considerations.

## Chapter 7. Noise Element

### *Goal*

- To protect residents and workers in the City from the harmful and annoying effects of exposure to excessive noise.

### *Policy*

- Development proposals shall be reviewed for consistency with the California City Airport Land Use Compatibility Plan to reduce the potential for noise conflicts associated with the California City Municipal Airport, the Mojave Airport, and Edwards Air Force Base.

## Kern County Zoning Ordinance

Title 19 of the Kern County Ordinance describes the permitted uses for the various zoning classifications within the County. The Zoning Ordinance consists of two primary parts: a map that delineates the boundaries of zoning districts; and text that explains the purpose of the districts, specifies permitted and conditional uses, and establishes development and performance standards. The intent of the Zoning Ordinance is to protect public health, safety, and the general welfare of residents and visitors in the County. Together with the Zoning Map, the Zoning Ordinance 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 Ordinance 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 Ordinance also regulates which uses are permitted in each of the County's zoning districts to ensure compatibility between land uses. Zone classifications that currently apply to the project parcels are described below.



## **A (Exclusive Agriculture)**

The purpose of the A district 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 nonagricultural uses. Permitted land uses in the district include agriculture, commercial uses, utility lines and substations, resource extraction, energy development, and miscellaneous accessory structures related to permitted uses. Miscellaneous accessory structures that are related to the permitted uses area also allowed. Pursuant to Section 19.12.030 of the Kern County Zoning Ordinance, solar facilities are permitted on land zoned Exclusive Agriculture (A) with approval of a conditional use permit (CUP).

### **A-1 (Limited Agriculture)**

The purpose of the A-1 zone district is to designate areas suitable for a combination of estate-type residential development, agricultural uses, and other compatible uses. Final map residential subdivisions are not allowed in the A-1 district. Permitted land uses include agriculture, residential uses, commercial uses, utility and communication facilities, resource extraction, energy development, institutional uses, and miscellaneous accessory structures related to permitted uses. Pursuant to Section 19.14.030 of the Kern County Zoning Ordinance, solar facilities are permitted on land zoned Limited Agriculture (A-1) with approval of a CUP.

### **MH (Mobile Home Combining)**

The purpose of the Mobilehome (MH) Combining District is to provide for the installation of mobile homes with or without foundations in agricultural, resource-related, and residential zoned areas. The MH District may be combined with A-1 (Limited Agriculture), R-1 (Low-density Residential), E (Estate), PL (Platted Lands), or the RF (Recreation-Forestry) Districts.

### **M-2 (Medium Industrial)**

The purpose of the Medium Industrial (M-2) District is to designate areas for general manufacturing, processing, and assembly activities. Uses may not produce fumes, odor, dust, smoke, gas, or vibrations extending beyond zoning district boundaries.

### **M-3 (Heavy Industrial)**

The purpose of the Heavy Industrial (M-3) District is to designate areas suitable for heavy manufacturing and industrial uses which have the greatest potential for producing undesirable or adverse by-products, including traffic, noise, odors, dust, and vibrations. The M-3 District should be located in places substantially removed from residential areas.

### **PD (Precise Development Combining)**

The purpose of the Precise Development (PD) Combining District is to designate areas with unique site characteristics or environmental conditions or areas surrounded by sensitive land uses to ensure that development in such areas is compatible with such constraints. The PD District may be combined with any base district. The regulations established by the PD District shall be in addition to the regulations of the base district with which the PD District is combined.

### **Section 19.104.040 Conditional Use Permits - Basis for Approval**

The decision-making authority may approve or conditionally approve an application for a conditional use permit if it finds all of the following:

- A. The proposed use is consistent with the goals and policies of the applicable General or Specific Plan.
- B. The proposed use is consistent with the purpose of the applicable district or districts.
- C. The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Sections 19.08.030 through 19.08.080 of this title.
- D. The proposed use meets the minimum requirements of this title applicable to the use.
- E. The proposed use will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

### **Airport Land Use Compatibility Plan**

The Kern County ALUCP establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations.

### **Military Aviation Operations**

Section 4.17 of the ALUCP addresses land use policies and procedures relative to military aviation. Kern County has two military aviation installations, the China Lake Naval Air Weapons Station and Edwards AFB. Due to the military bases' required flying mission, aircraft commonly fly beyond the boundaries of the installations at supersonic speeds and sometimes as low as 200 feet above the ground. In order to minimize flight hazards to non-military aircraft, the military aircraft from these installations fly within restricted airspace known as the Joint Service Restricted R-2508 Complex. According to Figure 4-81 in the ALUCP, the project site is located within the geographical boundaries of the R-2508 complex (Kern County 2012).

Because of the extreme flying capabilities and needs of military aircraft, military officials have concerns about land development that may compromise the mission of the installations. Section 4.17.2 of the ALUCP identifies the types of land development that require review by the military for compatibility. These include, but are not limited to, tall obstructions that penetrate into the airspace, and developments that can cause adverse environmental effects such as reduced visibility due to particulate matter emissions. Furthermore, per Section 3.5.5 of the ALUCP, certain land use characteristics, such as glare, distracting lights, or light patterns that could be mistaken for airport lights, are also not permitted within the R-2508 Complex boundary. In addition, Section 4.17.3 of the ALUCP requires that the China Lake Naval Air Weapons Station and Edwards AFB be notified of development that falls within identified notification categories. The categories that are applicable to the proposed project include the following:

- Any structure within 75 miles of the R-2508 Complex that is greater than 50 feet tall;
- Any environmental document or discretionary project within 25 miles of the R-2508 Complex; and
- Any project within 25 miles of the centerline of any route/corridor.

## **Mojave Air and Space Port**

The western portion of the project site is located within an area covered by the Kern County ALUCP. The Mojave Air and Space Port is located approximately 1.3 miles west of the project site. Specifically, the project site is located in “Compatibility Zone B2 – Extended Approach/Departure Zone” (Assessor Parcel No. (APN) 235-024-41, 235-351-01, 428-010-02, -10, -11, 428-041-02, -03, -04, -05, -38, 428-042-02, -03, -04, -35, 428-052-15, -17, 428-053-16, and -18) and “Compatibility Zone C – Common Traffic Pattern” (APN No. 235-024-41, 235-351-01, -02, -03, -04, 235-081-09, -10, 235-082-15, -16, -17, -18, -19, -24, -25, 235-065-04, -05, -07, -17, -18, 235-353-11, -21, -22).

## **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 (Kern COG 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) required by California’s Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375. The California Air Resources Board set Kern greenhouse gas emissions reductions from passenger vehicles and light-duty trucks at 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 2018 RTP exceeds SB 375 reduction targets for the region and is consistent with the RHNA.

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; increase 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 its 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).

## **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.

## **City of California City Zoning Regulations**

Title 9, Chapter 2 of the California City Municipal Code describes the permitted and conditional uses for the various zoning classifications within the city. The intent of the Zoning Regulations is to preserve, protect, and promote the public health, safety, peace, comfort, convenience, prosperity and general welfare.

The project parcels located in California City are subject to the provisions of the California City Zoning Regulations. The project parcels located in California City have a zone classification of O/RA (Residential/Agriculture), as described below.

### **O/RA (Open Space/Residential Agriculture)**

The purpose of the O/RA district is to provide living areas which combine the advantages of urban and rural location by limiting development to very low-density one-family dwellings and permitting animals and fowl to be kept for pleasure or hobbies. As of May 11, 2021, the City of California City has adopted Planning Commission Resolution No. 21-04, which updates Title 9, Chapter 2 Zoning, Article 4 of the California City Municipal Code to include solar and power generation as a conditional use.

## **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 impact section below. The change in the land use on the project site is significant if the effect described under the thresholds of significance below occurs as a result of the project. The evaluation of project impacts is based on professional judgment, analysis of the County's and California City's land use policies and the significance criteria established in Appendix G of the CEQA Guidelines, which the County has determined appropriate for this EIR.

### **Thresholds of Significance**

As established in Appendix G of the CEQA Guidelines, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria to determine if a project could potentially have a significant adverse effect on land use.

A project would have a significant impact on land use if it 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 for the purpose of avoiding or mitigating an environmental effect.

## **Project Impacts**

### **Impact 4.11-1: The project would physically divide an established community.**

#### **Solar Facility**

As discussed in the NOP/IS (Appendix A of this EIR), the project site is located on undeveloped desert land. The nearest residences in Mojave are approximately 3.6 miles from the westernmost project parcel and the nearest residences in California City are approximately 2.9 miles from the easternmost project parcel. The proposed project would not physically divide or restrict access any rural communities. The proposed project would not physically divide an established community and no impact would occur.

#### **Gen-Tie**

The gen-tie route would primarily be constructed along SR-58 and existing roadways in an area with existing transmission lines. The proposed project would not physically divide or restrict access any rural communities. The proposed project would not physically divide an established community and no impact would occur.

### **Mitigation Measures**

#### **Kern County**

No mitigation measures are required.

#### **City of California City**

No mitigation measures are required.

#### **Gen-Tie**

No mitigation measures are required.

### **Level of Significance**

#### **Kern County**

The project would result in no impact.

## City of California City

The project would result in no impact.

## Gen-Tie

The project would result in no impact.

### **Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation for the purpose of avoiding or mitigating an environmental effect.**

The Kern County General Plan, Mojave Specific Plan, Kern County Zoning Ordinance, California City General Plan, California City Zoning Regulations, and ALUCP establish land use policies and regulations that are applicable to the proposed project. The following discussion evaluates the proposed project's conformity to these plans, policies and regulations. The proposed project would require the following land use related approval of the following discretionary actions:

The proposed project consists of the following requests:

- General Plan Amendment #2, Map 195:
  - From 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres.
- Zone Change Case # 2, Map 195:
  - From A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres; and
  - From A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.
- Zone Change Case #57, Map 196
  - From M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres; and
  - From M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres.
- Issuance of Conditional Use Permit #1, Map 195
  - To allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- Issuance of Conditional Use Permit #57, Map 196
  - To allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to

1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G, and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance.

- General Plan Amendment #3, Map 195:
  - Amendment to the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- Specific Plan Amendment #31, Map 196
  - Amendment to the Circulation Element of the Mojave Specific Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- Non-Summary Vacations of Public Access Easements within the Project Boundaries

#### **City of California City (Responsible Agency):**

- The City of California City is a Responsible Agency under CEQA. For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) zone (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity. The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

### **Kern County General Plan**

As noted previously in **Chapter 3, Project Description**, portions of the project site are designated Map Codes 8.5 (Resource Management, Minimum 20-acre Parcel Size) and 8.5/2.5 (Resource Management, Minimum 20-acre Parcel Size/ Flood Hazard) by the Kern County General Plan. Additionally, one parcel (APN 235-024-14) within the project site has the existing Kern County General Plan Map Code of 1.1 (State or Federal Land); however, the property is privately owned. The parcel map code will be changed to 8.5 (Resource Management) as part of the proposed project actions. The requested amendment to the Land Use Element will satisfy California Government Code Sections 65860 and 65862 which specify consistency be maintained between local Zoning Ordinances and the General Plans they implement, thereby reducing any impacts regarding conflicts to land use plans or policies to a less than significant level.

**Table 4.11-2, Consistency Analysis with Kern County General Plan**, presents an evaluation of the proposed project's consistency with the Kern County General Plan. The table lists the goals and policies identified above, and analyzes the proposed 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 this

EIR. As evaluated in detail in **Table 4.11-2, *Consistency Analysis with Kern County General Plan***, the proposed project is generally consistent with goals and policies of the Kern County General Plan.

### **Kern County Zoning Ordinance**

The project proponent is requesting a change in zone classifications for the project site from A-1 to A, A-1 MH to A, M-2 PD to M-1PD, and M-3 PD to M-1-PD. As discussed above under *Kern County General Plan* and *Mojave Specific Plan*, a portion of these zone changes requests are intended to achieve consistency between zoning and underlying land use designations pursuant to California Government Code Sections 65860 and 65862.

Furthermore, pursuant to Kern County Zoning Ordinance Sections 19.12.030G, 19.36.030G, and 19.40.303G, solar energy electrical facilities are permitted within the A (Exclusive Agriculture), M-1 PD (Light Industrial – Precise Development Combining), and M-3 PD (Heavy Industrial, Precise Development Combining) zone districts, respectively, with the approval of a CUP. Therefore, with the approval of the zone change classifications and CUP requests, the proposed project would be an allowable use within the A, M-1-PD, and M-3 PD zone districts, and impacts related to consistency with the Zoning Ordinance would be less than significant.

### **Mojave Specific Plan**

Portions of the project site are within the Mojave Specific Plan boundary with Map Code designations of 7.1 (Light Industrial) and 7.3 (Heavy Industrial). While amendments to Land Use Element of the Mojave Specific Plan are not proposed in this project, Zone Classification Changes are proposed on 14 parcels in order to achieve consistency between the underlying land use designations and zoning pursuant to California Government Code Sections 65860 and 65862 as discussed above. Therefore, any impacts regarding conflicts to land use plans or policies would be reduced to a less than significant level.

**Table 4.11-3, *Consistency Analysis with the Mojave Specific Plan***, evaluates the project's consistency with the Mojave Specific Plan. The table lists the goals and policies identified above in the regulatory setting and analyzes the project's general consistency with overarching policies. As evaluated in detail in **Table 4.11-3**, the project is consistent with the goals and policies of the Mojave Specific Plan.

### **Kern County General Plan and Mojave Specific Plan Amendments (Circulation Element)**

The proposed project also includes requests for amendments to the Circulation Elements of both the Kern County General Plan and the Mojave Specific Plan to remove future road reservations along section and midsection lines, as shown in **Figure 3-9, *Future Road Reservations Proposed to be Deleted***, in **Chapter 3, *Project Description***, of this EIR. Implementation of the General Plan and Specific Plan amendments would ensure consistency between the project and land use plan for the project area. This would allow solar panels to be placed throughout the project site to optimize the project area for the facility design, and no setbacks from midsection line future road reservations would be required. The proposed amendments would not affect property owner access to any other surrounding properties. Furthermore, it is unlikely that a road would ever be constructed once the project was in operation and the amendments would not impede traffic flow to and from the surrounding rural residential uses in the project vicinity. Therefore, with implementation of amendments to the Circulation Elements of the affected General and Specific Plans, the



project would not conflict with the applicable land use plan for the project area, and impacts would be less than significant.

### Non-Summary Vacations of Public Access Easements

The project proponents also requested 16 Non-summary Vacations of public access easements within the project boundary, as shown on **Figure 3-10, Proposed Non-summary Vacation of Public Access Easements**, and in **Table 3-2, Proposed Non-summary Vacation of Public Access Easements**. As demonstrated in **Figure 3-10, Proposed Non-summary Vacation of Public Access Easements**, access that is removed by the vacations of the public access easements would be replaced with private access easements or through the utilization of existing roadways.

### City of California City General Plan

The proposed project would be consistent with applicable land use plans, policies, and regulations. **Table 4.11-4, Consistency Analysis with the California City General Plan**, evaluates the proposed project's consistency with the California City General Plan. The table lists the goals and policies identified above, and analyzes the proposed project's general consistency with overarching policies. As evaluated in detail in **Table 4.11-4, Consistency Analysis with the California City General Plan**, the proposed project is consistent with goals and policies of the California City General Plan.

### City of California City Zoning Regulations

At present, solar facilities are considered to be a permitted use only in industrial zoned areas in California City. As of May 11, 2021, the City of California City has adopted Planning Commission Resolution No. 21-04, which updates Title 9, Chapter 2 Zoning, Article 4 of the California City Municipal Code to include solar and power generation as a conditional use. With the approval of the CUP, the proposed project would be an allowable use within the O/RA Zone, and impacts related to consistency with the California City Zoning Regulations would be less than significant.

### Airport Land Use Compatibility Plan

The project site is located in the adopted Military Aviation boundaries for the ALUCP for the R-2508 Airspace Complex for Edwards AFB and China Lake Naval Weapons Station. Additionally, the project is located 1.3 miles from the Mojave Air and Space Port, where the western portion of the project site is located within an area covered by the Kern County ALUCP. Specifically, portions of the project site are located in "Compatibility Zone B2 – Extended Approach/Departure Zone" (parcels with APNs: 235-024-41, 235-351-01, 428-010-02, -10, -11, 428-041-02, -03, -04, -05, -38, 428-042-02, -03, -04, -35, 428-052-15, -17, 428-053-16, and -18) and "Compatibility Zone C – Common Traffic Pattern" (parcels with APNs 235-024-41, 235-351-01, -02, -03, -04, 235-081-09, -10, 235-082-15, -16, -17, -18, -19, -24, -25, 235-065-04, -05, -07, -17, -18, 235-353-11, -21, -22). The project would be required to comply with the County's ALUCP and applicable Federal Aviation Administration (FAA) regulations regarding project approval to ensure that there would be no conflict with airport operations and the project would not pose a safety hazard. As discussed in **Section 4.9, Hazards and Hazardous Materials**, implementation of Mitigation Measure **MM 4.9-3KC** would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County and California City by requiring the developer to coordinate with the Department

of Defense (DoD), FAA, and the public airports and military installations in the area. With implementation of this mitigation measure, impacts would be less than significant. For a more detailed discussion of consistency with the ALUCP, see **Section 4.9, Hazards and Hazardous Materials**, Impact 4.9-5.

## **Gen-Tie**

Construction and operation of a gen-tie line would not conflict with the Kern County Zoning Ordinance. Portions of the gen-tie line are located in the adopted Military Aviation boundaries for the ALUCP for the R-2508 Airspace Complex for Edwards AFB and China Lake Naval Weapons Station. Additionally, the gen-tie is located within Compatibility Zones B2, C, D, E1, and E2 of the Mojave Air and Space Port. The gen-tie would be required to comply with the County's ALUCP and applicable FAA regulations regarding project approval to ensure that there would be no conflict with airport operations and the project would not pose a safety hazard. As discussed in **Section 4.9, Hazards and Hazardous Materials**, implementation of Mitigation Measures **MM 4.9-6KC** and **MM 4.9-6CC** would ensure the proposed project would be consistent with the ALUCP and Kern County and California City General Plan policies by requiring the developer to coordinate with the DoD, FAA, and the public airports and military installations in the area. With implementation of this mitigation measure, impacts would be less than significant. For a more detailed discussion of consistency with the ALUCP, see **Section 4.9, Hazards and Hazardous Materials**, Impact 4.9-5.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.9-6KC** would be required (see **Section 4.9, Hazards and Hazardous Materials**, for full mitigation text).

### **City of California City**

Implementation of Mitigation Measure **4.9-6CC** would be required (see **Section 4.9, Hazards and Hazardous Materials**, for full mitigation text).

## **Gen-Tie**

Implementation of Mitigation Measure **MM 4.9-6KC** would be required (see **Section 4.9, Hazards and Hazardous Materials**, for full mitigation text).

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measure **MM 4.9-6KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measure **MM 4.9-6CC**, impacts would be less than significant.

## Gen-Tie

With implementation of Mitigation Measure **MM 4.9-6KC**, impacts would be less than significant.

## Cumulative Setting, Impacts, and Mitigation Measures

### Solar Facility

As described in **Chapter 3, Project Description**, multiple projects, including utility-scale solar and wind energy production facilities, are proposed throughout Kern County. Many are located, like the project site, in the Mojave Desert. As shown in **Table 3-3, Cumulative Project List**, 29 solar energy projects are presently under development in Eastern Kern County. The cumulative projects are (1) submitted for plan processing; (2) approved by the County of Kern; and/or (3) engaged in active construction programs. While the surrounding area is still relatively rural in nature, the proposed project would 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 urbanization and result in the loss of open space within the desert region of the County. 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, Consistency Analysis with Kern County General Plan**, and **Table 4.11-3, Consistency Analysis with the Mojave Specific Plan**, the project would be consistent with the goals and policies of the respective Kern County General Plan and Mojave Specific Plan. As evaluated in detail in **Table 4.11-4, Consistency Analysis with the California City General Plan**, the proposed project is generally consistent with goals and policies of the California City General Plan. In addition, with approval of all discretionary actions, including implementation of conditions of the CUPs, the project would be a permitted use that would not conflict with the land use designation or zoning classification for the site. Therefore, the project would not result in a cumulatively considerable impact regarding land use policies and regulations.

All related projects would be required to undergo environmental review, in accordance with the requirements of CEQA. Like the proposed project, each related project would also be required to demonstrate consistency with all applicable planning documents governing the project site, such as the Kern County General Plan, applicable specific plans, Kern County Zoning Ordinance, California City General Plan, and California City Zoning Regulations. Should potential impacts be identified, appropriate mitigation would be prescribed in order to reduce potential impacts to less than significant levels.

With regard to cumulative effects of utility-sized solar power generation facilities, there is a potential for outside factors—such as the development of newer technology, change in State or federal policy, or other economic factors—to 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 site not be in operation. Due to the potential for cumulative effects and impacts on surrounding land uses caused by the abandonment of multiple solar facilities in Kern County and proximate to California City, Mitigation Measures **MM 4.11-1KC** and **MM 4.11-1CC**, both relating to the decommissioning of solar facilities, have been included to establish safeguards to ensure the maintenance of the health, safety, and welfare of affected citizens. 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 Measures **MM 4.11-1KC** and **MM 4.11-1CC**, which require a decommissioning plan and financial assurances, these cumulative land use impacts would be considered less than significant.

There is the potential that the future use of newer technology or equipment may contribute to unanticipated environmental impacts. Kern County has two military aviation installations—the China Lake Naval Air Weapons Station and Edwards AFB—as well other military installations within the San Joaquin Valley. Each installation has unique flying operations, and their primary mission is to test military aircraft and weapon systems. The military has identified potential conflicts of users of the radio frequency spectrum located both on and off military installations as an area to be reviewed for compatibility issues. Operations of unmanned radio-controlled aircraft flights can have electronic interference from other sources of radio signals. Such interference problems could potentially occur throughout the desert areas where utility scale solar and other renewable energy projects are built, resulting in potentially significant cumulative impacts. Coordination of frequency and notification can mitigate this effect. Cumulative impacts involving such conflicts would be mitigated to a less than significant level with implementation of Mitigation Measures **MM 4.11-2KC** and **MM 4.11-2CC**.

### **Gen-Tie**

The gen-tie would be substantially similar to existing transmission and utility infrastructure in the project region. Construction and operation of a gen-tie line would not conflict with the Kern County Zoning Ordinance. Construction and operation of the gen-tie line would not contribute to cumulative land use impacts.

## **Mitigation Measures**

### **Kern County**

**MM 4.11-1KC:** Prior to the issuance of any building permit, the project proponent/operator shall provide the Kern County Planning and Natural Resources Department with a Decommissioning Plan for review and approval. The plan shall be carried out by the proposed operator or a County-contracted consulting firm(s) at a cost to be borne by the project proponent/operator.

- a. The Decommissioning Plan shall include, but is not limited to, the following:
  1. Factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from the removal of support structures (including all underground equipment), and control of fugitive dust on the remaining undeveloped land.
  2. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations.
  3. The assumption, when preparing the estimate, is that the project proponent/operator is incapable of performing the work or has abandoned the

solar facility, thereby resulting in the County hiring an independent contractor to perform the decommission work.

- b. In addition to submittal of a Decommissioning Plan, the project proponent/operator shall post or establish and maintain with the County financial assurances related to the deconstruction of the site as identified on the approved Decommissioning Plan should at any point in time the project proponent/operator determine it is not in their best interest to operate the facility. The financial assurances required prior to issuance of any building permit shall be established using one of the following:
  1. An irrevocable letter of credit;
  2. A surety bond;
  3. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommissioning plan; or
  4. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.
- c. The financial assurances documents shall include the following verbiage, including any required verbiage through Kern County Planning and Natural Resources Department's consultation and review with Kern County Counsel:
  1. Financial institution or surety company shall give the County a minimum of 120 days' notice of intent to terminate the letter of credit or bond.
  2. Financial assurances shall be reviewed annually by the respective counties or County-contracted consulting firm(s) at a cost to be borne by the project proponent/operator to substantiate that those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommissioning Plan.
  3. Should the project proponent/operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.
  4. Financial institution or surety company shall be licensed to conduct business in the state of California.
- d. Once deconstruction has occurred, financial assurances for that portion of the site will no longer be required and any financial assurance posted will be adjusted or returned accordingly. Any funds not utilized through decommissioning of the site by the County shall be returned to the project proponent/operator.
- e. Should any portion of the solar field not be in operational condition for a consecutive period of twenty-four (24) 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 proponent/operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project proponent/operator may provide the County a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Department 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.

- f. In no case shall a solar field which 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.

**MM 4.11-2KC:** Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

### **City of California City:**

**MM 4.11-1CC:** Prior to the issuance of any building permit, the project proponent/operator shall provide the California City Community Development Department with a Decommissioning Plan for review and approval. The plan shall be carried out by the proposed operator or a City- contracted consulting firm(s) at a cost to be borne by the project proponent/operator.

- a. The Decommissioning Plan shall include, but is not limited to, the following:
  - 1. Factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from the removal of support structures (including all underground equipment), and control of fugitive dust on the remaining undeveloped land.
  - 2. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations.
  - 3. The assumption, when preparing the estimate, is that the project proponent/operator is incapable of performing the work or has abandoned the solar facility, thereby resulting in the City hiring an independent contractor to perform the decommission work.
- b. In addition to submittal of a Decommissioning Plan, the project proponent/operator shall post or establish and maintain with California City financial assurances related to the deconstruction of the site as identified on the approved Decommissioning Plan should at any point in time the project proponent/operator determine it is not in their best interest to operate the facility. The financial assurances required prior to issuance of any building permit shall be established using one of the following:
  - 1. An irrevocable letter of credit;
  - 2. A surety bond;

3. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommissioning plan; or
  4. Other financial assurances as reviewed and approved by the California City Community Development Department.
- c. The financial assurances documents shall include the following verbiage, including any required verbiage through California City Community Development Department's consultation and review with City Counsel:
1. Financial institution or surety company shall give the California City a minimum of 120 days' notice of intent to terminate the letter of credit or bond.
  2. Financial assurances shall be reviewed annually by the respective City-contracted consulting firm(s) at a cost to be borne by the project proponent/operator to substantiate that those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommissioning Plan.
  3. Should the project proponent/operator deconstruct the site on their own, the City will not pursue forfeiture of the financial assurance.
  4. Financial institution or surety company shall be licensed to conduct business in the state of California.
- d. Once deconstruction has occurred, financial assurances for that portion of the site will no longer be required and any financial assurance posted will be adjusted or returned accordingly. Any funds not utilized through decommissioning of the site by California City shall be returned to the project proponent/operator.
- e. Should any portion of the solar field not be in operational condition for a consecutive period of twenty-four (24) 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 proponent/operator, by California City. Within this sixty (60) day period, the property owner, solar field owner, or project proponent/operator may provide California City a written request and justification for an extension for an additional twelve (12) months.
- f. In no case shall a solar field which 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.

**MM 4.11-2CC:** Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

## Gen-Tie

Implement Mitigation Measures **MM 4.11-1KC** and **MM 4.11-2KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measures **MM 4.11-1KC** and **MM 4.11-2KC**, cumulative impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measures **MM 4.11-1CC** and **MM 4.11-2CC**, cumulative impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measures **MM 4.11-1KC** and **MM 4.11-2KC**, cumulative impacts would be less than significant.



**TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN**

Goals/Policies	Consistency Determination	Project Consistency
<b>Chapter 1, Land Use, Open Space, and Conservation Element</b>		
<b>1.3 Physical and Environmental Constraints</b>		
<p><b>Goal 1:</b> 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.</p>	<p>Consistent with implementation of Mitigation Measures <b>MM 4.7-1KC</b>, <b>MM 4.9-3KC</b>, <b>MM 4.10-1KC</b>, and <b>MM 4.10-2KC</b></p>	<p>Seismic hazards are described and analyzed in <b>Section 4.7, <i>Geology and Soils</i></b>. Mitigation Measure <b>MM 4.7-1KC</b>, which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation thereby reducing impacts to below a level of significance.</p> <p>As discussed in <b>Section 4.9, <i>Hazards and Hazardous Materials</i></b>, a portion of the project site is located within the former Mojave Gunnery Range, which was previously used for munitions testing. As a result, there is the potential for the project activities to encounter unexploded ordnance. However, implementation of Mitigation Measure <b>MM 4.9-3KC</b>, which includes precautionary measures to identify and report possible unexploded ordnance, would decrease risks to below a level of significance.</p> <p>As discussed in <b>Section 4.10, <i>Hydrology and Water Quality</i></b>, the southern and southeastern parcels of the project site are located within the 100-year floodplain of an unnamed intermittent stream. The alteration of surface topography via ground disturbance may have the potential to alter drainage patterns such that flooding hazards could be exacerbated on-site during a rain event. However, implementation of Mitigation Measures <b>MM 4.10-1KC</b> and <b>MM 4.10-2KC</b> would require that the project proponent/operator prepare and submit both a stormwater pollution prevention plan and a final hydrologic study and drainage plan, both of which would include measures to reduce any potential flood hazards as a result of the project to below a level of significance.</p> <p>Additionally, 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.</p>
<p><b>Policy 1:</b> 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]</p>	<p>Consistent</p>	<p>See 1.3, <i>Physical and Environmental Constraints</i>, Goal 1, above.</p>

Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.		
<b>Policy 2:</b> In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria and standards for the approval of development in hazard areas.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, above.
<b>Policy 3:</b> Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.	Consistent	The project is consistent with the County and City zoning standards and related land use controls and would not allow for development in hazardous areas where such development is currently prohibited.
<b>Policy 9:</b> Construction of structures that impede water flow in a primary floodplain will be discouraged.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Policy 1, above.
<b>Policy 10:</b> 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	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, above.
<b>Policy 11:</b> Protect and maintain watershed integrity within Kern County.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Policy 1, above.
<b>Measure F:</b> The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.	Consistent, with implementation of Mitigation Measure <b>MM 4.10-1KC</b>	As described in further detail in <b>Section 4.10, Hydrology and Water Quality</b> of this EIR, the project would be designed in accordance with the Floodplain Management Ordinance, including where the facilities would be designed to maintain clearance above the maximum flood depths, and grading would not substantially increase flood depths. With implementation of Mitigation Measure <b>MM 4.10-1KC</b> , the proposed project would be consistent with this measure.
<b>Measure H:</b> Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent, with implementation of Mitigation Measure <b>MM 4.10-1KC</b>	As described in further detail in <b>Section 4.10, Hydrology and Water Quality</b> of this EIR, portions of the project are located within a 100-year floodplain, which is classified as having a 1 percent annual chance of flooding. As a result, the project will be developed in accordance with the Floodplain Management Ordinance, including where the facilities would be designed to maintain clearance above the maximum flood depths, and grading would not substantially increase flood depths. With implementation of Mitigation Measure <b>MM 4.10-1KC</b> , the proposed project would be consistent with this measure.

<b>Measure J:</b> 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, with implementation of Mitigation Measure <b>MM 4.10-1KC</b>	See 1.3, <i>Physical and Environmental Constraints</i> , Measure H, above.
<b>Measure N:</b> 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, with implementation of Mitigation Measure <b>MM 4.10-1KC</b>	As described in further detail in <b>Section 4.10, Hydrology and Water Quality</b> of this EIR, the project involves soil disturbance activities, and is subject to compliance with the Central Valley Region of the California Regional Water Quality Control Board Water Quality Order No. R5-2016-0040 (NPDES General Permit NO. CAS0085324) Waste Discharge Requirements General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4s) permit, which requires projects to comply with the State Water Resources Control Board's Construction General Permit. With implementation of Mitigation Measure <b>MM 4.10-1KC</b> , the proposed project would be consistent with this measure.
<b>1.4 Public Facilities and Services</b>		
<b>Goal 1:</b> 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 Measure <b>MM 4.13-2KC</b>	As discussed in <b>Section 4.13, Public Services</b> , of this EIR, the project would implement Mitigation Measure <b>MM 4.13-2KC</b> , which applies 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. These are property taxes that the County would otherwise receive for services and facilities therefore supporting a prosperous economy and assuring the provision of adequate public services and facilities.
<b>Goal 5:</b> Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.	Consistent	As discussed in <b>Section 4.16, Utilities and Service Systems</b> and evaluated in the project Water Supply Analysis ( <i>Appendix M</i> ), the project water supply would be supplied via one or more of the following sources: an on-site or off-site groundwater well pumping water from the Fremont Valley Groundwater Basin, through a local retailer sourced by the Antelope Valley-East Kern Water Agency. By having the options of obtaining water from multiple sources, impacts related to water supply would be less than significant. The project would be consistent with this goal.
<b>Policy 1:</b> 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 <b>MM 4.13-2KC</b>	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above.
<b>Measure B:</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 time of approval of the Final Map. This	Consistent, with implementation of Mitigation Measure <b>MM 4.13-2KC</b>	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above.

implementation can be effectuated by the formation of a County work group.		
<b>Measure C:</b> Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	Impacts to utilities are evaluated in <b>Section 4.16, <i>Utilities and Service Systems</i></b> , of this EIR. This EIR serves to comply with this measure, and the project proponent/operator would coordinate with the applicable utility service providers if/when project construction/operation demands.
<b>Measure D:</b> Involve utility providers in the land use and zoning review process.	Consistent	The County provides notifications of the proposed project to utility providers at several steps of the project review process, and during the CEQA review process.
<b>Measure L:</b> 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 <b>MM 4.13-2KC</b>	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above.
<b>1.9 Resources</b>		
<b>Goal 1:</b> 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 not within a mineral recovery area or within a designated mineral and petroleum resource site designated by the Kern County General Plan, nor is it identified as a mineral resource zone by the Department of Conservation's State Mining and Geology Board. The project site is not located within the County's NR (Natural Resources) or PE (Petroleum Extraction) Zone Districts. The project site is not designated by the California Department of Conservation as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The project will not impair or diminish these resources in the County.
<b>Goal 3:</b> Ensure the development of resource areas minimize effects on neighboring resource lands.	Consistent	The project does not involve development of mineral, petroleum, or agricultural resources. The project involves development of a solar facility that is compatible with resource management land uses.
<b>Goal 4:</b> 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	Consistent with this goal, the project proposal involves the development of solar PV power generating facility designed to produce up to 1,500 MW and 1,500 MW of 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. The discretionary review and 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.

<b>Goal 6:</b> Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	Consistent with this goal, the proposed project is the development of solar PV power generating facilities designed to produce up to 1,500 MW and 1,500 MW of energy storage. As discussed in environmental resource areas addressed in this EIR, including <b>Section 4.3, Air Quality</b> , <b>Section 4.4, Biological Resources</b> , and <b>Section 4.10, Hydrology and Water Quality</b> , the project would implement mitigation measures and be required to adhere to applicable local, State and federal regulations intended to protect the environment. Therefore, the project would develop a clean energy source that would not generate fossil fuel emissions while protecting the environment.
<b>Policy 1:</b> 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.
<b>Policy 11:</b> 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 <b>MM 4.10-2KC</b>	As discussed in <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR, the project would be required to adhere to the Kern County Development Standards and Kern County Code of Building Regulations, which require site drainage plans that include development standards designed to protect water quality. Specifically, the project proponent would be required to prepare and submit a drainage plan to the Kern County Public Works Department, for approval of post-construction structural and nonstructural BMPs that could include low-impact development features such as drainage swales for collection of runoff prior to off-site discharge. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. As discussed in <b>Section 4.10, Hydrology and Water Quality</b> , the proposed project could require the inclusion of retention basins to meet County drainage requirement. Consistent with this policy, the proposed project would require the submission of a drainage plan to the County for review and would implement Mitigation Measure <b>MM 4.10-2KC</b> , which requires a final hydrologic drainage plan designed to evaluate and minimize potential increases in runoff from the project site.
<b>Policy 16:</b> 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.	Would not conflict	This project would not impair the County's efforts to develop appropriate zoning and subdivision regulations to encourage development of alternative energy sources.
<b>Policy 19:</b> Work with other agencies to define regulatory responsibility concerning energy-related issues.	Would not conflict	This project would not prevent the ability of the County to work with other agencies to define energy-related issues.
<b>1.10 General Provisions</b>		
<b>Goal 1:</b> Ensure that the County can accommodate anticipated future growth and development while	Consistent, with implementation of Mitigation Measures <b>MM</b>	Consistent with this goal, the proposed project would implement a solar PV generating facility, which would provide a long-term development in the region. The project has a low water demand, and would result in little noise and air

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.	<b>4.9-1KC through 4.9-5KC, and MM 4.13-2KC</b>	<p>emissions. As discussed in <b>Section 4.2, <i>Agricultural Resources</i></b>, and <b>Section 4.7, <i>Geology and Soils</i></b>, of this EIR, the project is not located in an area of agricultural or mineral resources. The northeastern part of the project site is located on a former gunnery range; however, with implementation of Mitigation Measures <b>MM 4.9-3KC</b>, potential impacts with respect to hazardous materials would be less than significant.</p> <p>As discussed in <b>Section 4.13, <i>Public Services</i></b>, of this EIR, the project would implement Mitigation Measure <b>MM 4.13-2KC</b>, which applies 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. These are property taxes that the County would otherwise receive for services and facilities therefore supporting a prosperous economy and assuring the provision of adequate public services and facilities.</p>
<b>1.10.1 Public Services and Facilities</b>		
<b>Policy 9:</b> 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 <b>MM 4.13-2KC</b>	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above.
<b>Policy 15:</b> 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 <b>MM 4.13-2KC</b>	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above.
<b>Policy 16:</b> 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 project impacts to police and fire services would be less than significant, with fee payment required by Mitigation Measure <b>MM 4.13-2KC</b> .	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above.
<b>Measure E:</b> 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 Environmental 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 characterizes the quality of upper groundwater in the project vicinity and evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater	Consistent	Soil characteristics and percolation related to proposed on-site septic systems are addressed in <b>Section 4.7, <i>Geology and Soil</i></b> , and water and wastewater impacts are evaluated in <b>Section 4.10, <i>Hydrology and Water Quality</i></b> , and <b>Section 4.16, <i>Utilities and Service Systems</i></b> , of this EIR. The proposed project would require a septic system to be built within the O&M facility to provide non-potable water for the estimated up to 20 full-time employees. The septic system would be designed in accordance with soil percolation characteristics of the project area and would be constructed in accordance with the Kern County Public Health Services Department/Environmental Health Division requirements. No off-site sewage or

quality. If the evaluation indicates 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 shall be required to supply sewage collection, treatment and disposal facilities.		disposal connections to a municipal sewer system exist or 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.
<b>1.10.2 Air Quality</b>		
<b>Policy 18:</b> 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 Measure <b>MM 4.3-1KC through MM 4.3-4KC</b>	Air quality impacts are evaluated in <b>Section 4.3, Air Quality</b> , of this EIR. As demonstrated in <b>Section 4.3</b> , the project would implement several measures to reduce project impacts on air quality. Mitigation Measures <b>MM 4.3-1KC through MM 4.3-4KC</b> require the project operator to implement dust control measures during construction and operations and manage construction equipment in accordance with Eastern Kern Air Pollution Control District's (EKAPCD) rules and regulations and state standards, and would further reduce air quality impacts from fugitive dust, diesel, and NOx emissions.
<b>Policy 19:</b> 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:  a. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and  b. 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, with implementation of Mitigation Measures <b>MM 4.3-1KC through MM 4.3-7KC</b>	As discussed above and in <b>Section 4.3</b> of this EIR, the project would implement several measures to reduce project impacts on air quality. Mitigation Measures <b>MM 4.3-1KC through MM 4.3-3KC</b> require the project operator to implement dust control measures during construction and operations and manage construction equipment in accordance with EKAPCD's rules and regulations and State standards, and would further reduce air quality impacts from fugitive dust, diesel, and NOx emissions. The project also proposes <b>MM 4.3-5KC, MM 4.3-6KC, and MM 4.3-7KC</b> to address COVID-19 and Valley Fever. Due to the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM <sub>2.5</sub> along with possible indirect linkages of criteria pollutants and COVID-19, the project will require a finding in a Statement of Overriding Consideration that will consider factual evidence on the project effects.
<b>Policy 20:</b> 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	See 1.10, <i>General Provisions</i> , Policy 18, above.
<b>Policy 21:</b> The County shall support air districts' efforts to reduce PM <sub>10</sub> and PM <sub>2.5</sub> emissions.	Consistent	See 1.10, <i>General Provisions</i> , Policy 18, above.
<b>Policy 22:</b> Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control	Consistent	See 1.10, <i>General Provisions</i> , Policy 18, above.

District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.		
<b>Measure F:</b> All discretionary permits shall be referred to the appropriate air district for review and comment.	Consistent	Air quality impacts are evaluated in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. Consistent with this measure, the County provides notices and copies of the project's CEQA documents to the EKAPCD for review and comment, prior to making a decision on the project.
<b>Measure G:</b> 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 <b>MM 4.3-2KC</b>	Air quality impacts are evaluated in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. Consistent with this measure, implementation of Mitigation Measure <b>MM 4.3-2KC</b> would require diesel exhaust reduction strategies.
<b>Measure H:</b> 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 <b>MM 4.3-1KC and MM 4.3-3KC</b>	Project impacts to air quality, including PM <sub>10</sub> , are analyzed in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. While the specified items under this measure are generally not applicable to a utility-scale solar project such as this project, the project would implement Item (j) and other strategies that may be recommended by the local Air Pollution Control District. As identified in Mitigation Measures <b>MM 4.3-1KC and MM 4.3-3KC</b> , the project would implement practices recommended by the EKAPCD for fugitive dust control, in accordance with EKAPCD Rule 402 measures. With implementation of Mitigation Measure <b>MM 4.3-1KC and MM 4.3-3KC</b> , the project would be consistent with this measure.
<b>Measure J:</b> The County should include PM <sub>10</sub> control measures as conditions of approval for subdivision maps, site plans, and grading permits.	Consistent, with implementation of Mitigation Measures <b>MM 4.3-1KC and MM 4.3-2KC</b>	Project impacts to air quality, including PM <sub>10</sub> , are analyzed in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. The project would control PM <sub>10</sub> emissions through Mitigation Measures <b>MM 4.3-1KC</b> , which prescribes road speed, road and ground stabilization, watering, limitations on ground disturbance activities, haul truck requirements, etc., during on-site work activities, and <b>MM 4.3-2KC</b> , which limits worker roundtrips and thereby reduces PM <sub>10</sub> emission from commuter vehicles. With implementation of Mitigation Measures <b>MM 4.3-1KC and MM 4.3-2KC</b> , the project would be consistent with this measure.



<b>1.10.3 Archaeological, Paleontological, Cultural and Historical Preservation</b>		
<b>Policy 25:</b> 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 <b>MM 4.5-1KC through MM 4.5-13KC</b>	Cultural resource impacts are evaluated in <b>Section 4.5, <i>Cultural Resources</i></b> , of this EIR. The project would comply with this policy through the implementation of Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b> , all of which ensure the preservation of known and unknown cultural and historical resources.
<b>Measure K:</b> Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.	Consistent, with implementation of Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b>	Cultural resource impacts are evaluated in <b>Section 4.5, <i>Cultural Resources</i></b> , of this EIR. Consistent with this measure, copies of the 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, as indicated in Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b> .
<b>Measure L:</b> The County shall address archaeological and historical resources for discretionary projects in accordance with the California Environmental Quality Act (CEQA).	Consistent, with implementation of Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b>	Cultural resource impacts are evaluated in <b>Section 4.5, <i>Cultural Resources</i></b> , of this EIR. Consistent with this measure, impacts to archaeological and historical resources are evaluated in accordance with CEQA. This EIR and associated measures serve to comply with this measure.
<b>Measure M:</b> In areas of known paleontological resources, the County should address the preservation of these resources where feasible.	Consistent, with implementation of Mitigation Measures <b>MM 4.7-3KC through MM 4.7-6KC</b> .	Paleontological resources are analyzed in <b>Section 4.7, <i>Geology and Soils</i></b> , of this EIR. While no known paleontological resources have been identified at the project sites, portions of the project area have a high potential to contain paleontological resources. As a result, the project would implement Mitigation Measures <b>MM 4.7-3KC through MM 4.7-6KC</b> , which require measures to train, monitor, protect, and evaluate potentially encountered fossils. With implementation of the mitigation measures, the project would be consistent with this measure.
<b>Measure N:</b> 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 resources are evaluated in <b>Section 4.15, <i>Tribal Cultural Resources</i></b> , of this EIR. The County maintains a Master List of Native American Tribes, which included the Native American Heritage Commission's provision of a contact list of Native American tribes affiliated with the project site. On October 7, 2019, the County sent consultation notification letters via certified mail to Native American groups on the County's Master List pursuant to the requirements of AB 52 pertaining to government-to-government consultation.
<b>Measure O:</b> 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.	Consistent, with implementation of Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b>	Cultural resource impacts are evaluated in <b>Section 4.5, <i>Cultural Resources</i></b> , of this EIR. This EIR serves to comply with this measure and includes Mitigation Measures <b>MM 4.5-1KC through MM 4.5-13KC</b> , which would require Native American monitoring and consultation with the Native American monitor(s) to conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project.
<b>1.10.5 Threatened and Endangered Species</b>		

<b>Policy 27:</b> Threatened or endangered plant and wildlife species should be protected in accordance with state and federal laws.	Consistent, with implementation of Mitigation Measures <b>MM 4.4-1KC through MM 4.4-23KC</b>	Biological resource impacts are evaluated in <b>Section 4.4, <i>Biological Resources</i></b> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation (see Section 4.4 for details). Additionally, the proposed project would be developed and operated in accordance with all local, state and federal laws pertaining to the protection of threatened and endangered plant and wildlife species.
<b>Policy 28:</b> 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	Biological resource impacts are evaluated in <b>Section 4.4, <i>Biological Resources</i></b> , 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 proposed project, relevant state and federal agencies were contacted to ensure that appropriate information about the project sites was 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 proposed project.
<b>Policy 31:</b> 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, <i>Threatened and Endangered Species</i> , Policy 28, above.
<b>Policy 32:</b> Riparian areas will be managed in accordance with United States Army Corps of Engineers (USACE), and the California Department of Fish and Game rules and regulations to enhance drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.	Consistent with implementation of Mitigation Measures <b>MM 4.4-23KC</b> and <b>MM 4.4-23KC</b> .	Biological resource impacts are evaluated in <b>Section 4.4, <i>Biological Resources</i></b> , of this EIR. The project area does not have surface connectivity to a traditionally navigable water, and therefore, none of the features present at the project site would be subject to the jurisdiction of USACE. According to the Bellefield Solar Project Aquatic Resources Assessment (Appendix D of this EIR), 12 potentially jurisdictional drainages were identified along the gen-tie corridor. Construction activities from the proposed project could permanently impact these potentially jurisdictional features as a result of grading and construction of the solar facility, including supporting infrastructure. If complete avoidance of jurisdictional waters is not feasible, impacts to jurisdictional areas would be considered significant but mitigatable through implementation of Mitigation Measures <b>MM 4.4-23KC</b> and <b>MM 4.4-24KC</b> .
<b>Measure Q:</b> Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent	Biological resource impacts are evaluated in <b>Section 4.4, <i>Biological Resources</i></b> , of this EIR. Consistent with this measure, the evaluation of impacts to biological resources was performed in accordance with CEQA.
<b>Measure R:</b> Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.	Consistent with implementation of Mitigation Measures <b>MM 4.4-1KC through 4.4-23KC</b>	Biological resource impacts are evaluated in <b>Section 4.4, <i>Biological Resources</i></b> , 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.

<b>1.10.6 Surface Water and Groundwater</b>		
<b>Policy 34:</b> Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation Measures <b>MM 4.9-1KC</b> and <b>MM 4.10-1KC</b>	Water quality impacts are evaluated in <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR. Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. As identified in <b>Section 4.9, Hazards and Hazardous Materials</b> , the project would also implement <b>MM 4.9-1KC</b> , to prepare a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater on-site, thereby maintaining the integrity of the watershed.
<b>Policy 41:</b> Review development proposals to ensure adequate water is available to accommodate projected growth.	Consistent	See 1.4, Public Facilities and Services, Goal 5, above.
<b>Policy 43:</b> Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent	Drainage plans and associated impacts are discussed in <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR. Consistent with this policy, final project design would be required to conform to the Kern County Development Standards and Grading Ordinance. This would be confirmed during final plot plan review by the Kern County Planning and Natural Resources Department.
<b>Policy 44:</b> 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, to prevent the degradation of the watershed to the extent practical.	Consistent with implementation of Mitigation Measure <b>MM 4.10-1KC</b>	The project would not result in any significant unavoidable impacts to the watershed during construction and operation. Implementation of Mitigation Measure <b>MM 4.10-1KC</b> would require the project proponent/operator to implement a stormwater pollution prevention plan to control for the potential for polluted stormwater impacting the watershed. Refer to <b>Section 4.10, Hydrology and Water Quality</b> , for a complete discussion on potential watershed impacts resulting from the proposed project.
<b>Measure Y:</b> 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	The project would have minor annual water needs within the O&M buildings and would not have landscaping that requires irrigation.
<b>1.10.7 Light and Glare</b>		
<b>Policy 47:</b> 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 <b>MM 4.1-7KC through MM 4.1-9KC</b>	Aesthetic impacts are evaluated in <b>Section 4.1, Aesthetics</b> , of this EIR. Implementation of Mitigation Measures <b>MM 4.1-7KC through MM 4.1-9KC</b> would minimize light glare impacts to below a level of significance.
<b>Policy 48:</b> Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent, with implementation of Mitigation Measures <b>MM</b>	See 1.10.7, <i>Light and Glare</i> , Policy 47, above.

	<b>4.1-7 KC through MM 4.1-9KC</b>	
<b>Chapter 2, Circulation Element</b>		
<b>2.1 Introduction</b>		
<b>Goal 4:</b> Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, above.
<b>2.3.3 Highways Plan</b>		
<b>Policy 1:</b> 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	<b>Section 4.14, Traffic and Transportation</b> , of this EIR provides a discussion of County circulation consistency. The project involves a General Plan Amendment to the Circulation Element to remove sections and midsection line road reservations, as shown in <b>Figure 3-9, Future Road Reservations Proposed to be Removed</b> . The road reservations are located within the project limits, and would not affect circulation patterns in the surrounding properties. With the approved General Plan Amendment, the project would be consistent with this policy.
<b>2.3.4 Future Growth</b>		
<b>Policy 4:</b> 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	As stated in <b>Section 3, Project Description</b> , construction and operation traffic would access the project site from SR 58, Altus Avenue, Silver Queen Road, 50 <sup>th</sup> Street 55 <sup>th</sup> Street, 140 <sup>th</sup> Street, Hyundai-Kia Boulevard, and Sunset Avenue, depending on the portion of the project site to access. Driveways and parking lot entrances would be constructed in accordance with Kern County improvement standards. Any off-site roadway improvements would be constructed in conformance with Caltrans and/or County codes and regulations, as necessary and applicable.
<b>Policy 5:</b> 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 driveways that provide access to any County, City, or State roads.
<b>2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</b>		
<b>Goal 1:</b> Provide a means for guiding decisions on vacating public roads.	Consistent	As discussed in <b>Chapter 3, Project Description</b> , of this EIR, the project has requested approval of a General Plan Amendment to the Circulation Element of the Kern County General Plan, to eliminate future road reservations, and has requested

		vacations of public access easements; those requests are subject to approval by the Kern County Board of Supervisors. With the approval of the aforementioned requests for General Plan Amendments and non-summary vacations of public access easement, the proposed project would be consistent with this goal.
<b>Goal 2:</b> Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.	Would not conflict	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 2:</b> Provide a means for guiding decisions on vacating public roads. A study, prepared at the applicant's expense, shall accompany the road vacation application. The study should provide information that will aid in finding the importance of the entire length of the right-of-way. The study would include a review of existing and proposed land uses and localized traffic modeling. This will help Kern County decide what corresponding changes are needed to the Land Use, Open Space and Conservation Element, or affected specific plan. This also will help Kern County decide if additional public road services or other traffic management are required elsewhere.	Would not conflict	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 3:</b> If the road vacation applicant is a private entity, all costs for the public hearing shall be borne by the applicant. Also, costs associated with providing any necessary additional public road services or other traffic management caused by the road vacation shall be paid by the applicant.	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 4:</b> The vacation of a road shall not take away legal access to adjacent properties or "land-lock" any legal lot or parcel of record. Legal access shall be determined through a report submitted with the application for road vacation.	Would not conflict	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way. None of these road reservation removals would result in land locking any legal lot or parcel of record.
<b>Policy 5:</b> If Kern County determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized. An acceptable project shall be determined through a report submitted with the road vacation application and in keeping with traffic modeling parameters of this Plan.	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 6:</b> A road vacation may be authorized if physical conditions such as natural, or manmade topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.

through a report submitted with the road vacation application.		
<b>Policy 7:</b> A road vacation shall only affect public, recorded rights-of-way or public service easements. The potential effects of a road vacation upon rights-of-way and easements are to be determined by a report submitted with the road vacation application. A vacation of private access or private service easement is not under County jurisdiction. Kern County considers these matters "civil" actions. These civil actions should be acted upon accordingly.	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 8:</b> A road vacation may be authorized if the right-of-way is not improved or used for its original purpose. Existing improvements and facility use shall be determined by a report submitted with the road vacation application.	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 9:</b> A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>Policy 14:</b> A summary vacation shall be consistent with State of California Streets and Highway Code. A summary vacation may be used when the right-of-way does not exist, is unused, or moved. A summary vacation may be used where right-of-way is impassable, unnecessary for present or prospective public use, or is excess or public service easement land.	Not applicable	The proposed Circulation Element Amendment to remove certain roadway section and midsection line reservations would not require any vacations of existing road rights-of-way.
<b>2.5.1 Trucks and Highways</b>		
<b>Goal 1:</b> Provide for Kern County's heavy truck transportation in the safest way possible.	Consistent with Mitigation Measure <b>MM 4.14-1KC</b>	As discussed in <b>Section 4.14, Traffic and Transportation</b> of this EIR, potential adverse effects associated with heavy truck traffic during construction would be minimized through preparation and implementation of a Construction Traffic Control Plan. Generally, trucks would be restricted to existing designated truck routes, subject to review and approval by the County and Caltrans.
<b>Goal 2:</b> Reduce potential overweight trucks.	Consistent with Mitigation Measure <b>MM 4.14-1KC</b>	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
<b>Goal 3:</b> Use State Highway System improvements to prevent truck traffic in neighborhoods.	Consistent with Mitigation Measure <b>MM 4.14-1KC</b>	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
<b>Policy 1:</b> Caltrans should be made aware of the heavy truck activity on Kern County's roads.	Consistent with Mitigation Measure <b>MM 4.14-1KC</b> .	See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.

<b>2.5.2 Airport Land Use Compatibility Plan</b>		
<b>Goal 1:</b> Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.	Consistent, with implementation of Mitigation Measures <b>MM 4.9-6KC</b> and <b>MM 4.11-2KC</b>	<p>The project site is located in the adopted Military Aviation boundaries for the ALUCP for the R-2508 Airspace Complex for Edwards AFB and China Lake Naval Weapons Station. Additionally, the project site is located within multiple compatibility zones of the Mojave Air and Space Port covered by the Kern County ALUCP. However, the project would not introduce any habitable structures or other development that would be incompatible with the project site's location within the ALUCP's area. Furthermore, the project would be required to comply with the County's ALUCP and applicable FAA regulations regarding project approval to ensure that there would be no conflict with airport operations and no safety hazards are presented. Implementation of Mitigation Measure <b>MM 4.9-6KC</b> would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate with the DoD and obtain approval from FAA and the public airports and military installations in the area. With implementation of this mitigation measure, impacts would be less than significant</p> <p>Kern County has two military aviation installations—the China Lake Naval Air Weapons Station and Edwards AFB—as well other military installations within the San Joaquin Valley. The military has identified potential conflicts of users of the radio frequency spectrum located both on and off military installations as an area to be reviewed for compatibility issues. Operations of unmanned radio-controlled aircraft flights can have electronic interference from other sources of radio signals. Coordination of frequency and notification can mitigate this impact. The project impacts are considered potentially significant, but would be reduced to a less than significant level with implementation of Mitigation Measure <b>MM 4.11-2KC</b>.</p>
<b>Policy 2:</b> To the extent legally allowable, prevent encroachment on public airport and military base operations from incompatible, unmitigated land uses.	Consistent	See 2.5.2, <i>Airport Land Use Compatibility Plan</i> , Goal 1, above.
<b>Measure A:</b> Review discretionary land use development applications within the airports influence area and the military base operating area as shown in the ALUCP for consistency.	Consistent, with implementation of Mitigation Measure <b>MM 4.9-3KC</b>	See 2.5.2, <i>Airport Land Use Compatibility Plan</i> , Goal 1, above.
<b>Measure B:</b> Coordinate and cooperate with airport operators, the County Department of Airports, the California Department of Transportation, Division of Aeronautics, affected cities, Edwards Air Force Base, NAWS China Lake and the Department of Defense on the ALUCP, review of land use applications, public education and encroachment issues.	Consistent, with implementation of Mitigation Measures <b>MM 4.9-3KC</b> and <b>MM 4.11-2KC</b>	See 2.5.2, <i>Airport Land Use Compatibility Plan</i> , Goal 1, above.

<b>Chapter 3.3, Noise Element</b>		
<b>Goal 1:</b> Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent with implementation of Mitigation Measures <b>MM 4.12-1KC</b> and <b>MM 4.12-2KC</b>	Noise impacts are evaluated in <b>Section 4.12, Noise</b> , of this EIR. With implementation of Mitigation Measures <b>MM 4.12-1KC</b> and <b>MM 4.12-2KC</b> , project-related noise would not exceed the County's thresholds, and the project would be consistent with this goal.
<b>Goal 2:</b> 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 proposed solar power facility would be compatible with surrounding roadways, rail lines, airport, and test track uses.
<b>Policy 1:</b> Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
<b>Policy 2:</b> 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, <i>Sensitive Noise Areas</i> , Goal 1, above.
<b>Policy 4:</b> Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 2, above. Noise-sensitive land uses are evaluated in <b>Section 4.12, Noise</b> , of this EIR.
<b>Policy 5:</b> Prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Such mitigation shall be designed to reduce noise to the following levels:  a. 65 db-Ldn or less in outdoor activity areas.  b. 45 db-Ldn or less within living spaces or other noise sensitive interior spaces.	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
<b>Policy 7:</b> Employ the best available methods of noise control.	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, above.
<b>Measure C:</b> 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 project's noise impacts are evaluated in <b>Section 4.12, Noise</b> , of this EIR, including conformance with the County noise policies and standards.
<b>Measure F:</b> Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise	Consistent	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1 and Measure A, of the Kern County General Plan.



sensitive land uses to exterior noise levels in excess of 65 dB Ldn and interior noise levels in excess of 45 dB Ldn.		
<p><b>Measure G:</b> 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:</p> <ul style="list-style-type: none"> <li>a) Be the responsibility of the applicant</li> <li>b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.</li> </ul> <p>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.</p>	Consistent	Consistent with this measure, the project proponent prepared an acoustical analysis ( <i>Appendix K</i> of this EIR) in accordance with the requirements of Chapter 3, Noise Element, Measure G, of the Kern County General Plan.
<p><b>Measure I:</b> Noise analyses shall include recommended mitigation, if required, and shall:</p> <ul style="list-style-type: none"> <li>a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.</li> <li>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.</li> <li>c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.</li> <li>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.</li> </ul>	Consistent	Consistent with this measure, a noise assessment was conducted for the proposed project and is referenced in <b>Section 4.12, Noise</b> , and provided in <i>Appendix K</i> 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.
<p><b>Measure J:</b> 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.</p>	Consistent	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation.

<b>Chapter 4, Safety Element</b>		
<b>Goal 1:</b> Minimize injuries and loss of life and reduce property damage.	Consistent, with implementation of Mitigation Measure <b>MM 4.13-1KC</b>	Consistent with this goal, the proposed project would be required to comply with adopted safety regulations, such as the Fire Code, and related policies in the General Plan. Additionally, Mitigation Measure <b>MM 4.13-1KC</b> would ensure that the project proponent/operator implement a fire safety plan for use during construction, operation and decommissioning of the project, thereby reducing the risk of impacts to workers, residents, and businesses in the unlikely event of an on-site fire.
<b>Policy 1:</b> Require discretionary projects to assess impacts on emergency services and facilities.	Consistent	Impacts on emergency services and facilities as a result of the project have been analyzed and are discussed in <b>Section 4.13, Public Services</b> , of this EIR.
<b>Policy 2:</b> The County will encourage the promotion of public education about fire safety at home and in the work place.	Consistent, with implementation of Mitigation Measure <b>MM 4.13-1KC</b>	The proposed project would not interfere or prohibit the County's ability to meet this policy. Mitigation Measure <b>MM 4.13-1KC</b> would ensure that the project proponent/operator implement a fire safety plan for use during construction, operation and decommissioning of the project, thereby reducing the risk of impacts to workers, residents, and businesses in the unlikely event of an on-site fire.
<b>Policy 3:</b> The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent	See Chapter 4, <i>Safety Element</i> , Policy 2, above.
<b>Policy 4:</b> Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent, with implementation of Mitigation Measure <b>MM 4.14-1KC</b>	<p>Transportation impacts, including emergency access, are analyzed in <b>Section 4.14, Traffic and Transportation</b>, of this EIR. Per Mitigation Measure <b>MM 4.14-1</b>, the project would include the implementation of a Traffic Control Plan during construction of the PV solar facility, so that fire equipment and emergency services are able to access each site.</p> <p>During project operation, the proposed project would not affect emergency access to the project site or any other surrounding location nor would the proposed project require closures of public roads, which could inhibit access by emergency vehicles. Additionally, the project would not include any residential or associated development intended for permanent occupancy and, as such, would not inhibit the evacuation of residents in the unlikely event of an emergency at the project site (see Section 4.14 for details).</p>
<b>Policy 5:</b> Require that all roads in wildland fire areas are well marked, and that homes have addresses prominently displayed.	Consistent with implementation of Mitigation Measure <b>MM 4.13-1KC</b>	The proposed project would not include development of housing or other habitable structures and would not include a site located in very high fire hazard severity zone. 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. Additionally, the project operator would develop and implement a fire safety plan for use during construction and operation (Mitigation Measure <b>MM 4.13-1KC</b> ). This plan would address the marking of roads. See <b>Sections 4.17, Wildfire</b> , and <b>4.13, Public Services</b> , of this EIR.

<b>Policy 6:</b> All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent	Consistent with this policy, the proposed project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department.
<b>Measure A:</b> 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	<b>Section 4.7, <i>Geology and Soils</i></b> , of this EIR, discusses potential geologic hazards, <b>Section 4.10, <i>Hydrology and Water Quality</i></b> , of this EIR, discusses potential flood hazards, and <b>Section 4.17, <i>Wildfire</i></b> , 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.
<b>Measure F:</b> 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 measure, the California Multi-Hazard Mitigation Plan, as well as the Kern County Multi-Hazard Mitigation Plan were used as source documents and considered in the evaluation of hazards in this EIR. Refer to <b>Section 4.9, <i>Hazards and Hazardous Materials</i></b> .
<b>4.3. Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure</b>		
<b>Measure B:</b> Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	Consistent	While not located in a significant geologic hazard area, geological and soils engineering investigations were performed for the project, which are described in more detail in <b>Section 4.7, <i>Geology and Soils</i></b> of this EIR. The project is consistent with this measure.
<b>Measure C:</b> 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	While not located within the project area, the fault zones designated in the Kern County Seismic Hazard Atlas are considered significant geologic hazard areas in this EIR. Refer to <b>Section 4.7, <i>Geology and Soils</i></b> of this EIR for more detail. The project is consistent with this measure.
<b>4.5 Landslides, Subsidence, Seiche, and Liquefaction</b>		
<b>Policy 3:</b> Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent, with implementation of Mitigation Measure <b>MM 4.7-1KC</b>	As discussed in <b>Section 4.7, <i>Geology and Soils</i></b> , conditions for landslides are also not present at the project sites, which are characterized by relatively flat, with a topographic gradient less than 2 percent. Grading would be subject to compliance with the NPDES Construction General Permit requirements and the implementation of required BMPs would have the ability to minimize the potential for erosion or loss of topsoil. Adherence to the requirements of the Kern County Building Code and the CBC and implementation of Mitigation Measure <b>MM 4.7-1KC</b> would ensure that effects from seismic-related ground failure including liquefaction would be minimized. Shallow groundwater is not expected on the proposed project site

		and the site is not within an earthquake zone of required investigation for liquefaction.
<b>4.6 Wildland and Urban Fire</b>		
<b>Policy 1:</b> Require discretionary projects to assess impacts on emergency services and facilities.	Consistent	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in <b>Section 4.13, Public Services</b> , of this EIR.
<b>Policy 3:</b> The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent, with implementation of Mitigation Measures <b>MM 4.13-1KC</b> and <b>MM 4.13-2KC</b>	The project would not interfere or prohibit the County's ability to meet this policy. Mitigation Measure <b>MM 4.13-1KC</b> requires the proponent to develop a fire safety plan for use during construction and operational activities, and all on-site employees would be trained on fire safety and how to respond to on-site fires, should they occur. Additionally, Mitigation Measure <b>MM 4.13-2KC</b> requires impact fees for public services. See <b>Sections 4.9, Hazards and Hazardous Materials</b> , and <b>4.13, Public Services</b> , and <b>4.17, Wildfire</b> , of this EIR for further details.
<b>Policy 4:</b> Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent, with implementation of Mitigation Measure <b>MM 4.14-1KC</b>	<b>Section 4.14, Transportation</b> , of this EIR includes Mitigation Measure <b>MM 4.14-1KC</b> would require the approval of a Construction Traffic Control Plan, encroachments and or other necessary permits by Caltrans and/or the Kern County Public Works Department. The project proponent would develop and implement a fire safety plan for use during construction and operation, which would include provisions to maintain adequate emergency vehicle access.
<b>Policy 6:</b> All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent, with implementation of Mitigation Measure <b>MM 4.13-1KC</b>	Consistent with this policy, the project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department, with implementation of Mitigation Measure <b>MM 4.13-1KC</b> .
<b>Measure A:</b> 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 Measures <b>MM 4.13-1KC</b> and <b>MM 4.13-2KC</b>	Consistent with this measure, the proposed project would implement Mitigation Measure <b>MM 4.13-1KC</b> , 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 <b>MM 4.13-2KC</b> , which prescribes project impact fees to compensate the county for public services resulting from project construction and operation.
<b>4.9 Hazardous Materials</b>		
<b>Measure A:</b> 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 <b>MM 4.13-1KC</b>	See 4.6, <i>Wildland and Urban Fire</i> , Policy 6, above.
<b>Chapter 5, Energy Element</b>		
<b>5.2 General Policies</b>		

<b>Policy 8:</b> 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, <i>Threatened and Endangered Species</i> , Policy 28, above.
<b>Policy 10:</b> 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, <i>Sensitive Noise Areas</i> , Goal 1, above.
<b>5.4 Electricity Resources and Generation</b>		
<b>5.4.5 Solar Energy Development</b>		
<b>Goal 1:</b> Encourage safe and orderly commercial solar development.	Consistent	Consistent with this goal, the proposed project would develop a solar PV facility that would generate up to 1,500 MW of solar energy and 1,500 MW of energy storage and offset an equivalent amount of fossil fuel-generated electrical power. The site is on privately owned land, which has been previously disturbed. The proposed project would be designed in compliance with all applicable regulations and requirements (i.e., Zoning Ordinance, Grading Ordinance, and Floodplain Management Ordinance) to ensure a safe and orderly development of the solar facility.
<b>Policy 1:</b> The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.	Consistent	Consistent with this policy, the proposed project would develop a solar PV facility capable of generating up to 1,500 MW of solar energy and 1,500 MW of energy storage and would offset an equivalent amount of fossil fuel-generated electrical power in the desert region of Kern County, on a previously disturbed site. Operation of the proposed project could improve air quality to the extent it displaces electrical power generation facilities that rely on fuel combustion processes. See <b>Section 4.3, Air Quality</b> , of this EIR.
<b>Policy 3:</b> 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 a PV power generation facility in the desert region of Kern County. 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.
<b>Policy 4:</b> 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, with implementation of Mitigation Measures <b>MM 4.4-1 through 4.4-24</b>	Consistent with this policy, the project proposes the development of a PV power generation facility in the desert region of Kern County, on a previously disturbed site. As discussed in <b>Section 4.4, Biological Resources</b> , potential impacts to biological resources could be reduced to less than significant levels with implementation of Mitigation Measures <b>MM 4.4-1 through 4.4-24</b> .
<b>Policy 7:</b> The processing of all discretionary energy project proposals shall comply with the State CEQA Guidelines directing that the environmental effects of a	Consistent	As demonstrated throughout this EIR, the project's potential impacts on the environment have been analyzed under CEQA, and the project's approval will be at

project must be taken into account as part of project consideration.		the discretion of the Lead Agency, the Kern County Planning and Natural Resources Department, pursuant to CEQA.
<b>Policy 8:</b> The County should work closely with local, State, and Federal agencies to ensure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts on fish, wildlife, and botanical resources, wherever practical.	Consistent	Kern County provides notices to federal and state resource agencies regarding proposed projects, including this one, that are under CEQA review, to involve them in addressing and avoiding impacts to fish, wildlife and botanical resources. Refer to <b>Section 4.4, Biological Resources</b> , of this EIR where impacts are evaluated.
<b>Policy 10:</b> 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 Chapter 3.3, <i>Sensitive Noise Areas</i> , Goal 1.
<b>Measure B:</b> The County should work with affected State and federal agencies and interest groups to establish consistent policies for solar energy development.	Would not conflict	The project would not inhibit the County's ability to work with affected State and federal agencies and interest groups to establish consistent policies for solar energy development.
<b>5.4.7 Transmission Lines</b>		
<b>Goal 1:</b> 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	Environmental effects of the proposed gen-tie are evaluated throughout this EIR and, where warranted, mitigation measures have been identified to reduce potential adverse effects to less than significant.
<b>Policy 1:</b> The County should encourage the development and upgrading of transmission lines and associated facilities (e.g., substations) as needed to serve Kern County's residents and access the County's generating resources, insofar as transmission lines do not create significant environmental or public health and safety hazards.	Consistent	The proposed project is the development of a PV facility that would access the County's solar resource. The potential project substation locations and gen-tie line routes have been reviewed as part of this EIR, and potentially significant impacts are subjected to mitigation measures to reduce effects to less than significant levels. Additionally, adherence to all applicable local, state and federal regulations, would ensure that the proposed project transmission line and substation facilities would not pose significant environmental or public health and safety hazards.
<b>Policy 2:</b> The County shall review all proposed transmission lines and their alignments for conformity with the Land Use, Conservation, and Open Space Element of this General Plan.	Consistent	See 5.4.7, <i>Transmission Lines</i> , Policy 1, above.
<b>Policy 3:</b> In reviewing proposals for new transmission lines and/or capacity, the County should assert a preference for upgrade of existing lines and use of existing corridors where feasible.	Consistent	See 5.4.7, <i>Transmission Lines</i> , Policy 1, above.
<b>Policy 4:</b> The County should work with other agencies in establishing routes for proposed transmission lines.	Consistent	Consistent with this policy, the proposed project would require coordination with the SCE to connect into existing facilities.

<b>Policy 5:</b> The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent	Aesthetics impacts are evaluated in <b>Section 4.1, <i>Aesthetics</i></b> . As described in Section 4.1, the gen-tie line is not sited in highly visually sensitive areas, would not significantly alter the visual character of the project site. The gen-tie aesthetic impacts would be less than significant.
<b>Policy 6:</b> The County should encourage new transmission lines to be sited/configured to avoid or minimize collision and electrocution hazards to raptors.	Consistent, with implementation of Mitigation Measure <b>MM 4.4-21KC</b>	Project impacts to biological resources, including raptor safety and transmission lines, are analyzed in <b>Section 4.4, <i>Biological Resources</i></b> . Mitigation Measure <b>MM 4.4-21KC</b> requires avian safety specifications to be incorporated into the transmission facility design. With implementation of Mitigation Measure <b>MM 4.4-21KC</b> , the project would be consistent with this policy.
<b>Measure A:</b> The County should monitor the supply and demand of electrical transmission capacity locally and statewide.	Consistent	Consistent with this measure, the proposed project is the development of solar PV power generating facilities. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus protecting the environment.
<b>Measure B:</b> The County shall continue to maintain provisions in the Zoning Ordinance.	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 and would not conflict with the Kern County Zoning Ordinance.

Source: Kern County Planning and Natural Resources Department 2021, Kern County General Plan 2009

**TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN**

Goals/Policies	Consistency Determination	Project Consistency
<b>Mojave Specific Plan Chapter 3, Land Use Element</b>		
<b>1.3 Physical and Environmental Constraints</b>		
<b>Objective 3.2:</b> Develop a balanced land use pattern to ensure that future growth provides a range of residential, employment, service, and recreational opportunities.	Consistent	This section ( <b>Section 4.11, <i>Land Use and Planning</i></b> ) of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with existing land use and zoning designations of the project site and would provide a substantial number of construction jobs while expanding the renewable energy industry in the County
<b>Objective 3.6:</b> Ensure that public services and utilities are provided commensurate with established needs and projected growth.	Consistent with implementation of Mitigation Measure <b>MM 4.13-2KC</b> .	Public services and facilities are evaluated in <b>Section 4.13, <i>Public Services</i></b> , of this EIR. Public utility impacts are evaluated in <b>Section 4.16, <i>Utilities and Service Systems</i></b> . As discussed in the sections, the project demands on public services and utilities needs are commensurate with the projected growth in the County. As discussed in <b>Section 4.13, <i>Public Services</i></b> , of this EIR, the project would implement Mitigation Measure <b>MM 4.13-2KC</b> , which applies 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. These are property taxes that the County would otherwise receive

		for services and facilities therefore supporting a prosperous economy and assuring the provision of adequate public services and facilities.
<b>Policy 3.6.2:</b> Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.	Consistent with implementation of Mitigation Measure <b>MM 4.13-2KC</b>	As discussed in <b>Section 4.13, Public Services</b> , of this EIR, the project would implement Mitigation Measure <b>MM 4.13-2KC</b> , which applies 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. These are property taxes that the County would otherwise receive for services and facilities therefore supporting a prosperous economy and assuring the provision of adequate public services and facilities. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any additional fire or police protection services, facilities or personnel required as a result of the proposed project would be appropriately funded. Public utility impacts are evaluated in <b>Section 4.16, Utilities and Service Systems</b> . As outlined in the NOP/IS, there would not be an additional demand to library services as a result of construction and operation of the proposed project.
<b>Policy 3.6.3:</b> New development shall provide adequate flood control to protect properties within the 100-year floodplain.	Consistent with implementation of Mitigation Measure <b>MM 4.10-2KC</b>	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J, and 1.9, Resources, Policy 11 above.
<b>Policy 3.6.4:</b> Work with service providers to facilitate and encourage modifications and improvements to existing water, sewer, drainage, electric, natural gas, and other utility systems.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Objective 3.6 above.
<b>Mojave Specific Plan Chapter 4, Conservation Element</b>		
<b>Goal 5:</b> Designate and control mineral extraction areas	Consistent	See 1.9, <i>Resources</i> , Goal 1, above. The project site is not located within a mineral resource area.
<b>Objective 4.2:</b> Maintain groundwater quality to allow local resources to meet local needs.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Policy 11 and Measure N above.
<b>Objective 4.3:</b> Encourage conservation of energy resources.	Consistent	As discussed in <b>Section 4.6, Energy</b> , of this EIR, the project O&M building would be built in accordance with the current Title 24 standards at the time of construction.
<b>Objective 4.4:</b> Maintain and promote the retention of natural settings and use of native or adaptable vegetation.	Consistent	See 1.10.5, <i>Threatened and Endangered Species</i> , Policy 27, Policy 28, Policy 29, Policy 32, and Measure Q above.
<b>Objective 4.5:</b> Conserve known areas of mineral resources by limiting encroachment of incompatible urban uses.	Consistent	As discussed in <b>Section 5.1, Environmental Effects Found Not to be Significant</b> , the project site is not designated as a mineral recovery area by the Mojave Specific Plan, nor is it identified as a mineral resource zone by CalGEM. Construction and



		operation of the proposed project would not interfere with mineral extraction and processing and would not have significant impacts on future mineral development.
<b>Objective 4.6:</b> Promote the improvement of air quality and the maintenance of State and federal air quality standards in the Mojave area.	Consistent	See 1.10.2, <i>Air Quality</i> , Policy 18, Policy 19, Policy 20, Policy 21, Policy 22, Measure F, Measure G, Measure H, and Measure J, above.
<b>Policy 4.2.1:</b> Support regional efforts by the South Lahontan Regional Water Quality Control Board to improve and protect water quality. Promote compliance with the measures contained in the California Water Code and other requirements.	Consistent	See 1.10.6, <i>Surface Water and Groundwater</i> , Policy 34 and Policy 44, above. <b>Section 4.10, Hydrology and Water Quality</b> , of this EIR discusses water quality.
<b>Policy 4.2.2:</b> If required, new development projects shall implement Best Management Practices (BMPs) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects. Investigate and implement methods as appropriate over time to address the control of pollutants in stormwater runoff from development sites, and to encourage the recycling of runoff for groundwater recharge and similar beneficial purposes	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Measure D, and 1.9, Resources, Policy 11, and 1.10.6, <i>Surface Water and Groundwater</i> , Policy 44 above.
<b>Policy 4.3.1:</b> Promote energy conservation measures contained in Title 24 of the California Code of Regulations.	Consistent	As discussed in <b>Section 4.6, Energy</b> , of this EIR, the O&M building would be built in accordance with the current Title 24 standards at the time of construction.
<b>Policy 4.4.3:</b> For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project applicant may demonstrate urbanized, nonsensitive status through the identification of applicable studies.	Consistent	As discussed in <b>Section 4.4, Biological Resources</b> , of this EIR, biological surveys were conducted at the project site.
<b>Policy 4.4.4:</b> Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.	Consistent	See 1.10.5, <i>Threatened and Endangered Species</i> , Policy 27, Policy 28, Policy 29, Policy 32, and Measure Q above.
<b>Policy 4.6.3:</b> Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.	Consistent	As discussed in <b>Section 4.6, Energy</b> , of this EIR, the O&M building would be built in accordance with the current Title 24 standards at the time of construction. The fully operational solar power project would emit minimal levels of air pollutants, mostly from the minor daily traffic exhaust by site workers commuting to and from the site.

<b>Mojave Specific Plan Chapter 6, Circulation Element</b>		
<b>Goal 1:</b> Provide for adequate circulation to support future growth.	Consistent	Consistent with this goal, the adequacy of the project area circulation to support future growth has been reviewed with respect to the project. The project will be required to implement conditions of approval in compliance with the road network policies and would implement the Kern County Development Standards as they relate to circulation.
<b>Objective 6.1:</b> Provide adequate transportation facilities to serve area residents and commercial and industrial businesses.	Consistent	See Chapter 6, <i>Circulation Element</i> , Goal 1, above.
<b>Policy 6.1.1:</b> Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.	Consistent	See Chapter 6, <i>Circulation Element</i> , Goal 1, above.
<b>Policy 6.1.4:</b> With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards.	Consistent	See Chapter 6, <i>Circulation Element</i> , Goal 1, above.
<b>Policy 6.1.6:</b> Coordinate with developers for the improvement of local streets in conjunction with an approved phased development, subject to approval of the Roads Department in accordance with the Kern County Land Division Ordinance and Kern County Development Standards.	Consistent	Consistent with this policy, the developer, Kern County Natural Resources and Planning Department, and Road Department have been and will continue to coordinate as part of the project's requisite discretionary review process. No local street improvements are proposed or have been identified as being needed for this project.
<b>Policy 6.1.8:</b> Maintain a minimum service level of "D" or better on Circulation Element Roadways. Maintain a minimum service level of "C" or better on Caltrans roadways.	Consistent	As discussed in <b>Section 4.14, Traffic and Transportation</b> , with the addition of construction traffic, all of the roadway segments would operate at acceptable LOS B or better. Accordingly, with the addition of construction traffic on the study area roadway segments, the ADT would be below the LOS C thresholds, which indicates that there would be no significant project impact on the roadway segments.
<b>Policy 6.1.9:</b> Require new development to contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals required to meet the demand generated by the project.	Consistent	Consistent with this policy, the project would contribute to the financing of roadway improvements, including roadway dedications, railroad crossings, etc., associated with increased demand generated by the project.
<b>Policy 6.1.13:</b> Roadways for new development shall be developed in accordance with Kern County Development Standards.	Consistent	The project would not require construction of any new roadways. Site access would be from existing public streets.
<b>Policy 6.1.14:</b> Final driveway access locations and design shall be determined through acquisition of an encroachment permit from the Kern County Roads Department at the time development occurs.	Consistent	Consistent with this policy, final driveway access locations and design shall be reviewed and approached by the Kern County Roads Department.

<b>Measure F-4:</b> As a part of discretionary permit approval, plans should be reviewed for street improvements, including landscaping and lighting. Where necessary, require establishment of a County Service Area (CSA) to maintain lighting and landscaping adjacent to County roads.	Would not conflict	The project would not require construction of any new roadways. Site access would be from existing public streets.
<b>Measure F-12a:</b> New development projects will have conditions of approval applied requiring construction of roadway improvements, dedications, and/or payment of in-lieu fees to provide circulation system improvements consistent with the Specific Plan Circulation Element.	Would not conflict	The project would not require construction of any new roadways. Site access would be from existing public streets.
<b>Measure F-12d:</b> No development or building permit will be approved unless the County finds that adequate circulation system capacity exists or can be made to exist to accommodate the demands of the use/development proposed.	Consistent	Based on the traffic impact analysis prepared for the project, there is adequate circulation system capacity to accommodate the minor traffic levels generated by this project.
<b>Measure F-12e:</b> A traffic analysis shall be submitted with any submittal of a precise development plan, division application, or zone change that implements the plan, and/or conditional use permit. The traffic analysis shall provide a trip generation for all vehicular traffic, the necessary improvements to the existing circulation system and the project's pro-rata share of signalization, and improvements on Kern County and the State Department of Transportation network. The traffic analysis shall be reviewed and approved by the Kern County Roads Department and the State Department of Transportation. Recommendations, as approved by the Roads Department, shall become conditions of approval. This requirement may be waived by the Roads Department, in conjunction with the State Department of Transportation.	Consistent	Consistent with this measure, and as discussed in <b>Section 4.14, Traffic and Transportation</b> , of this EIR, a traffic study has been prepared for this project.
<b>Measure F-12f:</b> Amendments to the Plan shall require preparation of a traffic study, including site-specific and regional current traffic counts for review and approval by the Roads Department and the State Department of Transportation. Recommendations for regional improvements and development contribution to maintain adopted Levels of Service shall be included.	Consistent	Consistent with this measure, and as discussed in <b>Section 4.14, Traffic and Transportation</b> , of this EIR, a traffic study has been prepared for this project.
<b>Mojave Specific Plan Chapter 8, Noise Element</b>		

<b>Goal 1:</b> Evaluate transportation-related noise.	Consistent	Consistent with this goal, a noise assessment was conducted for the proposed project and is referenced in <b>Section 4.12, Noise</b> , of this EIR. In accordance with this goal, the noise assessment includes representative noise measurements, recommended best management practices, estimated noise levels, transportation noise, in terms of CNEL, and estimates of noise exposure.
<b>Goal 2:</b> Evaluate noise during land use planning efforts.	Consistent	Consistent with this goal, and as discussed in <b>Section 4.12, Noise</b> , of this EIR, a noise assessment was conducted and analysis has been prepared for this project.
<b>Objective 8.1:</b> Minimize the effects of transportation-related noise.	Consistent	See Chapter 8, <i>Noise Element</i> , Goal 1, above
<b>Objective 8.2:</b> Minimize the effects of noise through proper land use planning.	Consistent, with implementation of Mitigation Measures <b>MM 4.12-1KC through 4.12-6KC</b>	The project parcels are generally located in an isolated area, distant from noise-sensitive receivers. The nearest residences in Mojave are approximately 2.0 miles from the nearest project parcel. Given the remote nature of the project site, and the distance from sensitive receptors, project-related noise impacts would be less than significant. With the implementation of Mitigation Measures <b>MM 4.12-1KC through MM 4.12-6KC</b> , significant noise impacts are not anticipated to occur, refer to <b>Section 4.12, Noise</b> .
<b>Policy 8.1.1:</b> Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures.	Consistent	Noise impacts, sensitive receptors and County noise thresholds are evaluated in <b>Section 4.12, Noise</b> , 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.
<b>Policy 8.1.3:</b> Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls) shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.	Consistent	See Chapter 8, <i>Noise Element</i> , Goal 1, above. No noise mitigation measures would be required for the operational time frame of the project.
<b>Objective 8.2:</b> Minimize the effects of noise through proper land use planning.	Consistent	The analysis of noise impacts presented in <b>Section 4.12, Noise</b> , did not identify significant noise impacts associated with the proposed solar array areas or the gen-tie. Siting and design of this project would not result in significant noise impacts.
<b>Policy 8.2.3:</b> Ensure consistency of development proposals with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan to reduce potential for noise conflicts.	Consistent	This project would have a small number of on-site workers who would be inside the O&M building or outdoors on a limited basis for maintenance and monitoring activities. This would not represent an impact involving a conflict with the ALUCP or Mojave Specific Plan noise policies or standards.
<b>Policy 8.2.4:</b> Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in this element.	Consistent	See Chapter 8, <i>Noise Element</i> , Goal 1 and Policy 8.1.3, above.
<b>Policy 8.2.6:</b> Industrial uses adjacent to residences shall minimize potential noise and health hazards. Buffers	Consistent	The analysis of noise impacts presented in <b>Section 4.12, Noise</b> , did not identify significant noise impacts associated with the proposed solar array areas or the gen-

may be required and shall be reviewed during the Precise Development review process and may be imposed when necessary to maintain noise standards. Landscaping, picnic areas, parking, offices, warehousing, or other more compatible uses may be incorporated within identified buffer zones.		tie. Siting and design of this project would not result in significant noise impacts at surrounding land uses.
<b>Policy 8.2.7:</b> Noise attenuation measures as defined by the Kern County Noise Element, Development Standards, and any pertinent noise studies (such as setbacks, clustering, berming, and sound walls) shall serve as a guide for future planning and development decisions.	Consistent	The analysis of noise impacts presented in <b>Section 4.12, Noise</b> , did not identify significant noise impacts associated with the proposed solar array areas or the gentle. Siting and design of this project would not result in significant noise impacts at surrounding land uses. As such, noise attenuation measures would not be required as part of the project design.
<b>Measure G-2, Noise Attenuation Measures:</b> Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include: a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element. b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise. c) Between residential land uses and commercial or industrial land uses.	Consistent	The analysis of noise impacts presented in <b>Section 4.12, Noise</b> , did not identify significant noise impacts associated with the proposed solar array areas or the gentle. Siting and design of this project would not result in significant noise impacts at surrounding land uses. As such, noise attenuation measures would not be required as part of the project design.
<b>Measure G-3, Airport-Related Noise and Safety:</b> Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas: a) All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made	Consistent, with Mitigation Measure <b>MM 4.9-6KC</b>	See Chapter 8, <i>Noise Element</i> , Policy 8.2.3, above. Further, as evaluated in Section 4.9 Hazards, the project would be reviewed by the County, FAA and Edwards AFB, to ensure compatibility with airport and military air space safety considerations, pursuant to Mitigation Measure <b>MM 4.9-6KC</b> .
<b>Measure G-4, Vehicular Noise:</b> Implement the following measures to reduce the impact of vehicle-related noise on development in adjacent areas:	Would not conflict	The evaluation of the project's noise impacts did not identify any significant noise impacts related to the project's vehicular traffic or any operational elements; therefore, no noise attenuation measures are required.

a) New construction shall include sound walls as recommended by required acoustic studies. b) New development shall be required to identify and mitigate for vehicular noise impacts as a condition of approval for construction of new noise-sensitive land uses. c) Request that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond County jurisdiction. d) Landscaping or other project design measures are required in all new public and private projects to address potentially significant aesthetics impacts associated with noise barriers. e) Regulate traffic flow and coordinate with the California Highway Patrol to enforce speed limits. f) Incorporate noise impact considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive uses.		
<b>Mojave Specific Plan Chapter 9, Seismic and Safety Objectives and Policies</b>		
<b>Objective 9.1:</b> Minimize the potential damage to structures and loss of life that could result from earthquakes.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, and 4.1, <i>Introduction</i> , Goal 1, and 4.3, <i>Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure</i> , Policy 1, Measure B, and Measure C, above.
<b>Objective 9.2:</b> Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazards.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, and 1.3, <i>Physical and Environmental Constraints</i> , Goal 1 and Policy 10, above.
<b>Objective 9.3:</b> Protect the community from human-caused hazards related to air and ground transportation, hazardous materials, and other human activities.	Consistent, with implementation of Mitigation Measure <b>MM 4.9-1KC</b>	<b>Section 4.9, Hazards and Hazardous Materials</b> , of this EIR, provides a discussion of Hazardous Materials Transportation and existing regulatory requirements of the California Vehicle Code that pertain to transport of hazardous materials and wastes. 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 <b>MM 4.9-1KC</b> , 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.
<b>Policy 9.1.1:</b> Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.	Consistent	Consistent with this policy, the project would be required to comply with Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element.

<b>Policy 9.2.1:</b> Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J.
<b>Policy 9.2.3:</b> Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J, and 1.9, <i>Resources</i> , Policy 11 above.
<b>Policy 9.3.2:</b> Ensure that hazardous materials used in business and industry are properly handled, and that information on their handling and use is available to fire protection and other safety agencies in accordance with the Fire Code.	Consistent	See Chapter 9, <i>Seismic and Safety Objectives and Policies</i> , Objective 9.3, above. Additionally, consistent with this policy, the project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department, as needed in order to ensure safe handling of hazardous materials.
<b>Policy 9.4.2:</b> Work with the Kern County Fire Department and the Kern County Sheriff's Department to ensure sufficient services can adequately protect and serve the community	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, 1.4, <i>Public Facilities and Services</i> , Goal 1 and Measure L, 4.6, <i>Wildland and Urban Fire</i> , Policy 6 and Measure A, and Chapter 3, Land Use Element of the Mojave Specific Plan, Objective 3.6, above.
<b>Policy 9.4.3:</b> Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.	Consistent	Consistent with this policy, the project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department. In addition, construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08).
<b>Policy 9.4.5:</b> Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.	Consistent	Consistent with this policy, the project would be required to comply with the adopted Kern County Health, fire, and Building standards.
<b>Chapter 10, Implementation</b>		
<b>Measure C-6a:</b> Require a biological survey to be conducted in nonurbanized sensitive areas (not developed, not previously developed, or not previously mitigated) with potentially significant biological resources.	Consistent	As discussed in <b>Section 4.4, Biological Resources</b> , of this EIR, biological surveys were performed for the project site as part of this analysis.
<b>Measure H-4b:</b> Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site.	Consistent	As discussed in <b>Section 4.5, Cultural Resources</b> , of this EIR, a cultural resources technical report was prepared which details the results of a cultural resources records search, field survey, and resource evaluations for the project site.

Recommendations shall be incorporated into project approval.		
<b>Measure L-1, Adequate Services:</b> Require applicants to demonstrate the availability of fire, police, emergency response and solid waste disposal services during discretionary environmental review.	Consistent	Public service impacts are evaluated in <b>Section 4.13, Public Services</b> , of this EIR. This EIR serves to comply with this policy.
<b>Measure L-2, Fire and Police Protection:</b> Implement the following measures to ensure adequate fire and police protection in the Mojave community: a) Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area. b) If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or payment of proportional share of services as a condition of development. c) Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.	Consistent, with implementation of Mitigation Measure <b>MM 4.13-2KC</b>	As discussed in <b>Section 4.13, Public Services</b> , of this EIR, the project would implement Mitigation Measure MM 4.13-2KC, which applies 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. These are property taxes that the County would otherwise receive for services and facilities therefore supporting a prosperous economy and assuring the provision of adequate public services and facilities. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any additional fire or police protection services, facilities or personnel required as a result of the proposed project would be appropriately funded. Therefore, the proposed project would be consistent with this measure.
<b>Measure N-2b:</b> Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval of any industrial zone changes and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.	Consistent	As discussed in <b>Section 4.3, Air Quality</b> , of this EIR, an air quality technical report was prepared which was prepared in accordance with the Eastern Kern Air Pollution Control District's Guidelines for Implementation of the California Environmental Quality Act and Kern County Planning Department's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports.
<b>Measure N-3a:</b> Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.	Consistent	As discussed in <b>Section 4.6, Energy</b> , of this EIR, the project would be built in accordance with the current Title 24 standards at the time of construction.
Source: Mojave Specific Plan, 2003		



**TABLE 4.11-4: CONSISTENCY ANALYSIS WITH THE CITY OF CALIFORNIA CITY GENERAL PLAN**

Goals/Policies	Consistency Determination	Project Consistency
<b>Chapter 2, Land Use Element</b>		
<b>Goal:</b> To facilitate and implement growth and development coordinated with the provision of infrastructure, public facilities, and public services.	Consistent, with implementation of Mitigation Measure <b>MM 4.13-2CC</b>	Public services and facilities are evaluated in <b>Section 4.13, Public Services</b> , of this EIR, and utilities including infrastructure, are analyzed in <b>Section 4.16, Utilities and Service Systems</b> . As discussed, the project would not result in growth demands that would exceed planned public services and infrastructure. Additionally, the project would implement Mitigation Measure <b>MM 4.13-2CC</b> , which applies a Cumulative Impact Charge (CIC), to provide funding for the City of California City budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes. These are property taxes that the City would otherwise receive for services and facilities therefore supporting a prosperous economy and assuring the provision of adequate public services and facilities. With payment of the required mitigation fee as assessed by the City of California City, any additional fire or police protection services, facilities or personnel required as a result of the proposed project would be appropriately funded. Therefore, the proposed project would be consistent with this goal.
<b>Goal:</b> Accommodate new development which is compatible with and complements existing land uses within the General Plan planning area.	Consistent	The project would be consistent with the California City General Plan with approval of the CUP allowing for the development of the PV solar facility within the O/RA Zone.
<b>Goal:</b> Accommodate new development which is sensitive to and capitalizes on the General Plan planning area's natural environmental setting.	Consistent	The project would be providing a utility use that would produce electricity using the natural high irradiation in the desert environment, without consumption of fossil fuels. As addressed in this EIR, including in <b>Section 4.4, Biological Resources</b> and <b>Section 4.10, Hydrology and Water Quality</b> , the project would be implemented to reduce impacts to the natural area setting with proposed mitigation measures. As addressed in <b>Section 4.11, Land Use and Planning</b> , the project would be consistent with the California City General Plan with approval of the CUP allowing for the development of the PV solar facility within the O/RA zone.
<b>Goal:</b> Accommodate new development that is compatible with natural and manmade hazards that affect the General Plan planning area.	Consistent, with implementation of Mitigation Measures <b>MM 4.7-1CC, MM 4.9-1CC through 4.9-6CC, MM 4.10-1CC and MM 4.10-2CC</b>	Seismic hazards are described and analyzed in <b>Section 4.7, Geology and Soils</b> . No earthquake faults, landslides or liquefaction hazards are found on site. Mitigation Measure <b>MM 4.7-1CC</b> , which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation thereby reducing impacts to below a level of significance.  As discussed in <b>Section 4.9, Hazards and Hazardous Materials</b> , the proposed project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Additionally, implementation of Mitigation Measures <b>MM 4.9-1CC through MM 4.9-6CC</b>

		<p>would reduce any impacts related to hazardous materials at the project site to a less than significant level.</p> <p>As discussed in <b>Section 4.10, Hydrology and Water Quality</b>, the southern and southeastern parcels of the project site are located within the 100-year floodplain of an unnamed intermittent stream. The alteration of surface topography via ground disturbance may have the potential to alter drainage patterns such that flooding hazards could be exacerbated on-site during a rain event. However, implementation of Mitigation Measures <b>MM 4.10-1CC</b> and <b>MM 4.10-2CC</b> would require the project proponent/operator to prepare and submit both a stormwater pollution prevention plan and a final hydrologic study and drainage plan, both of which would include measures to reduce any potential flood hazards as a result of the project to below a level of significance.</p> <p>Additionally, final review of the proposed project by the California City Community Development 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.</p>
<b>Policy:</b> The developer shall be responsible for all on-site costs incurred as a result of a proposed project, in addition to a proportional share of off-site costs incurred in service extension or improvements. The availability of public or private services or resources shall be evaluated during discretionary project consideration. Availability may affect project approval or result in a reduction in size, density, or intensity.	Consistent	The project developer is responsible for the on-site costs for project implementation. The project does not propose any off-site improvements.
<b>Policy:</b> In the areas of the City outside the central core, all developments must provide complete public infrastructure improvements including community water distribution and sewage collection and treatment systems. These developments may be permitted a density increase up to 20 percent if the developments include an affordable homes component. All land division activities shall be consistent with the provision.	Would not conflict	The project does not require or involve use of public infrastructure for water distribution and sewage collection, or development of residential uses.
<b>Chapter 5, Open Space and Conservation Element</b>		
<b>5.14 Open Space</b>		
<b>Policy:</b> Encourage maximum cooperation among all levels of government, private interests, and individuals in the management, conservation, and protection of open space resources.	Consistent	The solar facility is compatible with open space and other resource management land uses, and the placement of solar arrays at the project site may deter other urban and suburban land uses from being developed at the project site.
<b>5.15 Conservation</b>		

<b>Goal:</b> Promote the improvement of air quality and the maintenance of State and federal air quality standards.	Consistent, with implementation of Mitigation Measures <b>MM 4.3-1CC through 4.3-4CC</b>	Air quality impacts are evaluated in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. The project would implement Mitigation Measures <b>MM 4.3-1CC through MM 4.3-4CC</b> to support compliance with State and federal air quality standards.
<b>Goal:</b> Encourage conservation of energy resources.	Consistent	Consistent with this goal, the proposed project would develop a solar PV facility that would generate up to 1,500 MW of solar energy and 1,500 MW of energy storage and offset an equivalent amount of fossil fuel-generated electrical power.
<b>Goal:</b> Promote conservation of sensitive vegetation and wildlife.	Consistent, with implementation of Mitigation Measures <b>MM 4.4-1CC through 4.4-24CC</b>	Consistent with this goal, the project proposes the development of a PV power generation facility in the desert region of Kern County, on a previously disturbed site. As discussed in <b>Section 4.4, <i>Biological Resources</i></b> , potential impacts to biological resources would be reduced to less-than-significant levels with implementation of Mitigation Measures <b>MM 4.4-1 through 4.4-24</b> .
<b>Goal:</b> Promote conservation of historical and cultural resources.	Consistent, with implementation of Mitigation Measures <b>MM 4.5-1CC through MM 4.5-11CC</b>	Cultural resource impacts are evaluated in <b>Section 4.5, <i>Cultural Resources</i></b> , of this EIR. The project would comply with this policy through the implementation of Mitigation Measures <b>MM 4.5-1CC through MM 4.5-11CC</b> , which ensure the preservation of known and unknown cultural and historical resources.
<b>Policy:</b> Require compliance for development projects with the requirements of the California Water Code Section 10910 regarding water supply.	Consistent	The project would comply with all applicable laws, statutes, and regulations including the California Water Code Section 10910 regarding water supply.
<b>Policy:</b> Cooperate with the Kern County Air Pollution Control District (APCD) to implement the APCD's Air Quality Attainment Plan.	Consistent, with implementation of Mitigation Measures <b>MM 4.3-1CC and MM 4.3-4CC</b>	Air quality impacts are evaluated in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. As part of the project entitlement process, including the public review process of this EIR, the County and developer will coordinate with the EKAPCD to support implementation of the EKAPCD's AQAP. Mitigation Measures <b>MM 4.3-1CC through MM 4.3-4CC</b> have been identified to support compliance with the AQAP.
<b>Policy:</b> Continue to enforce the City's grading code, along with dust control and other rules and measures through the Air Pollution Control District to mitigate air quality effects during the construction of new development.	Consistent, with implementation of Mitigation Measures <b>MM 4.3-1CC and MM 4.3-4CC</b>	Air quality impacts are evaluated in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. As identified in the analysis, the project would implement Mitigation Measures <b>MM 4.3-1CC through 4.3-4CC</b> for dust control measures during construction and operations and compliance with the APCD's other rules and measures. The project would also comply with the City's grading code.
<b>Policy:</b> Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.	Consistent, with implementation of Mitigation Measures <b>MM 4.3-1CC and MM 4.3-4CC</b>	The project would have minimal requirements for operational energy consumption, limited to electricity to power lights and electronic devices. The O&M building would be designed in accordance with the building energy efficiency standards of Title 24, Part 6 of the California Code of Regulations.  Air quality impacts are evaluated in <b>Section 4.3, <i>Air Quality</i></b> , of this EIR. Mitigation Measures <b>MM 4.3-1CC through MM 4.3-4CC</b> would be implemented to minimize the direct and indirect emissions of air contaminants.
<b>Policy:</b> Protect sensitive vegetation and wildlife species, in accordance with State and federal laws and	Consistent, with implementation of	Project-related impacts to biological resources are analyzed in <b>Section 4.4, <i>Biological Resources</i></b> , of this EIR. Mitigation Measures <b>MM 4.4-1 through 4.4-24</b>

regulations, and to provide for maintenance of supportive habitat for such species in balance with the needs of humans.	Mitigation Measures <b>MM 4.4-1CC through 4.4-24CC</b>	would ensure that impacts to biological resources within the project area are reduced to a less-than-significant level.
<b>Policy:</b> Preserve historical and cultural resources which may exist and are of significant value to the community now and in the future.	Consistent, with implementation of Mitigation Measures <b>MM 4.5-1CC through MM 4.5-11CC</b>	Cultural resource impacts are evaluated in <b>Section 4.5, <i>Cultural Resources</i></b> , of this EIR. The project would comply with this policy through the implementation of Mitigation Measures <b>MM 4.5-1CC through MM 4.5-11CC</b> , all of which ensure the preservation of known and unknown cultural and historical resources.
<b>Chapter 6, Safety Element</b>		
<b>6.5 Geologic and Seismic Hazards</b>		
<b>Goal:</b> Protect the health, safety, and welfare of the community from hazards related to seismic activity.	Consistent, with implementation of Mitigation Measure <b>MM 4.7-1CC</b>	Seismic hazards are described and analyzed in <b>Section 4.7, <i>Geology and Soils</i></b> . As noted therein, there are no earthquake faults, landslides or liquefactions hazards on site. Mitigation Measure <b>MM 4.7-1CC</b> , which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation thereby reducing impacts to below a level of significance.
<b>Policy:</b> Development shall be prohibited in areas where measures to correct identified geologic or seismic hazards are not feasible.	Consistent, with implementation of Mitigation Measures <b>MM 4.7-1CC</b>	Geologic and seismic hazards are described and analyzed in <b>Section 4.7, <i>Geology and Soils</i></b> . As noted therein, there are no earthquake faults, landslides or liquefactions hazards on site. Mitigation Measure <b>MM 4.7-1CC</b> , which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation thereby reducing impacts to below a level of significance.
<b>Policy:</b> Minimize the potential damage to structures and loss of life that could result from earthquakes.	Consistent, with implementation of Mitigation Measure <b>MM 4.7-1CC</b>	Seismic hazards are described and analyzed in <b>Section 4.7, <i>Geology and Soils</i></b> . As noted therein, there are no earthquake faults, landslides or liquefactions hazards on site. Mitigation Measure <b>MM 4.7-1CC</b> , which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation thereby reducing impacts to below a level of significance.
<b>6.6 Flood Hazards</b>		
<b>Goal:</b> Minimize the potential for personal injuries and property damage and economical loss caused by inundation in flood hazard areas.	Consistent, with implementation of Mitigation Measures <b>MM 4.10-1CC and 4.10-2CC</b>	As discussed in <b>Section 4.10, <i>Hydrology and Water Quality</i></b> , the southern and southeastern parcels of the project site are located within the 100-year floodplain of an unnamed intermittent stream. The alteration of surface topography via ground disturbance may have the potential to alter drainage patterns such that flooding hazards could be exacerbated on-site during a rain event. However, implementation of Mitigation Measures <b>MM 4.10-1CC and MM 4.10-2CC</b> would require the project proponent/operator to prepare and submit both a stormwater pollution

		prevention plan and a final hydrologic study and drainage plan, both of which would include measures to reduce any potential flood hazards as a result of the project to below a level of significance.
<b>Policy:</b> Ensure that residential, commercial, industrial, and other land development is adequately protected from the hazards which occur from flooding and storm water runoff.	Consistent, with implementation of Mitigation Measures <b>MM 4.10-1CC</b> and <b>4.10-2CC</b>	As discussed in <b>Section 4.10, Hydrology and Water Quality</b> , the southern and southeastern parcels of the project site are located within the 100-year floodplain of an unnamed intermittent stream. The alteration of surface topography via ground disturbance may have the potential to alter drainage patterns such that flooding hazards could be exacerbated on-site during a rain event. However, implementation of Mitigation Measures <b>MM 4.10-1CC</b> and <b>MM 4.10-2CC</b> would require the project proponent/operator to prepare and submit both a stormwater pollution prevention plan and a final hydrologic study and drainage plan, both of which would include measures to reduce any potential flood hazards as a result of the project to below a level of significance.
<b>6.7 Human-Induced Hazards</b>		
<b>Goal:</b> Protect residents, businesses, and structures from human-induced hazards related to ground transportation, aircraft over flight, hazardous materials, and other human activities.	Consistent, with implementation of Mitigation Measures <b>MM 4.9-3CC</b> and <b>MM 4.11-2CC</b>	<p>The project would comply with all applicable laws, statutes, and regulations including those regulating the use, transport and disposal of hazardous materials. See <b>Section 4.9, Hazards and Hazardous Materials</b>, of this EIR for additional details, including mitigation measures to address the potential for release of hazardous materials during construction or operations.</p> <p>The project site is located in the adopted Military Aviation boundaries for the ALUCP for the R-2508 Airspace Complex for Edwards AFB and China Lake Naval Weapons Station. Additionally, the southern portion of the project site is located within an area covered by the Kern County ALUCP. The project site is located immediately east of the Mojave Air and Space Port, within the Mojave Specific Plan area in unincorporated Kern County. The project safety considerations are addressed above under <b>Table 4.11-2, Consistency Analysis with Kern County General Plan</b>, Chapter 2.5.2, Airport Land Use Compatibility Plan, Goal 1. As addressed above, implementation of Mitigation Measure <b>MM 4.9-3CC</b> would ensure the proposed project would be consistent with the ALUCP and California City General Plan policies by requiring the developer to coordinate with the DoD and obtain approval from FAA and the public airports and military installations in the area. With implementation of this mitigation measure, impacts would be less than significant</p> <p>Kern County has two military aviation installations—the China Lake Naval Air Weapons Station and Edwards AFB—as well other military installations within the San Joaquin Valley. The military has identified potential conflicts of users of the radio frequency spectrum located both on and off military installations as an area to be reviewed for compatibility issues. Operations of unmanned radio-controlled aircraft flights can have electronic interference from other sources of radio signals. Coordination of frequency and notification can mitigate this impact. The project</p>

		impacts are considered significant, but would be reduced to a less than significant level with implementation of Mitigation Measure <b>MM 4.11-2CC</b> .
<b>Policy:</b> Ensure that hazardous materials used by commercial and industrial land uses are properly transported, handled, and used, and that information on their handling, transport, and use is available to the California City Fire Department and other safety agencies in accordance with the Fire Code.	Consistent	The project would comply with all applicable laws, statutes, and regulations including those regulating the use, transport and disposal of hazardous materials. See <b>Section 4.9, Hazards and Hazardous Materials</b> , of this EIR for additional details.
<b>Policy:</b> Require that new development proposals be consistent with the Kern County Airport Land Use Compatibility Plan in order to eliminate hazards due to land use conflicts with the California City Municipal Airport, the Mojave Airport, Edwards Air Force Base, and other military over flight activities.	Consistent with implementation of Mitigation Measure <b>MM 4.11-2CC</b>	Refer to <b>Table 4.11-2, Consistency Analysis with Kern County General Plan</b> , Chapter 2.5.2, Airport Land Use Compatibility Plan, Goal 1, and the <b>Table 4.11-3, Consistency Analysis with the Mojave Specific Plan</b> , Chapter 6.7, Human-Induced Hazards, Goal, above.
<b>6.8 Public Safety</b>		
<b>Goal:</b> Provide and implement effective emergency services that will protect the health, safety, and welfare of residents and workers within the community.	Consistent, with implementation of Mitigation Measure <b>MM 4.13-1CC</b> .	As discussed in <b>Section 4.13, Public Services</b> , of this EIR, Mitigation Measure <b>MM 4.13-1CC</b> would ensure that the project proponent/operator implement a fire safety plan for use during construction, operation and decommissioning of the project, thereby reducing the risk of impacts to workers, residents, and businesses in the unlikely event of an on-site fire.
<b>Goal:</b> Protect the health, safety and welfare of residents, businesses, and property from fire danger.		
<b>Policy:</b> Ensure that new development does not create a burden on adequate levels of emergency response services, including fire protection services and law enforcement services.		
<b>Policy:</b> Work with the Fire Department and Police Department to ensure sufficient services can adequately protect and serve the community.		
<b>Policy:</b> Review all new development proposals for fire safety considerations.	Consistent	Final review and approval of the proposed project by the California City Community Development Department would ensure that the project meets the City's fire safety considerations.
<b>Chapter 7, Noise Element</b>		
<b>Goal:</b> To protect residents and workers in the City from the harmful and annoying effects of exposure to excessive noise.	Consistent, with implementation of Mitigation Measures <b>MM 4.12-1CC</b> and <b>MM 4.12-2CC</b>	Noise impacts are evaluated in <b>Section 4.12, Noise</b> , of this EIR. With implementation of Mitigation Measures <b>MM 4.12-1CC</b> and <b>MM 4.12-2CC</b> , project-related noise would not exceed the City's thresholds.
<b>Policy:</b> Development proposals shall be reviewed for consistency with the California City Airport Land Use	Not applicable	The project site is not located within the California City ALUCP area.

Compatibility Plan to reduce the potential for noise conflicts associated with the California City Municipal Airport, the Mojave Airport, and Edwards Air Force Base.		
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Source: City of California City General Plan, 2009; City of California City 2021

#### 4.12.1 Introduction

This section of the EIR describes the affected environment and regulatory setting relating to noise and ground-borne vibration for the proposed project. It also describes the impacts associated with noise and ground-borne vibration that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. The information and analysis in this section is largely based on the *Bellefield Solar Farm Project Noise Study* prepared by Rincon Consultants, Inc. (Rincon 2020b), located in Appendix K 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.

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 (e.g., normal conversations, watching television, telephone conversations) and 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 oscillates 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.

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 ( $\mu\text{Pa}$ ). 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 (spread) 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.

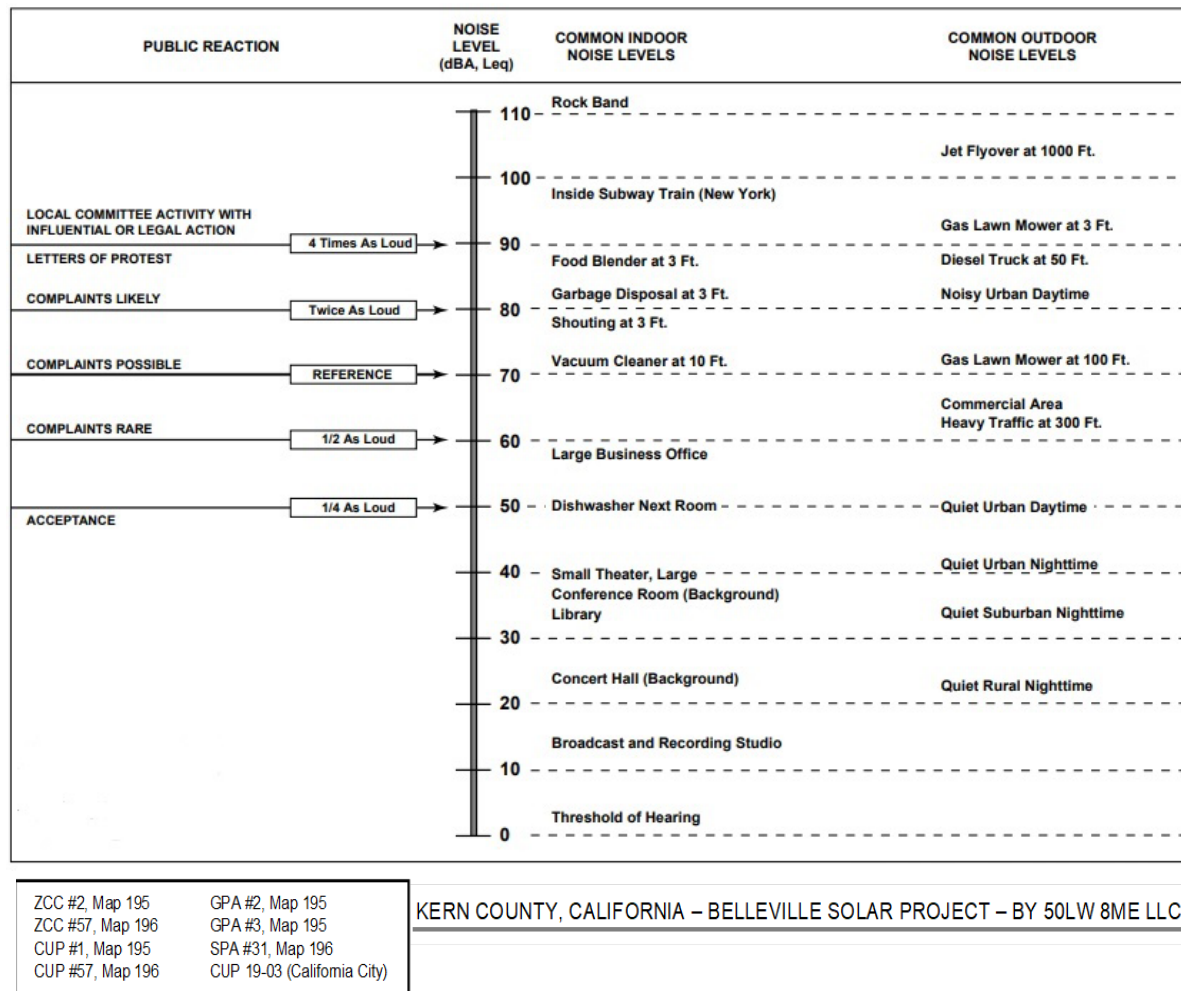
Although dBA may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most ambient environmental noise includes a mixture of noise from nearby and distant sources that creates an ebb and flow of sound, including some identifiable sources 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. In California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is 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 these 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. For convenience, a summary of common noise metrics is provided in **Table 4.12-1, Common Noise Metrics**. To provide a frame of reference, common sound levels are presented in **Figure 4.12-1, Effects of Noise on People**.

**Table 4.12-1. Common Noise Metrics**

<b>Unit of Measure</b>		<b>Description</b>
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.

**Figure 4.12-1. Effects of Noise on People.**

## Vibration

Ground-borne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most ground-borne vibration that can be felt by the human body starts at less than 1 Hz and goes to a high of about 200 Hz.

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as ground-borne noise. Ground-borne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source. Although ground-borne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances. When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level.

However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.

Several different methods can be used to quantify vibration. The PPV is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The RMS amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. 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 (FTA 2018). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of ground-borne 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. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

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 of perception 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 levels for many people (FTA 2018).

## 4.12.2 Environmental Setting

### Project Location

The project site is located within portions of unincorporated Kern County and the City of California City, as shown in **Figure 3-1**, Regional Vicinity Map. The project site is located east of the community of Mojave and the Mojave Air and Space Port Airport (Mojave Airport), straddles State Route (SR) 58, and is just west and south of the Hyundai-Kia Proving Ground. SR-58, a four-lane divided highway, which is eligible

for listing as a scenic highway within the project area, provides regional access to the project site. Vehicular access to the site would also be from Altus Avenue, Arroyo Avenue, Denise Avenue, Sunset Avenue, Silver Queen Road, and 20th, 30th, 50th, and 70th Streets. Many unmaintained dirt roads crisscross the project site.

According to the US Geological Survey (USGS), the majority of the project falls within the lower three-quarters portion of the Sanborn USGS 1:24,000 topographic map (7.5-minute quadrangle). The project extends east into the southwest portion of the California City south quadrangle and into the upper northern portion of the Bissell quadrangle, and into the eastern portion of the Mojave quadrangle. More specifically, the project is located as follows: Township 11N, Range 11W, all or portions of Sections 5, 6, 7, 17, 18, 19, 20, 21 (all), 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 and Township 11N, Range 12W, portions of Sections 1 and 2.

The project site consists of 90 parcels comprising approximately 8,371 acres located in unincorporated Kern County and the City of California City. The project includes 82 parcels (totaling 6,269 gross acres) within unincorporated Kern County and 8 parcels (totaling approximately 2,102 gross acres) within the jurisdictional limits of California City. The project is located within the boundaries of the Kern County General Plan, the Mojave Specific Plan, and the City of California City General Plan planning boundaries. One parcel (Assessor Parcel Number [APN] 235-024-14) within the project site has the existing Kern County General Plan Map Code 1.1, State or Federal Land; however, the property is privately owned. The property map code will be changed to 8.5, Resource Management, as part of the proposed project action.

## Existing Noise Environment

The project site is located in a rural desert environment with scattered rural residential, commercial, and industrial uses. Ambient noise levels in the project area are typically low, especially during the evening and nighttime hours. The primary sources of noise on-site and in the surrounding area include motor vehicles, wind, and fauna (birds, small mammals, etc.). The greatest vehicle noise would occur from vehicles on SR-58. Additional noise sources in the area include aircraft associated with the Mojave Air and Space Port and vehicles operating on the Hyundai-Kia Proving Ground. The Mojave Air and Space Port is located approximately 1.3 miles southwest of the nearest project parcel, although the flight path for aircraft may occur over project parcels. The Hyundai-Kia Proving Ground is a testing facility for vehicles and is adjacent to two project parcels.

To evaluate existing noise levels in the area, seven 15-minute noise measurements (ST1 through ST7) and one 24-hour noise measurements (LT1) were taken on and near the project site. **Figure 4.12-2, Noise Measurement Locations**, 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 and long-term noise measurement results are shown in **Table 4.12-2, Noise Monitoring Results in the Project Site Vicinity**.

**Table 4.12-2. Noise Monitoring Results in the Project Site Vicinity**

Measurement	Measurement Location	Sample Time	Approximate Distance to Primary Noise Source	Noise Level (dBA $L_{eq}$ ) <sup>1</sup>
<b>Short-Term<sup>2</sup></b>				
ST-1	Adjacent to east of Red Roof Inn on Route 58 Business in Mojave	10:33 a.m. – 10:48 p.m.	60 feet from centerline of Route 58 Business	69
ST-2	Camelot Boulevard and Somerset Drive	3:58 p.m. – 4:13 p.m.	125 feet from centerline of Camelot Boulevard	51
ST-3	Oak Creek Road and Lee Street in Mojave	2:44 p.m. – 2:59 p.m.	30 feet from centerline of Oak Creek Road	51
ST-4	Arroyo Avenue and Serrano Street in Mojave	2:19 p.m. – 2:34 p.m.	25 feet from centerline of Arroyo Avenue	56
ST-5	Near 20 <sup>th</sup> Street and Denise Avenue, east of SR-58	3:58 p.m. – 4:13 p.m.	30 feet from centerline of 20 <sup>th</sup> Street	49
ST-6	SR-58, near road that leads to Decatur Avenue	4:30 p.m. – 4:45 p.m.	290 feet from centerline of SR-58	70
ST-7	Reed Avenue and 5 <sup>th</sup> Street, near community of Actis	5:16 p.m. – 5:31 p.m.	25 feet from centerline of 5 <sup>th</sup> Street	50
<b>Long-Term</b>				
LT-1 <sup>3</sup>	Adjacent to east of Red Roof Inn on Route 58 Business in Mojave	September 18-19, 2019	60 feet from centerline of Route 58 Business	69
Source: Rincon 2020b (see Appendix K). Notes: <sup>1</sup> The equivalent noise level ( $L_{eq}$ ) is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). <sup>2</sup> Short-term noise measurements, ( $L_{eq}$ ) consisted of a 15-minute period. Short-term noise measurements were conducted on September 18, 2019, using ANSI Type II Integrating sound level meter. <sup>3</sup> Long-term noise measurements were conducted over a 24-hour period. Long-term noise measurements were conducted on September 18, 2019, and September 19, 2019, using ANSI Type II Integrating sound level meter.				

## Sensitive Receptors

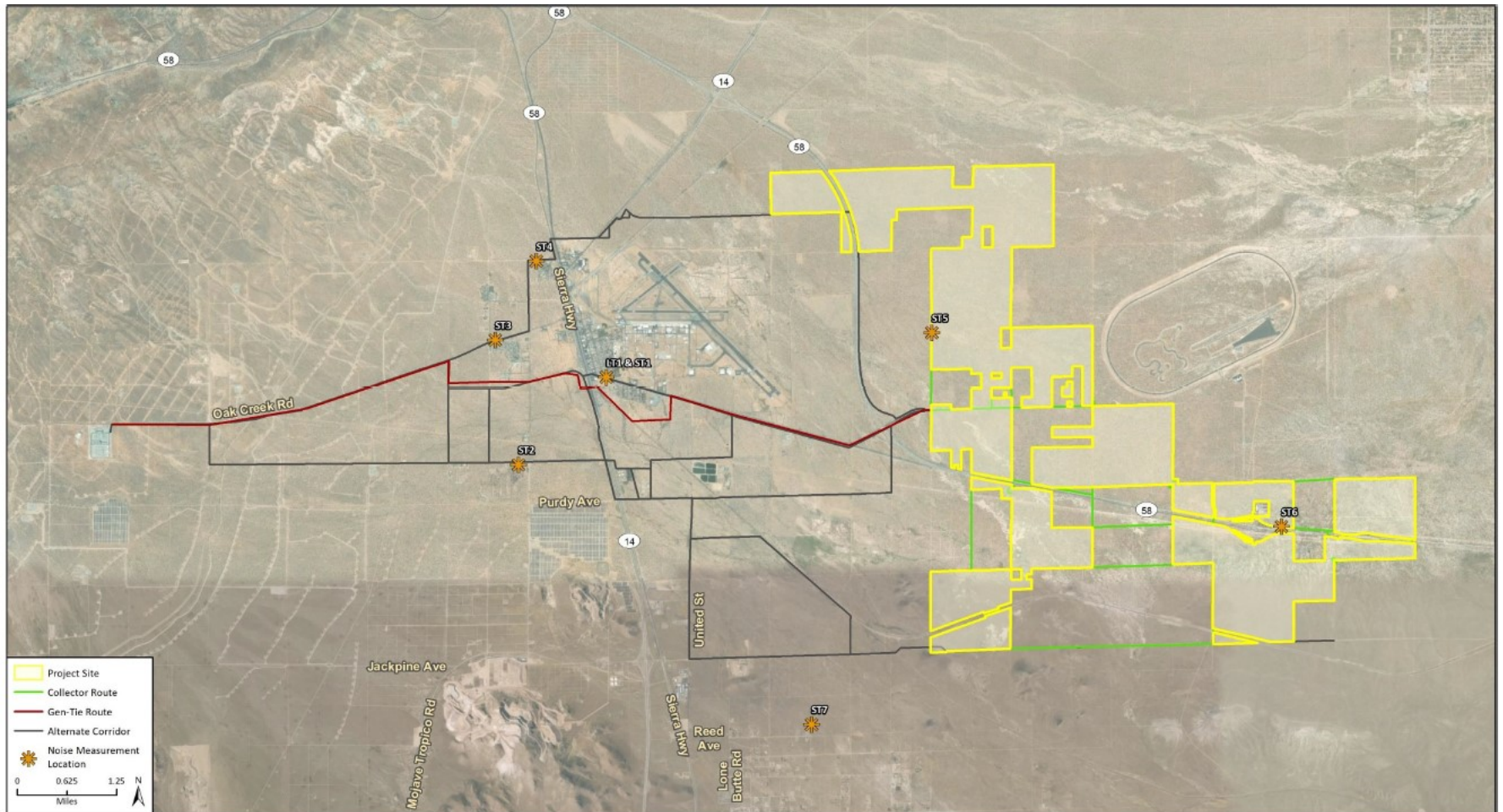
Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. Many jurisdictions also consider residential uses particularly noise sensitive because 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. The Noise Element of the County General Plan and the Noise Element of the Mojave Specific Plan identify residences, schools, hospitals, parks, churches, and other similar land uses to be noise sensitive.

The project parcels are generally located in an isolated area, distant from noise-sensitive receivers. The nearest residences in Mojave are approximately 2.0 miles from the nearest project parcel and the nearest residences in California City are approximately 2.9 miles from the easternmost project parcel. Kern County land near the project site is mostly vacant and undeveloped; several isolated residences are located approximately 1.2 miles south of the southwestern most project parcel (near the unincorporated community

of Actis). Some of the proposed routes for the gen-tie corridor would run adjacent to noise-sensitive receivers in Mojave, such as single-family residences and motels/hotels. **Figure 4.12-3, *Locations of Noise-Sensitive Receptors Closest to Project Site***, shows the general locations of noise-sensitive receivers used in this analysis.



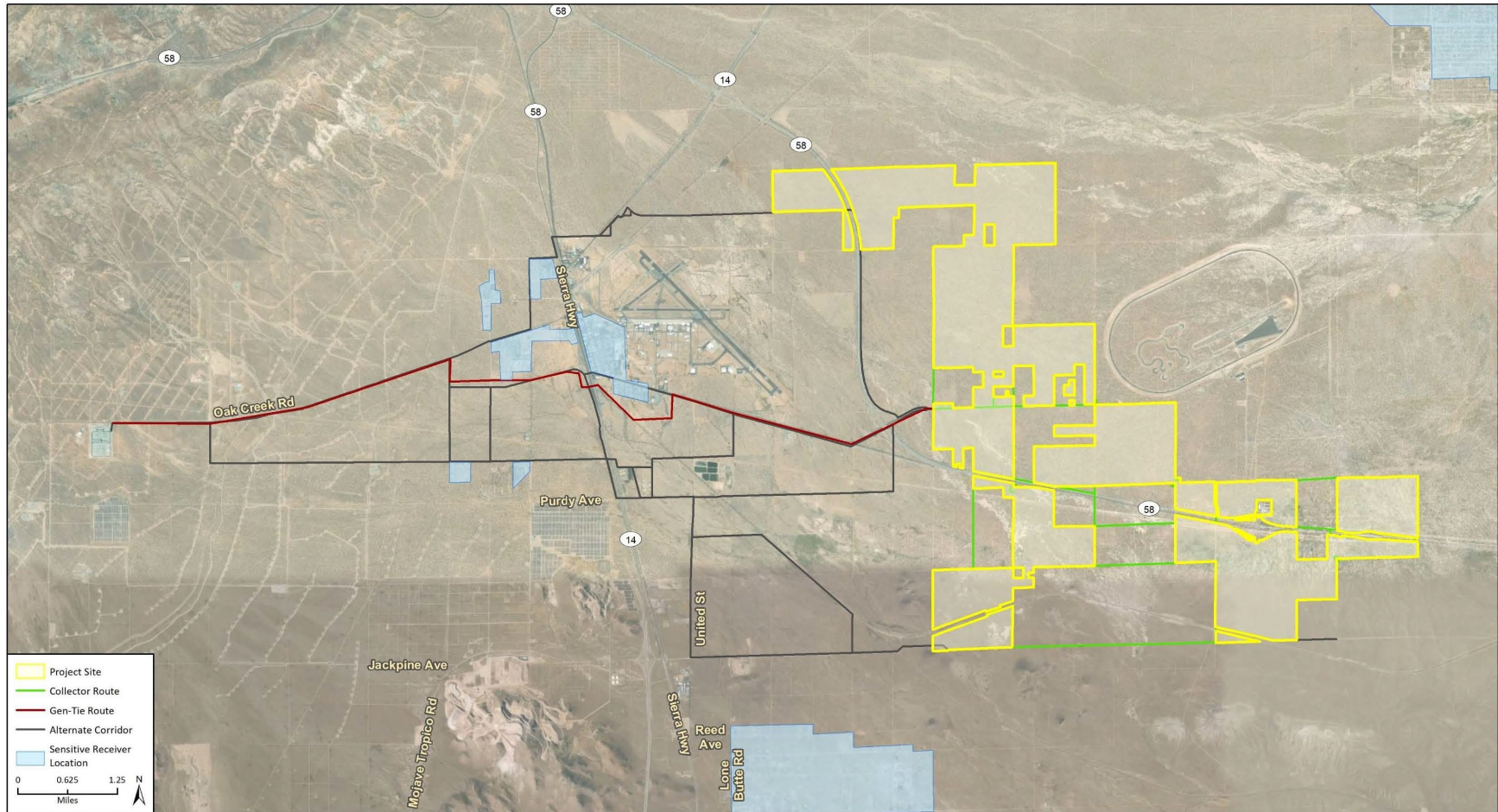
**Figure 4.12-2. Noise Measurement Locations**



ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

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**Figure 4.12-3. Locations of Noise-Sensitive Receptors Closest to Project Site**



ZCC #2, Map 195	GPA #2, Map 195
ZCC #57, Map 196	GPA #3, Map 195
CUP #1, Map 195	SPA #31, Map 196
CUP #57, Map 196	CUP 19-03 (California City)

**KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC**



## Airports

The western portion of the solar facility site and the proposed gen-tie line(s) are located within an area covered by the Kern County Airport Land Use Compatibility Plan (ALUCP). The Mojave Air and Space Port is located approximately 9,200 feet southwest of the project site. Specifically, the project site is located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern.” Areas of the project site located in Compatibility Zone B2 – Extended Approach/Departure Zone include APNs 235-024-41, 235-351-01, 428-010-02, -10, -11, 428-041-02, -03, -04, -05, -38, 428-042-02, -03, -04, -35, 428-052-15, -17, 428-053-16, and -18. Areas of the project site located in Compatibility Zone C – Common Traffic Pattern include APNs 235-024-41, 235-351-01, -02, -03, -04, 235-081-09, -10, 235-082-15, -16, -17, -18, -19, -24, -25, 235-065-04, -05, -07, -17, -18, 235-353-11, -21, and -22. According to Kern County ALUCP Table 2A, *Compatibility Criteria*, Compatibility Zone B2 is subject to significant noise levels and Compatibility Zone C is subject to frequent noise intrusion.

### 4.12.3 Regulatory Setting

#### Federal

##### Department of Defense, Edwards Air Force Base Air Installation Compatible Use Zones

The Department of Defense requires military aviation facilities to prepare an Air Installation Compatible Use Zones study to protect community safety and health, promote appropriate development in the vicinity of military airfields, and protect taxpayer’s investment in national defense. The currently adopted study for Edwards AFB indicates that areas affected by current noise and safety impacts are confined within the boundaries of the installation.

##### Federal Aviation Administration Standards

Enforced by the Federal Aviation Administration (FAA), Code of Federal Regulations (CFR) Title 14, Part 150, prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. CFR Title 14 also identifies those land uses that are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that interior sound levels up to 45 dBA  $L_{dn}$  (or CNEL) are acceptable within residential buildings. The FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA  $L_{dn}$  (or CNEL).

##### Noise Control Act of 1972 (42 USC 4910)

This act establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. To accomplish this, 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 information to the public with respect to the noise-emission and noise-reduction characteristics of such products.

### **USEPA Recommendations in “Information on Levels of Environmental Noise Requisite to Project Health and Welfare with an Adequate Margin of Safety” (NTIS 550\9-74-004, USEPA, Washington, D.C., March 1974)**

In response to a federal mandate, the United States Environmental Protection Agency (USEPA) provided guidance in this document, 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. This document does not constitute USEPA regulations or standards but identifies safe levels of environmental noise exposure without consideration of costs for achieving these levels or other potentially relevant considerations. It is intended to “provide State and local governments as well as the federal government and the private sector with an informational point of departure for the purpose of decision-making.” The agency is careful to stress that the recommendations contain a factor of safety and do not consider technical or economic feasibility issues and therefore should not be construed as standards or regulations.

### **Federal Energy Regulatory Commission Guidelines on Noise Emissions from Compressor Stations, Substations, and Transmission Lines (18 CFR 157.206[d]5)**

These guidelines 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 an  $L_{dn}$  of 55 dBA at any preexisting noise-sensitive area (such as schools, hospitals, or residences). This policy was adopted based on the USEPA-identified level of significance of 55  $L_{dn}$  dBA.

### **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.

### **US Department of Housing and Urban Development Environmental Standards (24 CFR Part 51)**

The US Department of Housing and Urban Development regulations set forth the following exterior noise standards for new home construction assisted or supported by the department:

- 65 dBA  $L_{dn}$  or less – Acceptable
- 65 dBA  $L_{dn}$  to less than 75 dBA  $L_{dn}$  – Normally unacceptable, appropriate sound attenuation measures must be provided
- 75 dBA  $L_{dn}$  or more – Unacceptable

The department's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and attenuation requirements are geared to achieve that goal.

### **Occupational Safety and Health Administration Occupational Noise Exposure; Hearing Conservation Amendment (Federal Register 48 [46], 9738-9785, 1983)**

The standard 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. 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 California Department of Public Health 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 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 and 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  $L_{dn}$ , 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 land use compatibility for community noise environment chart identifies the normally acceptable range for several different land uses, as shown in **Figure 4.12-4, *Land Use Compatibility for Community Noise Environment***. 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 (Public Resources Code Section 21000 et seq.) requires the identification of "significant" environmental impacts and their feasible mitigation. Section XIII of Appendix G to the CEQA Guidelines (CCR Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading "Thresholds of Significance."

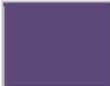



The state has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (CCR Title 24). The noise insulation standards set forth an interior standard of 45 dBA CNEL or  $L_{dn}$  in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard

where such units are proposed in areas subject to noise levels greater than 60 dBA CNEL or  $L_{dn}$ . Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

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. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

**Figure 4.12-4. Land Use Compatibility for Community Noise Environment**

Land Use Category	Community Noise Exposure - $L_{dn}$ or CNEL (dBA)							
	50	55	60	65	70	75	80	
Residential – Low Density Single Family, Duplex, Mobile Home								
Residential – Multi-Family								
Transient Lodging – Motel/Hotel								
Schools, Libraries, Churches, Hospitals, Nursing Homes								
Auditorium, Concert Hall, Amphitheaters								
Sports Arena, Outdoor Spectator Sports								
Playgrounds, Neighborhood Parks								
Golf Courses, Riding Stables, Water Recreation, Cemeteries								
Office Buildings, Business, Commercial and Professional								
Industrial, Manufacturing, Utilities, Agriculture								

	<b>Normally Acceptable</b>	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
	<b>Conditionally Acceptable</b>	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.
	<b>Normally Unacceptable</b>	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.
	<b>Clearly Unacceptable</b>	New construction or development generally should not be undertaken.

Source: California Governor's Office of Planning and Research 2003.

ZCC #2, Map 195  
ZCC #57, Map 196  
CUP #1, Map 195  
CUP #57, Map 196

GPA #2, Map 195  
GPA #3, Map 195  
SPA #31, Map 196  
CUP 19-03 (California City)

KERN COUNTY, CALIFORNIA – BELLEVILLE SOLAR PROJECT – BY 50LW 8ME LLC

## Local

### Kern County

#### Kern County General Plan

The Noise Element of the General Plan is a mandatory element as required by California Government Code Section 65302(f). The state requires that local jurisdictions prepare statements of policy indicating their intentions regarding noise and noise sources, establish desired maximum noise levels according to land use categories, set standards for noise emission from transportation and fixed-point sources, and prepare implementation measures to control noise.

The Kern County General Plan Noise Element identifies noise-sensitive land uses and noise sources, defines areas of noise impact, and establishes goals, policies, and programs to ensure that County residents are protected from excessive noise, and to develop an implementation program which could effectively mitigate potential noise problems. The implementation measures have been designed so that they will 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 addition, in the Energy Element of the General Plan, Policy 10, 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 these elements of the County's General Plan, 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 project proponent.
- 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**

**Policy**

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.

## **Mojave Specific Plan**

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The goal, policies, and implementation measures in the Mojave Specific Plan for noise and vibration applicable to the project are provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

## Chapter 8 Noise Element

### **Goals**

- Goal 1: Evaluate transportation-related noise.
- Goal 2: Evaluate noise during land use planning efforts.

### **Objectives**

- Objective 8.1: Minimize the effects of transportation-related noise.
- Objective 8.2: Minimize the effects of noise through proper land use planning.

### **Policies**

- Policy 8.1.1: Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures.
- Policy 8.1.2: Incorporate sound-reduction designs in development projects impacted by transportation-related noise.
- Policy 8.1.3: Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls) shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.
- Policy 8.2.3: Ensure consistency of development proposals with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan to reduce potential for noise conflicts.
- Policy 8.2.4: Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in this element.
- Policy 8.2.6: Industrial uses adjacent to residences shall minimize potential noise and health hazards. Buffers may be required and shall be reviewed during the Precise Development review process and may be imposed when necessary to maintain noise standards. Landscaping, picnic areas, parking, offices, warehousing, or other more compatible uses may be incorporated within identified buffer zones.
- Policy 8.2.7: Noise attenuation measures as defined by the Kern County Noise Element, Development Standards, and any pertinent noise studies (such as setbacks, clustering, berming, and sound walls) shall serve as a guide for future planning and development decisions.
- Policy 8.2.9: Amendments to the plan proposing sensitive uses adjacent to noise contours above 65 CNEL (see Figure 8-2 and 8-1) shall require preparation of a site-specific noise study including proposed mitigation.

### **Implementation Measures**

- Measure G-2: Noise Attenuation Measures Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as

part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include:

- a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element.
- b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise.
- c) Between residential land uses and commercial or industrial land uses.

Measure G-3: Airport-Related Noise and Safety Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas:

- a) All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace.

Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

Measure G-4: Vehicular Noise. Implement the following measures to reduce the impact of vehicle-related noise on development in adjacent areas:

- a) New construction shall include sound walls as recommended by required acoustic studies.
- b) New development shall be required to identify and mitigate for vehicular noise impacts as a condition of approval for construction of new noise-sensitive land uses.
- c) Request that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond County jurisdiction.
- d) Landscaping or other project design measures are required in all new public and private projects to address potentially significant aesthetics impacts associated with noise barriers.
- e) Regulate traffic flow and coordinate with the California Highway Patrol to enforce speed limits.
- f) Incorporate noise impact considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive uses.

## Kern County Zoning Ordinance

Section 19.80.030.S(1) of the Kern County Zoning Ordinance restricts noise generated by commercial or industrial uses within 500 feet of a residential use or residential zone district. The commercial or industrial use shall not generate noise that exceeds an average 65 dB  $L_{dn}$  between the hours of 7 a.m. and 10 p.m. and shall not generate noise that exceeds 65 dB, or which would result in an increase of 5 dB or more from

ambient sound levels, whichever is greater, between the hours of 10 p.m. and 7 a.m. Commercial or industrial facilities that are located in the M-3 zone district, such as the proposed project, are exempt from these noise-generation restrictions.

## **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 sounds**

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. To 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 resource management director or a designated representative may for good cause exempt some construction work for a limited time.
  - 2. Emergency work is exempt from this section.

## **California City**

### **City of California City General Plan**

#### **Chapter 7. Noise Element**

##### **7.6 Goals, Policies, and Implementation Measures**

###### ***Goals***

- Goal 1: To protect residents and workers in the City from the harmful and annoying effects of exposure to excessive noise.
- Goal 2: To protect the economic base of the City by preventing incompatible noise-sensitive land uses from encroaching upon existing or planned noise-producing land uses.
- Goal 3: To preserve the tranquility of residential areas by preventing noise-producing land uses from encroaching upon existing or planned noise-sensitive uses.
- Goal 4: To educate the residents and business owners in the City concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.

###### ***Policies***

- Policy 1: Require proposed industrial land uses located adjacent to residential land uses or other noise-sensitive land uses to minimize potential noise levels and its associated health

hazards. Buffer zones shall be required when necessary to maintain noise standards. Landscaping, picnic areas, parking, commercial, light industrial, heavy industrial, or other more compatible uses may be incorporated within the identified buffer zones.

Policy 2: Development proposals shall be reviewed for consistency with the California City Airport Land Use Compatibility Plan to reduce the potential for noise conflicts associated with the California City Municipal Airport, the Mojave Airport, and Edwards Air Force Base.

### ***Implementation Measures***

Measure N-1: The City shall review public and private development proposals to determine conformance with the policies of the Noise Element.

Measure N-3: For development proposals subject to a discretionary approval (General Plan Amendment, Zone Change, or subdivision) and environmental review, an acoustical analysis shall be required as a part of the environmental review process. The requirements for the content of an acoustical analysis are provided in Exhibit 2 to the Noise Element.

Measure N-4: The City shall develop and employ procedures to ensure that noise mitigation measures required as a result of an acoustical analysis are implemented in the development review and building permit processes.

Measure N-5: The City shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

Measure N-7: The City shall request the California Highway Patrol, the County Sheriff's office, and the California City Police Department to actively enforce the California Vehicle Code sections relating to allowable vehicles on the public right-of-way, adequate vehicle mufflers and modified exhaust systems.

Measure N-10: All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the California City Municipal Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

Measure N-14: The City shall restrict the hours of activity per Title 5, Article 4, Noise and Vibration, Section 5-1.407 of the CCMC:

“(d) Noise sources associated with or vibration created by construction, repair or remodeling of real property or during authorized seismic surveys under the following conditions:

(1) The activities occur between the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 of each year or between the hours of 7:00 a.m. and 8:00 p.m. during the remainder of the year.

(2) The activities do not take place on Sundays or Federal holidays”.

## California City Municipal Code

Title 5, Chapter 1, Article 4, *Noise and Vibration*, of California City's Municipal Code contains operational noise limits for exterior and interior areas. Exterior noise standards are shown in **Table 4.12-3, California City Exterior Noise Standards**. In addition to the exterior noise standards, the residential interior noise standard in California City is 55 dBA from 7:00 a.m. to 10:00 p.m. and 45 dBA from 10:00 p.m. to 7:00 a.m.

**Table 4.12-3. California City Exterior Noise Standards**

Noise Zone	Noise Zone Definition (Type of Land Use)	Allowable Exterior Noise Level (dBA L <sub>eq</sub> )	
		7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
I	Single, double and multiple family residential properties located at a distance more than 600 feet from a major roadway	50	45
II	Single, double, and multiple family residential properties located at a distance equal to or less than 600 feet from a major roadway	55	50
III	Commercial properties	65	60
IV	Manufacturing or industrial properties	70	70
Notes: <ul style="list-style-type: none"> <li>No person shall create noise, or allow the creation of noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on other property to exceed:               <ul style="list-style-type: none"> <li>The noise standard for a cumulative period of more than thirty minutes in any hour; or</li> <li>The noise standard plus 5 dBA for a cumulative period of more than fifteen minutes in any hour; or</li> <li>The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour; or</li> <li>The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour; or</li> <li>The noise standard plus 20 dBA for any period of time.</li> </ul> </li> <li>If the ambient noise level exceeds any of the above five noise limit categories, the cumulative period applicable to the category shall be increased to reflect the noise level.</li> <li>Each of the noise limits specified above shall be reduced by 5 dBA for impact or simple tone noises, or for noises consisting of speech or music.</li> <li>If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.</li> <li>If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be determined, the measured noise level obtained while the source is in operation shall be compared directly to the allowable noise level standards as specified respective to the measurement location's designated land use and for the time of day the noise level is measured.</li> </ul>			

Per Section 5-1.407 of the California City Municipal Code, noise sources associated with or vibration created by construction, repair or remodeling of real property or during authorized seismic surveys are exempt from the above standards under the following conditions:

- The activities occur between the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 of each year or between the hours of 7:00 a.m. and 8:00 p.m. during the remainder of the year.
- The activities do not take place on Sundays or federal holidays.
- The noise level created by such activities does not exceed 60 dBA plus the limits specific herein as measured on residential property; and
- A vibration does not endanger the public health, welfare and safety.

Per Sections 5-1.412 and 5.1-413 of the California City Municipal Code, if the generator of noise is unable to comply with the above standards (e.g., performing construction activities outside of the allowed hours), the owner or operator of a noise or vibration source may file an application with the Health Officer for a variance. The owner or operator shall set forth actions taken to comply with the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for accomplishment. The application shall be accompanied by a fee in the amount established from time to time by resolution. A separate application shall be filed for each noise source. Several mobile sources under common ownership, or several fixed sources on a single property may be combined into one application. Upon receipt of the application and fee, the Health Officer shall refer it with a recommendation within 30 days to the Planning Commission. The Planning Commission will consider the variance with the following:

- The magnitude of nuisance caused by the offensive noise;
- The uses of property within the area of impingement by the noise;
- The time factors related to study, design, financing and construction of remedial work;
- The economic factors related to age and useful life of the equipment; and
- The general public interest, welfare and safety.

Section 5-1.410 of the California City Municipal Code outlines the vibration standards, which states that no person shall create, maintain or cause ground vibration perceptible without instruments at any point on adjoining property. The perception threshold shall be presumed to be more than 0.05 in/sec RMS vertical velocity.

## **Kern County Airport Land Use Compatibility Plan**

The Kern County ALUCP establishes procedures and criteria to assist Kern County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses.

The western portion of the solar facility site and the proposed gen-tie line(s) are located within an area covered by the Kern County ALUCP. The Mojave Air and Space Port is located approximately 1 mile southwest of the nearest project parcel. Specifically, the project site is located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern.” Areas of the project site located in “Compatibility Zone B2 – Extended Approach/Departure Zone” include Assessor Parcel Numbers (APNs) 235-024-41, 235-351-01, 428-010-02, -10, -11, 428-041-02, -03, -04, -05, -38, 428-042-02, -03, -04, -35, 428-052-15, -17, 428-053-16, and -18. Areas of the project site located in “Compatibility Zone C – Common Traffic Pattern” include APNs 235-024-41, 235-351-01, -02, -03, -04, 235-081-09, -10, 235-082-15, -16, -17, -18, -19, -24, -25, 235-065-04, -05, -07, -17, -18, 235-353-11, -21, and -22. According to Kern County ALUCP Table 2A, *Compatibility Criteria*, Compatibility Zone B2 is subject to significant noise levels and Compatibility Zone C is subject to frequent noise intrusion.

## 4.12.4 Impacts and Mitigation Measures

### Methodology

The proposed project's potential noise and ground-borne vibration impacts were assessed in this section based on the *Bellefield Solar Farm Project Noise Study* located in Appendix M of this EIR. To assess the potential for temporary construction and long-term operational noise impacts, noise-sensitive receptors closest to the project site were identified. **Figure 4.12-3, *Locations of Noise-Sensitive Receptors Closest to Project Site*** shows the general locations of noise-sensitive receptors in the project area.

Potential significant impacts associated with the project were evaluated on a quantitative 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.

### Short-Term Construction Noise

Construction of the project would involve the temporary use of noise-generating equipment 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.

**Table 4.12-4, *Typical Construction Equipment Noise Levels***, shows the noise levels associated with heavy construction equipment at a reference distance of 50 feet from the source, which will be used as a basis for estimating construction noise at the distances of sensitive receptors near the project parcels and the gen-tie. As shown in **Table 4.12-4**, 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). The highest noise levels during construction would result from pneumatic post-driving of foundation support posts (similar to steel posts used in highway guard rails) for the solar array modules and from the use of augur drill rigs and scrapers.

The FHWA's software program Roadway Construction Noise Model (RCNM) was used to estimate construction noise at nearby sensitive receptors. The types of construction equipment that would be used on-site were provided by 8minute Solar Energy. RCNM provides reference noise levels at the standard distance of 50 feet and estimates noise levels at nearby sensitive receivers based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise such as construction equipment). Although construction activity would typically take place in the interior of project parcels, this analysis conservatively assumes that equipment may be used along the boundaries of project parcels facing the nearest noise-sensitive receivers. In addition, RCNM does not consider topography or other environmental factors that attenuate noise. The average noise levels ( $L_{eq}$ ) from all combined equipment were modeled at the nearest noise-sensitive receivers. Noise levels were modeled from the use of equipment at individual project parcels and the gen-tie corridor, as well as from multiple sites simultaneously under construction.



**Table 4.12-4. Typical Construction Equipment Noise Levels**

<b>Equipment</b>	<b>Acoustical Usage Factor (%)<sup>1</sup></b>	<b>Measured L<sub>eq</sub> (dBA at 50 feet)</b>
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
Source: FHWA 2006. <sup>1</sup> The average fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.		

On-site construction noise would cause a significant impact if it occurs outside of the County's permitted hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends, within 1,000 feet of an occupied residential dwelling, unless the project proponent obtains an exemption to prohibited nighttime construction noise pursuant to Chapter 8.36 of the Kern County Code and implements a noise control plan to reduce nighttime construction noise. On-site construction noise would also create a significant impact if it exceeds California City's 60 dBA construction noise limit. In addition, a significant impact may occur if daytime construction activity results in extremely high noise levels that could be detrimental to the health and safety of nearby residents.

At the end of the project's useful life (anticipated to be 30-40 years), the proposed solar facility and associated infrastructure may be decommissioned in accordance with then-current decommissioning practices. At this time, it is not possible to quantitatively evaluate potential noise that would result from project decommissioning, due to the uncertainty of when decommissioning would occur and the technology or construction practices available at that time. Therefore, based on current decommissioning practices and as a reasonable worst-case scenario, this analysis assumes that noise impacts generated during future decommissioning would be similar to noise impacts generated during the construction phase of the project.

## Short-Term Construction Traffic Noise

Noise levels from existing traffic and with-construction traffic along SR-58, Route 58 Business, Oak Creek Road, and Arroyo Avenue were estimated in terms of peak-hour  $L_{eq}$  using the Traffic Noise Model, Version 2.5 (TNM 2.5). Construction activities related to the solar arrays at the project parcels would occur in isolated areas with no noise-sensitive receivers along the roadways; therefore, noise levels along these roadways were not modeled. Noise levels along Route 58 Business, Holt Street, Oak Creek Road, and Arroyo Avenue were only modeled with consideration of construction traffic for the potential gen-tie alignments, as the other construction activities would not affect these roadways. The traffic noise calculations are based on estimates of existing vehicle trips collected by Kern Council of Governments in 2017, and from California Department of Transportation (Caltrans) traffic counts taken in 2017 for SR-58. Vehicle trips generated by project construction activities are estimated by traffic volumes provided in the *Aratina Solar Project Traffic Impact Analysis* (EPD Solutions 2019), a similar project in the region. The highest construction trip generation for that project was found to be during the overlap of concrete foundations, structural steel work, and electrical/instrumentation work. The traffic study also assumed up to 1,000 workers during peak construction periods, which would occur during the overlap of concrete foundations, structural steel work, and electrical/instrumentation work.

For traffic-related noise, impacts are considered potentially significant if project-generated traffic would result in exposure of sensitive receptors to an unacceptable increase in noise levels during construction and/or operational activities. Recommendations in the FTA's *Transit Noise and Vibration Impact Assessment Manual* were used to determine whether increases in traffic noise would be (FTA 2018). Under these FTA criteria, as existing ambient noise increases, the "allowable" increase in noise exposure due to a project is reduced. **Table 4.12-5, Significance of Changes in Roadway Noise Exposure**, shows the FTA criteria considered when evaluating traffic noise generated by this project. If sensitive receptors would be exposed to long-term traffic noise increases exceeding these criteria, impacts may be considered significant.

**Table 4.12-5. Significance of Changes in Roadway Noise Exposure**

Existing Noise Exposure (dBA Ldn or Leq)	Allowable Noise Exposure Increase (dBA Ldn or Leq)
40-45	10
45-50	7
50-55	5
55-60	3
60-65	2
65-74	1
75+	0
Source: FTA 2018.	

## Decommissioning Noise

The project facility has an anticipated maximum operational life of 30-40 years, after which the project proponent of the facility may choose to update the site technology and re-commission, or decommission and remove the systems and their components. If decommission occurs, activities associated with decommissioning would be similar or lower than the noise levels experienced under the worst-case

construction activities. Therefore, noise impacts from decommissioning are anticipated to be identical or less than those occurring during construction. As such, the project's decommissioning noise impacts do not warrant a separate analysis and instead will be assessed using the analysis provided for the project's construction noise impacts.

### Long-Term On-Site Operational Noise

On-site operational noise sources were modeled with SoundPLAN. Propagation of modeled stationary noise sources was based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The assessment methodology assumes that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts, since, in reality, only some receivers would be downwind at any one time.

Operational noise sources from the project include photovoltaic (PV) solar arrays with associated electrical equipment (such as transformers and inverters), energy storage systems, substations, collector lines, and the operations and maintenance (O&M) facility.

Operational noise would result in a significant impact if it exceeded Kern County's standard of 65 dBA  $L_{dn}$  for exterior noise at the nearest noise-sensitive receptors or California City's 50 dBA  $L_{eq}$  from 7:00 a.m. to 10:00 p.m. or 45 dBA  $L_{eq}$  from 10:00 p.m. to 7:00 a.m. noise limits for single- and multi-family residences.

### Long-Term Operational Traffic Noise

Vehicle trips generated by project operational activities are estimated by traffic volumes provided in the *Aratina Solar Project Traffic Impact Analysis* (EPD Solutions 2019), a similar project in the region, which listed 22 trips for 5 employees or 4.4 trips per employee. The proposed project is estimated to have 20 employees; therefore, project operation is estimated to generate 88 trips per day.

Traffic noise calculations indicate that, in general, a 10 percent increase in traffic volume would raise traffic noise by approximately 0.4 dBA, a 20 percent increase would raise traffic noise by about 0.8 dBA, a 30 percent increase would result in an approximately 1.1 dBA increase in traffic noise, and a 40 percent increase would increase traffic noise by about 1.5 dBA. The significance of the project's increase in traffic noise was determined using the FTA criteria shown in **Table 4.12-5, Significance of Changes in Roadway Noise Exposure**.

### Construction Ground-Borne Vibration

There are currently no federal, state, or Kern County regulatory standards for ground-borne vibration. However, California City has established 0.05 in/sec RMS as the ground-borne vibration perception threshold; refer to California City Municipal Code Section 5-1.410. Additionally, Caltrans has developed vibration criteria based on potential structural damage risks and human annoyance. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources. Caltrans's threshold criteria pertaining to building damage and human annoyance for continuous and transient events are summarized in **Table 4.12-6, Vibration Criteria for Structural Damage**, and **Table 4.12-7, Vibration Criteria for Human Annoyance**, respectively below.

As indicated in **Table 4.12-6**, the threshold at which there is a risk to normal structures from continuous events is 0.3 in/sec PPV for older residential structures and 0.5 in/sec PPV for newer building construction.

A threshold of 0.5 in/sec PPV also represents the structural damage threshold applied to older structures for transient vibration sources. With regard to human perception (refer to **Table 4.12-7, *Vibration Criteria for Human Annoyance***), vibration levels would begin to become distinctly perceptible at levels of 0.04 in/sec PPV for continuous events and 0.25 in/sec PPV for transient events. Continuous vibration levels are considered annoying for people in buildings at levels of 0.2 in/sec PPV.

**Table 4.12-6. Vibration Criteria for Structural Damage**

Human Response	Maximum PPV (in/sec)	
	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
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Source: Caltrans 2020. Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. PPV = peak particle velocity; in/sec = inches per second		

**Table 4.12-7. Vibration Criteria for Human Annoyance**

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4
Source: Caltrans 2020. Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. PPV = peak particle velocity; in/sec = inches per second		

Vibration associated with project construction has the potential to be an annoyance to nearby land uses in California City and the Kern County communities of Mojave and Actis. As previously noted, California City has adopted a perception vibration threshold (i.e., 0.05 in/sec RMS). Therefore, the perception vibration threshold in California City of 0.05 in/sec RMS will be used to determine the significance of vibration impacts on people. It should be noted that California City has not adopted vibration thresholds for determining significance of vibration impacts on structures. Therefore, the Caltrans structure damage thresholds depicted in **Table 4.12-6, *Vibration Criteria for Structural Damage*** was utilized. Further, as previously noted, Kern County has not adopted vibration thresholds for human annoyance or structure

damage. Thus, the Caltrans human annoyance and structure damage thresholds presented in **Table 4.12-6** and **Table 4.12-7** were used to determine the significance of vibration impacts.

## Operational Ground-Borne Vibration

The project's constructed facilities would not include sources of vibration. Operation of the project would involve O&M traffic, including O&M staff commute and regular maintenance truck (0.076 in/sec PPV at 25 feet), and panel washing activity (vibration negligible, i.e., not measurable). As these activities and O&M traffic would be minimal, the project would not generate a substantial amount of operational-related or traffic-related vibration. As such, the project's operational vibration impacts are discussed qualitatively in this analysis.

## Thresholds of Significance

As established in Appendix G of the CEQA Guidelines, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria to determine if a project could potentially have a significant noise-related adverse effect.

A project would have a significant impact on noise if it would result in:

- a. Generation of a substantial temporary or permanent increase in 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.

## 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. 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 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  $L_{dn}$ . Additionally, the Mojave Specific Plan identifies an average daily (24-hour) noise level limit of 65 dBA

$L_{dn}$ /CNEL for sensitive uses, which is consistent with the Kern County General Plan Noise Element. Therefore, in assessing the potential noise impacts resulting from the proposed project's use of stationary operational equipment, the nearby noise-sensitive land uses are evaluated based on the County's and Mojave plans' average daily noise level limit of 65 dBA  $L_{dn}$ . As such, 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 and Mojave Specific Plan noise standards at the outdoor activity area of the nearest noise-sensitive land use.

## Excessive Ground-Borne Vibration

Kern County does not have regulations that define acceptable levels of vibration. For the purposes of assessing potential ground-borne 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, ground-borne vibration levels would be considered significant if predicted short-term construction or long-term operational ground-borne vibration levels attributable to the proposed project would exceed the recommended criteria for structural damage or human annoyance (i.e., 0.25 and 0.2 in/sec PPV, respectively) at the nearest off-site existing structure (refer to **Tables 4.12-6, *Vibration Criteria for Structural Damage***, and **Table 4.12-7, *Vibration Criteria for Human Annoyance***). 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 ground-borne vibration.

## Project Impacts

**Impact 4.12-1: The project would generate a substantial temporary or permanent increase in 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.**

### On-Site Construction Noise

Construction of the project would involve the use of noise-generating equipment 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.

Noise levels associated with heavy construction equipment at a reference distance of 50 feet from the source ranges from about 74 to 85 dBA, depending upon the types of equipment in operation at any given time and phase of construction. The highest noise levels during construction would result from pneumatic post-driving of foundation support posts for the solar array modules and from the use of auger drill rigs and scrapers.

Project components at all project parcels and the gen-tie would be constructed over a 12- to 18-month period. This analysis makes a conservative assumption that all construction at a project parcel and the gen-tie would occur simultaneously. In practice, however, grading and site preparation would take place

sequentially at the project sites. When these activities are completed at one project parcel, post driving would start in that area while grading equipment would begin operating at another project parcel.

Construction activities would be subject to Kern County and California City policies and regulations. Heavy construction activities are anticipated to occur on-site between the hours of 6:00 a.m. and 5:00 p.m., which is between the acceptable hours for construction listed in Section 8.36.020(H) of the Kern County Code. However, California City Municipal Code Section 5-1.407 allows construction activities to occur between the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 or between the hours of 7:00 a.m. and 8:00 p.m. between September 16 to May 14. Therefore, construction may occur outside of the California City exempt hours between September 16 and May 14 (i.e., 6:00 a.m. to 7:00 a.m.). Further, additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. As a result, some low noise-generating construction activities may be required to continue 24 hours per day, seven days per week. These low noise activities include but are not limited to activities such as refueling equipment, staging material for the following day's construction activities, quality assurance/control, and commissioning, and 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. Per Section 8.36.020 of the Kern County Code, these activities would require approval from the development services agency director or his or her designated representative if audible to a person with average hearing ability at a distance of 150 feet from a construction site, if the site is within 1,000 feet of an occupied residential dwelling. Per Section 5-1.412 of the California City Municipal Code, a variance can be requested for construction work outside of allowed hours; this variance is reviewed by California City's Planning Commission that will consider the magnitude, uses, time, economic factors, and general public interest of the construction activities in granting the waiver.

Noise-sensitive receivers near project construction include residences in California City and the Kern County communities of Mojave and Actis. These land uses would experience a temporary increase in noise during construction of the project.

### Construction of Solar Array and Related Ancillary Facilities

**Table 4.12-8, *Noise Levels at Various Distances from Construction at Project Parcels***, summarizes the estimated average noise level from construction of the solar arrays and related ancillary facilities at the nearest noise-sensitive land use areas. Each noise-sensitive land use listed is the closest land use in that general area, and therefore noise-sensitive receivers in those general areas farther away would experience lower noise levels.

**Table 4.12-8. Noise Levels at Various Distances from Construction at Project Parcels**

Receptor	Distance from Construction (feet)	Noise Level at Receptor (dBA L <sub>eq</sub> )
Reference distance	50	89
Single-family residence near Actis <sup>1</sup>	6,300	47
Single-family residence in Mojave <sup>2</sup>	13,200	41
Single-family residence in California City <sup>3</sup>	15,300	40
Source: Rincon 2020b (see Appendix M). Notes: <sup>1</sup> Closest noise-sensitive land use in the Kern County community of Actis. <sup>2</sup> Closest noise-sensitive land use in the Kern County community of Mojave. <sup>3</sup> Closest noise-sensitive land use in California City.		

As shown in **Table 4.12-8**, construction noise levels from simultaneous heavy equipment operation would reach 89 dBA  $L_{eq}$  at the reference distance of 50 feet. However, due to the large distance between construction at the project parcels and the nearest noise-sensitive receivers, construction noise levels under the conservative scenario analyzed would only reach as high as 47 dBA  $L_{eq}$  at the single-family residence near Actis. Due to the required setbacks from the property boundaries, most construction activities would actually occur farther from nearby noise-sensitive receivers than what was analyzed at the property boundary. Therefore, this would result in lower noise levels, especially in 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.

Per Section 8.36.020 of the Kern County Code, construction activities outside of acceptable hours would require approval from the development services agency director or designated representative if audible to a person with average hearing ability at a distance of 150 feet from a construction site, if the site is within 1,000 feet of an occupied residential dwelling. The closest occupied residential dwelling is located 6,300 feet from construction at the project parcels; therefore, nighttime construction activities outside of permitted hours would not require approval from the development services agency direction or designated representative. Construction noise generated at the project parcels would not have a significant impact. Nevertheless, implementation of Mitigation Measures **MM 4.12-1KC** through **MM 4.12-3KC** would further reduce construction noise to the extent feasible.

The closest California City residences are located farther away and therefore would be subject to noise levels of 40 dBA  $L_{eq}$ . These noise levels would be below California City's 60 dBA construction noise limit. Although construction at project parcels may occur outside of California City's allowed construction hours, a noise level of 40 dBA  $L_{eq}$  would be below California City's nighttime exterior and interior noise standard of 45 dBA  $L_{eq}$ . Therefore, impacts would be less than significant. Nevertheless, implementation of Mitigation Measures **MM 4.12-1CC** through **MM 4.12-3CC** would further reduce construction noise to the extent feasible.

### Gen-Tie

In connecting to the Southern California Edison (SCE) Windhub Substation, the gen-tie corridor may be routed through the community of Mojave and would run adjacent to noise-sensitive receivers in within that community. Therefore, for the purposes of this analysis, at the closest point of construction, the gen-tie routes would be located approximately 25 feet from single-family residences and a mobile home park (Santiago Estates of Mojave). These are the nearest sensitive receivers to any of the gen-tie route alternatives, and they would experience a temporary increase in noise during construction of the project. As modeled, construction of the gen-tie would potentially involve the use an auger drill rig, front end loader, grader, pickup truck, crane, and concrete mixer truck. **Table 4.12-9, Noise Levels at Various Distances from Gen-Tie Construction**, shows construction noise levels at various distances from gen-tie construction activity, including those of the nearest noise-sensitive receivers, based on a standard noise attenuation rate of 6 dBA per doubling of distance for point sources of noise.

As shown in **Table 4.12-9, Noise Levels at Various Distances from Gen-Tie Construction**, simultaneous heavy equipment use during gen-tie construction would generate noise levels up to 90 dBA  $L_{eq}$  when within 25 feet of single-family residences/mobile homes in the Kern County community of Mojave. The closest residences in the Kern County community of Actis would be located approximately 18,743 feet south of the gen-tie project site, which would be farther from the gen-tie construction area than the residences in the



Kern County community of Mojave. Therefore, the analysis below focuses on the residences in the Kern County community of Mojave.

Most construction activities would occur farther from nearby noise receptors, and would, therefore, result in lower noise levels, especially in later construction phases when louder equipment (e.g., drill rigs, cranes, and concrete mixer trucks) would no longer be used. Heavy construction activity involving drill rigs, cranes, and concrete mixer trucks also would not occur during nighttime hours. Per Section 8.36.020 of the Kern County Code, construction activities outside of acceptable hours would require approval from the development services agency director or designated representative if audible to a person with average hearing ability at a distance of 150 feet from a construction site, if the site is within 1,000 feet of an occupied residential dwelling. Because sensitive receivers in Mojave are closer than 1,000 feet away from gen-tie construction, County approval and implementation of a noise control plan would be required unless nighttime construction noise is determined to be inaudible to a person with average hearing ability at a distance greater than 150 feet. In addition, daytime construction noise levels in excess of 70 dBA  $L_{eq}$  could disturb nearby residents. Therefore, gen-tie construction noise would have a potentially significant temporary impact. Implementation of Mitigation Measures **MM 4.12-1KC** through **4.12-3KC** would reduce impacts to a less than significant level.

The closest California City residences are located much farther away from gen-tie construction activities and therefore would be subject to minor noise levels of 28 dBA  $L_{eq}$ . These noise levels would be below California City's 60 dBA construction noise limit. Although construction of the gen-tie may occur outside of California City's allowed construction hours, a noise level of 28 dBA  $L_{eq}$  would be inaudible in comparison to ambient noise levels and would be below California City's nighttime exterior and interior noise standard of 45 dBA  $L_{eq}$ . Therefore, impacts associated with gen-tie construction noise at closest California City sensitive receivers would be less than significant. Nevertheless, implementation of Mitigation Measures **MM 4.12-1CC** through **MM 4.12-3CC** would further reduce construction noise to the extent feasible.

**Table 4.12-9. Noise Levels at Various Distances from Gen-Tie Construction**

Receptor	Distance from Construction (feet)	Noise Level at Receptor (dBA $L_{eq}$ )
Reference distance	50	84
Single-family residence/mobile home in Mojave <sup>1</sup>	25	90
Single-family residence in Actis <sup>2</sup>	18,743	33
Single-family residence in California City <sup>3</sup>	33,260	28
Source: Rincon 2020b (see Appendix M). Notes: <sup>1</sup> Closest noise-sensitive land use in Mojave. <sup>2</sup> Closest noise-sensitive land use in Actis. <sup>3</sup> Closest noise-sensitive land use in California City.		

### Decommissioning

As stated above, at the end of the project's useful life (anticipated to be between 30-40 years), the solar facility and associated infrastructure may be decommissioned in accordance with then-current decommissioning practices. Given the project's operating life cycle and distant time frame for

decommissioning activities, it is too speculative to quantify the potential noise impacts that could occur during decommissioning activities. On a rough basis, decommissioning would be similar to project construction and be completed in 12 to 18 months. Assuming that the facility would be torn down and the materials present recycled or disposed, temporary noise associated with such actions are assumed to be generally similar to the noise levels that would result from project construction, although without the noise from panel drilling and auger machinery. Similar to the noise generated during project construction, decommissioning activities would be conducted in accordance with all applicable requirements in effect at the time of project termination. Potential future environmental effects associated with project decommissioning would be addressed at the time decommissioning is proposed, consistent with regulations in effect at that time. A final decommissioning plan, based on then-current technology, site conditions, and regulations, would be prepared prior to actual decommissioning.

### Combined On-Site Construction Noise

Project components at all sites would be constructed over a 12- to 18-month period. This analysis makes a conservative assumption that construction of the solar array and associated infrastructure and the gen-tie would occur simultaneously. Concurrent construction activity at more than one parcel and the gen-tie line may expose nearby residences to combined noise impacts. This analysis of combined effects focuses on the effects of concurrent construction activities for the worst-case scenario (i.e., the closest residences which would be exposed to construction activities at multiple sites).

Some residences in the community of Mojave would be exposed to construction noise from both gen-tie construction and from solar array construction. Due to the proximity of these residences to gen-tie construction, combined noise levels are dominated by gen-tie construction noise. The closest residence to gen-tie construction (i.e., within 25 feet) that would be closest to solar array construction is a single-family residence located at the eastern end of Fremont Avenue, west of SR 58 and of Holt Street. General solar array construction activities would occur on parcels located at a distance of approximately 20,890, 23,850, and 28,650 feet. This residence is representative of a reasonable worst-case scenario for cumulative construction noise impacts, assuming concurrent construction of gen-tie corridor and the nearest project parcels. **Table 4.12-10, Combined Construction Noise Levels for Worst-Case Scenario**, estimates that the cumulative construction noise levels for this scenario could reach approximately 90 dBA  $L_{eq}$ .

**Table 4.12-10. Combined Construction Noise Levels for Worst-Case Scenario**

Project Site	Distance from Construction (feet)	Noise Level at Receptor (dBA $L_{eq}$ )
Gen-tie	25	90
Project Parcel	20,890	37
Project Parcel	23,850	36
Project Parcel	28,650	34
<b>Combined Noise Level</b>		<b>90</b>
Source: Rincon 2020b (see Appendix K).		
Notes:		
Worst-case scenario is for a single-family residence located at the southeastern corner of Fremont Avenue/Allie Street in the Kern County community of Mojave, which is the closest residence to project parcels and gen-tie construction.		

Per Section 8.36.020 of the Kern County Code, construction activities outside of acceptable hours would require approval from the development services agency director or designated representative if audible to a person with average hearing ability at a distance of 150 feet from a construction site, if the site is within

1,000 feet of an occupied residential dwelling. Because sensitive receivers in Mojave are closer than 1,000 feet away from gen-tie construction, County approval and implementation of a noise control plan would be required unless nighttime construction noise is determined to be inaudible to a person with average hearing ability at a distance greater than 150 feet. In addition, daytime construction noise levels in excess of 70 dBA  $L_{eq}$  could disturb nearby residents. Therefore, combined construction noise would have a potentially significant temporary impact. However, implementation of Mitigation Measures **MM 4.12-1KC** through **4.12-3KC** would reduce impacts on residents in Kern County to a less than significant level, Mitigation Measures **MM 4.12-1CC** through **4.12-3CC** would reduce impacts on residents in California City to a less than significant level, and Mitigation Measures **MM 4.12-1KC** through **4.12-3KC** would reduce gen-tie impacts to a less than significant level.

### Construction Traffic Noise

Project construction would increase off-site traffic noise from commuting construction workers and haul trucks bringing materials to and from the project site. As mentioned previously, project components would be constructed simultaneously over a 12- to 18-month period. This could expose nearby residences to cumulative noise from construction traffic. **Table 4.12-11, Construction Traffic Noise**, shows modeled traffic noise at the nearest receivers under existing traffic conditions and with project construction traffic.

**Table 4.12-11. Construction Traffic Noise**

Roadway	Nearest Sensitive Receiver	Distance from Roadway to Nearest Sensitive Receiver (feet)	Existing Traffic Noise (dBA $L_{eq}$ )	With Project Construction Traffic Noise (dBA $L_{eq}$ )	Change in Traffic Noise (dBA $L_{eq}$ )	FTA Allowable Noise Exposure Increase (dBA $L_{eq}$ )
SR-58, between Route Business 58 and California City Boulevard	Single-family residences in Mojave	14,500	19	20	+1	10
Route 58 Business	Single-family residences in Mojave	90	55	56	+1	3
Holt Street, north of Camelot Boulevard	Single-family residences in Mojave	50	56	58	+2	3
Oak Creek Road, east of Koch Street	Single-family residences in Mojave	50	60	61	+1	2
Arroyo Avenue, west of Route 58 Business	Single-family residences in Mojave	50	56	58	+2	3

Source: Rincon 2020b (see Appendix K).

As shown in **Table 4.12-11, Construction Traffic Noise**, construction traffic would increase noise levels by up to 2 dBA  $L_{eq}$  at the nearest sensitive receivers from project construction. However, none of the traffic noise increases would exceed the applicable FTA criteria; refer to **Table 4.12-5, Significance of Changes in Roadway Noise Exposure**. Therefore, the short-term increase in traffic noise from project construction would be less than significant. Furthermore, this effect would be temporary, ceasing within 18 months of the start of construction.

### On-Site Operational Noise

The project would operate continuously, seven days a week, until the anticipated repowering or decommissioning of the project in approximately 30 to 40 years. Stationary noise sources during operation would include PV solar arrays with associated electrical equipment (such as transformers and inverters), energy storage systems, substations, collector lines, and the O&M facility. Electrical equipment produces a discrete low-frequency humming noise. The noise from transformers is produced by alternating current flux in the core, which causes it to vibrate.

Transformers would be located within the inverters, which would lie within an enclosed or canopied metal structure. Within enclosures, inverters typically produce a noise level of 58 dBA  $L_{eq}$  at the source (Monterey County 2014). However, a fully enclosed metal structure would attenuate noise from inverter stations more effectively than would a canopy structure with open walls. It is unknown at this time whether the inverters/transformers would be enclosed or open. This would be determined during design once the inverter/transformer manufacturer has been selected. Open inverters would generate a noise level of approximately 52 dBA at a distance of 75 feet (San Luis Obispo County 2011). If the inverters are enclosed, each inverter enclosure may also include heating, ventilation, and air conditioning (HVAC) systems mounted on the exterior of the inverter enclosure, which would generate a noise level of 58 dBA at a distance of 75 feet.

**Table 4.12-12, Estimated Noise Rating for Equipment Utilized During Project Operations**, lists acoustic assessments of equipment used for similar solar projects that are assumed to be used on the project site. It is expected that the loudest noise generated by on-site solar operations would come from the HVAC systems at 58 dBA  $L_{eq}$  at a distance of 75 feet from the source. As the enclosed inverter would generate a higher noise level than an open inverter due to the inclusion of HVAC units, the enclosed inverters are conservatively used for this analysis. The combined noise levels from the HVAC systems and transformers, which would be anticipated to operate simultaneously, are analyzed below at the closest sensitive receivers.

**Table 4.12-12. Estimated Noise Rating for Equipment Utilized During Project Operations**

Equipment Type	Reference Noise Level (dBA $L_{eq}$ )	Distance from Source (feet)
Gen-Tie	20	50
PV Panel	44	50
500+ kW Inverter (unenclosed)	52	75
Transformer	58	3.3
Inverter HVAC System	58	75
Source: Rincon 2020b (see Appendix K)		

### Solar Array Operational Noise

Sensitive receivers in the area include single- and multi-family residences in Kern County (communities of Actis and Mojave) and single-family residences located in the southern neighborhoods of California City. Noise levels from the project's solar array operations (transformers and inverters [HVAC]) are shown in **Table 4.12-13**, *Operational Solar Array Noise Levels at Nearest Sensitive Receivers*, and noise level contours and receiver locations are shown in **Figure 4.12-5**, *Receiver Locations and Operational Noise Contours*.

**Table 4.12-13. Operational Solar Array Noise Levels at Nearest Sensitive Receivers**

Receiver	Description	Jurisdiction	Noise Level at Receiver		Exceed Threshold?
			dBA L <sub>eq</sub>	dBA L <sub>dn</sub>	
R1	Nearest Mojave residence	Kern County	15	21	No
R2	Nearest Actis residence	Kern County	12	19	No
R3	Nearest California City residence	California City	0	0	No
Source: Rincon 2020b (see Appendix K).					

As shown in **Table 4.12-13**, *Operational Solar Array Noise Levels at Nearest Sensitive Receivers*, operational noise levels from the project site would reach up to 19 dBA L<sub>dn</sub> and 21 dBA L<sub>dn</sub> at Kern County sensitive receivers near Actis and Mojave, respectively. Due to the distance and topography in between the parcels and the nearest sensitive receivers in California City, project noise levels at those receivers would be zero dBA L<sub>dn</sub>. Noise levels depicted in **Table 4.12-13** would be well below Kern County's and Mojave Specific Plan's standards of 65 dBA L<sub>dn</sub> for exterior noise at the nearest noise-sensitive receptors and California City's daytime (50 dBA L<sub>eq</sub>) and nighttime (45 dBA L<sub>eq</sub>) noise standards. Additionally, project-generated solar array noise levels would not be audible over existing ambient noise levels at the nearest sensitive receptors in Actis and Mojave. Therefore, impacts associated with project-generated solar array noise levels would be less than significant for operations.

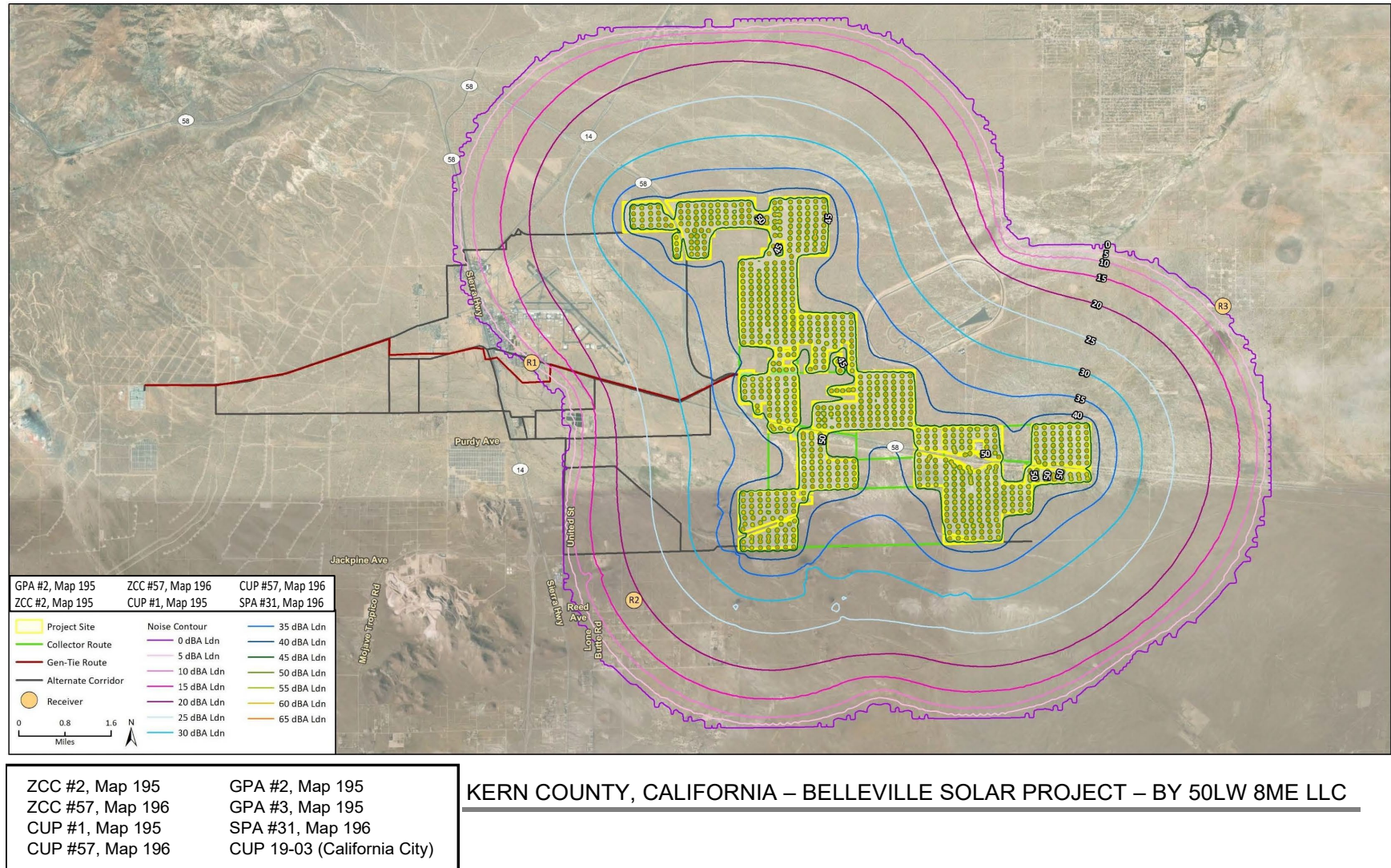
PV panel noise would come from the tracking motors. These systems involve the panels being driven by motors to make brief, incremental adjustments to track the arc of the sun to maximize the solar effect. While these motors may generate noise of up to 44 dBA at 50 feet, these motors would operate briefly throughout an hour (e.g., several minutes per hour) as the sun moves west across the sky, and then would reset at night to face the eastern sky. By operating only several minutes per hour, the hourly noise level would be negligible at the nearest sensitive receivers. In addition, as observed during a site visit to the area and viewing of existing solar farms in the area, noise levels from PV panel tracking were not detected over the existing ambient noise sources (e.g., wind, vehicles, planes, and trains) in the area just outside of the solar farm properties. Therefore, operational noise levels from the PV panels would be less than significant.

### Gen-Tie Operational Noise

The gen-tie transmission line(s) would generate noise from the corona affect, which is a phenomenon associated with the electrical ionization of the air that occurs near the surface of the energized conductor and suspension hardware due to very high electric field strength. This is audible power line noise that is generated from electric corona discharge, which is usually experienced as a random crackling or hissing sound. The corona effect on the overhead gen-tie transmission line(s) would generate a noise level of approximately 20 dBA at a distance of 50 feet. This is the approximate distance to the nearest residences

from the gen-tie route in the County community of Mojave; refer to **Figure 4.12-3, *Locations of Noise-Sensitive Receptors Closest to Project Site***. As observed during a site visit to the area and transmission lines from existing solar farms in the area, noise levels from existing transmissions lines were not detected over the existing ambient noise sources (wind, vehicles, planes, and trains) in the area just outside of the solar farm properties. Therefore, per site observations and the general low noise of transmissions lines, gen-tie operational noise would not exceed County's and Mojave Specific Plan's standard of 65 dBA  $L_{dn}$  at the nearest residences, and impacts would be less than significant.

**Figure 4.12-5. Receiver Locations and Operational Noise Contours**





## Substation/Energy Storage System Operational Noise

The substation and energy storage systems would collect, transmit, and store energy generated by the solar arrays. Noise generated by these facilities may include HVAC units. However, the transformers and inverters analyzed earlier in this section would include a much larger number of HVAC units for the inverters and additional noise from the transformers spread across the project site that would be more prominent than the noise generated by the substation and energy storage system, which would be located in one area of the project site. In addition, as observed during a site visit to the area and viewing of existing solar farms in the area, noise levels from substations and energy storage systems were not detected over the existing ambient noise sources (wind, vehicles, planes, and trains) in the area just outside of the solar farm properties. The substation/energy storage system elements would not expose persons to or generation of noise levels more than established standards during operation or create a substantial increase in ambient noise levels at the nearest off-site sensitive receptor. Therefore, operational noise from the substation/energy storage system would have a less than significant impact on noise-sensitive receptors.

## Operational Traffic Noise

Once the project is complete, vehicle trips to the project site would be associated with 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.

Smaller roads that may be used to access the project parcels (e.g., Hyundai-Kia Boulevard) were not modeled for operational traffic because the roadways do not contain noise-sensitive receivers. Thus, as SR-58 is located in close proximity to sensitive receivers, SR-58 is the main roadway used in the operational traffic noise analysis.

As shown in **Table 4.12-14, Operational Traffic Noise**, existing traffic along SR-58 generates noise levels of 19 dBA  $L_{eq}$  at the nearest single-family residence in the community of Mojave. Pursuant to the FTA criteria, a significant noise impact would occur if roadway noise would increase by 10 dBA. With the relatively minor increase in traffic volumes from project operations (88 trips) on a roadway with 15,510 trips, project operations would increase existing traffic noise levels by approximately 1 dBA. This increase would be imperceptible to the nearest residents and would not exceed applicable FTA criteria. Therefore, impacts associated with operational traffic noise would be less than significant.

**Table 4.12-14. Operational Traffic Noise**

Roadway	Nearest Sensitive Receiver	Distance from Roadway to Centerline to Nearest Sensitive Receiver (feet)	Existing Traffic Noise (dBA $L_{eq}$ )	With-Operational Traffic Noise (dBA $L_{eq}$ )	Change in Traffic Noise (dBA $L_{eq}$ )	FTA Allowable Noise Exposure Increase (dBA $L_{eq}$ )
SR-58, between Business 58 and California City Boulevard	Single-family residences in Mojave	14,500	19	20	1	10

Source: Rincon 2020b (see Appendix K).



## Mitigation Measures

### Kern County:

- MM 4.12-1KC:** To reduce temporary construction-related noise impacts, the following shall be implemented by the project proponent/operator:
- a. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible.
  - b. 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.
  - c. During all construction or decommissioning phases of the proposed project located within the limits of unincorporated Kern County, the construction contractor shall limit all on-site noise-producing activities to the hours of 6:00 a.m. to 9:00 p.m., Monday through Friday, and to the hours of 8:00 a.m. and 9:00 p.m. on Saturdays and Sunday or as required through the Kern County Noise Ordinance (Kern County Code of Ordinances, Title 8, Chapter 8.36.020).
  - d. If construction-related activities must occur outside of permitted hours per Section 8.36.020 of the Kern County Code, the project proponent/operator shall obtain approval from the development services agency director or designated representative for project construction activities occurring 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, within 1,000 feet of an occupied residential building, if audible to a person with average hearing ability at a distance of 150 feet from a construction site. As a condition of approval for exempting construction activity outside of permitted hours, the project proponent/operator shall implement a noise control plan including appropriate noise-reduction measures to the satisfaction of the development services agency director or designated representative, which may include the measures listed above. In addition, the noise control plan may include a requirement to restrict the duration of construction activities outside of permitted hours within 1,000 feet of an occupied residential building.
  - e. 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).
  - f. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).

- g. 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 4.12-2KC:** The construction contractor shall establish a Noise Disturbance Coordinator for the proposed 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 4.12-3KC:** Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), 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, no sooner than 15 days prior to construction activities. The notices shall include: the construction schedule, 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.

**City of California City:**

**MM 4.12-1CC:** To reduce temporary construction-related noise impacts, the following shall be implemented by the project proponent/operator:

- a. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place

all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible.

- b. 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.
- c. During all construction or decommissioning phases of the proposed project located within the limits of California City, the construction contractor shall limit all on-site noise-producing activities to the hours of 6:00 a.m. and 8:00 p.m. between May 15 and September 15 of each year or between the hours of 7:00 a.m. and 8:00 p.m. during the remainder of the year or as required through Section 5-1.407 of the California City Municipal Code.
- d. If construction-related activities must occur outside of permitted hours per Section 5-1.407 of the California City Municipal Code, the project proponent/operator shall file an application with the Health Officer for a variance. The project proponent/operator shall set forth actions taken to comply with the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for accomplishment. The application shall be accompanied by a fee in the amount established from time to time by resolution. A separate application shall be filed for each noise source. Several mobile sources under common ownership, or several fixed sources on a single property may be combined into one application. Upon receipt of the application and fee, the Health Officer shall refer it with a recommendation within 30 days to the Planning Commission.
- e. 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).
- f. On-site vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).
- g. 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 4.12-2CC:** The construction contractor shall establish a Noise Disturbance Coordinator for the proposed 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 California City Community Development Department prior to commencement of any ground disturbing activities.

**MM 4.12-3CC:** Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), 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, no sooner than 15 days prior to construction activities. The notices shall include: the construction schedule, 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 California City Community Development Department.

**Gen-Tie:**

Implement Mitigation Measures **MM4.12-1KC** through **MM4.12-3KC**.

## Level of Significance after Mitigation

### Kern County:

With implementation of Mitigation Measures **MM 4.12-1KC** through **MM 4.12-3KC**, temporary impacts associated with construction and decommissioning activities of the solar arrays within unincorporated Kern County would be considered significant and unavoidable. Operational impacts would be less than significant.

### City of California City:

With implementation of Mitigation Measures **MM 4.12-1CC** through **MM 4.12-3CC**, temporary impacts associated with construction and decommissioning activities of the solar arrays within the City of California City would be considered significant and unavoidable. Operational impacts would be less than significant.

### Gen-Tie:

With implementation of Mitigation Measures **MM 4.12-1KC** through **MM 4.12-3KC**, temporary impacts associated with construction and decommissioning activities of the gen-tie lines within unincorporated Kern County would be considered significant and unavoidable. Operational impacts would be less than significant.

## Impact 4.12-2: The project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.

### Construction

#### Solar Array and Related Ancillary Facilities

Construction of the project may require post driving and vibratory rollers and has the potential to result in temporary vibration impacts on structures and humans. Based on the project location, post driving activities could occur within 13,200 feet from the nearest off-site residential structure in the community of Mojave, 6,300 feet from the nearest off-site residential structure in the community of Actis, and 15,300 feet from the nearest off-site residential structure in California City. As impact pile drivers have higher vibration levels than vibratory pile drivers, the potential vibration impact calculations assume that impact pile drivers would be used. Other construction activities are less intensive than pile driving and would have lower PPV than pile driving. Therefore, vibration levels from pile driving are considered worst case for construction within the project parcels.

Based on the Caltrans data, vibration velocities from pile driving activities would be approximately 0.65 in/sec PPV at 25 feet from the source of activity (Caltrans 2020). As indicated in **Table 4.12-15, Construction Vibration at Various Distances from Construction at Project Site**, vibration velocities from pile driving activities would range from 0.00001 to 0.00016 in/sec PPV at the nearest sensitive receptors in unincorporated Kern County. Therefore, ground-borne vibration generated from pile driving activities would not exceed the Caltrans continuous/frequent intermittent sources threshold for damage potential to older residential structures of 0.3 in/sec PPV and the strongly perceptible human annoyance threshold of 0.10 in/sec PPV.

Vibration velocities generated from pile driving activities would be approximately 0.00004 in/sec RMS at the nearest sensitive receptor in California City; refer to **Table 4.12-15, Construction Vibration at Various Distances from Construction at Project Site**. Therefore, the California City human annoyance threshold would not be exceeded as a result of construction activities at the project parcels. Further, heavy construction activity involving pneumatic tools and graders would not occur during nighttime hours. Therefore, vibration impacts associated with construction of solar arrays would be less than significant.

**Table 4.12-15. Construction Vibration at Various Distances from Construction at Project Site**

Receiver	Description	Distance from Construction (feet)	Unit	Ground-borne Vibration at Receiver	Human Annoyance Threshold	Structure Damage Threshold	Exceed Threshold?	
							Human Annoyance	Structure Damage
R1	Nearest Mojave residence (Kern County)	13,200	PPV (in/sec)	0.00005	0.10	0.3	No	No
R2	Nearest Actis residence (Kern County)	6,300	PPV (in/sec)	0.00016	0.10	0.3	No	No
R3	Nearest California City residence	15,300	PPV (in/sec)	0.00001	NA	0.3	NA	No
			RMS (in/sec)	0.00004	0.05	NA	No	NA
Source: Caltrans 2020; Rincon 2020b (see Appendix K).								
Notes: NA = not applicable								

## Gen-Tie

Gen-tie construction may require the use of an auger drill rig that has the potential to result in temporary vibration impacts on structures and humans. Based on the potential site locations, post driving activities could occur within 33,260 feet from the nearest off-site residential structure in California City, 25 feet from the nearest off-site residential structure in community of Mojave, and 18,743 feet from the nearest off-site residential structure in the community of Actis. Other than use of an auger drill rig, other construction activities at the gen-tie corridors would be less intensive and would generate lower ground-borne vibration than the auger drill rig. Therefore, vibration levels from the auger drill rig are considered worst case for the gen-tie construction.

Based on the Caltrans data, vibration velocities from auger drill rig activities would be approximately 0.089 in/sec PPV at 25 feet from the source of activity (Caltrans 2013). Caltrans vibration guidelines do not provide vibration levels specifically for an auger drill rig. However, the guidelines do provide vibration levels for caisson drilling (i.e., 0.089 in/sec PPV at 25 feet), which is considered similar to operation of an auger drill rig. Therefore, the caisson drilling vibration levels are considered analogous with auger drill rig operations for this analysis. As indicated in **Table 4.12-16, Construction Vibration at Various Distances from Gen-tie Construction**, vibration velocities from auger drill rig activities would range from 0.000002 to 0.089 in/sec PPV at the nearest sensitive receptors. Therefore, ground-borne vibration generated from pile driving activities would not exceed the Caltrans continuous/frequent intermittent sources threshold for

damage potential to older residential structures of 0.3 in/sec PPV and the strongly perceptible human annoyance threshold of 0.10 in/sec PPV.

Vibration velocities generated from auger drill rig activities would be approximately 0.000008 in/sec RMS at the nearest sensitive receptor in California City; refer to **Table 4.12-16**. Therefore, the California City human annoyance threshold would not be exceeded as a result of gen-tie construction. Further, heavy construction activity involving drilling would not occur during nighttime hours. Therefore, vibration impacts associated with gen-tie construction would be less than significant.

**Table 4.12-16. Construction Vibration at Various Distances from Gen-tie Construction**

Receiver	Description	Distance from Construction (feet)	Unit	Ground-borne Vibration at Receiver	Human Annoyance Threshold	Structure Damage Threshold	Exceed Threshold?	
							Human Annoyance	Structure Damage
R1	Nearest Mojave residence (Kern County)	25	PPV (in/sec)	0.089	0.10	0.3	No	No
R2	Nearest Actis residence (Kern County)	18,743	PPV (in/sec)	0.000004	0.10	0.3	No	No
R3	Nearest California City residence	33,260	PPV (in/sec)	0.000002	NA	0.3	NA	No
			RMS (in/sec)	0.000008	0.05	NA	No	NA
Source: Caltrans 2020; Rincon 2020b (see Appendix K).								
Notes: NA = not applicable								

## Operation

Once constructed, the proposed project would not have any components that would generate vibration levels. Thus, operation of the proposed project would not result in any vibration.

## Mitigation Measures

### Kern County:

No mitigation measures are required.

### City of California City:

No mitigation measures are required.

### Gen-Tie:

No mitigation measures are required.

## Level of Significance

### Kern County:

Impacts would be less than significant.

### City of California City:

Impacts would be less than significant

### Gen-Tie:

Impacts would be less than significant.

### **Impact 4.12-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.**

As discussed under Impact 4.12-1, project operational noise levels would result in a less than significant impact. Furthermore, noise levels from project operation would not exceed the County's and Mojave Specific Plan's standard of 65 dBA  $L_{dn}$ . The proposed solar arrays, tracking motors for PV panel adjustments, gen-tie line, and substation/energy storage system gen-tie line would result in noise that would not be perceptible above background noise levels at the nearest sensitive receptors in the community of Mojave in Kern County, the community of Actis in Kern County, and in California City. Operational traffic noise levels increase from operation of the project would be approximately 1 dBA and therefore, the noise level increase would be substantially below the FTA allowable noise exposure increase criteria of 10 dBA increase threshold. Therefore, impacts would be less than significant.

## Mitigation Measures

### Kern County:

No mitigation measures are required.

### City of California City:

No mitigation measures are required.

### Gen-Tie:

No mitigation measures are required.

## Level of Significance after Mitigation

### Kern County:

Impacts would be less than significant.



**City of California City:**

Impacts would be less than significant.

**Gen-Tie:**

Impacts would be less than significant.

**Impact 4.12-4: The project would expose people residing or working in the project area to excessive noise levels, for a project located within the Kern County Airport Land Use Compatibility Plan.****Solar Array and Related Ancillary Facilities**

The western portion of the solar facility site is located within an area covered by the Kern County ALUCP. The Mojave Air and Space Port is located approximately 9,600 feet southwest of the nearest project parcel. Specifically, the project site is located in “Compatibility Zone B2 – Extended Approach/Departure Zone” and “Compatibility Zone C – Common Traffic Pattern.” Areas of the project site located in “Compatibility Zone B2 – Extended Approach/Departure Zone” include Assessor Parcel Numbers (APNs) 235-024-41, 235-351-01, 428-010-02, -10, -11, 428-041-02, -03, -04, -05, -38, 428-042-02, -03, -04, -35, 428-052-15, -17, 428-053-16, and -18. Areas of the project site located in “Compatibility Zone C – Common Traffic Pattern” include APNs 235-024-41, 235-351-01, -02, -03, -04, 235-081-09, -10, 235-082-15, -16, -17, -18, -19, -24, -25, 235-065-04, -05, -07, -17, -18, 235-353-11, -21, -22. According to Kern County ALUCP Table 2A, *Compatibility Criteria*, Compatibility Zone B2 is subject to significant noise levels and Compatibility Zone C is subject to frequent noise intrusion.

The project would be consistent with the County’s ALUCP and required to comply with applicable FAA regulations. Kern County’s ALUCP consistency review process would identify and minimize any potential conflict with airport operations, while the FAA’s review would ensure that project infrastructure does not present an aeronautical hazard. As discussed in Section 4.9, *Hazards and Hazardous Materials*, implementation of Mitigation Measure **MM 4.9-4KC** and **MM 4.9-4CC** would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County and California City by requiring the developer to coordinate with the Department of Defense, FAA, and the public airports and military installations in the area. With implementation of Mitigation Measure **MM 4.9-4KC** and **MM 4.9-4CC**, impacts would be less than significant. For a more detailed discussion of consistency with the ALUCP, see Section 4.9, *Hazards and Hazardous Materials*, Impact 4.9-5.

**Gen-Tie**

The proposed gen-tie route is also located within an area covered by the Kern County ALUCP. The proposed gen-tie route is located in the following compatibility zones of the Mojave Air and Space Port:

- Zone B2 – Extended Approach/Departure Zone
- Zone C – Common Traffic Pattern
- Zone D – Other Airport Environs
- Zone E1 – Special Land Use

- Zone E2 – Special Land Use

According to Kern County ALUCP Table 2A, *Compatibility Criteria*, Compatibility Zone B2 is subject to significant noise levels, Compatibility Zone C is subject to frequent noise intrusion, Zone D is subject to potential for annoyance from overflights, and Zone E is subject to compatibility issues.

The proposed gen-tie would be consistent with the County's ALUCP and required to comply with applicable FAA regulations. Kern County's ALUCP consistency review process would identify and minimize any potential conflict with airport operations, while the FAA's review would ensure that project infrastructure does not present an aeronautical hazard. Implementation of **MM 4.9-4KC** would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate with the Department of Defense, FAA, and the public airports and military installations in the area. With implementation of this mitigation measure, impacts would be less than significant. For a more detailed discussion of consistency with the ALUCP, see Section 4.9, *Hazards and Hazardous Materials*, Impact 4.9-5.

## Mitigation Measures

### Kern County:

Implement Mitigation Measure **MM 4.9-4KC** (see Section 4.9, *Hazards and Hazardous Materials*, for full text).

### City of California City:

Implement Mitigation Measure **MM 4.9-4CC** (see Section 4.9, *Hazards and Hazardous Materials*, for full text).

### Gen-Tie Line:

Implement Mitigation Measure **MM 4.9-4KC** (see Section 4.9, *Hazards and Hazardous Materials*, for full text).

## Level of Significance after Mitigation

### Kern County:

With the incorporation of Mitigation Measure **MM 4.9-4KC**, impacts would be less than significant.

### City of California City:

With the incorporation of Mitigation Measure **MM 4.9-4CC**, impacts would be less than significant.

### Gen-Tie:

With the incorporation of Mitigation Measure **MM 4.9-4KC**, impacts would be less than significant.

## Cumulative Setting, Impacts, and Mitigation Measures

As described in **Chapter 3, Project Description**, multiple projects, including several utility-scale solar energy facilities, are proposed throughout Kern County. As shown in **Figure 3-21, Cumulative Projects**, the proposed project and majority of cumulative projects are located in the Mojave Desert. Several other large solar projects may be developed in the areas surrounding the project site in the future, including the Sanborn Solar Project and Kudu Solar Project. Additionally, other related projects in the surrounding areas have been included that were: (1) submitted for plan processing; (2) approved by the County of Kern; and/or (3) engaged in active construction programs.

### Cumulative Construction Noise and Vibration

#### Solar Facility

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) of the project site. Construction activities associated with other projects in proximity to the project site could occur at the same time as the proposed project. Of the cumulative projects located within the 6-mile radius of the project site, there are no projects located within one-mile of the project site. The closest projects are Sanborn Solar and a proposed aircraft wrecking facility located at Mojave Airport, approximately 2 miles from the project site. As a result, construction of the proposed project would not result in a cumulatively considerable contribution to noise impacts at residences located within approximately 1,000 feet of the project site. At receptor locations farther than 1,000 feet from the project site, project-generated construction noise would diminish to near ambient levels and would not result in a cumulatively considerable contribution to construction noise levels associated with other construction projects.

In addition, these related projects would also be subject to Kern County or California City noise standards and established thresholds pertaining to increased noise at the locations of sensitive receptors, as well as similar mitigation measures. Given the remote nature of the project site, and the distance from sensitive receptors, project-related noise impacts would be less than significant. Additionally, no other concurrent construction projects are anticipated adjacent to the project site. With the implementation of Mitigation Measure **MM 4.12-1KC** through **MM 4.12-3KC** and Mitigation Measure **MM 4.12-1CC** through **MM 4.12-3CC**, no significant cumulative noise impact is anticipated to occur. Therefore, construction noise impacts of past, present, and reasonably foreseeable projects would have a less than significant cumulative impact.

Cumulative construction also potentially result in the exposure of people to or the generation of excessive ground-borne vibration. The same receptor as identified for construction noise would be the closest to be impacted by all projects with respect to construction related vibration as well. Due to these distances, and the rapid attenuation of ground-borne vibration, the project and the nearest related project are not in close enough proximity to this sensitive receptor such that it would be exposed to substantial ground-borne vibration levels. Construction of the gen-tie line and decommissioning activities would result in similar noise and vibration levels identified for construction of the proposed project. Therefore, cumulative impact in terms of ground-borne vibration would be less than significant.

The solar facility site is located within Compatibility Zone B2 and Zone C of the Mojave Air and Space Port. Implementation of Mitigation Measure **MM 4.9-4KC** and **MM 4.9-4CC** would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County by requiring the

developer to coordinate with the Department of Defense, FAA, and the public airports and military installations in the area. Thus, the project would not combine with any other to become cumulatively significant and there would be less than significant cumulative impacts associated with airports.

### Gen-Tie

As shown in **Table 4.12-9**, *Noise Levels at Various Distances from Gen-Tie Construction*, simultaneous heavy equipment use during gen-tie construction would generate a noise level of up to 90 dBA  $L_{eq}$  when within 25 feet of single-family residences/mobile homes in Kern County. As noted earlier, none of the other projects identified in **Table 3.3**, *Cumulative Project List* are within a mile of the project site. Because sensitive receptors in the community of Mojave are closer than 1,000 feet away from gen-tie construction, County approval and implementation of a noise control plan would be required unless nighttime construction noise is determined to be inaudible to a person with average hearing ability at a distance greater than 150 feet. In addition, daytime construction noise levels in excess of 70 dBA  $L_{eq}$  could disturb nearby residents. Therefore, gen-tie construction noise would have a potentially significant temporary impact. Implementation of Mitigation Measures **MM 4.12-1KC** through **4.12-3KC** would reduce impacts to a less than significant level. During operation, the gen-tie would not generate noise beyond the existing baseline environment. With the implementation of Mitigation Measures **MM 4.12-1KC** through **MM 4.12-3KC**, no significant cumulative noise impact due to gen-tie construction is anticipated to occur.

### Cumulative Operational Noise

The proposed project is estimated to generate 88 daily trips. As seen in **Table 4.12-14**, *Operational Traffic Noise*, project operations would not exceed the FTA criteria (**Table 4.12-5**) for mobile noise levels even with the assumption that all 88 daily trips would occur along each individual roadway. Individual projects listed in **Table 3-3**, *Cumulative Project List*, are all more than one mile from the project site and they would be required to analyze potential operational noise and mitigate any significant impacts. Furthermore, as discussed above, the long-term noise impacts associated with operation and maintenance of the project would not result in a substantial temporary or permanent increase in 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. Therefore, operational noise from the proposed project would not combine with such noise from other pending projects, and cumulative operational impacts would be less than significant.

### Mitigation Measures

#### Kern County:

Implement Mitigation Measures **MM 4.9-4KC** and **MM 4.12-1KC** through **MM 4.12-3KC**.

#### City of California City:

Implement Mitigation Measures **MM 4.9-4CC** and **MM 4.12-1CC** through **MM 4.12-3CC**.

#### Gen-Tie:

Implement Mitigation Measures **MM 4.9-4KC** and **MM 4.12-1KC** through **MM 4.12-3KC**.

## Level of Significance after Mitigation

### **Kern County:**

With the implementation of Mitigation Measures **MM 4.9-4KC** and **MM 4.12-1KC** through **MM 4.12-3KC**, cumulative impacts would be less than significant.

### **City of California City:**

With the implementation of Mitigation Measures **MM 4.9-4CC** and **MM 4.12-1CC** through **MM 4.12-3CC**, cumulative impacts would be less than significant.

### **Gen-Tie:**

With implementation of Mitigation Measures **MM 4.9-4KC** and **MM 4.12-1KC** through **MM 4.12-3KC**, cumulative impacts would be less than significant.

## **4.13.1 Introduction**

This section of the EIR describes the affected environment and regulatory setting relating to public services, including fire and police protection services for the proposed project. It also describes potential impacts associated with public services that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. Information for this section was taken from numerous sources, including websites and service agency plans.

## **4.13.2 Environmental Setting**

### **Fire Protection**

The Kern County Fire Department (KCFD) and California City Fire Department (CCFD) would provide fire suppression and emergency medical services to the project area.

#### **Kern County Fire Department**

The portion of the project site located within Kern County would be served by KCFD Station #14 located at 1953 State Route (SR) 58 in Mojave. Station #14 is located approximately four miles west of the proposed solar fields at the nearest point.

The KCFD has over 625 permanent employees protecting an area of over 8,000 square miles. Fire protection services are provided for over 500,000 citizens living in the unincorporated areas of Kern County and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. Over 546 uniformed firefighters are stationed in 46 fire stations throughout Kern County. Added to this, the KCFD has 14 mutual aid agreements with neighboring fire suppression organizations to further strengthen the emergency services available. The KCFD is equipped with 55 fire engines, 4 ladder trucks, 41 patrol vehicles, 25 command vehicles, 2 helicopters, and other ancillary equipment (KCFD 2021). KCFD has experienced several budget and staffing cuts in recent years but was approved for a new budget by the Kern Board of Supervisors on August 25, 2020, granting the Fire Department funds to continue protecting the community (23ABC News 2020a). Additionally, KCFD was awarded 2.9 million dollars by the Federal Emergency Management Agency (FEMA) from the Assistance to Firefighters Grant for critically needed equipment (23ABC News 2020b).

The proposed project consists of a photovoltaic solar facility with associated infrastructure and energy storage facilities. The project site is located within Battalion 1, Central Mountains/Desert, which serves the southeastern portion of Kern County and is divided by State Route (SR) 58 that runs east/west and by SR-14 that runs north/south. Battalion 1 consists of eight stations (CPSM 2017) and covers 951,600 acres of which 351,276 acres is State Responsibility Area (SRA) land area, which the California Department of Forestry and Fire Protection (Cal Fire) has a legal responsibility to provide fire protection for this SRA land

area. The SRA land area is bounded by the Mojave Desert on the east, the Tehachapi Mountains in the center, and the Central Valley to the west (KCFD 2009). As shown in **Figure 4.17-2, Fire Hazard Severity Zones for State Responsibility Areas**, located in **Section 4.17, Wildfire**, of this EIR, the project site is not within a SRA; however, the surrounding area is categorized as SRA Moderate and the project site is within an unincorporated Local Responsibility Area (LRA) (Cal Fire 2007a). According to the Cal Fire, Fire Hazard Zones in LRA Map, the project site is within a LRA Moderate fire hazard severity zone, as shown in **Figure 4.17-1, Fire Hazard Severity Zones for Local Responsibility Areas**, located in **Section 4.17, Wildfire**, of this EIR (Cal Fire 2007b).

Fire Station No. 14 (Mojave), located at 1953 SR-58, is approximately 2.2 miles to the southwest of the project site and would be the primary responder to a fire or emergency at 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. 15 (Rosamond), located at 35th Street West, Fire Station No. 12 (Tehachapi), located at 800 South Curry Street, and Fire Station No. 13 (Tehachapi), located at 21415 Reeves Street. Information on the four closest fire stations to the project site is included in **Table 4.13-1, 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. In remote County areas like the project site, the average response time is approximately 21 minutes (CPSM 2019).

**Table 4.13-1: List of Nearby Fire Stations**

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Fire Station No. 14	1953 SR-58 Mojave, CA 93560	2.2 miles southwest of the northern portion of the project site
KCFD	Fire Station No. 15	3219 35th Street West Rosamond, CA 93560	10.8 miles southwest of the southern portion of the project site
KCFD	Fire Station No. 12	800 South Curry Street Tehachapi, CA 93561	21.9 miles west northwest of northern portion of the project site
KCFD	Fire Station No. 13	21415 Reeves Street Tehachapi, CA 93561	23.5 miles west northwest of northern portion of the project site

Kern County has 23 mutual-aid agreements with neighboring fire suppression organizations to further strengthen the emergency services (CPSM 2019). The KCFD has a mutual aid agreement with the Los Angeles County Fire Department (LACFD) in the event that KCFD is unable to be the primary responder to an emergency. The LACFD has 175 fire stations throughout Los Angeles County. The LACFD is divided into 22 battalions with over 5,000 personnel (LACFD 2019). The nearest LACFD fire station to the project site is Station No. 112, located at 8812 W. Avenue E-8, Lancaster, approximately 20.5 miles southwest of the project site. As previously mentioned, the project site is within an area of moderate fire hazard, as determined by Cal Fire (Cal Fire 2007a).

Kern County applies and utilizes the National Fire Code (as 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 (EMS) Division 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. The EMS covers day to day emergencies, disaster medical response planning and preparation, and preventative health care. The department also provides certification and recertification for EMTs, paramedics, specialized nurses, and specialized dispatchers. The nearest hospitals are the Antelope Valley Hospital, located at 1600 West Avenue J, in the City of Lancaster, approximately 22 miles to the south and the Adventist Health Tehachapi Valley Hospital, located at 1100 Magellan Drive in the City of Tehachapi, approximately 18.6 miles to the northwest.

An inventory of fire facilities in the project area is provided above in **Table 4.13-1**, *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.

## California City Fire Department

The portion of the project site located within California City would be served by Station #85, located at 20890 Hacienda Boulevard in California City, approximately 6.3 miles northeast of the proposed solar fields at the nearest point. According to the 2019 CCFD Annual Report, the CCFD is staffed with 6 firefighter paramedics, 3 fire apparatus engineers, and 3 fire captains (CCFD 2019). The CCFD firefighter/paramedics have specialized training in auto extrication, hazardous materials mitigation, technical rescue, and all aspects of fire prevention and suppression delivery. Firefighter/paramedics are able to deliver prompt care in all given situations. Additionally, there are fire suppression personnel trained to the level of EMT to assist the firefighter/paramedics. The CCFD has mutual aid agreements with the KCFD, the East Kern Airport District Fire Department, and the Bureau of Land Management.

California City applies and utilizes the National Fire Code (as set forth by the National Fire Protection Association), the California Fire Code, the California Building Code, and the California City Ordinance Code to regulate fire safety.

## Law Enforcement Protection

The Kern County Sheriff's Office (KCSO) and California City Police Department (CCPD) would provide law enforcement services to the project area.

### Kern County Sheriff's Office

The 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 in the desert and mountainous 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 has a total of 1,202 employees, including 567 authorized deputy sheriff positions, 338 detention deputy positions, and 297 sheriff's professional support staff (KCSO 2021a). The nearest substation is the Mojave Substation located approximately 12 miles southwest at 1771 Highway 58 in Mojave. The substation provides law enforcement services to approximately 14,000 people in the greater Mojave area,



and the communities of Cantil, Fremont Valley, Boron, North Edwards, Aerial Acres, Desert Lake, and the military complex at Edwards Air Force Base (KCSO 2021b).

Other substations in proximity to the project site include the Rosamond Substation, Tehachapi Substation and Boron Substation. Information on the four closest substations to the project site is included in **Table 4.13-2, List of Nearby Sheriff Substations.**

**Table 4.13-2: List of Nearby Sheriff Substations**

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Mojave Substation	1771 State Highway 58 Mojave, CA 93501	12 miles southwest of the project site
KCSO	Rosamond Substation	1379 Sierra Highway Rosamond, CA 93560	11.7 miles southeast of the project site
KCSO	Tehachapi Substation	22209 Old Town Road Tehachapi, CA 93581	20.5 miles northwest of the project site
KCSO	Boron Substation	26949 Cote Street Boron, CA 93516	28 miles east of the project site

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). In 2018, the KCSO reported that the County's fiscal emergencies have impacted and affected staffing and have created a number of shortages in the East Kern area, including Mojave. This could mean potential delays in response times due to a limited budget, and consequently, less staff. (Barnwell 2018).

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 2020-21 Recommended Budget (Kern County 2020b) shows ongoing deficiencies in funding for staffing, training and equipment. While the adopted Budget provides a transfer from the General Fund reserves to prioritize law enforcement, the CAO report confirms this is not sustainable.

### Off-Highway Vehicle 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 areas and approximately 500,000 visitors in the east Kern area. The OHV

Enforcement Team patrols numerous off-road riding areas in Kern County, including a popular riding area near a portion of the Pacific Crest Trail that runs through Rosamond, Mojave, and Tehachapi. 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 2019).

### **California City Police Department**

The portion of the project site located within California City would be served by the station located at 21130 Hacienda Boulevard. The CCPD is staffed with 13 sworn officers and 6 non-sworn personnel. Officers serve in assignments such as uniformed patrol, investigations, off-road search and rescue, and the Special Enforcement Team (CCPD 2021).

### **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 and emergency incidents on California highways, and provides service and assistance to disabled vehicles. The CHP has a mutual aid agreement with KCSO. The CHP is divided into eight divisions to service California.

CHP officers patrol 380,000 miles of roadway and implement the CHP's other law enforcement activities (e.g., drug interception, vehicle theft investigation and prevention, vehicle inspections, accident investigations, and public awareness campaigns), with the support of the non-uniformed personnel assigned to area and division offices.

The project site lies within the jurisdiction of the Inland Division, which operates 12 offices and 3 communications and dispatch centers (CHP 2021). The nearest Inland Division office to the project site is located at 1313 Highway 58 in the community of Mojave, approximately 3.4 miles west of the proposed PV solar field.

### **Schools/Parks/Other Public Facilities**

The project site is located within the Mojave Unified School District (MUSD), which consists of Cal City High School, Cal City Middle School, Hacienda Elementary, Robert P. Ulrich Elementary, Mojave High School, Mojave Elementary, Joshua Elementary, and Red Rock School (MUSD n.d.). Other school districts located in the vicinity include Muroc Joint Unified, Southern Kern Unified, Tehachapi Unified, Caliente Union Elementary, South Fork Union Elementary, Kern Union High, and Sierra Sands Unified (Kern County Superintendent of Schools n.d.). The closest school to the project site is the Mojave High School, located approximately 2.5 miles southwest of the northwestern portion 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 eight regional parks, 40 neighborhood parks, and 25 public buildings, supervises three golf courses and landscapes 76 county buildings (Kern County Parks and Recreation Department 2010).

Other public facilities include library facilities, post office facilities, and courthouses. The Kern County Library has 24 branches and two 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 (USPS 2021). Furthermore, there are currently 13 facilities serving the Superior Court of California in Kern County (Superior Court of California n.d.).

The Kern County Fiscal Year 2020-21 Recommended Budget (Kern County 2020b) shows ongoing deficiencies in funding libraries and parks with closings and lack of maintenance for facilities.

## **4.13.3 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 building and structures throughout California. The Fire Code includes regulations regarding fire resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

#### **California Department of Forestry and Fire Protection (Cal Fire)**

Under Title 14 of the California Code of Regulations, Cal Fire has the primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). Cal Fire 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 Cal Fire's jurisdiction.

California law requires Cal Fire to identify areas based on the severity of fire hazard that are expected to prevail there. These areas, or "zones," are based on factors such as fuel, slope, and fire weather. There are three zones, based on increasing fire hazard: medium, high, and very high. Cal Fire adopted Fire Hazard Severity Zone maps for SRAs in November 2007. Fire hazard is a way to measure the physical fire behavior so that the damage a fire is likely to cause may be predicted. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and the burning fire brands the fire sends ahead of the flaming front.

According to the fire hazard severity zone (FHSZ) map published by Cal Fire, the lands proposed to support the PV solar facility are not located within or near an SRA or lands classified as very high fire hazard

severity zones. The project site is located within a Local Responsibility Area (LRA) and designated as LRA Moderate (Cal Fire 2007a). Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior.

## Local

Construction and operation of the project would be subject to applicable policies and regulations including those contained in the Kern County General Plan, the Mojave Specific Plan Kern County Zoning Ordinance, the Kern County Code of Building Regulations, as well as the California City General Plan and Zoning Ordinance, all of 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, Open Space, and Conservation Element

#### 1.4 Public Facilities and Services

##### 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 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 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 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.

## **California City General Plan**

### **Chapter 6. Safety Element**

#### **6.8 Public Safety Goals, Policies, and Implementation Measures**

##### Goals

- Provide and implement effective emergency services that will protect the health, safety, and welfare of residents and workers within the community.
- Protect the health, safety and welfare of residents, businesses, and property from fire danger.

##### Policies

- Ensure that new development does not create a burden on adequate levels of emergency response services, including fire protection services and law enforcement services.
- Work with the Fire Department and Police Department to ensure sufficient services can adequately protect and serve the community.
- Ensure that new development proposal shall provide street widths and clearance areas are consistent with the City's requirements and, therefore, adequate to accommodate fire protection and emergency response vehicles.
- Continue to enforce the Health, Fire, and Building standards for all new development proposed and rehabilitation of existing structures.
- Continue to monitor water supply for fire-flow to ensure adequacy of fire protection services.
- Review all new development proposals for fire safety considerations.

##### Implementation Measures

S-23: The City shall require that new development proposals demonstrate the availability of fire, police, emergency response, and solid waste disposal services during the environmental review and discretionary approval process.

S-25: The following measures shall be implemented to ensure adequate fire and police protection services in the incorporated areas of the City:

- a) All new development proposals shall be reviewed by the California City Fire Department and the California City Police Department to ensure the continuation of adequate levels of service.
- b) If additional Fire Department or Police Department station sites are determined to be required, sites shall be identified and mechanisms to obtain these sites shall be defined. These shall

- include, but not be limited to, the dedication of land for such purposes or payment of proportional share of fees as a condition of development.
- c) The City will continue to work with local organizations and the County Sheriff's Department and Fire Department to continue administration of the Mojave Desert Community Response Plan.
- S-27: The City shall review all new development proposals for fire safety considerations. This shall include the economic impacts on the City's ability to provide adequate levels of service. Items such as the incremental increase in staffing and requirements for equipment shall be analyzed and appropriate project level mitigation measures shall be applied. Measures may include specialized fire protection consideration to be incorporated into the design of the project and the contribution of funding for both staffing and equipment needs.

## **Mojave Specific Plan**

The policies, goals, and implementation measures in the Mojave Specific Plan for public services that are applicable to the project can be found in Chapter 3, Land Use Element, and are provided below.

The key goal of the Land Use Element is to maintain Mojave as a community that offers diverse residential, employment, and retail opportunities to residents while accommodating growth and providing appropriate levels of urban services. Toward this end, the Specific Plan provides for separation of incompatible uses, conservation of resource lands, and concentration of urban-level uses in areas where infrastructure exists or can easily be provided.

## **Chapter 3. Land Use Element**

### Objectives

- Objective 3.2: Develop a balanced land use pattern to ensure that future growth provides a range of residential, employment, service, and recreational opportunities.
- Objective 3.6: Ensure that public services and utilities are provided commensurate with established needs and projected growth.

### Policies

- Policy 3.6.2: Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.

## **Chapter 10. Implementation**

### Measures

- Measure L-1. Adequate Services: Require applicants to demonstrate the availability of fire, police, emergency response and solid waste disposal services during discretionary environmental review.
- Measure L-2. Fire and Police Protection Implement the following measures to ensure adequate fire and police protection in the Mojave community:
- a) Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area.
  - b) If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or payment of proportional share of services as a condition of development.
  - c) Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.

### **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.

### **California City Fire Code**

Title 4, Chapter 1, Article 1 of California City's Municipal Code details the Fire Code of the City. The purpose of the California City Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire and explosion arising from storage, use, and handling of dangerous and hazardous materials, substances, and devices; the operation, installation, construction, location, safeguarding, and maintenance of attendant equipment; and the installation and maintenance of adequate means of egress.

### **Kern County Fire Department Wildland Fire Management Plan**

The Kern County Fire Department (KCFD) Wildland Fire Management Plan was adopted in 2009 and 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 area. The plan systematically assesses the existing levels of wildland



protection services and identifies high-risk and high-value areas that may be potential locations for costly or damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes measures to reduce future fire management of protection costs and minimize losses from wildfire. According to the plan, the project site, including the proposed gen-tie line, is located within a moderate FHSZ (KCFD 2009).

### **Kern County Fire Department Unit Strategic Fire Plan**

The KCFD Unit Strategic Fire Plan, adopted in March 2018, is the current document that assesses the wildland fire situation throughout the SRA within Kern County. The 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.

The plan gives an overview of KCFD battalions and ranks these areas in terms of priority needs as well as identifying the SRA areas. According to the plan, 69 percent of the land area within Kern County is located within a SRA. The County is divided into six fuel management areas: Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi), which lies within a moderate FHSZ within the Tehachapi fire plan management area (KCFD 2018).

### **Kern County Fire Department Hazards Mitigation Plan**

The purpose of the KCFD Hazards Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards such wildfires, severe weather, earthquake, dam failure, landslide, drought 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 natural hazard 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. Additionally, the plan covers 53 special districts that include school, recreation and park, water, community service and other districts.

### **Fire Prevention Standard No. 503-507 Solar Panels**

The KCFD 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 2019 County Fire Code and is an official interpretation of the Kern County Fire Marshal's Office. The Standard outlines installation requirements for ground-mounted and roof-mounted PV solar panels. Ground-mounted PV solar panel requirements identified by this Standard address water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD 2019).

### **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 2021). 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 2020c). 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 2020-2021 Recommended Budget details the General Fund, which funds many County operations, as totaling \$883.1 million, a decrease of \$76.5 million, or 7.97% from the 2019-2020 budget. The 2019-2020 budget was the end of a four-year fiscal emergency with a deficit of over \$40 million.

## 4.13.4 Impacts and Mitigation Measures

### Methodology

Evaluation of the project's potential impacts relative to public services includes the following: (1) evaluation of existing fire and police services and personnel for the fire and police stations serving the project site; (2) determination of whether the existing fire and police services and personnel are capable of servicing the proposed project, in addition to the existing population and other land uses; and (3) determining whether the proposed project's contribution to the future service population would cause fire or police services to operate beyond capacity. The determination of a significant project impact on fire protection, emergency medical, and police protection services considers the level of services required by the project and the ability of the KCFD/CCFD and KCSO/CCPD to provide this level of service and to maintain adequate levels of service throughout the County/City, which in turn could require the construction of new facilities or the expansion of existing facilities. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

### Thresholds of Significance

As established in Appendix G of the CEQA *Guidelines*, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria 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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
  - i. Fire Protection
  - ii. Police Protection
  - iii. Schools
  - iv. Parks
  - v. Other Public Facilities

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas and that no further analysis would be needed in the EIR; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- 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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
  - iii. Schools
  - iv. Parks

As detailed in the NOP/IS, the proposed project would have up to 20 permanent onsite staff and there would be a peak workforce of approximately 1,000 workers during the 18 to 24-month construction period. It is anticipated that the construction workforce would commute to the site from various local communities and the number of workers expected to relocate to the surrounding area is not expected to be substantial. If temporary housing should be necessary to accommodate construction workers, it is expected that these accommodations would be available in the nearby hotels in Rosamond, Mojave, Lancaster, or other local communities. Therefore, it is not expected that substantial temporary increases in population would occur that would adversely affect local school populations or park facilities. Operation of the project would require up to 20 permanent employees. As a result, no significant impacts to schools, parks, or other public services are anticipated to occur. No further analysis for these issues areas is warranted in the EIR. However, further discussion on this topic has been provided for clarification purposes, under **Impact 4.13-1**, below.

## Project Impacts

**Impact 4.13-1: The project would 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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services.**

### Solar Facility

#### *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 Bellefield Solar Project.

As described in **Chapter 3, Project Description**, it is estimated that during peak construction periods up to 1,000 workers per day would be required during construction of the proposed project. The presence of construction workers would be temporary and would last approximately 18 to 24 months. The project would include development of a 1,500 megawatt (MW) solar photovoltaic power generation facility and associated infrastructure, including substations, communication cables, overhead and underground transmission lines, electrical switchyards, substations, and operations and maintenance facilities, and up to 1,500 MWs of energy storage capacity on approximately 8,371 acres of privately owned land. It is anticipated that most workers would be residents from the surrounding communities, such as Mojave, California City, Palmdale, and Victorville, and would commute to the site.

According to Cal Fire's Kern County Fire Hazards Severity Zone Maps for the Local Responsibility Areas, the project site, including the proposed gen-tie route, is classified as LRA Moderate (Cal Fire 2007a). Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The project would comply with all applicable wildland fire management plans and policies established by Cal Fire, KCFD, and CCFD. 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 4.17, *Wildfire*).

Fire protection facilities requirements are based on the number of residents and workers in the KCFD and CCFD service areas. 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 departments. As the number of residents and workers increases, so do the number of emergency medical calls. There are no residential uses proposed as a 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 (or associated population growth) would not occur.

While construction of the proposed project would increase the number of people on the subject site, the increase would be temporary and negligible and would not result in a substantial increase in service demand for fire protection services in Kern County or California City. Although service demands per temporary

employee would be less than service demands per permanent resident, the addition of construction and/or decommissioning personnel and a large construction project to the area could potentially result in an increased demand for fire protection and/or emergency medical services. As required by Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**, the project proponent would prepare and implement a fire safety plan that identifies notification procedures and emergency fire precautions consistent with the 2019 California Fire Code, Kern County Fire Code, and California City Fire Code. The plan would be implemented during the 18- to 24-month construction period and decommissioning activities would include emergency fire precautions for vehicles and equipment, as well as implementing fire rules and trainings so that temporary employees are equipped to handle fire threats. With implementation of the fire safety plan, impacts to fire protection services during project construction or decommissioning would be less than significant.

### **Operation**

Once constructed, the proposed project would require an operational staff of up to 20 full-time employees. These employees could also be shared from the Operation & Maintenance (O&M) building(s), substation, and/or transmission facilities from nearby projects. Employees would be responsible for maintenance of the facilities, including cleaning of PV solar panels, monitoring electricity generation, providing site security, and replacing or repairing inverters, wiring, and PV solar modules. Project facilities would be designed in accordance with the 2019 California Fire Code, Kern County Fire Code, and California City Fire Code such that fire hazards are reduced and/or avoided.

The project includes battery energy storage facilities that would be installed on pad or post-mounted on foundations and contained within an enclosure to minimize the potential for sparks or ignition to occur. All such enclosures would have a fire rating in conformance with U.S. national safety standards, as well as 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 Measures **MM 4.13-1KC** and **MM 4.13-1CC**, 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 also be required to implement Mitigation Measures **MM 4.13-2KC** and **MM 4.13-2CC**, to pay a Kern County and California City Cumulative Impact Charge (CIC) to provide funding for the County and City budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the County and City 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 Measures **MM 4.13-3KC** and **MM 4.13-3CC**. Through implementation of Mitigation Measure **MM 4.13-4KC** and **MM 4.13-4CC**, the project proponent/operator shall work with the County and City to determine how the use of sales and use taxes from construction of the project can be maximized. With implementation of Mitigation Measures **MM 4.13-1KC through MM 4.13-4KC**, and **MM 4.13-1CC through MM 4.13-4CC**, any potential operational impacts on fire protection services would be substantially reduced. Therefore, the project would not result in the need for new or physically altered KCFD facilities and impacts would be less than significant.

**Law Enforcement/Police Protection****Construction and Decommissioning**

As described above in Section 4.13.2, *Environmental Setting*, the KCSO provides primary law enforcement protection services for the project site and surrounding areas. The Rosamond Substation, located approximately 10.4 miles southeast of the project site, would provide primary law enforcement services to the project site. Similar to fire protection services, the proposed project could increase service needs from KCSO during project construction and would increase the number of people on the project site. The increase would be temporary and, thus, would not necessarily substantially increase the service demand for law enforcement protection services in Kern County. 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. Commutes of construction workers could potentially increase traffic and could thus adversely affect KCSO response times and/or the CHP's ability to patrol the highways. However, the project site is currently undeveloped and 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. Chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access to restrict public access during construction. 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**

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

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

The project would require an operational staff of 20 total full-time employees for the entire project. These employees could be shared from the O&M building(s), substation(s), and/or transmission facilities operating at nearby projects. Given the limited number of permanent employees, commutes by operations and maintenance employees would be minimal and would not result in an adverse impact on KCSO response times or the CHP's ability to patrol the local roadways.

Project operation could potentially attract vandals or present other security risks; however, such risks would be addressed through a number of design and operational features, as follows. For security purposes, chain link fence with barbed wire measuring up to 8 feet in height would be installed along the perimeter of the PV solar fields. An intrusion alarm system composed of sensor cables integrated into the perimeter fence, intrusion detection cabinets placed approximately every 1,500 feet along the perimeter fence, and an intrusions control unit, located either in the substation control room or at the O&M building(s), or similar technology, would be installed. The project may include additional security measures including, but not

limited to, low voltage fencing with warning reflective signage, controlled access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespassing and/or unauthorized activities that could interfere with project operation. Controlled access gates would be maintained at the main entrances to the project site. Enclosure gates would be manually operated with a key provided in an identified key box location to ensure that emergency access is available at all times. With these on-site security measures, the project would not result in a need to construct new or expand existing KCSO stations or other resources.

As discussed above, the project would implement Mitigation Measures **MM 4.13-2KC** and **MM 4.13-2CC** to provide a CIC to provide funding for the County and City budgets for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes that the County and City 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 Measures **MM 4.13-3KC** and **MM 4.13-3CC**. Through implementation of Mitigation Measure **MM 4.13-4KC** and **MM 4.13-4CC**, the project proponent/operator shall work with the County and City 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.

#### ***Schools/Parks/Other Public Facilities***

##### ***Construction and Decommissioning***

As discussed in the IS/NOP, the proposed project would require an average of approximately 1,000 workers during the 18- to 24-month construction period. The presence of construction workers at the project site would be temporary. 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. 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 4.13-5KC** and **MM 4.13-5CC**, 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***

Operation of the project would require approximately 20 full-time workers onsite. Employees would intermittently visit the project site for routine inspection, maintenance, and repair of solar arrays and accessory components. 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 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, parks, or public facilities. 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 and operation would be less than significant.

Additionally, the developer fee for the Mojave Unified School District is assessed at \$ 0.61 per square foot of commercial or industrial development space (MUSD 2018). The project would pay its fair share based on the developer fee rate as well as any adjustments as agreed upon by the school district and the developer.

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 ongoing fiscal emergency of the county. Public policies in the Kern County General Plan and Mojave Specific 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 Measures **MM 4.13-2KC** and **MM 4.13-2CC** provide 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 \$550 per net acre annual charge. 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 well as the California City General fund. As this project application had already been deemed complete and commenced processing when the December 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 Measures **MM 4.13-3KC** and **MM 4.13-3CC**. Through implementation of Mitigation Measures **MM 4.13-4KC** and **MM 4.13-4CC**, the project proponent/operator shall work with the County and City 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.



## Gen-Tie

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 4.13-1KC**, 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 4.13-1KC** 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.

## Mitigation Measures

### Kern County:

**MM 4.13-1KC:** 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 shall maintain their factory-installed (type) mufflers in good condition.
- c. Fire rules shall be posted on the project bulletin board at the contractor's field office and in 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 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.

- g. Building plans shall be included for the energy storage system to verify adherence to County and California Building Code standards.

**MM 4.13-2KC:**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 = (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 easement used in the calculations shall be shown on the submitted Phase Map.
6. Any property included in the approved Conditional Use Permit that is not included in a phase must be included in the last phase or a formal modification processed to remove it from the Conditional Use Permit.

b. Calculation and Payment of Cumulative Impact Charge (CIC)

1. A payment of \$620 per net acre for the map shown with the building permit submittal shall be paid upon issuance of the first building permit. If it is not paid within 30 days after the issuance of the first building permit for the phase regardless of the total number of building permits or type of building permit issued, all such permits shall be suspended until the fee is paid in full.
2. 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 and phase number.
3. 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)

**MM 4.13-3KC:**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 4.13-4KC:**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 4.13-5KC:**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, 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.

#### **City of California City**

**MM 4.13-1CC:** 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 California City Fire Department for review and approval. A copy of the approved fire safety plan shall be submitted to the California City Community Development Department prior to the issuance of any building permit or grading permits. 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 shall maintain their factory-installed (type) mufflers in good condition.
- c. Fire rules shall be posted on the project bulletin board at the contractor's field office and in 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 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.
- g. Building plans shall be included for the energy storage system to verify adherence to City and California Building Code standards.

**MM 4.13-2CC:** 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 = (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 easement used in the calculations shall be shown on the submitted Phase Map.
  - 6. Any property included in the approved Conditional Use Permit that is not included in a phase must be included in the last phase or a formal modification processed to remove it from the Conditional Use Permit.
- b. Calculation and Payment of Cumulative Impact Charge (CIC)
  - 1. A payment of \$620 per net acre for the map shown with the building permit submittal shall be paid upon issuance of the first building permit. If it is not paid within 30 days after the issuance of the first building permit for the phase

regardless of the total number of building permits or type of building permit issued, all such permits shall be suspended until the fee is paid in full.

2. Payments shall be made to the California City Finance Department and labeled Cumulative Impact Charge (CIC) with the project name and phase number.
3. 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)

**MM 4.13-3CC:** Written verification of ownership of the project shall be submitted to the California City Community Development 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 California City Finance Department by April 30 of each calendar year.

**MM 4.13-4CC:** The project proponent/operator shall work with the City 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 incorporated territory of California City 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 California City 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 California City. The project proponent/operator shall allow the City to use this sales tax information publicly for reporting purposes.

**MM 4.13-5CC:** 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, 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.

## **Gen-Tie**

Implement Mitigation Measure **MM 4.13-1KC** and **4.13-5KC**.

## **Level of Significance after Mitigation**

### **Kern County**

Impacts would be less than significant with the incorporation of Mitigation Measures **MM 4.13-1KC through MM 4.13-5KC**.

#### **City of California City**

Impacts would be less than significant with the incorporation of Mitigation Measures **MM 4.13-1CC through MM 4.13-5CC**.

#### **Gen-Tie**

Impacts would be less than significant with the incorporation of Mitigation Measure **MM 4.13-1KC**.

## **Cumulative Setting, Impacts, and Mitigation Measures**

### **Solar Facility and Gen-Tie**

“Cumulative impacts” refers to 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 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 planned projects in the vicinity of a project site. The cumulative impact analysis area considered herein includes the service areas for each of the fire and police and other governmental offices/facilities entities serving the project site. For both the KCFD/CCFD and the KCSO/CCPD, service areas include the unincorporated areas of Kern County and California City. As identified in **Chapter 3, Project Description**, there are 29 other pending development projects in and beyond a six-mile radius of the project site, including 19 other solar energy projects that occur these service areas.

As discussed above, the project would generate a relatively small number of full-time permanent jobs on site that would not result in a substantial population increase and would thus not significantly impact public services and facilities that are based on a service population. Combined with the other pending development projects in the Western Antelope Valley area, however, there is a potential for some significant cumulative impacts, over the long-term on various public services and facilities. Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** require 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 4.13-2KC** and **MM 4.13-2CC** require the project proponent to pay CICs to reduce significant impacts to all public services, including fire and law enforcement services in Kern County and California City. Implementation of Mitigation Measures **MM 4.13-2KC through 4.13-5KC** and **MM 4.13-2CC through 4.13-5CC** 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 charges, impacts from the project’s contribution to a cumulative 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.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.13-1KC through MM 4.13-5KC**.

### **City of California City**

Implement Mitigation Measures **MM 4.13-1CC through MM 4.13-5CC**.

### **Gen-Tie**

Implement Mitigation Measure **MM 4.13-1KC** and **MM 4.13-5KC**.

## **Level of Significance after Mitigation**

### **Kern County**

Impacts would be less than cumulatively considerable with the incorporation of Mitigation Measures **MM 4.13-1KC through MM 4.13-5KC**.

### **City of California City**

Impacts would be less than cumulatively considerable with the incorporation of Mitigation Measures **MM 4.13-1CC through MM 4.13-5CC**.

### **Gen-Tie**

Impacts would be less than cumulatively considerable with the incorporation of Mitigation Measure **MM 4.13-1KC** and **MM 4.13-5KC**.

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### **4.14.1 Introduction**

This section of the EIR describes the affected environment and regulatory setting related to traffic and transportation for the proposed project. It also describes the impacts associated with traffic and transportation that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable.

Information in this section is based primarily on the *Bellefield Solar Project Traffic Impact Analysis* (TIA) prepared by Stantec (Stantec 2020c) located in Appendix L.1 of this EIR and the *Bellefield Solar Project Construction – Oak Creek Road Evaluation Memo* prepared by Stantec (Stantec 2021) located in Appendix L.2 of this EIR. Construction of the overhead and/or underground gen-tie line for the project would occur along Oak Creek Road between the existing Windhub Substation and SR-14. The *Bellefield Solar Project Construction – Oak Creek Road Evaluation Memo* was prepared to determine the potential traffic-related impacts when sections of Oak Creek Road are temporarily closed to either one lane or fully closed for construction of the gen-tie line.

### **4.14.2 Environmental Setting**

The proposed project is located in portions of unincorporated Kern County and California City. The project site straddles State Route (SR) 58, east of Mojave and just west and south of the Hyundai-Kia Proving Ground.

#### **Existing Roadway System**

SR 58 is a four-lane divided highway and runs in the east-west direction through the project site. SR 58 provides regional access to Bakersfield to the west and Barstow to the east. Access to the project site would be from SR 58.

SR 14 is a four-lane divided highway west of the project site. For regional travel, residents of California City and other nearby communities rely primarily on SR 14, which carries traffic south to Lancaster and other major routes. SR 14 connects to SR 58 and SR 138 before reaching Interstate 5 (I-5) near Santa Clarita; I-5 provides access to Los Angeles.

Oak Creek Road is a two-lane undivided roadway running generally east-west between Tehachapi Willow Springs Road in unincorporated Kern County and K Street in Mojave. The road is approximately 10.75 miles long with a 55-mph speed limit. A stop sign is located on the westbound Oak Creek Road leg of the T-intersection at Tehachapi Willow Springs Road, and a four-way stop is provided at the intersection of Holt Avenue and Oak Creek Road. The remaining 10-mile section west of Holt Avenue is uncontrolled. Class II bike lanes are striped on the section of Oak Creek Road east of Koch Street. West of Koch Street the roadway has dirt shoulders.

## Transit, Bicycle, and Pedestrian Facilities

Public transportation in Kern County is provided by Kern Transit, which offers 17 fixed bus routes throughout the County and a dial-a-ride general public transportation service for residents in Frazier Park, Kern River Valley, Lamont, Mojave, Rosamond, and Tehachapi. The transit system offers intercity bus service along with local transit service. In the vicinity of the PV solar field and the gen-tie route, Kern Transit operates several bus routes. Route 100 (Bakersfield-Lancaster) provides service between Bakersfield and Lancaster. The route follows Route 58 easterly from Bakersfield, then south along SR 14 to Lancaster with stops in Tehachapi and Rosamond. Route 240 (Boron-Mojave) follows SR 58 easterly from Mojave to Boron. Route 230 extends to the north from Mojave along SR 14, east along California City Boulevard, north along Neuralia Road, north along SR 14, and east along SR 178 (W. Inyokern Road) to Ridgecrest. Stops are provided in California City and Esta along the route. Additionally, Route 250 (California City-Lancaster) provides service between California City and Lancaster. The route extends north/northeast from Lancaster along SR 14, then east along California City Boulevard to California City. Stops are provided in Rosamond and Mojave along the route (Kern Transit 2020).

Due to the rural location of the proposed PV solar fields and gen-tie route, there are no dedicated pedestrian or bicycle facilities in the immediate vicinity.

## Airport Facilities

Public and private airports located within a 20-mile radius of the project site are described below.

**California City Municipal Airport** is a public airfield located approximately 4.7 miles northwest of the project site. This airport has a 6,000-foot asphalt runway and primarily serves general aviation aircraft, with some military flights also using the facility. In operation since 1963, the airport serves an average of 68 flight operations per week.

**Edwards Air Force Base** is a military base and airstrip located approximately 6 miles southwest of the western site. The base is owned and operated by the U.S. Air Force (not open to public use) and includes three runways that range in length from 8,000 feet to 12,000 feet and that are paved with concrete or asphalt. The base covers more than 301,000 acres, and also includes additional landing areas on the hard packed surface of the Rogers Dry Lake and Rosamond Dry Lake. The base also supports the U.S. space shuttle program as a backup landing site.

**Mojave Air and Space Port** is a public airfield operated by the East Kern Airport District (EKAD) and located approximately 1.3 miles west of the project site. This airport has three asphalt runways (with lengths of 3,946, 7,049, and 12,503 feet) and primarily serves general aviation aircraft, with some commercial, air taxi, and military flights also using the facility. In operation since 1940, the airport serves an average of 48 flight operations per day. In 2004, this facility was the first to be certified as a spaceport by the FAA. The project site is located within the Airport Influence Area of the Mohave Air and Spaceport and would therefore be subject to review by the EKAD to ensure conformance with any designated restrictions (e.g., building height, glare, electrical interference).

**Rosamond Skypark** is a privately owned and operated residential airport that is open for public use and is located about 10.5 miles southwest of the project site. This airport has a 3,600-foot asphalt runway and exclusively serves general aviation aircraft. In operation since 1953, the facility serves an average of 29 flight operations per day.

## Study Segments

A TIA was prepared for the proposed project to determine the amount of traffic generated by the project during construction and operation and to identify potential traffic-related significant impacts on the affected portions of the circulation system (Stantec 2020c; see Appendix L.1). The TIA evaluated the following roadway segments:

1. SR 58 at Randsburg Cut-off Road
2. SR 58 at Junction SR 14
3. SR 58 at Boron Avenue
4. SR 14 at Junction SR 58
5. SR 14 at Silver Queen Road

The *Bellefield Solar Project Construction – Oak Creek Road Evaluation Memo* (Appendix L.2 of this EIR) was prepared to determine the potential traffic-related impacts when sections of Oak Creek Road are temporarily closed to either one lane or fully closed for construction of the gen-tie line.

## Level of Service

Level of service (LOS) is a qualitative index of the performance of an element of a transportation system. LOS is a rating scale from A to F, with A indicating no congestion and F indicating severe congestion and delays.

The Highway Capacity Manual, Sixth Edition (HCM 6), a standard reference published by the Transportation Research Board, contains specific criteria and methods for assessing LOS. The LOS for multilane highways is calculated based on traffic density and the speed travelled. The LOS for two-lane highways is calculated based on vehicle mobility, which is estimated based upon travel speed and the ability of vehicles to pass slow-moving vehicles in the traffic stream.

## Existing Traffic Conditions

Existing traffic conditions for the five roadway segments were evaluated based on LOS criteria and the HCM 6 Generalized Daily Service Volume methodology for estimating LOS. The roadway capacities were estimated and compared to observed traffic volumes.

The maximum daily traffic volumes that would allow the highway segments to maintain an acceptable LOS are shown in **Table 4.14-1, Existing LOS of Roadway Segments**. As shown in **Table 4.14-1**, all of the roadway segments currently operate at an acceptable LOS of C or better.

**Table 4.14-1. Existing LOS of Roadway Segments**

#	Roadway Segment	Facility Type	Allowable Daily Service Volume (LOS C)	ADT	LOS
1	SR 58 MP 107.465 – Randsburg Cut-off Road	Multilane Highway	42,700	19,600	B
2	SR 58 MP 111.130 – Junction SR 14	Multilane Highway	41,900	14,000	A
3	SR 58 MP 142.88 – Boron Avenue	Two-lane Highway	41,700	15,350	A
4	SR 14 MP 16.070 – Junction SR 58	Multilane Highway	32,800	15,700	B
5	SR 14 MP 12.147 – Silver Queen Road	Multilane Highway	41,100	20,200	B
Source: Stantec 2020c (see Appendix L.1). Notes: ADT = average daily traffic LOS = level of service MP = mile post SR = state route The Allowable Daily Service Volume was calculated for each location based on the unique peaking factors obtained from Caltrans.					

Existing traffic volumes on Oak Creek Road are relatively low and were counted east of the Windhub Substation in May 2021. The daily volume is approximately 1,600 vehicles with a peak hour volume of approximately 130 vehicles during each of the AM, mid-day, and PM peak hours. The volumes are summarized in **Table 4.14-2, Oak Creek Road – Existing Volume Summary**.

**Table 4.14-2. Oak Creek Road – Existing Volume Summary**

Location	Hour	Eastbound	Westbound	Total
Oak Creek Road East of Windhub Substation				
AM Peak Hour	5-6 AM	51	76	127
Mid-Day Peak Hour	3-4 PM	53	80	133
PM Peak Hour	4-5 PM	57	74	131
Daily	n/a	742	872	1,614
Source: Stantec 2021 (see Appendix L.2).				

## 4.14.3 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

#### Senate Bill 375

Senate Bill (SB) 375 (codified in the Government Code and the Public Resources Code) took effect in 2008 and provides a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the greenhouse gas (GHG) reduction goals established by Assembly Bill (AB) 32. SB 375 requires metropolitan planning organizations (MPO) to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans to achieve GHG emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.

SB 375 required the California Air Resources Board (CARB) to set regional targets for reducing GHG from passenger vehicle use. In 2010, CARB established targets for 2020 and 2035 for each region in California governed by an MPO. Kern Council of Governments (Kern COG) is the MPO for the Kern Region as

designated by the federal government, and the Regional Transportation Planning Agency (RTPA) as designated by the State of California.

## **Senate Bill 743**

SB 743 was signed into law September 2013 and includes several changes to CEQA for projects located in areas served by transit (e.g., transit-oriented development, or TOD). Most notably with regard to transportation and traffic assessments, SB 743 changes the way that transportation impacts are analyzed under CEQA (see Public Resources Code Section 21099). SB 743 required the Governor's Office of Planning and Research to amend the CEQA Guidelines to exclude level of service (LOS) and auto delay when evaluating transportation impacts.

With implementation of SB 743, new criteria have been established to promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. The Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA (Guidelines) provided recommendations for updating the State's CEQA Guidelines in response to SB 743 and contained recommendations for a vehicle miles traveled (VMT) analysis methodology in an accompanying Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory).

The Guidelines, including the Technical Advisory, recommended use of automobile VMT per capita as the preferred CEQA transportation metric, along with the elimination of automobile delay/LOS for CEQA purposes statewide. Public Resources Code Section 21099 and CEQA Guideline Section 15064.3 reflect this change. Under Section 21099, automobile delay, as measured by LOS or similar measures of traffic congestion or vehicular capacity, is not considered a significant effect on the environment.

## **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. Eastern Kern County (i.e., including the project site and surrounding area) is under the jurisdiction of Caltrans District 9. 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.

## **Regional**

### **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. 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. CARB set a goal of Kern County reducing 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. 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 the community's future.

The RTP/SCS financial plan identifies available funding 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. Funding 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.

## **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.

## 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 LOS D for all roads throughout the County.

### 2.3 Highways

#### 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 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 Kern County Planning and Community Development 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 Kern County Planning and Community 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 1: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.
- Measure 2: 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.

### **Mojave Specific Plan**

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The goal, policies, and implementation measures in the Mojave Specific Plan for traffic and transportation applicable to the project is provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

## **Chapter 6. Circulation Element**

#### ***Goal***

- Goal 1: Provide for adequate circulation to support future growth.

#### ***Objective***

- Objective 6.1: Provide adequate transportation facilities to serve area residents and commercial and industrial businesses.

***Policies***

- Policy 6.1.1: Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.
- Policy 6.1.4: With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards.
- Policy 6.1.6: Coordinate with developers for the improvement of local streets in conjunction with an approved phased development, subject to approval of the Roads Department in accordance with the Kern County Land Division Ordinance and Kern County Development Standards.
- Policy 6.1.8: Maintain a minimum service level of “D” or better on Circulation Element roadways. Maintain a minimum service level of “C” or better on Caltrans roadways.
- Policy 6.1.9: Require new development to contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals required to meet the demand generated by the project.
- Policy 6.1.13: Roadways for new development shall be developed in accordance with Kern County Development Standards.
- Policy 6.1.14: Final driveway access locations and design shall be determined through acquisition of an encroachment permit from the Kern County Roads Department at the time development occurs.

***Implementation Measures***

- Implementation Measure F-4: As a part of discretionary permit approval, plans should be reviewed for street improvements, including landscaping and lighting. Where necessary, require establishment of a County Service Area (CSA) to maintain lighting and landscaping adjacent to County roads.
- Implementation Measure F-12a: New development projects will have conditions of approval applied requiring construction of roadway improvements, dedications, and/or payment of in-lieu fees to provide circulation system improvements consistent with the Specific Plan Circulation Element.
- Implementation Measure F-12d: No development or building permit will be approved unless the County finds that adequate circulation system capacity exists or can be made to exist to accommodate the demands of the use/development proposed.
- Implementation Measure F-12e: A traffic analysis shall be submitted with any submittal of a precise development plan, division application, or zone change that implements the plan, and/or conditional use permit. The traffic analysis shall provide a trip generation for all vehicular traffic, the necessary improvements to the existing circulation system and the project's pro-rata share of signalization, and improvements on Kern County and the State Department of Transportation network. The traffic analysis shall be reviewed and approved by the Kern County Roads Department and the

State Department of Transportation. Recommendations, as approved by the Roads Department, shall become conditions of approval. This requirement may be waived by the Roads Department, in conjunction with the State Department of Transportation.

Implementation Measure F-12f: Amendments to the Plan shall require preparation of a traffic study, including site-specific and regional current traffic counts for review and approval by the Roads Department and the State Department of Transportation. Recommendations for regional improvements and development contribution to maintain adopted Levels of Service shall be included.

## **California City General Plan**

### **Chapter 3. Circulation Element**

#### **3.7 Highway and Street System Goals, Policies, and Implementation Measures**

##### ***Goals***

- Goal 1: Develop and maintain an effective multi-modal transportation and circulation system.
- Goal 2: Minimize the adverse impact of streets and highways on adjacent land uses and on the environment of the General Plan planning area.

##### ***Policy***

- Policy 1: Plan and provide a street and highway system to move people and goods in an orderly, safe, and an efficient manner. Level of Service classification C or better shall be maintained for arterial and collector streets.

##### **Implementation Measures**

- Measure T-7: The City shall require the preparation of a Traffic Impact Analysis (TIA) for proposed private development projects consistent with the City's Municipal Code, Chapter 2. Traffic. The TIA will, at a minimum be required to address off-site traffic circulation, on-site traffic circulation, and alternative transportation including transit and bicycles. The TIA shall identify the impacts of the proposed development project and define mitigation measures to address effects determined to be significant. The TIA shall be used in the preparation of the appropriate environmental documentation consistent with the requirements of the California Environmental Quality Act (CEQA).
- Measure T-10: As a part of the approval process for a private development proposal, the project proponent/developer shall be required to provide street improvements that may include, but not be limited to landscaping, lighting, and signage. Where necessary, the City will work with the appropriate parties to establish a service district to maintain landscaping and lighting adjacent to the public right-of-way.

## **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 COG refers to its congestion management activities as the CMP. The Kern COG was designated as the CMA.

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 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.

## **2018 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. 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. CARB set Kern 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 Kern County and affected incorporated cities in addressing compatibility issues between airports and surrounding land uses. As noted above in Section 4.14.2, *Environmental Setting*, the project site is located within 20 miles of the California City Municipal Airport, Edwards Air Force Base, Mojave Air and Space Port, and Rosamond Skypark. The project site is located within the Airport Influence Area of the Mohave Air and Spaceport and would therefore be subject to review by the EKAD to ensure conformance with any designated restrictions (e.g., building height, glare, electrical interference).

## **4.14.4 Impacts and Mitigation Measures**

### **Methodology**

The *Bellefield Solar Project Traffic Impact Analysis* was prepared for the proposed project and is provided in Appendix L.1 of this EIR. Traffic impacts from implementation of the proposed project were evaluated for the site by establishing trip generation rates for both the construction and operational phases of the project. Trip generation is based primarily on the numbers of workers and the types of equipment that would be used. Trip generation is defined as the number of vehicle trips produced by a particular type of land use or project. A trip is defined as vehicle movement in one direction. The total number of trips generated by each land use or project includes both inbound and outbound trips.

### **Construction Trip Generation**

The proposed project would cover approximately 8,371 acres. Construction of the project is expected to be completed in the following six phases:

- Phase 1: Site Preparation
- Phase 2: Grading and Earthwork
- Phase 3: Concrete Foundations
- Phase 4: Structural Steel Work
- Phase 5: Electrical/Instrumentation Work
- Phase 6: Collector Line Installation

The analysis of construction trip generation was prepared based on the average daily volume of construction traffic. The time period with the highest construction trip generation was found to be during the overlap of Phases 2, 3, 4, and 5. The project is expected to generate a total passenger car equivalent (PCE) volume of approximately 4,015 average daily trips (ADT), which includes 3,574 passenger car trips and 204 heavy vehicle trips; refer to **Table 4.14-3, Overall ADT with PCE Trips by Phase**.

**Table 4.14-3 - Overall ADT with PCE Trips by Phase**

Phase	Description	Work Days	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	Site Preparation	214	393	393	393	393	393															
2	Grading and Earthwork	214			1,159	1,159	1,159	1,159	1,159													
3,4,5	Foundations, Steel, Electrical	426						2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856
6	Collector line installation	102																274	274	274	274	274
	Total	956	393	393	1,552	1,552	1,552	4,015	4,015	2,856	2,856	2,856	2,856	2,856	2,856	2,856	2,856	3,130	3,130	3,130	3,130	274

**Bellefield - Heavy Vehicle ADT by Phase**

Phase	Description	Work Days	2021					2022										2023				
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	Site Preparation	214	64	64	64	64	64															
2	Grading and Earthwork	214			64	64	64	64	64													
3,4,5	Foundations, Steel, Electrical	426						140	140	140	140	140	140	140	140	140	140	140	140	140	140	
6	Collector line installation	102																	38	38	38	38
	Total	956	64	64	128	128	128	204	204	140	140	140	140	140	140	140	140	140	178	178	178	38

**Bellefield - Passenger Car ADT by Phase**

			2021							2022							2023						
Phase	Description	Work Days	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
1	Site Preparation	214	255	255	255	255	255																
2	Grading and Earthwork	214			1,021	1,021	1,021	1,021	1,021														
3,4,5	Foundations, Steel, Electrical	426						2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553		
6	Collector line installation	102																	191	191	191	191	
	Total	956	255	255	1,276	1,276	1,276	3,574	3,574	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,553	2,744	2,744	2,744	191	

Source: Stantec 2020c (see Appendix L.1).



## Construction Truck Routing

During construction, trucks would be routed on SR 58 and SR 14 depending on the type of construction activity. Upon exiting SR 58, construction traffic would access the project site from Altus Avenue, Silver Queen Road, and 50<sup>th</sup> Street.

## Construction Temporary Road Closure – Oak Creek Road

The *Bellefield Solar Project Construction – Oak Creek Road Evaluation Memo* prepared by Stantec (Stantec 2021) located in Appendix L.2 of this EIR. Construction of the overhead and/or underground gen-tie line for the project would occur along Oak Creek Road between the existing Windhub Substation and SR-14. The *Bellefield Solar Project Construction – Oak Creek Road Evaluation Memo* was prepared to determine the potential traffic-related impacts when sections of Oak Creek Road are temporarily closed to either one lane or fully closed for construction of the gen-tie line.

## Operations and Maintenance Trip Generation

Once constructed, the solar facility would have up to 20 full-time employees, and the majority of the staff would work during the day shift. To be conservative, assuming all employees work during the day shift, there would be approximately 50 trips per day for the full facility based on an average trip rate of 2.5 trips per employee.

## Level of Service Methodology

Specific service measures are used to determine LOS. For freeway segments, LOS is based on density while on two-lane highways, the LOS is based on the percent time-spent-following and speed. As noted previously, the Highway Capacity Manual (HCM), 6th Edition, published by the Transportation Research Board, includes six levels of service for roadways or intersections ranging from LOS A (best operating conditions characterized by free-flow traffic, low volumes, and little or no restrictions on maneuverability) to LOS F (worst operating conditions characterized by forced traffic flow with high traffic densities, slow travel speeds, and often stop-and-go conditions) (Transportation Research Board 2016).

For planning-level analyses, the HCM provides generalized service volume tables to estimate the LOS based on traffic volume on a roadway. The roadway capacity can be compared to the traffic volume to determine if a segment of roadway, highway, or freeway is operating at satisfactory LOS, as defined in the Thresholds of Significance below.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing, and coordination along the arterial corridor.

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced

by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left turns.

Kern County uses a threshold of LOS D for the minimum acceptable operation of its transportation facilities. Facilities under the jurisdiction of Caltrans include freeway segments, ramps, ramp terminals, and arterials. Although Caltrans has not designated a LOS standard, Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December 2002) indicates attempts to maintain the LOS of a state highway facility between the LOS "C/D" threshold (Caltrans 2002).

For the purpose of this analysis, a LOS threshold of C was used to determine the significance of project impacts on traffic and transportation. The project would be considered to have a significant impact on traffic and transportation if it would cause the operation of a transportation facility to worsen from LOS C or better to LOS D or worse.

## 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, plan, 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 increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- d. Result in inadequate emergency access.

## Project Impacts

**Impact 4.14-1: The project would conflict with an applicable plan, ordinance or policy establishing the circulation system, including transit, roadway, bicycle and pedestrian facilities.**

### Solar Facility

#### Construction

As previously discussed, the Kern County General Plan and Mojave Specific Plan Circulation Elements identify standards for maintaining an adequate LOS for County streets and intersections. To evaluate project consistency with the General Plan Circulation Element, a *Traffic Impact Analysis* was prepared for the project (Stantec 2020c); refer to Appendix L.1, *Traffic Impact Analysis*, for additional discussion. As

previously stated, vehicle delay (evaluated in terms of LOS) is no longer considered to be an environmental impact under CEQA. However, an evaluation of potential project effects on LOS is included herein.

Regional access is primarily provided by SR 58, which carries traffic east to Barstow and west to Bakersfield. SR 58 connects to U.S. Route 395 to the east and SR 14 to the west. Local access to the project site is provided from Boron Avenue, Twenty Mule Team Road, and Gephart Road.

Minor improvements may be required to provide adequate access from these roadway locations. However, it is not anticipated that any such improvements would substantially interfere with existing roadway operations or circulation patterns. Additionally, the project proposes to remove future road reservations along section and mid-section lines where solar arrays are proposed and public streets would not be needed. This would not affect any existing roadways or eliminate any access to existing land uses. None of these activities would result in conflict with an applicable plan, ordinance, or policy addressing the circulation system. The project does not propose any features that are inconsistent with applicable policies of the Kern County General Plan or Mojave Specific Plan Circulation Elements. The Circulation Element Amendment (General Plan and Specific Plan) would be amended to remove the sections and midsection line road reservations, as shown in **Chapter 3, Project Description, Figure 3-9, Future Road Reservations Proposed to be Removed**, of this EIR. A full list of the sections and midsection line road reservations included in the amendment is provided in **Chapter 3, Project Description**, of this EIR.

The proposed project would include a request for County approval to allow for the vacation of 16 existing public access easements within the project boundary. The proposed vacation of the existing public access easements on the project site are shown in **Chapter 3, Project Description, Figure 3-10, Proposed Non-Summary Vacation of Public Access Easements**, of this EIR. The purpose of the request is to facilitate the optimal layout of solar panels by removing recorded but unused public rights-of-way on vacant land. These easements have been created by grant deed, and some dirt roads exist within the project refinement. As requested, the easement vacations would not eliminate any legal access for any property or persons in the area. Access that is removed by the vacations of the public access easements would be replaced with 20-foot wide minimum private access easements, or alternatively, through the use of existing area roadways.

## Roadways

The Existing plus Construction conditions for the roadway segments were evaluated based on LOS criteria and the HCM 6 Generalized Daily Service Volume methodology for estimating LOS. The roadway capacities were estimated and compared to the Existing plus Project traffic volumes. For this analysis, to evaluate the most conservative scenario for each roadway segment, 100 percent of the construction trips were assigned to each roadway segment individually as a worst-case scenario. **Table 4.14-4, Existing Plus Construction Traffic LOS of Study Segments**, summarizes the analysis.

As shown in **Table 4.14-4, Existing Plus Construction Traffic LOS of Study Segments**, with the addition of construction traffic, all of the roadway segments would operate at acceptable LOS B or better. Accordingly, with the addition of construction traffic on the study area roadway segments, the ADT would be below the LOS C thresholds, which indicates that there would be no significant project impact on the roadway segments. Since the capacity analysis indicates that there would be no significant impacts on roadway segments based on the conservative assumption regarding construction trips, the impact of construction trips would be less than significant.

Construction traffic access to the main construction areas east of SR 58 would primarily occur at the SR 58/Altus Avenue interchange, which is located at approximately SR 58 post-mile 116, east of the SR 14

interchange and west of the Edwards Air Force Base/Rosamond Boulevard interchange. As discussed above, the construction period with the highest volume of construction traffic would occur during the overlap of construction phases 2, 3, 4, and 5, during which the project is estimated to generate a maximum of 3,574 average daily passenger car trips and 204 average daily heavy vehicle trips, for a total of 4,015 ADT. Approximately 2,008 trips would be inbound to the project site and approximately 2,008 trips would be outbound from the project site each day.

Assuming a worst-case scenario of 100 percent of construction traffic on any given highway segment, it is anticipated that each highway segment would continue to operate at LOS B or better with the addition of project construction traffic. At the Altus Avenue interchange ramps, existing condition (2018) traffic volumes are as follows (Stantec 2021):

- Eastbound off to Business 58-East End (Altus Avenue) – 82 ADT
- Westbound on to Business 58-East End (Altus Avenue) – 96 ADT
- Westbound off to Business 58-East End (Altus Avenue) – 1,619 ADT
- Eastbound on to Business 58-East End (Altus Avenue) – 1,139 ADT

Assuming a worst-case scenario where 100 percent of the construction traffic would utilize the westbound off-ramp and the eastbound on-ramp for access to SR 58, daily traffic volumes for the ramps would range from 3,147 ADT to 3,627 ADT for the on-ramp and off-ramp, respectively. Project construction traffic would be distributed throughout the day, with the highest concentrations occurring outside the typical peak hours with construction starting in the early morning hours and ending before the typical PM peak hour.

Each ramp terminates at Altus Avenue as a single lane controlled by a stop sign, and Altus Avenue consists of two-through lanes in each direction with left-turn pockets in a painted median. The westbound off-ramp is approximately 1,600 feet in length and the eastbound off-ramp is approximately 2,100 feet in length.

The expected daily ramp volumes of approximately 3,147 ADT to 3,627 ADT for worst-case conditions are lower than the capacity of a typical single-lane ramp and the ramps would operate without any anticipated operational deficiencies. With typical peak hour volumes representing approximately 8-10 percent of the ADT, queue lengths are not expected to be excessive and would not affect the SR 58 mainline. Therefore, impacts in this regard are considered to be less than significant.

However, while impacts would be less than significant, Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** would require that all oversize vehicles used on public roadways during project 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.

**Table 4.14-4. Existing Plus Construction Traffic LOS of Study Segments**

#	Roadway Segment	Facility Type	Allowable Daily Service Volume (LOS C)	ADT	LOS
1	SR 58 MP 107.465 – Randsburg Cut-off Road	Multilane Highway	42,700	23,615	B

#	Roadway Segment	Facility Type	Allowable Daily Service Volume (LOS C)	ADT	LOS
2	SR 58 MP 111.130 – Junction SR 14	Multilane Highway	41,900	18,015	A
3	SR 58 MP 142.88 – Boron Avenue	Multilane Highway	41,700	19,365	A
4	SR 14 MP 16.070 – Junction SR 58	Multilane Highway	32,800	19,715	B
5	SR 14 MP 12.147 – Silver Queen Road	Multilane Highway	41,100	24,215	B
Source: Stantec 2020c (see Appendix L.1). Notes: ADT = average daily traffic LOS = level of service MP = Mile Post SR = State Route The Allowable Daily Service Volume was calculated for each location based on the unique peak factors obtained from Caltrans.					

### Operation and Maintenance

Once constructed, the solar facility would have up to 20 full-time employees, and the majority of the staff would work during the day shift. To be conservative, assuming all employees work during the day shift, there would be approximately 50 trips per day for the full facility based on an average trip rate of 2.5 trips per employee. These 50 trips are considered negligible in terms of traffic impact. Ongoing maintenance and periodic repair are also anticipated to produce negligible results in terms of traffic impact.

When feasible, required planned maintenance would be scheduled to avoid peak load periods, and maintenance and security personnel would travel to the site during off-peak times. Unplanned maintenance would typically be responded to as needed depending on the event. These maintenance activities would not generate trips on a regular basis, and the estimated trips by full-time project personnel would generate minimal operational traffic. Trips generated by project operation and maintenance would be substantially lower than the trips generated by project construction, and as stated above, the impact during construction would be less than significant. As such, project operation would have a less than significant impact on area roadways and intersections.

### Decommissioning

At the end of the project site's operational term, the project site may be decommissioned, which would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. Decommissioning impacts would be relatively similar to those identified for construction of the proposed project and would be short-term and temporary. Thus, decommissioning of the proposed project would result in a less than significant impact with respect to LOS for roadways. However, while impacts would be less than significant, Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** would require that all oversize vehicles used on public roadways during decommissioning of the gen-tie obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated delivery times and vehicle travel routes in advance to minimize

project-related traffic during AM and PM peak hours. This would ensure that 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.

### **Transit, Bicycle, and Pedestrian Facilities**

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways. Due to the rural nature of the project area, bicycle traffic is limited. The project is not located along an existing bus route and few bus stops exist on the roadways likely to be used during construction and operation. The project would not house residents or employees and, therefore, would not have characteristics that could influence alternative means of transportation. Therefore, impacts would be less than significant.

## **Gen-Tie**

### **Construction**

As described above, construction trips associated with the gen-tie are included in the overall construction trips generated by the proposed project. As shown in **Table 4.14-4, *Existing Plus Construction Traffic LOS of Study Segments***, with the addition of construction traffic, all of the roadway segments would operate at acceptable LOS B or better. The construction trips associated with the gen-tie are a small fraction of the overall construction trips that would occur during project construction. Therefore, construction of the proposed gen-tie would not cause construction-related delays and impacts are considered to be less than significant in this regard. However, while impacts would be less than significant, Mitigation Measure **MM 4.14-1KC** would require that all oversize vehicles used on public roadways during construction of the gen-tie 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 project-related construction vehicles.

### ***Temporary Road Closure – Oak Creek Road***

#### **One-Lane Closure**

During the majority of construction of the gen-tie line, one lane of Oak Creek Road would be closed for a period of 12 to 18 months. Traffic would need to be controlled by flaggers through the one-lane section allowing convoys of motorists to proceed one direction at a time. The potential impact on traffic during the one-lane closure phase of construction was evaluated.

It was assumed that the headway (gap) between vehicles would be approximately 5 seconds, which corresponds to a capacity of 720 vehicles per hour (vph), while traveling on the one-lane segment. Based on the existing traffic volumes, the volume/capacity (V/C) ratio for the one-lane construction zone would be 0.18, which equates to LOS A.

It was also assumed that the one-lane closure would occur in one-mile segments. Anticipating a construction zone speed limit of 35 mph, it would take approximately 103 seconds for a vehicle to travel through the one-lane construction zone for one mile. It was estimated that convoys of motorists would be waved through

the construction zone in approximately two-minute intervals for alternating directions. During the peak five minutes of the peak hours, the arrival rate of vehicles is assumed to be double the average arrival rate. Random vehicle arrivals were assumed for this analysis with an average arrival rate of 1.6 to 2.8 vehicles per minute during the peak five minutes. **Table 4.14-5, Oak Creek Road – One-Lane Closure Evaluation Summary**, summarizes the peak hour volumes, average arrival volumes during the peak five minutes of the peak hours, and the queues and average delay expected during the one-lane closure phase of construction along Oak Creek Road. Given the arrival rate and the length of one-mile closure section, queues of three to six vehicles would occur during the peak five minutes, and average delays of one to two minutes per vehicle would be expected. Delays of this magnitude are common for construction zones and would not be considered significant. Therefore, the temporary closure of one lane of Oak Creek Road during construction of the gen-tie line would result in a less than significant impact with respect to LOS.

**Table 4.14-5. Oak Creek Road – One-Lane Closure Evaluation Summary**

Time Period	Volume			V/C	Average 5-min Volume (veh)		Peak 5-min Volume (veh)		Peak 5-min Arrival Rate (veh/min)		Queue 2-min Convoy (veh)		Average Delay (min)	
					EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
	EB	WB	Total		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
Oak Creek Rd east of Windhub Substation														
AM Peak	51	76	127	0.18	4	6	8	12	1.6	2.4	3	5	1	2
Mid-Day	53	80	133	0.18	4	7	8	14	1.6	2.8	3	6	1	2
PM Peak	57	74	131	0.18	5	6	10	12	2.0	2.4	4	5	1	2
Source: Stantec 2021 (see Appendix L.2).														
EB = eastbound WB = westbound V/C = volume/capacity veh = vehicles min = minutes vph = vehicles per hour														
Assumptions: One lane capacity = 720 vph One lane closed in 1-mile sections 35 mph through construction zone 103 seconds to travel 1-mile construction zone Random vehicle arrivals, 2x average during peak 5 minutes														

### **Full Closure**

During connection of the gen-tie line to the Windhub Substation, Oak Creek Road would be completely closed adjacent to the Windhub Substation for a period of approximately four to six weeks. Traffic on Oak Creek Road consists of through traffic between the Tehachapi and Mojave areas, as well as local traffic to the CalPortland and wind farm operator's facilities. The CalPortland plant is presumed to generate truck traffic that utilizes Oak Creek Road to access SR 14. The wind farm facilities are presumed to utilize Oak Creek Road for employee access and trips between the facilities and the nearby dirt roads leading to the wind turbines. These operators would be affected by the full-closure phase of construction along Oak Creek Road. Alternative routes have been identified and evaluated compared with the direct route via Oak Creek Road, as discussed below:

***Through Traffic***

Through traffic that uses Oak Creek Road between the Tehachapi and Mojave areas would use SR 58 and SR 58 Business or SR 14 to travel between the two areas rather than use Oak Creek Road during the full closure. The freeway route is a slightly shorter distance and also tends to be four to six minutes faster overall. Therefore, the closure of Oak Creek Road during construction is anticipated to have a negligible impact on through traffic that would detour to the freeway. Furthermore, the impact on the freeway of the small amount of detour traffic added is negligible. Therefore, the temporary full closure of Oak Creek Road during construction of the gen-tie line would result in a less than significant impact with respect to LOS.

***Local Traffic***

Traffic between the CalPortland plant and SR 14 to the north would avoid the closed section of Oak Creek Road by traveling to SR 58 via Tehachapi Willow Springs Road/Cameron Canyon Road (referred to herein as Route 1) or via Tehachapi Willow Springs Road/Tehachapi Boulevard (Route 2). Route 1 is a shorter distance than along Route 2; however, the roadway on Cameron Canyon Road is narrower and more curved than the Tehachapi Willow Springs Road/Tehachapi Boulevard route and may not be suitable for heavy vehicles. These routes would add approximately 4 to 15 minutes to the travel time for trips to/from the CalPortland site. The CalPortland plant traffic to and from SR 58 east of Mojave would also use the Route 1 or Route 2 detour to SR 58, and would experience 11 to 18 minutes of additional travel time. Traffic to the south on SR 14 would travel along Tehachapi Willow Springs Road to Backus Road (Route 3). This would add approximately 2 to 3 minutes to the CalPortland traffic travel times.

For the wind farm facility traffic with trip origins and destinations to the east via SR 14 and SR 58, delay would be similar in magnitude to that noted for the CalPortland plant above. For local trips heading east of the Windhub Substation to access the wind turbine areas, vehicles could potentially use the dirt roads on the wind farm property to bypass the closed section of Oak Creek Road adjacent to the Windhub Substation. These vehicles are expected to experience minor delay as they navigate the dirt roads. **Table 4.14-6, *Oak Creek Road – Full Closure Alternative Routes Comparison Summary***, summarizes the alternative routes expected to be used and the distances and average times to travel the alternative routes.

These delays would be temporary during the approximately four to six week period of full closure. The amount of traffic detoured is not expected to have a substantial impact on the alternate routes. Therefore, the temporary full closure of Oak Creek Road during construction of the gen-tie line would result in a less than significant impact with respect to LOS.



**Table 4.14-6. Oak Creek Road – Full Closure Alternative Routes Comparison Summary**

Destination			Distance (miles)	Approximate Travel Time (minutes)	Expected Delay (minutes)
Through Traffic					
To/From Tehachapi and Mojave			EB	WB	
	via Oak Creek Rd	21.0	26	24	
	via SR 58/SR 58 Business	20.9	20	20	None <sup>1</sup>
Local Traffic to/from CalPortland and Wind Farm Sites					
North to/from SR 14/SR 58 Interchange			NB	SB	
Existing Route	via Oak Creek Rd/SR 14	10.6	17	13	
Alternative Route 1	via Tehachapi Willow Springs Rd/ Cameron Canyon Rd/SR 58	18.3	21	23	4-10
Alternative Route 2	via Tehachapi Willow Springs Rd/ Tehachapi Blvd/SR 58	27.5	27	28	10-15
East to/from SR 58/Mojave Barstow Hwy Interchange			EB	WB	
Existing Route	via Oak Creek Rd/SR 14	11.8	15	15	
Alternative Route 1	via Tehachapi Willow Springs Rd/ Cameron Canyon Rd/SR 58	23.4	26	27	11-12
Alternative Route 2	via Tehachapi Willow Springs Rd/ Tehachapi Blvd/SR 58	32.6	31	33	16-18
South to/from SR 14/Backus Rd Interchange			NB	SB	
Existing Route	via Oak Creek Rd/SR 14	14.6	17	17	
Alternative Route 3	via Tehachapi Willow Springs Rd/ Backus Rd	19.1	20	19	2-3

Source: Stantec 2021 (see Appendix L.2).

<sup>1</sup> SR 58 is approximately 4 -6 minutes faster for through traffic in comparison to Oak Creek Road route.

NB = northbound  
SB = southbound  
EB = eastbound  
WB = westbound

### Operation and Maintenance

Operation of the gen-tie would generate only minimal and intermittent maintenance trips. Because these activities would not generate trips on a regular basis, the estimated trips would be substantially lower than the trips generated by project construction, and as stated above, the project impact during construction would be less than significant. As such, project operation would not impact existing traffic operations and impacts would be less than significant.

### Decommissioning

As noted above, at the end of the project site's operational term, the project site may be decommissioned, which would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and county regulations. Decommissioning impacts would be relatively similar to

those identified for construction of the gen-tie and would be short-term and temporary. Thus, decommissioning of the gen-tie would result in a less than significant impact.

However, while impacts would be less than significant, Mitigation Measure **MM 4.14-1KC** would be implemented to require that all oversized vehicles used on public roadways during decommissioning of the gen-tie obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated delivery times and vehicle travel routes in advance to minimize project-related traffic during AM and PM peak hours. This would ensure that construction-related oversized 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 project-related vehicles.

### **Transit, Bicycle, and Pedestrian Facilities**

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the proposed gen-tie or along the surrounding roadways. Due to the rural nature of the project area, bicycle traffic is limited. The project is not located along an existing bus route and few bus stops exist on the roadways likely to be used during construction and operation of the gen-tie. The project would not house residents or employees and, therefore, would not have characteristics that could influence alternative means of transportation. Therefore, impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

**MM 4.14-1KC:** Prior to the issuance of construction or building permits, the project proponent/operator shall:

- a. Obtain all necessary encroachment permits for 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 and the Kern County Public Works Department Development Review, prior to the commencement of construction or decommissioning activities.
- b. 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.
- c. 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 9, 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;

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 site;
  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; and,
  7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.
- d. Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.
  - e. Identifying vehicle safety procedures for entering and exiting site access roads.
  - f. 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.
  - g. 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.

### City of California City

**MM 4.14-1CC:** Prior to the issuance of construction or building permits, the project proponent/operator shall:

- a. Obtain all necessary encroachment permits for work within the road right-of-way or use of oversized/overweight vehicles that will utilize California City-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 California City Community Development Department and California City Public Works Department, prior to the commencement of construction or decommissioning activities.

- b. Enter into a secured agreement with the City of California City to ensure that City 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 the City of California City.
- c. Prepare and submit a Construction Traffic Control Plan to the California City Public Works Department and the California Department of Transportation offices for District 9, 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;
  - 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 site;
  - 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; and,
  - 7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.
- d. Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.
- e. Identifying vehicle safety procedures for entering and exiting site access roads.
- f. 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 City of California City Community Development Department and California City Public Works Department.
- g. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the City of California City. This information shall be submitted in DVD format. The City of California

City, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

**Gen-Tie**

Implement Mitigation Measure **MM 4.14-1KC**.

**Level of Significance after Mitigation****Kern County**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measure **MM 4.14-1CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

**Impact 4.14-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).****Solar Facility**

The new CEQA Guidelines section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency and went into effect statewide on July 1, 2020. 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 number of miles traveled per trip or per person.

Kern County is currently engaged in implementing the VMT evaluation process and has not yet formally adopted updated transportation significance thresholds or 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 (California Governor's Office of Planning and Research 2018).

Project 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.

The Technical Guidelines provide a screening criterion that could be used to determine if VMT analysis is warranted for small projects, which are defined as projects that would generate fewer than 110 trips per day and may generally be assumed to cause a less-than-significant transportation impacts. As indicated above, project operation would generate approximately 50 vehicle trips per day. Therefore, daily passenger vehicle trips generated by the project would be 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.

### **Gen-Tie**

The project would generate vehicular and truck trips during construction. These short term traffic conditions would have a less than significant effect on long-term VMT volumes or patterns. Operation of the completed gen-tie line would involve minor and occasional traffic for routine maintenance and would have a negligible effect on area or regional VMT volumes or patterns. Impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

No mitigation measures are required.

### **City of California City**

No mitigation measures are required.

### **Gen-Tie**

No mitigation measures are required.

## **Level of Significance after Mitigation**

### **Kern County**

Impacts would be less than significant.

### **City of California City**

Impacts would be less than significant.

### **Gen-Tie**

Impacts would be less than significant.

**Impact 4.14-3: 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).**

**Solar Facility**

During construction and decommissioning, the proposed 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 proposed 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. 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, Kern County and California City, and would be detailed in respective oversize load permits. Thus, potential impacts would be reduced to a less-than-significant level. While impacts would be less than significant, Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** 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.

**Gen-Tie**

Construction of the gen-tie infrastructure would result in reduced impacts on traffic as compared to that resulting with construction of the solar facility, due to the nature of the required activities. Heavy equipment associated with the gen-tie components would not be hauled to/from the site daily, but rather would be hauled in and out on an as-needed basis. Due to the rural nature of the area roadways, construction vehicles associated with the gen-tie are not anticipated to incur hazards traveling to and from the project site. The gen-tie would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the project site. Construction-related oversize vehicle loads must comply with permit-related and other requirements of the California Vehicle Code and California Streets and Highway Code. Impacts would be less than significant. While impacts would be less than significant, Mitigation Measure **MM 4.14-1KC** 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.

Maintenance of the gen-tie would occur on occasion. However, such activities would generally be confined to within public rights-of-way or easements supporting the gen-tie line and would therefore be distanced from vehicular circulation along public roads or other existing area land uses.

Construction, operation, and/or decommissioning of the gen-tie line are not anticipated to have the potential to substantially increase hazards due to a geometric design feature or incompatible uses. Mitigation Measure **MM 4.14-1KC** would be implemented to ensure that project impacts remain less than significant.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.14-1KC** would be required.

### **City of California City**

Implementation of Mitigation Measure **MM 4.14-1CC** would be required.

### **Gen-Tie**

Implementation of Mitigation Measure **MM 4.14-1KC** would be required.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measure **MM 4.14-1CC**, impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

## **Impact 4.14-4: The project would result in inadequate emergency access.**

### **Solar Facility**

The project site is located in a rural area with the primary access roads allowing adequate egress/ingress to the site in the event of an emergency. The proposed project is not expected to require closure of public roads in the area, which could inhibit access by emergency vehicles. Additionally, during the project construction phase, heavy construction-related traffic could also interfere with emergency response to the project site or emergency evacuation procedures in the event of an emergency such as a wildfire, or a chemical spill at the site.

As discussed above, the increase in project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels in the roadways surrounding the project. The proposed project would not affect emergency access to the project site or any other surrounding location nor would the proposed project require closures of public roads, which could inhibit access by emergency vehicles. In addition, implementation of Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** would



require the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site. In this context, impacts to adequate emergency access would be less than significant.

### **Gen-Tie**

Similar to the solar facility site, the gen-tie is located in a rural area with the primary access roads allowing adequate egress/ingress in the event of an emergency. Sufficient access exists within the gen-tie line easement(s) to allow for emergency access. As noted above, the proposed project is not expected to require the closure of public roads in the area which could inhibit access by emergency vehicles, with exception of potential partial or full closure of Oak Creek Road during project construction. Additionally, heavy construction-related traffic could also interfere with emergency response to the gen-tie site or emergency evacuation procedures in the event of an emergency such as a wildfire. However, Mitigation Measure **MM 4.14-1KC** would be implemented to ensure that vehicles associated with construction of the gen-tie line do not interfere with emergency access along affected roadways. Therefore, impacts related to adequate emergency access would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.14-1KC** would be required.

### **City of California City**

Implementation of Mitigation Measure **MM 4.14-1CC** would be required.

### **Gen-Tie**

Implementation of Mitigation Measure **MM 4.14-1KC** would be required.

## **Level of Significance after Mitigation**

### **Kern County**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

### **City of California City**

With implementation of Mitigation Measure **MM 4.14-1CC**, impacts would be less than significant.

### **Gen-Tie**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

## Cumulative Setting, Impacts, and Mitigation Measures

### Solar Facility and Gen-Tie

Cumulative impacts from the project, when considered with nearby, reasonably foreseeable planned projects, would occur only during project construction as traffic generated during project operations would be minimal. As stated above in the evaluation of operational impacts, there would be minimal trip generation once construction activities have concluded. Therefore, operation of the project would result in less than significant cumulative impacts.

The potential for cumulative construction impacts exists where there are multiple projects proposed in an area that have overlapping construction schedules that could affect similar resources. As stated above under Impact 4.14-1, the analysis of traffic conditions includes project construction traffic in combination with traffic that would be generated by cumulative projects within proximity to the project site. As shown in **Table 4.14-4, Existing Plus Construction Traffic LOS of Study Segments**, with the addition of construction traffic, all affected roadway segments would operate at acceptable LOS B or better. Accordingly, with the addition of construction traffic on the study area roadway segments, the ADT would be below the LOS C thresholds, which indicates that there would be no significant project impact on the roadway segments. Since the capacity analysis indicates that there would be no significant impacts on roadway segments based on the conservative assumption regarding construction trips, the impact of construction trips would be less than significant. As all study roadway segments are anticipated to have adequate capacity to accommodate other projects in the area, the project is not anticipated to contribute to a significant cumulative impact on affected roadway segments or intersections within the study area. Therefore, cumulative construction traffic impacts in this regard would be less than significant and no mitigation measures are required.

On the project-level (including the development of the gen-tie line), the project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on surrounding roadways with implementation of Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC**. Implementation of mitigation would ensure the project's contribution to impacts related to emergency access or design hazards are reduced to a less than cumulatively considerable level.

### Mitigation Measures

#### Kern County

Implementation of Mitigation Measure **MM 4.14-1KC** would be required.

#### City of California City

Implementation of Mitigation Measure **MM 4.14-1CC** would be required.

#### Gen-Tie

Implementation of Mitigation Measure **MM 4.14-1KC** would be required.

### Level of Significance after Mitigation

#### Kern County

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measure **MM 4.14-1CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measure **MM 4.14-1KC**, impacts would be less than significant.

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## Section 4.15

# Tribal Cultural Resources

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### 4.15.1 Introduction

This section of the EIR provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. Cultural resources include places, objects, and settlements that reflect group or individual religious, archaeological, architectural, or paleontological activities. By statute, “tribal cultural resources” are generally described as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are further defined in Public Resources Code (PRC) Section 21074(a)(1)(A)–(B). The analysis in this section is based on the results of the Native American consultation conducted by the County for purposes of compliance with California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill (AB) 52, as well as Senate Bill (SB) 18; see Appendix E of this EIR.

This section is also partially based on the *Cultural Resources Assessment Report* prepared by Rincon Consulting, Inc. (2020a; Appendix E) and peer reviewed by Michael Baker International, 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 cultural resources, information regarding locations of tribal cultural resources has been redacted from the report and is not included in the appendix.

### 4.15.2 Environmental Setting

Refer to **Section 4.5, *Cultural Resources***, of this EIR for discussion of the cultural resources setting.

## Existing Tribal Cultural Resources

### Native American Correspondence and SB 18 and AB 52 Consultation

The Kern County Planning and Natural Resources Department forwarded the Notice of Preparation (NOP) of a Draft EIR for the Bellefield Solar Project to the Office of Planning and Research, State Clearinghouse, (OPR/SCH) on January 15, 2021. The Native American Heritage Commission (NAHC) was included in the list of agencies to be notified by OPR/SCH. The NAHC identifies, catalogs, and protects Native American cultural resources on private and public lands in California. Cultural resources include graves, cemeteries, and places of special religious or social significance to Native Americans. The NAHC also records the historical territories of state-recognized tribes into a database called the Sacred Lands File. A records search of the Sacred Lands File is conducted to ensure that tribes potentially affected by a project are properly notified and consulted.

The NAHC maintains a contact list of Native American tribes that have traditional lands located within the County’s jurisdiction. On September 26, 2019, Rincon Consultants submitted a Sacred Lands File search request to the NAHC. The NAHC responded via an email dated October 2, 2019, stating that no Native American cultural resources are known to exist within the project site or the immediate vicinity. The NAHC also provided a list of Native American groups affiliated with the project site to be contacted for additional

information regarding tribal cultural resources. On June 17, 2020, SB 18 notification letters were sent to the Native American groups indicated by the NAHC. The letters included a description of the proposed project, the project location, and a notification of the type of consultation that the County was initiating. Additionally, on June 17, 2020, the County also sent consultation notification letters via certified mail to Native American groups on the County's master list pursuant to the requirements of AB 52 pertaining to government-to-government consultation.

**Table 4.15-1, *Summary of SB 18 and AB 52 Consultation Efforts***, summarizes the County's consultation efforts to date. At the time of preparation of this EIR, the County received one response. As of January 19, 2020, correspondence was received from Brandi Kendrick of the Kern Valley Indian Community. Ms. Kendrick noted that the project area has, in the past, proven to harbor items or features of cultural significance and requested to be involved in the project. Ms. Kendrick noted that the tribe prefers that there be a tribal representative on-site to monitor all ground-disturbing activities and provided contact information to allow for continued consultation with County staff.

**Table 4.15-1. Summary of SB 18 and AB 52 Consultation Efforts**

Contact(s)	Tribe/Organization Contacted	Consultation Type	Date Letter Mailed	Response Received
Robert Robinson, Chairperson; Julie Turner, Secretary; Brandy Kendricks	Kern Valley Indian Community	SB 18	6/17/2020	In an email dated September 13, 2020, Kern Valley Indian Community requested additional coordination with the County and indicated preference for a Native American monitor during ground-disturbing activities.
Jessica Mauck, Director-CRM Dept.	San Manuel Band of Mission Indians	SB 18; AB 52	6/17/2020	No Response
Michael Mirelez, Cultural Resources Coordinator	Torres Martinez Desert Cahuilla Indians	AB 52	6/17/2020	No Response
Anthony Madrigal Jr., Tribal Grants Administrator; Darrell Mike, Tribal Chairman	Twenty-Nine Palms Band of Mission Indians	AB 52	6/17/2020	No Response
Colin Rambo, CRM Tech; Octavio Escobedo III, Chairperson	Tejon Indian Tribe	SB 18; AB 52	6/17/2020	No Response
Sally Manning, Env. Director; Danelle Gutierrez, THPO; James Rambeau, Sr., Chairperson	Big Pine Paiute Tribe of the Owens Valley	SB 18	6/17/2020	No Response
Jairo F. Avila, THPO	Fernandeno Tataviam Band of Mission Indians	SB 18	6/17/2020	No Response

Contact(s)	Tribe/Organization Contacted	Consultation Type	Date Letter Mailed	Response Received
Lee Sisco, Chairperson	Santa Rosa Rancheria Tachi Yokut Tribe	SB 18	6/17/2020	No Response
Robert L. Gomez, Jr., Tribal Chairperson	Tubatulabals of Kern Valley	SB 18	6/17/2020	No Response
Delia Dominguez, Chairperson	Kitanemuk & Yowlumne Tejon Indians	SB 18	6/17/2020	No Response
Julio Quair, Chairperson	Chumash Council of Bakersfield	SB 18	6/17/2020	No Response
Neil Peyron, Chairperson	Tule River Indian Tribe	SB 18	6/17/2020	No Response
Kenneth Woodrow, Chairperson	Wuksache Indian Tribe/Eshom Valley Band	SB 18	6/17/2020	No Response
Mona Olivas Tucker, Chairwoman	Vak titvu vak tilhini - Northern Chumash Tribe	SB 18	6/17/2020	No Response

## 4.15.3 Regulatory Setting

### Federal

#### Section 106 of the National Historic Preservation Act

Archaeological resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 United States Code [USC] 470f), and its implementing regulation, Protection of Historic Properties (36 Code of Federal Regulations [CFR] 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an “undertaking” (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (National Register). As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a resource is considered significant if it meets the National Register listing criteria at 36 CFR 60.4.

#### National Register of Historic Places

The National Register was established by the NHPA of 1966 as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR 60.2). The National Register recognizes both historical-period and prehistoric properties, including archaeological sites, that are significant at the national, state, and local levels. To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology,

engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (US Department of the Interior 1995):

- a. Are associated with events that have made a significant contribution to the broad patterns of our history;
- b. Are associated with the lives of persons significant in our past;
- c. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (US Department of the Interior 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (US Department of the Interior 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

## **Native American Graves Protection and Repatriation Act of 1990**

The Native American Graves Protection and Repatriation Act of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

## **State**

### **Native American Heritage Commission**

PRC Section 5097.91 established the 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 Gerald “Jerry” Brown Jr. on September 25, 2014. The act amended 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 an NOP 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 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**

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” (California 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 (California 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 time frame 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).

In accordance with SB 18 and the California Tribal Consultation guidelines, the appropriate native groups were consulted with respect to the project’s potential impacts on Native American places, features, and objects.

## **California Native American Graves Protection and Repatriation Act of 2001**

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection and Repatriation Act (NAGPRA) is consistent with the federal NAGPRA. Intended to “provide a seamless and consistent State policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect,” Cal NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The Cal NAGPRA also provides a process for non-federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

## **California Health and Safety Code Sections 7050 and 7052**

California 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. The county coroner must be notified to make a determination of whether the remains are subject to the provisions of Section 27491 of

the Government Code or any other related provisions of law concerning investigation of the circumstances, manner, and cause of any death; and to recommend treatment and/or disposition of the human remains to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact the Native American Heritage Commission within 24 hours.

## **Local**

Construction, operation, and decommissioning 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 tribal cultural resources. There are no policies, goals, and implementation measures in the Kern County General Plan related to tribal cultural resources that are applicable to the project. 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.

## **Mojave Specific Plan**

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The implementation measure in the Mojave Specific Plan for cultural resources applicable to the project is provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

## **Chapter 10. Implementation**

### **H. Community Image**

#### **Implementation Measure**

Measure H-4b: Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project approval.

## 4.15.4 Impacts and Mitigation Measures

### Thresholds of Significance

As established in Appendix G of the *CEQA Guidelines*, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria to determine if a project could potentially have a significant impact with respect to 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 4.15-1a: 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, and 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).**

### Solar Facility and Gen-Tie

As part of the information-gathering process for the cultural resources technical report (Appendix E), the NAHC was contacted to request a search of the Sacred Lands File in September 2019. The NAHC emailed a response on October 2, 2019, stating that the search was returned with negative results, which means the record search did not identify any sacred lands within the project boundary (Rincon 2020a). However, the absence of specific site information does not necessarily indicate the absence of cultural resources in the project area, as unknown cultural resources may be present.

In response to the SB 18 notification efforts, the Kern Valley Indian Community requested ongoing notification with regard to the Bellefield Solar Project and, due to this area of Kern County potentially harboring items and features of cultural significance, that a tribal representative be on-site during all ground-disturbing activities. Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, and **MM 4.5-11KC** and

**MM 4.5-1CC, MM 4.5-2CC, and MM 4.5-4CC** require the presence of an on-site Native American monitoring during project grading and construction and/or decommissioning.

No tribal cultural resources have been identified to date within the project boundary, including along the gen-tie alignment. If no tribal cultural resources are identified during the consultation process, a significant impact to known tribal cultural resources would not occur. However, subsurface disturbances (e.g., trenching, excavation, grading) associated with project construction or decommissioning would have the potential to impact unknown tribal cultural resources. To ensure proper protection of any unknown resources, should they be encountered during project-related ground disturbance activities, Mitigation Measures **MM 4.5-1KC, MM 4.5-2KC, and MM 4.5-11KC** and **MM 4.5-1C, MM 4.5-2CC, and MM 4.5-4CC** require the presence of an on-site Native American monitoring during project grading and construction and/or decommissioning. Monitoring would allow for discovery of unknown resources to be readily managed in accordance with federal and state law to prevent potential damage to or loss of such resources.

Additionally, human remains may be encountered during ground-disturbing activities. Although unlikely, if human remains are discovered, all work must stop in the immediate vicinity of the discovered remains. The Kern County coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed, pursuant to Health and Safety Code Section 7050. If the remains are deemed to be Native American, the NAHC must be contacted by the coroner so that a “Most Likely Descendant” can be designated and further recommendations regarding treatment of the remains provided. With implementation of Mitigation Measures **MM 4.5-13KC** and **MM 4.5-5CC**, potential project impacts on undiscovered human remains would be reduced to less than significant. Refer to **Section 4.5, Cultural Resources**, for a discussion of impacts to archaeological resources and a list of mitigation measures.

With implementation of Mitigation Measures **MM 4.5-1KC, MM 4.5-2KC, MM 4.5-11KC, and MM 4.5-13KC**, and Mitigation Measures **MM 4.5-1CC, MM 4.5-2CC, MM 4.5-4CC, and MM 4.5-5CC**, project impacts on tribal cultural resources would be less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measures **MM 4.5-1KC, MM 4.5-2KC, MM 4.5-11KC, and MM 4.5-13KC**.

### City of California City:

Implement Mitigation Measures **MM 4.5-1CC, MM 4.5-2CC, MM 4.5-4CC, and MM 4.5-5CC**.

### Gen-Tie:

Implement Mitigation Measures **MM 4.5-1KC, MM 4.5-2KC, MM 4.5-11KC, and MM 4.5-13KC**.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.5-1KC, MM 4.5-2KC, MM 4.5-11KC, and MM 4.5-13KC**, impacts would be less than significant.

**City of California City**

With implementation of Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4.5-5CC**, impacts would be less than significant.

**Gen-Tie**

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, impacts would be less than significant.

**Impact 4.15-1b: 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, and 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.**

**Solar Facility and Gen-Tie**

As noted above, the Kern Valley Indian Community identified a potential tribal cultural resource within the project site as part of the AB 52 and SB 18 consultation process. Given that tribal cultural resources were not identified within or immediately adjacent to the project site, the project is not anticipated to cause a substantial direct or indirect adverse change in the significance of a known tribal cultural resource. However, as noted under Impact 4.15a, the project would have the potential to result in impacts to unknown tribal cultural resources. Implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, and **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4.5-5CC**, would reduce such potential impacts to less than significant. Refer to **Section 4.5, Cultural Resources**, for a discussion of impacts to archaeological resources and a list of mitigation measures.

**Mitigation Measures****Kern County**

Implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**.

**City of California City**

Implement Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4.5-5CC**.

**Gen-Tie**

Implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**.

## Level of Significance after Mitigation

### Kern County

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, impacts would be less than significant.

### City of California City

With implementation of Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4.5-5CC**, impacts would be less than significant.

### Gen-Tie

With implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, impacts would be less than significant.

## Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the project, as described in **Chapter 3, Project Description**, of this EIR, would have on tribal cultural resources. The geographic area of analysis for tribal cultural resources includes the western Antelope Valley and the Fremont Valley. 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. The area considered is large enough to encompass any project effects on tribal cultural resources that may combine with similar effects caused by other projects, and provides a reasonable context wherein cumulative actions could affect any such tribal cultural resources.

Relative to CEQA, the importance of a tribal cultural resource is the value of the resource to California Native American tribes culturally affiliated with a certain project area. On a cumulative level, the cumulative loss of the tribal cultural resource must therefore be evaluated. No impact would occur if development would avoid or otherwise preserve known tribal cultural resources within dedicated on-site open space. However, if such resources cannot be avoided or preserved, a significant impact would occur, and the loss of the resource, in combination with the potential loss of other tribal cultural resources within the region, requires evaluation on a cumulative level.

As described in **Chapter 3, Project Description**, multiple projects, including several utility-scale solar energy facilities, are proposed throughout Kern County. As shown in **Figure 3-1, Regional Vicinity**, the proposed project and majority of cumulative projects are located in the Mojave Desert. Several other large solar projects may be developed in the areas surrounding the project site in the future, including the Sanborn Solar Project and Kudu Solar Project. Additionally, other related projects in the surrounding areas have been included that were: (1) submitted for plan processing; (2) approved by the County of Kern; and/or (3) engaged in active construction programs.

Development that has occurred over past decades in Kern County has resulted in adverse impacts on tribal cultural resources. However, the adoption of state and federal laws related to tribal cultural resources, such as AB 52, has provided a mechanism for consultation between California Native American tribes and lead

agencies to address potential impacts of development activities on known and/or unknown tribal cultural resources. Although inadvertent discoveries and potential impacts may still result on a project-by-project basis based on location, development type, and/or availability of data, compliance with regulatory procedures generally mitigates potential impacts to tribal cultural resources. Federal, state, and local laws protect tribal cultural resources in most instances, but this is not always feasible, particularly when in-place preservation may complicate the implementation of a development project. Future development may conflict with these resources through inadvertent destruction or removal resulting from grading, excavation, construction and/or decommissioning activities.

Although no known tribal cultural resources of significance or human remains have been documented on the project site, including within the gen-tie alignment, project implementation could contribute to potential cumulative impacts on unknown tribal cultural resources, as well as buried human remains. Past, present, and foreseeable projects have affected, or would have the potential to affect, tribal cultural resources throughout the region over time. However, there are federal, state, and local laws designed to protect such resources. These laws have led to the discovery, recordation, preservation, and curation of artifacts and historic structures.

The project would implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, and **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4-5.5CC**, which address the discovery and recovery of unknown cultural resources and human remains through construction monitoring, identification of potential cultural resources, and evaluation of the significance of a discovery. Mitigation measures would be implemented to reduce potential impacts on undiscovered resources, if encountered, to less than significant. Similarly, with conformance to applicable federal, state, and local regulations, combined with the implementation of mitigation, it is anticipated that impacts resulting with implementation of other cumulative development projects would be adequately addressed and impacts on tribal cultural resources would be reduced to less than significant, or to the extent feasible.

Individual project-level impacts associated with tribal cultural resources would be less than significant with incorporation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, and **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4-5.5CC**. The proposed project and cumulative projects would also be subject to conformance with applicable federal, state, and local requirements for the protection of such resources. Based on these conditions, the project's contribution to potential cumulative impacts on tribal cultural resources is considered to be less than cumulatively considerable.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**.

### **City of California City**

Implement Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4.5-5CC**.

### **Gen-Tie**

Implement Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**.



## **Level of Significance after Mitigation**

### **Kern County**

With the implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, cumulative impacts would be less than significant.

### **City of California City**

With the implementation of Mitigation Measures **MM 4.5-1CC**, **MM 4.5-2CC**, **MM 4.5-4CC**, and **MM 4.5-5CC**, cumulative impacts would be less than significant.

### **Gen-Tie**

With the implementation of Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, and **MM 4.5-13KC**, cumulative impacts would be less than significant.

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## **4.16.1 Introduction**

This section of the EIR describes the affected environment and regulatory setting of the project pertaining to demand for operational utilities (water, stormwater control, wastewater, and solid waste disposal). This section describes existing infrastructure and levels of service and evaluates whether any improvements are necessary to accommodate the project. Information in this section pertaining to stormwater control is based primarily on the *Preliminary Hydrology Study – Bellefield Solar Project*, prepared by Westwood Professional Services (Westwood 2019), and information concerning water supplies is based primarily on the *Bellefield Solar Project Water Supply Assessment* prepared by Rincon (Rincon 2020d) located in Appendix J and Appendix M of this EIR, respectively.

## **4.16.2 Environmental Setting**

### **Water Supply**

There are typically three sources of supply water: (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.

California City and Kern County both deliver water to service connections in their respective service territories via the California City Water Department (CCWD) and the Kern County Water Agency (KCWA). The CCWD and KCWA are described below, to provide a background understanding of the water purveyors respective to the jurisdictions responsible for issuing conditional use permits for the project. The Project's water supply would be obtained from on- or off-site groundwater wells in the Fremont Valley Groundwater Basin, other nearby solar projects, directly from the Antelope Valley-East Kern Water Agency (AVEK), which is a wholesaler of State Water Project (SWP) supplies to potable water purveyors, and/or from a local retailer such as the CCWD or the Mojave Public Utility District (MPUD), which in addition to receiving imported SWP from AVEK, also source supplies from treated surface and groundwater.

### **City of California City**

California City overlies the Fremont Valley Groundwater Basin in southeastern Kern County. California City receives its water supply via the CCWD, which provides SWP water purchased from AVEK and locally produced groundwater resources from the Fremont Valley Groundwater Basin. The CCWD is not a

SWP wholesale contractor, and therefore purchases its supply of imported SWP water from the AVEK which is a wholesale SWP contractor. The CCWD is the sole water supplier for California City.

California City is underlain by 203 square miles of the Fremont Valley Groundwater Basin, of which the California City Subbasin (CCSB) encompasses 142,451 acres and is hydraulically connected to the Antelope Valley Groundwater Basin. The CCWD pumps an average of 3,300 acre feet per year (AFY) from the CCSB, which provides CCWD customers with approximately 75 percent of their potable water supply. The CCWD also owns all water rights for the CCSB, having purchased them in 1960 through an agreement between the Boron Valley Water Development Company and Boron Valley Community Service District, which later became California City Service District (Appendix M of this EIR).

## **Kern County**

As with California City, Kern County also has a water district, the KCWA. KCWA is the second largest wholesale contractor participating in the SWP. The KCWA is a designated Groundwater Sustainability Agency within the Kern County Subbasin and is also a participant agency in the Kern Groundwater Authority (KGA), which manages the subbasin.

The project site does not overlie the Kern County Subbasin. If the proposed project uses groundwater, it would be pumped from the Fremont Valley Groundwater Basin which underlies California City, as described above. If the proposed project uses imported SWP water, the water may be purchased directly or may be purchased from a local retailer such as CCWD or MPUD.

## **Groundwater Supply**

### **Fremont Valley Groundwater Basin**

The project site is located within the Fremont Valley Groundwater Basin, which underlies Fremont Valley in Eastern Kern County and northwestern San Bernardino County. As defined by the California Department of Water Resources (DWR), the Fremont Valley Groundwater Basin (Basin No. 6-46) covers an estimated 336,700 acres, and is bounded on the northwest by the Garlock fault zone against impermeable crystalline rocks of the El Paso Mountains and Sierra Nevada, the east by crystalline rocks of the Summit Range, Red Mountain, Lava Mountains, Rand Mountains, Castle Butte, Bissel Hills, and Rosamond Hills, and on the southwest by the Antelope Valley Groundwater Basin along a groundwater divide from the mouth of Oak Creek through Middle Butte to exposed basement rock near Gem Hill. Natural recharge of the basin includes percolation of ephemeral streams that flow in from the Sierra Nevada. The general groundwater flow direction is toward Koehn Lake at the center of the valley, with no appreciable quantity of groundwater flowing out of the basin (California Department of Water Resources 2004).

According to the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, which is tasked with monitoring, reporting, and prioritizing groundwater basin conditions, as part of the Sustainable Groundwater Management Act (SGMA), the Fremont Valley Groundwater Basin is designated as a “low priority” groundwater basin, and as a result, is not required to have a groundwater sustainability plan in accordance with SGMA. The DWR defines a low priority basin as one that uses less than or equal to 2,000 AF of groundwater per year (California Department of Water Resources 2020). Because of the low priority status, the Fremont Valley Groundwater Basin is not subject to SGMA requirements. Furthermore, the basin

is not adjudicated, and therefore, management is assumed by Kern County. For a discussion of Basin characteristics, please refer to **Section 4.10, *Hydrology and Water Quality***, of this EIR.

### **Antelope Valley-East Kern Water Agency (AVEK)**

The AVEK is located within the Fremont Valley Groundwater Basin. AVEK is the SWP contractor in the Fremont Basin Region, and holds a 75-year contract with DWR for the delivery of SWP water through 2035, and it is anticipated that the SWP contracts will be extended through 2085. AVEK's contract with DWR allocates 144,844 acre feet per year (AFY) of SWP water to AVEK, representing the third largest allocation of the 29 SWP contractors. To increase regional supply reliability, AVEK has developed groundwater banking programs in the Antelope Valley Groundwater Basin. Groundwater banking allows AVEK to store excess water, when available, from the SWP during wet periods, allowing for recovery during dry and high demand periods, or during a disruption of deliveries from the SWP. While AVEK's groundwater banking projects are located outside the Fremont Basin region, the increase in supply reliability provides benefits to AVEK's entire service area (Rincon 2020). SWP supplies to potable water purveyors, such as the Mojave Public Utility District, and a retail provider of untreated SWP supplies to agricultural users.

### **Wastewater**

The Kern Sanitation Authority (KSA) provides maintenance and wastewater service for Kern County and the California City Wastewater Treatment Plant provides maintenance and wastewater service for California City; however, the unincorporated parts of the Fremont Valley (including the project site) that do not have a sewer line connection utilize septic systems to treat household, commercial, and industrial wastewater.

### **Stormwater Drainage**

There are no existing stormwater drainage systems onsite or near the project site. The topography of the site is mostly level with increases in elevation to the west and east. Elevations in the project site range from 2,798 feet above mean sea level (amsl) in the northwest portion to 2,532 feet amsl in the southern portion. Stormwater follows natural drainage patterns on the land surface. Surface water flows from the project site drain to Rogers Dry Lake via numerous unnamed drainages and to Koehn Dry Lake via Cache Creek.

### **Electricity, Natural Gas, and Telecommunication**

No electricity, natural gas, nor telecommunication facilities are currently located on the project site. SoCalGas is the natural gas provider in this area of Kern County. Southern California Edison (SCE) operates existing 12 kV distribution facilities in the project area along with larger facilities consisting of the 500 kV SCE Tehachapi Renewable Transmission Project, SCE Whirlwind Substation, and SCE Windhub Substation.

A large east-west utility corridor is located just south of SR 58 that bisects parcels within the southern portion of the project site. This corridor includes at least three gas pipelines and a petroleum products pipeline operated by Pacific Gas and Electric and El Paso Corporation (Mojave Pipeline). One of these pipeline rights-of-way also crosses to the north side of SR 58, bisecting parcels within the western project

area. An AT&T fiber optic line also passes through the project area in an east-west direction south of SR 58 in the west and then just north of SR 58 where it exits the project area to the east.

## 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.

The Kern County Public Works Department operates seven landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi. The project site does not currently generate any solid waste. The closest operational landfill to the project site is the Mojave-Rosamond Recycling and Sanitary Landfill, which is a Class III landfill that accepts waste from industrial, mixed municipal, construction and demolition, and agricultural uses, located approximately 2.5 miles from the project site. The landfill has a remaining capacity of 76,310,297 cubic yards out of a total maximum capacity of 78,000,000 cubic yards and has an estimated closure date of 2123 (CalRecycle 2020a). Boron Sanitary Landfill, located approximately 19 miles to the east, is also a Class III landfill that accepts mixed municipal, industrial, green materials, construction and demolition, and agricultural wastes. Boron Sanitary Landfill has closure date of 2048, and a remaining capacity of 191,380 cubic yards out of a total permitted volume of 1,057,000 cubic yards. (CalRecycle 2020b). A summary of the Mojave-Rosamond and Boron sanitary landfill capacities is provided in **Table 4.16-1, Active Kern County Public Works' Landfills Near Project Site**.

**Table 4.16-1. Active Kern County Public Works' Landfills Near Project Site**

Landfill	Distance from Project Site	Maximum Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (tons/day)	Anticipated Year of Closure
Mojave-Rosamond Recycling and Sanitary Landfill 400 Silver Queen Road Mojave, CA 93501	2.5 miles	78,000,000	76,310,297	3,000	2123
Boron Sanitary Landfill 11400 Boron Avenue Boron, CA 93516	18 miles	1,057,000	191,380	200	2048
Source: CalRecycle 2020a, CalRecycle 2020b.					

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 Household 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 a 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.

## 4.16.3 Regulatory Setting

### Federal

There are no applicable federal regulations for this issue area.

### State

## Water Supply and Water Quality

### California Water Code 10912

Section 10912 of the Water Code requires a city or county that determines that a project, as defined, is subject to the CEQA to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment. The project is subject to CEQA and may be considered a project requiring preparation of a water supply assessment because it is a proposed industrial facility occupying more than 40 acres of land.

### Senate Bills 610 and 221

Passed in 2001, Senate Bill (SB) 610 and SB 221 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 single and multiple dry years presented in five-year increments for a 20-year projection. In accordance with these measures, a water supply assessment was prepared for the proposed project as it is an industrial use of more than 40 acres.

### California Department of Water Resources

DWR is a department within the California Resources Agency responsible for managing California's water resources, systems, and infrastructure, including the SWP, in a responsible, sustainable manner. DWR's 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 Lahontan Region RWQCB. However, the proposed project is not expected to discharge waste into the local sewer system, and therefore, is not required to prepare and submit the described report.

## **State Water Resources Control Board and Lahontan 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 Lahontan Region, which extends from the Oregon border to the Northern Mojave Desert and includes all of California east of the Sierra Nevada crest.

## **Solid Waste**

### **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 (Public Resources Code [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.

### **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 Integrated Solid Waste Management Act**

Pursuant to the California Integrated Solid Waste Management Act of 1989 (Public Resources Code [PRC] 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.

As described above, C&D waste is heavy, inert material, which 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.

Waste should be diverted from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of construction and demolition debris. AB 939 also required cities and counties to prepare solid waste planning documents (e.g., the Source Reduction and Recycling Element, the Household Hazardous Waste Element, and the Nondisposal Facility Element. All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle), have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

### **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 develops laws and regulations to control and manage waste, for which enforcement authority is typically delegated to the local government. The CalRecycle board works jointly with local government to implement regulations and fund programs.

The Integrated Waste Management Act of 1989 (Public Resources Code [PRC] 40050 et seq. or Assembly Bill ([AB] 939, codified in PRC 40000), administered by CalRecycle, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

## **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 50 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 2017b).

## **Electrical, Natural Gas, and Telecommunications**

### **California Public Utilities Commission**

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, sewer, railroad, rail transit, and passenger transportation companies. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the 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 customers against fraud.

### **Protection of Underground Infrastructure Code Section 4216**

As required under California Government Code section 4216, prior to excavation activities, as defined as any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of tools or equipment for the purposes of grading, trenching, digging, ditching, drilling, augering, etc., the operator must notify a Regional Notification Center System, which will demarcate the locations of existing underground infrastructure. The intent of the notification and demarcation is to provide advance warning of excavations or other work close to existing subsurface installations, for the purpose of protecting those installations from damage, removal, relocation, or repair.

## **Local**

### **Fremont Basin Integrated Regional Water Management Plan**

The Regional Water Management Planning Act (SB 1672) was passed by the California State Legislature in 2002, authorizing a regional water management group to prepare and adopt an integrated regional water management plan (IRWMP). The Fremont Basin IRWM Region (Region) was approved by DWR in September 2011 through the IRWM Region Acceptance Process. The Region boundaries include the entirety of the underlying Fremont Valley Groundwater Basin, which is also the primary defining water resource in the Region. Other water sources in the Region include surface water and some recycled water.

Supplies within the Region are delivered to customers by water agencies, or pumped on-site using private groundwater wells.

The Fremont Basin RWMG was formed in 2014, with the signing of a Memorandum of Understanding between the City of California City, the Mojave Public Utilities District, and AVEK. The Fremont Basin RWMG produced the Fremont Basin IRWMP in 2018, assessing the water supply conditions and management approach for the region.

The Fremont Basin Integrated Regional Water Management Plan documents the development and implementation of effective strategies that promote sustainable water use, guarantee a reliable water supply, improve water quality, and endorse environmental stewardship within the region. The Plan also describes the water supply portfolio and demands in the region, as well as highlight the existing and projected water management challenges with respect to climate change impacts and population changes.

### **Fremont Basin Groundwater Management Plan**

Groundwater Management Plans (GWMPs) were required to be developed and submitted to DWR under previous State legislation including Assembly Bill 359, Assembly Bill 3030, and SB 1938. With adoption of the SGMA in 2014, GWMP requirements were largely replaced by Groundwater Sustainability Plans (GSPs). Per SGMA, no new GWMPs were adopted in medium- or high-priority basins after January 1, 2015, and existing GWMPs remain in effect until GSPs are adopted in their place (for medium- or high-priority basins). The Fremont Valley Groundwater Basin is not designated as medium- or high-priority, and is therefore not subject to SGMA requirements, including for a GSP, at this time.

The Fremont Valley Basin GWMP of 2018 was developed to eventually serve as a GSP, with the primary goal of documenting groundwater conditions to help inform the long-term sustainable management of groundwater resources in the Plan area. The Fremont Valley Basin GWMP was developed in parallel with the IRWMP, described above, and the Fremont Valley Basin Salt and Nutrient Management Plan. Groundwater quantity and quality conditions documented for the Fremont Valley Groundwater Basin in the 2018 GWMP will facilitate groundwater resources management in the Plan area and inform future groundwater studies, including those for SGMA purposes.

The Fremont Valley Basin GWMP identifies water management projects that support regional water supply reliability, promote sustainable use of water resources, and provide drinking water that meets regulatory requirements.

These projects, which range in development from conceptual to fully implemented, include the following:

- Fremont Valley Groundwater Basin GSP development;
- Well blending and distribution system enhancements;
- Conjunctive use programs;
- Wastewater treatment plant upgrades;
- Recycled water projects;
- Septic to sewer conversion;
- Stormwater capture and reuse/recharge;
- Central Park Lake restoration;
- Water main replacements;
- New water meters; and
- Water distribution system upgrades.

As noted above, the GWMP is intended to serve as a pre-GSP document, providing guidance for the sustainable management of the Fremont Valley Groundwater Basin.

## **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 initially approved in February 1998 by the California Integrated Waste Management Board (now CalRecycle), and the most recent version was updated on March 11, 2020. The Kern County IWMP is the long-range planning document for landfill facilities.

## **Kern County Public Works Department, Operations & Maintenance Division Recycling Programs**

The Kern County Public Works Department, Operations & Maintenance Division 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.

## **Chapter 1. Land Use, Open Space and Conservation Element**

### **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.
- Goal 9: Serve the needs of industry and Kern County residents in a way that does not degrade the water supply and the environment and protect public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

#### 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**

#### Goals

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

### **1.10 General Provisions**

#### **1.10.1 General Provisions, 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 Environmental 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 characterizes the quality of the upper groundwater in the project vicinity and evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater quality. If the evaluation indicates that the upper most 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 shall be required to supply sewage collection, treatment and disposal facilities.

## 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.

### Mojave Specific Plan

The Mojave Specific Plan was drafted in 2003 for the unincorporated eastern Kern County community of Mojave. The plan provides guidance on public utilities and related services. Objectives and policies of the plan that are relevant to the proposed project are included below.

## Chapter 3. Land Use

#### Objectives

Objective 3.6: Ensure that public services and utilities are provided commensurate with established needs and projected growth.

#### Policies

Policy 3.6.12 The County will review development proposals in the Plan area for drainage requirements and apply appropriate conditions of approval to ensure that these standards are met.

## Chapter 4. Conservation Element

#### Objectives

Objective 4.1: Provide sufficient water to meet the existing and projected needs of the community, while emphasizing conservation goals.

#### Policies

Policy 4.1.4 Require compliance for development projects with the requirements of the California Water Code Section 10910 regarding water supply.



## Chapter 10. Implementation Measures

### K. Utilities

K-2: Water Supply: Implement the following measures to ensure adequate water supplies are available to support urban development in Mojave:

- e) Discretionary projects that implement the plan (zone changes, land division, and conditional use permit) subject to CEQA, to which California Water Code Section 10910 applies, shall demonstrate through a water supply assessment that a long-term water supply for a 20-year time frame is available. Written acknowledgment that water will be provided by a community or public water system with an adopted urban water management plan that includes consideration of the project's projected water consumption and supply shall constitute compliance with this requirement.

K-4: Water Conservation: Implement the following measures to achieve water conservation objectives and policies in the Mojave Specific Plan area:

- a) Conditions of development approval for all discretionary projects should include water conservation measures such as the use of drought-tolerant landscaping, application of new technologies (such as low-flow toilets), implementation of recycling measures for different land uses and Best Management Practices (BMPs).
- d) All development projects within the Specific Plan area should incorporate water conservation measures including water reclamation, recycling, and xeriscape landscaping and other methods into all development plans to meet the provisions of the Mojave Specific Plan goals and policies, and to ensure an adequate water supply in the future.

### City of California City General Plan

The California City General Plan provides guidance on public utilities and related services. Sections of the plan that are relevant to the proposed project are included below.

#### 5.15 Conservation Goals, Policies, and Implementation Measures

##### Goals

- Ensure an adequate water supply for existing residents and business and planned growth and development.
- Protect groundwater quality.

##### Policies

- Provide sufficient water to meet the existing and projected needs of the community, while emphasizing conservation goals.
- Continue to promote and encourage water conservation to residents and businesses in the community.

- Establish a water conservation program encouraging and promoting xeriscaping and municipal recycled water usage.
- Encourage the Antelope Valley East Kern Valley Water Agency and the City Public Works Department to notify all new residential, commercial, and industrial development of water conservation and recycling measures implemented by the agencies which supply water to their area.
- Coordinate with AVEK and the City Public Works Department to implement the water master plan that addresses new infrastructure, as well as improvements and upgrades to the existing water systems in the General Plan Planning Area.
- Require compliance for development projects with the requirements of the California Water Code Section 10910 regarding water supply.

#### Implementation Measures

- C-1: The City shall require that new development proposals provide evidence that sufficient water supply, including fire flow, exists to serve the project without impacting service to existing uses or resulting in the long-term decline and overdraft of groundwater sources.

## 4.16.4 Impacts and Mitigation Measures

### Methodology

Potential impacts to the water supply and drainage facilities associated with construction and operation of the proposed project were evaluated qualitatively and quantitatively using the *Preliminary Hydrology Study – Bellefield Solar Project* (Westwood 2019) and the *Bellefield Solar Project Water Supply Assessment* (Rincon 2020), located in Appendix J and Appendix M of this EIR, respectively. In addition, current data obtained from the Kern County and State of California about the capacity of landfills was used to identify potential solid waste impacts. The evaluation of impacts is based on professional judgment, analysis of the County's land use policies, and significance criteria established in Appendix G of the *CEQA Guidelines*, which the County has determined appropriate for the EIR.

### 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 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.

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to one of these environmental issue areas and that no further analysis would be needed in the EIR; therefore this issue area is thus scoped out of this EIR. It was determined that the project would not:

- c. Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As detailed in the IS/NOP, the proposed project would generate a very insubstantial volume of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and disposed of at an approved facility. As a part of the proposed project, construction of a septic system would be included to serve the proposed O&M facility utilized by permanent staff and all wastewater generated by project operations would be handled onsite. Therefore, no impacts to any existing wastewater treatment facilities would occur and no further analysis is required.

**Impact 4.16-1: 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 telecommunication facilities, the construction or relocation of which could cause significant environmental effects.**

## **Solar Facility**

### **Construction**

#### ***Water***

The proposed project would require an estimated 900 AF of water during the 18 to 24-month construction period for dust suppression, concrete manufacturing, truck wheel washing, equipment washing, and fire safety. It is anticipated that water would be obtained from on- or off-site groundwater wells within the Fremont Valley Groundwater Basin, other nearby solar projects, directly from AVEK, and/or a local retailer. Potable water would be brought to the site via water trucks for drinking and domestic needs for construction workers. Therefore, the proposed project would not require or result in the relocation or construction of new or expanded water facilities. Impacts during construction would be less than significant.

#### ***Wastewater***

Construction of the project would generate a minimal volume of wastewater. During construction activity, wastewater would be contained within portable toilet facilities and disposed of at an approved disposal site. The Kern County Public Health Services Department/Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and if required the project proponent would

provide documentation of a portable toilet pumping contract. A standard on-site septic tank and leach field may be used at the O&M building to dispose sanitary wastewater, designed to meet operation and maintenance guidelines required by Kern County and California City laws, ordinances, regulations, and standards. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed and, thus, impacts during construction would be less than significant.

### ***Stormwater Drainage***

The project area is presently drained by natural drainage channels and sheet flow and does not rely on constructed stormwater drainage. The existing project area pattern and runoff characteristics could potentially be altered by project activities during earth disturbance work during construction and decommissioning, such as the grading, excavation, and equipment installation and/or removal. As required in Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC**, a Stormwater Pollution Prevention Plan (SWPPP) would be implemented during construction, which would include best management practices to manage stormwater drainage and runoff from the site. As noted in **Section 4.10, *Hydrology and Water Quality***, the project storm drainage system will be designed to ensure that there will be no increase in site runoff from the developed site and would not require construction of any off-site storm drainage facilities. Further evaluation of the storm water drainage of the site can be found in **Section 4.10** of this EIR.

As mentioned above in Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** and in compliance with National Pollutant Discharge Elimination System General Construction Permit requirements, the project's site-specific SWPPP would minimize the discharge of wastewater during construction and incorporate a Water Quality Management Plan that includes best management practices for runoff control.

Therefore, the proposed project would not affect existing storm water drainage systems during construction to the extent that relocation or construction of new or expanded stormwater drainage facilities would be required. A storm drainage plan for the developed site will be prepared prior to issuance of building permits that would identify locations and physical characteristics of any permanent stormwater control facilities. Project activities during construction are not expected to substantially alter the ground surface such that new stormwater drainage facilities are needed. No offsite connections to a municipal storm water facility exist or are proposed; thus, impacts during construction would be less than significant.

### ***Electric Power***

No electrical facilities are located on the project site and the site is currently undeveloped. Electricity for construction would be provided by SCE and a hookup would be installed on the project site to provide electricity onsite for both construction and operational phases of the project. 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. During construction, installation of the new electrical infrastructure would create a temporary environmental disturbance, however, since the electrical power lines would be placed underground for the duration of operation and maintenance, there would be less than significant impacts during construction.

### ***Natural Gas***

No natural gas pipelines are located on the project site, nor would natural gas be required for project construction. As described above, several pipeline rights-of-way are located adjacent to the project areas. The project proposes no alteration or changes to the pipelines and it would be required to contact utility services prior to construction to identify the specific locations of underground utility infrastructure,

including gas lines to ensure avoidance. Therefore, relocation or construction of new or expanded natural gas facilities would not be required and impacts would be less than significant during construction.

### ***Telecommunications***

As mentioned previously, an AT&T fiber optic line passes through the project area in an east-west direction south of SR 58 in the west and then just north of SR 58 where it exits the project area to the east. The project proposes no alteration or changes to the fiber optic line, and would be required to contact utility services prior to construction to identify the specific locations of underground telecommunications infrastructure, to ensure avoidance. During construction, cellular or satellite communication technology may be used for both internet and telephone systems, which would not require construction of new telecommunication facilities.

The project would require telecommunications facilities to meet the communication requirements for interconnecting with the SCE Windhub Substation and to support project operations during monitoring. Fiber optic communication lines would follow the electrical collector system. The communication lines will link each solar inverter module to the O&M building, which would house the supervisory control and data acquisition (SCADA) system. Hard-wired (landline) systems for operational use will be installed during completion of electrical construction activities. Since construction of the fiber optic communication lines would follow the electrical collector system and land line systems would also follow the electrical collector system, relocation of telecommunication facilities would not be required. The construction of new telecommunication facilities would occur within the same construction disturbance footprint as the project facilities and, thus, construction of such facilities would not result in additional environmental impacts not already addressed in this EIR. Therefore, impacts during construction would be less than significant.

## **Operation**

### ***Water***

During project operation, annual operational water demand is conservatively estimated at up to 200.8 AFY, including quarterly panel washing, 0.8 AFY for fire suppression water storage and interior plumbing fixtures at the proposed O&M building(s) on the project site. As noted earlier, the project water demand would be supplied from on- or off-site groundwater wells within the Fremont Valley Groundwater Basin, other nearby solar projects, directly from AVEK, and/or from a local retailer. The proposed project would not require or result in the relocation or construction of new or expanded water facilities outside of the project site. Impacts during operations and maintenance would be less than significant.

### ***Wastewater***

As discussed above, as a part of the proposed project, a standard on-site septic tank and leach field would be used at the O&M building to dispose sanitary wastewater, designed to meet operation and maintenance guidelines required by Kern County laws, ordinances, regulations, and standards. With Kern County Health Department review and oversight, installation, operation, and decommissioning of the onsite septic systems would not violate any wastewater treatment requirements of the applicable RWQCB.

Additionally, the project may generate wastewater in the event that an onsite reverse-osmosis (RO) water treatment system is installed. This wastewater would be disposed of either onsite or offsite and in accordance with Mitigation Measure **MM 4.10-3KC**, as discussed in **Section 4.10, Hydrology and Water Quality**, which would require obtaining and implementing applicable waste discharge requirements established by the Lahontan Regional Water Quality Control Board. Therefore, the proposed project would

not affect existing water or wastewater treatment facilities. Impacts during operations and maintenance would be less than significant.

### ***Stormwater Drainage***

As previously discussed, there are no constructed stormwater drainage systems present on-site. The existing pattern and concentration of runoff could potentially be altered by the proposed facility development, including equipment, structural enclosures and foundation installation, and other impervious features. As discussed in **Section 4.10, *Hydrology and Water Quality***, of this Draft EIR, Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would be implemented as part of the proposed project, which requires preparation of a final hydrologic study and drainage plan, including detailed engineering design measures to manage stormwater flows and reduce potential increases in stormwater runoff. Potential increase in runoff would be addressed with the construction of detention basins, retention basins, erosion control, or other drainage facilities in accordance with the guidelines from the Kern County Development Standards Division 4 Standards for Drainage, including Chapter III, Retention Basin Design, along with any comparable standards administered by California City. The design features would be implemented on-site along with the rest of the project construction, and infiltration characteristics would occur similar to existing conditions. No off-site connections to municipal stormwater facilities exist or are proposed; thus, impacts would be less than significant to such facilities.

### ***Electric Power***

Project operation would generate 1,500 MW of renewable electrical energy for distribution on the state-wide utility grid. The existing infrastructure has adequate capacity to accept the additional 1,500 MW that would be generated by the project, which would be delivered to the SCE supply system at the Windhub Substation, via the proposed gen-tie line. The project would require minimal electric power for operation and maintenance, which would be provided by the on-site PV solar system or via the SCE hook-up installed during construction. Therefore, relocation or construction of new or expanded electrical facilities would not be required during operation and impacts would be less than significant.

### ***Natural Gas***

No natural gas facilities would be required for operation of the project. The project includes a solar array, battery storage, and O&M facilities that would not require heating from natural gas during operation. Therefore, operation of the project would not require the relocation or construction of new or expanded natural gas facilities and no impact would occur.

### ***Telecommunications***

The project would require telecommunications facilities to meet the communication requirements for interconnecting with the SCE Windhub Substation and to support project operations during monitoring. During operation, the SCADA system would allow individual solar inverter modules and other project elements to be monitored and controlled in the O&M building from remote locations. Additional fiber optic lines required for the operational phase of the project would be located in proximity to the other telecommunication facilities and would not result in additional demand such that the construction of off-site facilities would be required. Therefore, impacts would be less than significant.

## Gen-Tie

Neither construction nor operation of the gen-tie infrastructure would require or introduce large amounts of water to the site. The construction and operation of the aboveground gen-tie infrastructure would require minimal ground disturbance and would not impact water flow across the site, thereby not requiring the construction of new or expansion of existing stormwater facilities. In the event that portions of the gen-tie are installed underground, the facilities would be constructed to maintain existing surface elevations and would not impact existing surface water flow patterns. No new water or wastewater treatment facilities would be required for the gen-tie. Impacts would be less than significant.

The proposed gen-tie would have a negligible impact on impervious area and runoff as the poles and associated concrete foundations would be widely spaced. The project would leave large areas of pervious surfaces that would absorb stormwater runoff. In the case of underground portions of the gen-tie, the underground line may require construction of maintenance access points along the route; however, these facilities are expected to be few and interspersed along the route and would not contribute to a substantial increase in impervious surfaces. The proposed gen-tie would not require the construction of storm water drainage infrastructure. The proposed project is not expected to exceed the capacity of existing storm water drainage systems in the area, and relocation or construction of new or expanded stormwater drainage facilities off-site would not be required. Therefore, impacts would be less than significant and no mitigation would be required for the gen-tie portion of the project.

Natural gas would not be required for construction or operation of the gen-tie. In addition, relocation or construction of new or expanded natural gas facilities would not be required and therefore, impacts would be less than significant.

As described above, the project would require telecommunications facilities to meet the communication requirements for interconnecting with the SCE substation and to support project operations during monitoring. During operation, the SCADA system would allow individual solar inverter modules and other project elements to be monitored and controlled in the O&M building from remote locations. Additional fiber optic lines required for the operational phase of the project would be located in proximity to the other telecommunication facilities and would not result in additional demand such that the construction of off-site facilities would be required. Therefore, impacts would be less than significant.

## Mitigation Measures

### Kern County

Implement Mitigation Measure **MM 4.10-2KC** (see **Section 4.10, *Hydrology and Water Quality***, for full text).

### City of California City

Implement Mitigation Measure **MM 4.10-2CC** (see **Section 4.10, *Hydrology and Water Quality***, for full text).

### Gen-Tie

No mitigation would be required.

## Level of Significance after Mitigation

### Kern County

With the implementation of Mitigation Measure **MM 4.10-2KC**, impacts would be less than significant.

### City of California City

With the implementation of Mitigation Measure **MM 4.10-2CC**, impacts would be less than significant.

### Gen-Tie

Impacts are less than significant.

**Impact 4.16-2: The project would have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.**

### Solar Facility

Water requirements for the project during construction and operation were determined in the *Water Supply Assessment* prepared for the project (see Appendix M of this EIR). **Table 4.16-2, Total Project Water Demands**, summarizes the construction and operational water demands of the project.

#### Construction

As shown in **Table 4.16-2, Total Project Water Demands**, construction of the project would require 900 AF of water over the project's 18- to 24-month construction period; including up to 450 AFY of water for dust suppression activities. Construction water would be used for dust suppression, truck wheel washing, landscaping, and miscellaneous purposes. The following assumptions apply to construction water:

- Drinking water for construction personnel would be provided in bottles trucked to the project site;
- Restroom facilities would be provided as portable units to be serviced by licensed providers, and would therefore not require an on-site water source;
- Use of an on-site water quality treatment system would not be required for construction water uses, and raw water pumped from the local groundwater basin would be of sufficient quality for construction uses; and
- Concrete required for project features such as but not limited to the footings for solar PV modules would be purchased from a local retailer who would provide the mixed concrete or would use trucks to mix concrete on site such as in a small batch plant.

**Table 4.16-2. Total Project Water Demands**

Project Phase	Water Demand
<b>Construction</b>	
Dust Suppression	450 AFY
<i>Total Construction Demand (over two years)</i>	<b><i>900 acre feet</i></b>



<b>Operation</b>	
Fire Suppression	0.7 AFY
Solar PV Panel Washing	100 AFY
Solar PV Panel Washing Concentrate	100 AFY
O&M Buildings	0.1 AFY
<i>Total Operational Demand (over 35 years)</i>	<i>7,028 acre feet</i>
<b>Amortized Annual Demand</b>	
<b>Total Amortized Demand</b>	<b>214.3 AFY</b>

Source: Rincon 2020d (see Appendix M).

AFY = acre feet per year

### Operation

As shown in **Table 4.16-2, Total Project Water Demands**, operation and maintenance of the project would require approximately 200.8 AFY of water for safety precautions (fire suppression water storage), washing of the solar panels (including for wastewater produced by an on-site water quality treatment system), and for sanitary uses at the O&M building. The project would primarily use groundwater, and if needed, would secure additional sources to meet project demand needs. These areas of water demand are discussed below.

#### Fire Suppression

It is assumed that up to three 80,000-gallon water storage tanks would be used on the project site to store water for fire suppression use on an as-needed basis; this quantity was selected for consistency with the requirements of other similar projects. It is unlikely the entire contents of each 80,000-gallon water tank would be needed for fire suppression on an annual basis, but for the purposes of this analysis it is conservatively assumed the water in each of the three 80,000-gallon tanks would be replaced annually, for a total of 0.7 AFY. Some water stored in the tanks could be lost to evaporation regardless of fire suppression needs. Excess water may also be used for dust suppression during project operation and maintenance activities.

O&M of the project would require an estimated 0.7 AFY of water for fire suppression (as a safety precaution).

#### Solar PV Panel Washing

In order to maintain energy production efficiency of the PV solar panels, they will be washed with water up to four times per year or as needed, depending upon weather conditions. It is important that water used for panel washing is low in concentration of total dissolved solids (TDS), and it is known that local groundwater resources are typically characterized by high TDS concentrations. All or part of the project's O&M water may be obtained from the local Fremont Valley Groundwater Basin and would need to be treated before use for panel washing. Water treatment produces concentrated brine that will need to be disposed of; total O&M water requirements for the project account for brine / wastewater that would be produced during water treatment.

The project may install a water treatment system to treat groundwater, and the system would be anticipated to have a footprint of up to 30 feet by 30 feet. The water treatment system would generate a wastewater stream, which would be disposed of either onsite or offsite in accordance with the associated Waste Discharge Requirements, as may be imposed by the Lahontan Regional Water Quality Control Board, which would be required under Mitigation Measures **MM 4.10-3KC** and **MM 4.10-3CC**, as discussed in more detail in **Section 4.10, *Hydrology and Water Quality***.

The solar PV panel washing analysis relies on an assumed water demand rate of 0.05 acre-feet of water per year per MW, based on other utility-scale solar PV projects in California deserts. The project is anticipated to produce up to 1,500 MW. However, for the purposes of the WSA, a conservative approach was employed and assumed the project would produce up to 2,000 MW of PV solar power; therefore, operational requirements for solar PV panel washing would be approximately 100 AFY. In addition, based on the assumed 50 percent recovery rate for the project's water quality treatment system described above, operation of the project would require approximately 100 AFY for wastewater / brine that would be collected and disposed of off-site, at an approved waste disposal site. Collectively, the treatment and use of water for solar PV panel washing would require up to an estimated 200 AFY. As noted, this is a conservative estimate that is based on a larger project size than currently proposed (2,000 MW assessed versus 1,500 MW proposed).

O&M of the project would require up to approximately 200 AFY of water for panel washing and water treatment.

#### ***O&M Building***

The project includes one O&M building sized approximately 40 feet by 80 feet. The adjusted water demand factor for a commercial land use type from Palmdale Water District, a nearby water district in Kern County and Los Angeles County, is 1,260 gallons per day per acre per year. The O&M building totals approximately 3,200 square feet, or 0.07 acre. As such, applying the same water demand rate for that commercial land use, the annual water demand associated with the O&M building is 88.2 gallons per day, or approximately 0.10 AFY.

O&M of the project would require up to approximately 0.10 AFY of water for sanitary purposes at the O&M building.

#### ***Fremont Valley Groundwater Basin***

The project applicant may pump groundwater from existing wells within the Fremont Valley Groundwater Basin. There are multiple active groundwater management efforts in place in the Fremont Valley Groundwater Basin, including:

- Fremont Basin Integrated Regional Water Management Plan;
- Fremont Valley Basin Groundwater Management Plan;
- Salt and Nutrient Management Plan; and
- Groundwater Sustainability Plan (in progress).

Current and projected water supply and demand estimates are presented in the IRWMP for the Fremont Valley Basin region. As described in the IRWMP, there is a limited understanding of storage and withdrawal capacity in the basin and, because the basin is not adjudicated, pumping is not currently

managed by a Watermaster. The IRWMP and other local planning efforts describe that increasing industrial water uses in the basin will continue to increase, including for solar energy developments.

The IRWMP describes that the four largest industrial water user categories are the solar, cannabis, mining, and manufacturing industries. The Fremont Valley GWMP also describes that population in this area is expected to grow more than 35 percent by 2040, and that industrial uses including for the solar industry are expected to grow substantially over this same timeframe. The Fremont Valley GWMP provides current and projected water demand rates for the primary water uses in the area, including industrial uses, which account for solar developments. These projections are shown in **Table 4.16-3, Current and Projected Water Demand for Fremont Valley Basin (Af) – Baseline Condition**.

**Table 4.16-3. Current and Projected Water Demand for Fremont Valley Basin (Af) – Baseline Condition**

	2015	2020	2025	2030	2035	2040
Residential	5,278	7,340	7,687	8,045	8,408	9,328
Agricultural	647	647	647	647	647	647
Industrial	6	65	271	477	684	890
<b>Plan Area Total</b>	5,931	8,052	8,605	9,169	9,739	10,865

Source: Rincon 2020d (see Appendix M).

**Table 4.16-3, Current and Projected Water Demand for Fremont Valley Basin (Af) – Baseline Condition**, indicates that the GWMP accounts for increasing industrial water uses in the Fremont Valley Basin region, which include solar energy developments such as the project. The project's 200 AF/YR water demand represents more than 24 percent of the total industrial water demand growth forecast between 2020 and 2040. The GWMP also estimates that total water supplied within the Fremont Valley GWMP area is expected to increase by more than 60 percent by 2040 to match increasing water demands, accounting for agricultural growth rates of baseline, light, medium, and heavy, respectively. The GWMP determined that the light and medium agricultural growth scenarios are likely to be sustainable, whereas the heavy agricultural growth scenario may not be sustainable and could produce a condition of overdraft.

Projections of water supply availability in the Fremont Valley Groundwater Basin vary depending upon the source and are highly dependent upon projected imported and surface water supplies in the area. As mentioned, this groundwater basin is identified by DWR as Low Priority, meaning that overdraft conditions are not present or imminent, and future management of groundwater resources in the area will include development and implementation of a GSP, which may impose pumping restrictions if needed to facilitate groundwater supply reliability. In conclusion, estimates of increasing water demands in the project area do account for solar developments such as the project and, although estimates of water supply availability are not specific to groundwater, it is generally anticipated that water supply availability will match water demand through conjunctive use management of groundwater and surface water resources.

#### ***Antelope Valley – East Kern Water Agency***

Water supply availability projections for AVEK are more quantifiable than for the Fremont Valley Groundwater Basin, because there is more data available for imported surface water supplies than for unmonitored groundwater supplies. Water supply projections provided by AVEK indicate that there are anticipated water shortages under varying climatic conditions in the future, but it is also anticipated that

such shortages will be accommodated by increasing groundwater pumping, including through the recovery of banked supplies or return flows, and/or reducing demand by the retail agencies within AVEK's service territory.

**Table 4.16-4, *AVEK Projected Supplies and Demand***, summarizes AVEK's supply and demand projections in normal year, single-dry year, and multiple-dry year climatic scenarios. In each of these scenarios, AVEK assumes it will pump its annual Overlying Production Right of 3,550 AFY from the Antelope Valley Groundwater Basin. Projections for future deliveries of SWP water are estimated based on DWR's modeled supply estimates (Appendix M of this EIR).

**Table 4.16-4. AVEK Projected Supplies and Demand**

		2020	2025	2030	2035
<b>Normal Year</b>					
Supply Totals		89,010	89,010	89,010	89,010
Demand Totals		83,680	85,630	85,940	86,260
<b>Difference</b>		<b>5,330</b>	<b>3,380</b>	<b>3,070</b>	<b>2,750</b>
<b>Single Dry Year</b>					
Supply Totals		89,010	89,010	89,010	89,010
Demand Totals		83,680	85,630	85,940	86,260
<b>Difference</b>		<b>5,330</b>	<b>3,380</b>	<b>3,070</b>	<b>2,750</b>
<b>Multiple Dry Years</b>					
First Year	Supply Totals	56,950	56,950	56,950	56,950
	Demand Totals	83,680	85,630	85,940	86,260
	<b>Difference</b>	<b>(26,730)</b>	<b>(28,680)</b>	<b>(28,990)</b>	<b>(29,310)</b>
Second Year	Supply Totals	62,750	62,750	62,750	62,750
	Demand Totals	83,680	85,630	85,940	86,260
	<b>Difference</b>	<b>(20,930)</b>	<b>(22,880)</b>	<b>(23,190)</b>	<b>(23,510)</b>
Third Year	Supply Totals	74,350	74,350	74,350	74,350
	Demand Totals	83,680	85,630	85,940	86,260
	<b>Difference</b>	<b>(9,330)</b>	<b>(11,280)</b>	<b>(11,590)</b>	<b>(11,910)</b>
Units in acre-feet per year					
Source: Rincon 2020d (see Appendix M).					

In normal and single-dry years, AVEK has sufficient water supplies to meet projected demands. Under multiple-dry year scenarios, the projections indicate water supply shortages due to curtailed SWP deliveries. It is anticipated that the difference will be made up by increased groundwater pumping of banked supplies and/or reductions in demand by the retail agencies. The 2016 UWMP identifies programs such as water rationing that may be implemented in order to address future water shortages (Appendix M, *Water Supply Assessment*, of this EIR).

### Local Retailers

As mentioned, the project may also source water from local retailers, which include MPUD and CCWD. The following **Table 4.16-5, MPUD and CCWD Projected Supplies and Demand**, summarizes MPUD and CCWD's surplus projections in normal year, single-dry year, and multiple-dry year climatic scenarios. As shown, both MPUD and CCWD each have adequate water supplies in normal year, single-dry year, and multiple-dry year climatic scenarios to supply the project.

**Table 4.16-5. MPUD and CCWD Projected Supplies and Demand**

	2020	2025	2030	2035
<b>MPUD</b>				
<b>Normal Year Surplus<sup>1</sup> Supply</b>	900	803	699	586
<b>Single Dry Year Surplus<sup>1,2</sup></b>	690	690	690	690
<b>Multiple Dry Years (3<sup>rd</sup> Year Drought) Surplus<sup>2</sup></b>	690	690	690	690
<b>California City (CCWD)</b>				
<b>Normal Year Surplus<sup>1</sup> Supply</b>	3,407	3,719	2,949	2,716
<b>Single Dry Year Surplus<sup>1,2</sup></b>	3,407	3,719	2,949	2,716
<b>Multiple Dry Years (3<sup>rd</sup> Year Drought) Surplus<sup>2</sup></b>	3,407	3,719	2,949	2,716
<sup>1</sup> Surplus denotes the remaining water supplies after total demand, which comprises of urban demand and losses, has been met. <sup>2</sup> MPUD and CCWD can supply water by either purchases through AVEK or from groundwater. For the single dry year and multi-dry year water budget projections, only surface water supplies would be immediately affected by drought conditions, and MPUD can rely on groundwater supplies. Therefore, water volume available for MPUD and California City would not change.  Units in acre-feet per year Source: Rincon 2020d (see Appendix M).				

As shown in the possible water sources of Fremont Valley GWMP, AVEK, and local water retailers, adequate water is available to serve the project's long-term demands. Additionally, the project may also source water from other nearby solar projects that have remaining available water supplies.

In conclusion, long-term water demands associated with the project are generally accounted for in regional water supply plans and, although regional water shortages may occur in the area during the project's lifetime, sufficient sources will be secured to serve the project needs on an as-needed basis. In this context, water supplies are anticipated to be sufficient and impacts would be considered less than significant.

### Gen-Tie

The construction water demand associated with the proposed gen-tie is incorporated directly into the overall construction water demand of the proposed project. Compared to the solar facility, the gen-tie would have a shorter construction period, requiring less equipment, materials, and water. Operation of the gen-tie would neither require full-time personnel nor cleaning and would therefore not require water.

## Mitigation Measures

### Kern County

No mitigation would be required.

### City of California City

No mitigation would be required.

### Gen-Tie

No mitigation would be required.

## Level of Significance

### Kern County

Impacts would be less than significant.

### City of California City

Impacts would be less than significant.

### Gen-Tie

Impacts would be less than significant.

**Impact 4.16-3: 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.**

### Solar Facility

The minimal amount of solid waste generated at the project site would most likely be disposed of by a permitted hauler at the Mojave-Rosamond Recycling and Sanitary Landfill (approximately 2.5 miles from the project site). The landfill has a remaining capacity of 76,310,297 cubic yards out of a total maximum capacity of 78,000,000 cubic yards and has an estimated closure date of 2123 (CalRecycle 2020a). Project construction is anticipated to begin fourth quarter of 2021 for 18 to 24 months.

### Construction

It is anticipated the project would not generate substantial amounts of non-recyclable waste during construction. Currently, the project site contains no development and, therefore, there would be no demolition or removal of large debris. 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 containers materials for module deliveries would be recycled and are not anticipated to generate non-recyclable waste. Common construction wastes include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. Non-hazardous construction refuse and solid waste would either be collected and

recycled or disposed of at a local landfill. Any hazardous waste generated during construction would be disposed of at an approved location.

The small amount of solid waste generated by construction activities is not expected to exceed the capacity of these landfills. The Mojave-Rosamond Recycling and Sanitary Landfill (approximately 2.5 miles to the southwest) is the closest landfill to the project site and, therefore, would be the most likely recipient of project site solid waste. The Mojave-Rosemond Recycling and Sanitary Landfill has a remaining capacity of 76,310,297 cy with an anticipated closure year of 2123 (CalRecycle, 2020a). The next closest active landfill is the Boron Sanitary Landfill, which is located 19 miles southeast of the site, with a remaining capacity of 191,380 cy and anticipated closure date of 2048. Both landfills are Class III landfills and, therefore, accept wastes from construction and demolition as well as industrial sources, but do not accept hazardous waste, hot ashes, and liquids of any kind. As shown in **Table 4.16-1, Active Kern County Public Works' Landfills Near Project Site**, both landfills have significant capacity remaining (CalRecycle, 2020a; 2020b). In addition, with the implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC**, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction. Therefore, construction impacts of the project to local solid waste disposal infrastructure and attainment of solid waste reduction goals would be less than significant.

### Operation

The project site would produce small amounts of waste associated with O&M activities. PV solar system waste typically includes broken and rusted metal, defective or malfunctioning modules, electrical materials, and empty containers and other miscellaneous solid materials. Most of these materials would be collected and delivered back to the manufacturer for recycling. Small amounts of typical household/office refuse would be generated by workers during maintenance visits. The operation of the new gen-tie line connection would not require full-time personnel or cleaning and would therefore not generate solid waste during operation.

As described above, the Mojave-Rosamond Recycling and Sanitary Landfill and Boron Sanitary Landfill have adequate capacity, and the recycling of decommissioned materials would further reduce the waste stream. Post-construction operational solid wastes would most likely be disposed of at the Mojave-Rosamond Recycling and Sanitary Landfill, which is permitted to operate through 2123, respectively.

Therefore, operational solid waste could be disposed of at this landfill during the operational lifespan of the project (approximately 35 years). In addition, with the implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC**, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during operation. Therefore, operational impacts of the project to local infrastructure and attainment of solid waste reduction goals would be less than significant.

### Decommissioning

Solar PV panels have a lifespan of approximately 30-40 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time. During decommissioning, a collection and recycling program would be implemented to recycle project components and minimize disposal of project components in landfills. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities, in accordance with all applicable federal, State, and local regulations. Following decommissioning, the project site would be returned to predevelopment conditions. The decommissioning process could result in larger volumes of waste that

require landfill disposal. However, implementation of a recycling coordination required in Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** would reduce impacts associated with decommissioning to local infrastructure and attainment of solid waste reduction goals to a less than significant level.

## Gen-Tie

The amount of materials needed to construct the gen-tie is relatively small in scale compared to the solar facility, and construction would not require demolition of existing structures. Construction of the gen-tie is expected to generate minimal amounts of common construction waste materials, including metals, concrete, rocks, dirt, cardboard, or green waste. Non-hazardous construction waste would be recycled or disposed of at a local landfill; any hazardous waste generated would be disposed of at an approved location. The waste generated from the project is not expected to exceed the capacity of these landfills. Impacts would be less than significant.

The operation of the gen-tie would not require full-time personnel or cleaning and would therefore not generate solid waste during operation. Therefore, the gen-tie would not exceed the permitted capacity of local landfills, and impacts would be less than significant.

Decommissioning of the gen-tie line would not generate substantial amounts of solid waste. During decommissioning, a collection and recycling program would be implemented to recycle project components and minimize disposal of project components in landfills as required by Mitigation Measure **MM 4.16-1KC**. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities, in accordance with all applicable federal, State, and local regulations. Impacts would be less than significant.

## Mitigation Measures

### Kern County

- MM 4.16-1KC:** During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.
- a. An on-site Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, 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 on-site Recycling Coordinator shall also be responsible for ensuring waste requiring special disposal are handled according to state local 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.

### **City of California City**

**MM 4.16-1CC:** During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.

- a. An on-site Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, 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 on-site Recycling Coordinator shall also be responsible for ensuring waste requiring special disposal are handled according to state local regulations that are in effect at the time of disposal.
- d. Contact information of the coordinator shall be provided to the California City Community Development 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.

### **Gen-Tie**

Implement Mitigation Measure **MM 4.16-1KC**.

## **Level of Significance after Mitigation**

### **Kern County**

With the implementation of Mitigation Measure **MM 4.16-1KC**, impacts would be less than significant.

### **City of California City**

With the implementation of Mitigation Measure **MM 4.16-1CC**, impacts would be less than significant.

### **Gen Tie**

With the implementation of Mitigation Measure **MM 4.16-1KC**, impacts would be less than significant.

**Impact 4.16-4: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.****Solar Facility**

The project would generate solid waste during construction, operation, and decommissioning. 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 50 percent C&D waste
- 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 Measures **MM 4.16-1KC** and **MM 4.16-1CC** would ensure compliance with waste diversion and recycling requirements by requiring recycling during construction, operation, and decommissioning of the project. The proposed 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.

**Gen-Tie**

Construction of the gen-tie is expected to generate minimal amounts of waste. Non-hazardous construction waste would be recycled or disposed of at a local landfill; any hazardous waste generated would be disposed of at an approved location. The operation of the gen-tie would not require full-time personnel or cleaning and would therefore not generate solid waste during operation. During decommissioning, a collection and recycling program would be implemented to recycle project components and minimize disposal of project components in landfills. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities, in accordance with all applicable federal, State, and local regulations.

Similar to the solar facility, the proposed gen-tie would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Implementation of Mitigation Measures **MM 4.16-1KC** would ensure compliance with waste diversion and recycling requirements by requiring recycling during construction and decommissioning of the gen-tie. Therefore, the proposed gen-tie would result in less than significant impacts regarding compliance with management and reduction statutes and regulations related to solid waste.

## Mitigation Measures

### Kern County

Implement Mitigation Measure **MM 4.16-1KC**.

### City of California City

Implement Mitigation Measure **MM 4.16-1CC**.

### Gen Tie

Implement Mitigation Measure **MM 4.16-1KC**.

## Level of Significance after Mitigation

### Kern County

With the implementation of Mitigation Measure **MM 4.16-1KC**, impacts would be less than significant.

### City of California City

With the implementation of Mitigation Measure **MM 4.16-1CC**, impacts would be less than significant.

### Gen Tie

With the implementation of Mitigation Measure **MM 4.16-1KC**, impacts would be less than significant.

## Cumulative Setting, Impacts, and Mitigation Measures

### Solar Facility

The geographic scope for cumulative analysis of impacts on water supply are the related projects that would impact the Fremont Valley Groundwater Basin and AVEK. The geographic scope of analysis for stormwater drainage, solid waste disposal, electricity, natural gas, and telecommunications includes the projects that would be relying on the same facilities and infrastructure. Impacts of the proposed project would be cumulatively considerable if the incremental effects of the proposed project when combined with other past, present, or reasonably foreseeable projects (refer to **Table 3-4, Cumulative Projects List**, in **Chapter 3, Project Description**) would result in a significant cumulative effect. Impacts to 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 proposed project and nearby other solar and wind energy projects, thereby limiting the potential to contribute to demand for a particular service.

### Water

Several utility-scale renewable energy projects are proposed in the Fremont Valley that would impact the existing water supply, which is derived almost entirely from the Fremont Valley Groundwater Basin. The water-intensive use period for renewable energy projects is typically the construction phase. Once built,

solar energy projects, particularly at utility scale, would typically require water for panel washing at regular intervals every year. This could result in a cumulative impact on water supplies of unknown magnitudes, given uncertainties on future water resource and supply conditions and the need for water use restrictions during periods of water shortages. Given the limited water supply in the area, other projects are expected to either rely on new or existing wells (similar to the project) or truck in their water supply. Any projects that cannot secure a water supply source would not likely receive approved land use entitlements, and would not move forward to construction or operation. That would reduce short-term cumulative impacts to less than significant. 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 and is not expected to generate a significant amount of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and disposed of at an approved facility. A standard on-site septic tank and leach field would be used at the O&M building to dispose sanitary wastewater, designed to meet operation and maintenance guidelines required by Kern County and California City laws, ordinances, regulations, and standards. No offsite sewage or disposal connections to a municipal sewer system are proposed. Therefore, the proposed project would not contribute to a cumulative impact on any municipal wastewater treatment facilities.

## Stormwater Drainage

The project area is presently drained by natural drainage channels and sheet flow and does not rely on constructed stormwater drainage. The existing pattern and concentration of runoff could potentially be altered by project activities, such as the grading of access roads. However, the amount of runoff across the project site would not be substantially altered, such that new municipal stormwater drainage facilities are needed. In accordance with Mitigation Measures **MM 4.10-1KC**, **MM 4.10-1CC**, **MM 4.10-2KC**, and **MM 4.10-2CC** (see **Section 4.10, Hydrology and Water Quality**), the proposed project would implement a SWPPP during construction and would develop the site in accordance with a drainage plan that would incorporate measures to offset increases in stormwater flows caused by the project. No impact to any existing municipal storm drainage infrastructure would occur due to project land alterations or site runoff.

Other projects in the vicinity would be required to offset substantial increases in stormwater as well per County and City requirements. Surrounding projects would also be required to prepare a drainage plan that would help avoid substantial increases of stormwater generated on-site by their respective ground disturbance. Depending on the findings of their respective drainage plans, these projects may need to construct stormwater control structures on-site to reduce the potential for increased stormwater runoff.

Therefore, with compliance with the County and California City regulations governing storm drainage control that requires that any constructed stormwater control mechanisms be kept on site, there would be less than significant impacts involving existing or proposed municipal storm drainage systems.

## Electric Power

There are no existing electrical facilities on site; therefore, the project facility would have no impact on such systems. The proposed project would include construction of a gen-tie that would tie into the existing SCE Windhub Substation, several miles to the west. On-site collector lines would also be constructed to convey electricity from the solar panels to inverters and the on-site substation, prior to transmission via the

gen-tie. Impacts associated with construction and maintenance of the gen-tie and collector lines are addressed throughout this EIR, along with all of the other project components. The project would not affect nearby electrical distribution networks and would not impact electrical service to other users. Electricity demand of the project would be minimal and would be provided by the on-site PV system and a connection to the existing local SCE network. Other proposed solar energy projects in the cumulative impact area would be designed in similar ways, with minimal operational demands for electrical services and similar transmission lines and collector lines that would be evaluated for impacts in the respect CEQA documents for those projects. This project, in combination with other cumulative solar projects in East Kern County, would result in a less than significant impact involving electricity infrastructure.

## Natural Gas

There are no existing natural gas facilities on the project site and the project would not require natural gas for construction and operation. Therefore, the project would not contribute to cumulative impacts related to natural gas demand and facilities.

## Telecommunications

As mentioned previously, the project would require new underground or surface-level facilities to meet the communication requirements for interconnecting with the SCE Windhub Substation and to support project operations during monitoring. These new facilities would likely consist of additional fiber optic lines placed near the onsite collector lines and within the gen-tie corridor. The proposed 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

The proposed project would generate a minimal amount of waste and is not expected to significantly impact Kern County landfills. The Mojave- Rosamond Landfill is expected to operate until 2123. However, generation of waste from cumulative projects, including other solar and wind projects, could result in a cumulative impact. To ensure that the proposed project reduces the amount of waste sent to landfills, implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** require that debris and waste generated shall be recycled to the extent feasible, and an on-site recycling coordinator be designated by the project proponent to facilitate recycling efforts. With implementation of Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC**, 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 that would reduce the total volume of wastes sent to landfills for disposal. Cumulative impacts are anticipated to be less than significant.

## Conclusion

In conclusion, the proposed project would be largely self-contained and would not have a significant impact on existing public or private utilities systems or infrastructure. The incremental effects of the proposed 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 4.10-1KC**, **MM 4.10-1CC**, **MM 4.10-**

**2KC, MM 4.10-2CC, MM 4.16-1KC, and MM 4.16-1CC.** Furthermore, the proposed project would generate a substantial amount of new clean and renewable electrical energy that would result in a beneficial impact on electrical energy services and reduce future needs to construct energy generation and transmission infrastructure as energy demand grows in Kern County and Southern California.

## **Gen-Tie**

The proposed gen-tie would result in minimal ground disturbance and would therefore not generate a substantial amount of stormwater runoff nor would it drain into an existing stormwater drainage system. Construction of the gen-tie would require minimal water use, which would be provided by either by on-site wells or construction water trucks. Operation of the gen-tie would neither require full-time personnel nor cleaning, and would therefore not require water nor generate wastewater or solid waste during operation. Standard solid waste management practices would require debris and waste generated by construction of the gen-tie to be recycled the extent feasible. Cumulative impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implement Mitigation Measures **MM 4.10-1KC, MM 4.10-2KC, and MM 4.16-1KC.**

### **City of California City**

Implement Mitigation Measures **MM 4.10-1CC, MM 4.10-2CC, and MM 4.16-1CC.**

### **Gen Tie**

Implement Mitigation Measure **MM 4.16-1KC.**

## **Level of Significance after Mitigation**

### **Kern County**

With the implementation of Mitigation Measures **MM 4.10-1KC, MM 4.10-2KC, and MM 4.16-1KC**, the project's incremental contribution to cumulative utilities and service systems impacts would be less than significant.

### **City of California City**

With the implementation of Mitigation Measures **MM 4.10-1CC, MM 4.10-2CC, and MM 4.16-1CC**, the project's incremental contribution to cumulative utilities and service systems impacts would be less than significant.

### **Gen-Tie**

With the implementation of Mitigation Measure **MM 4.16-1KC**, the project's incremental contribution to cumulative utilities and service systems impacts would be less than significant.

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### **4.17.1 Introduction**

This section of the EIR discusses potential impacts related to wildland fire hazards. 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) and Kern County Fire Hazards Severity Zone (FHSZ) maps. Additionally, vegetation data from the *Biological Evaluation*, prepared by EnviroPlus Consulting, Inc (EPC 2020a), was relied upon to describe existing site conditions; refer to Appendix D.1.

### **4.17.2 Environmental Setting**

#### **Site Characteristics and Fire Environment**

The project site is located in portions of unincorporated Kern County and California City. The project site straddles State Route 58, east of Mojave and just west and south of the Hyundai-Kia Proving Ground. The site consists of undeveloped desert lands. Existing land uses in the surrounding area are primarily undeveloped.

Cal Fire maps FHSZs based upon factors such as fuel, slope, and fire weather to identify the degree of fire hazard throughout California (e.g., moderate, high, or 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 are therefore of greater concern.

According to the FHSZ map published by Cal Fire, the lands proposed to support the PV solar facility are not located within or near State Responsibility Areas (SRA) or lands classified as very high fire hazard severity zones. The solar facility site is outside of areas identified by Cal Fire as having substantial or very high risk. The project site is located within a Local Responsibility Area (LRA) and designated as LRA Moderate (Cal Fire 2007a). Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. Approximately 2 miles of the western portion of the gen-tie route is also located within a SRA classified as a moderate FHSZ (Cal Fire 2020). Refer to **Figure 4.17-1, Fire Severity Zones for Local Responsibility Areas**, and **Figure 4.17-2, Fire Severity Zones for State Responsibility Areas**.

#### **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, which shows the history of fires back through 2013 (Cal Fire 2021), and Cal Fire's Fire and Resource Assessment Program (FRAP) Fire Perimeters: Wildfires 1950-2018 map (Cal Fire 2019). Based on a review of these maps, no fires in recorded history have burned across the project site.



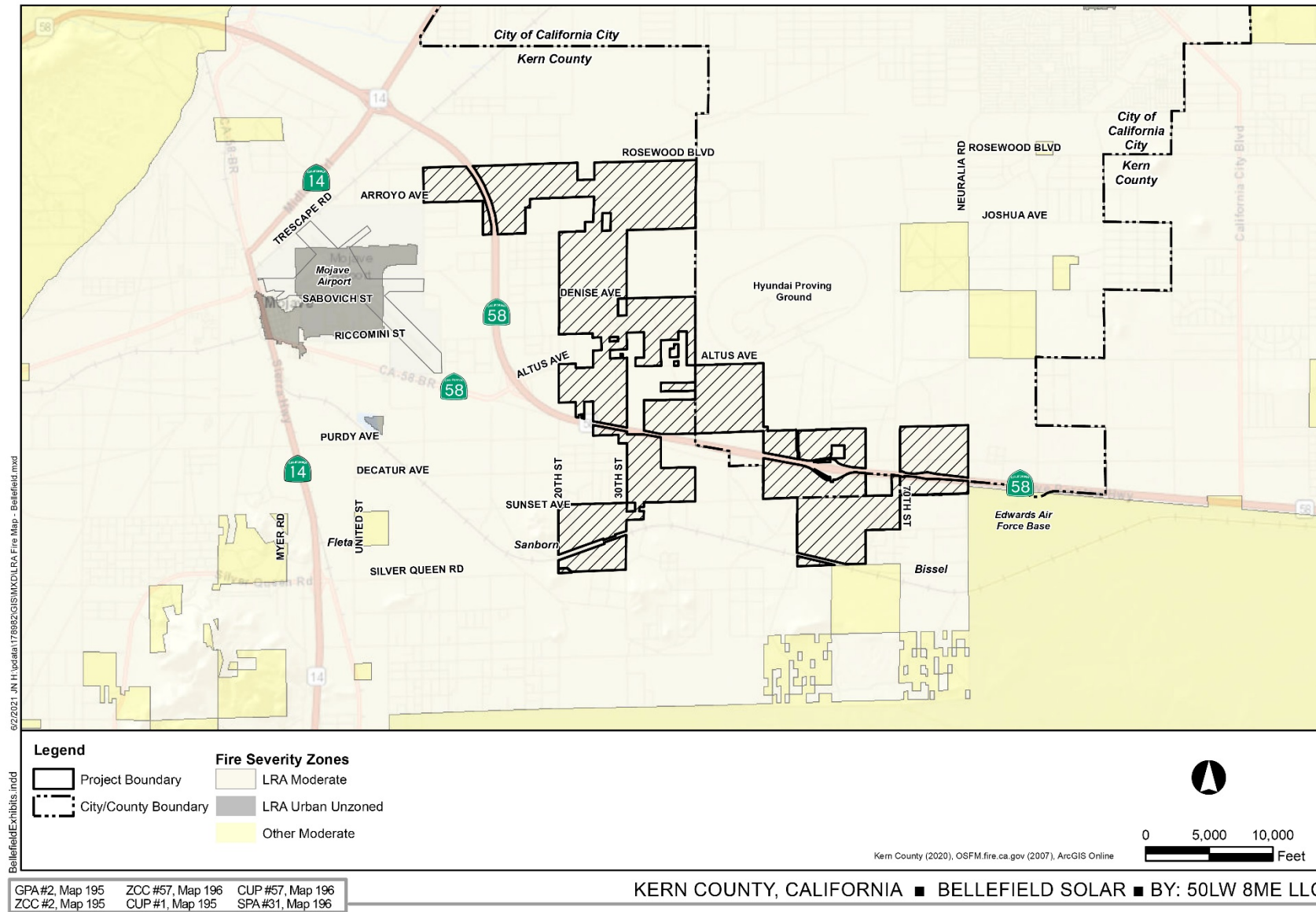


FIGURE 4.17-1 FIRE SEVERITY ZONES FOR LOCAL RESPONSIBILITY AREAS

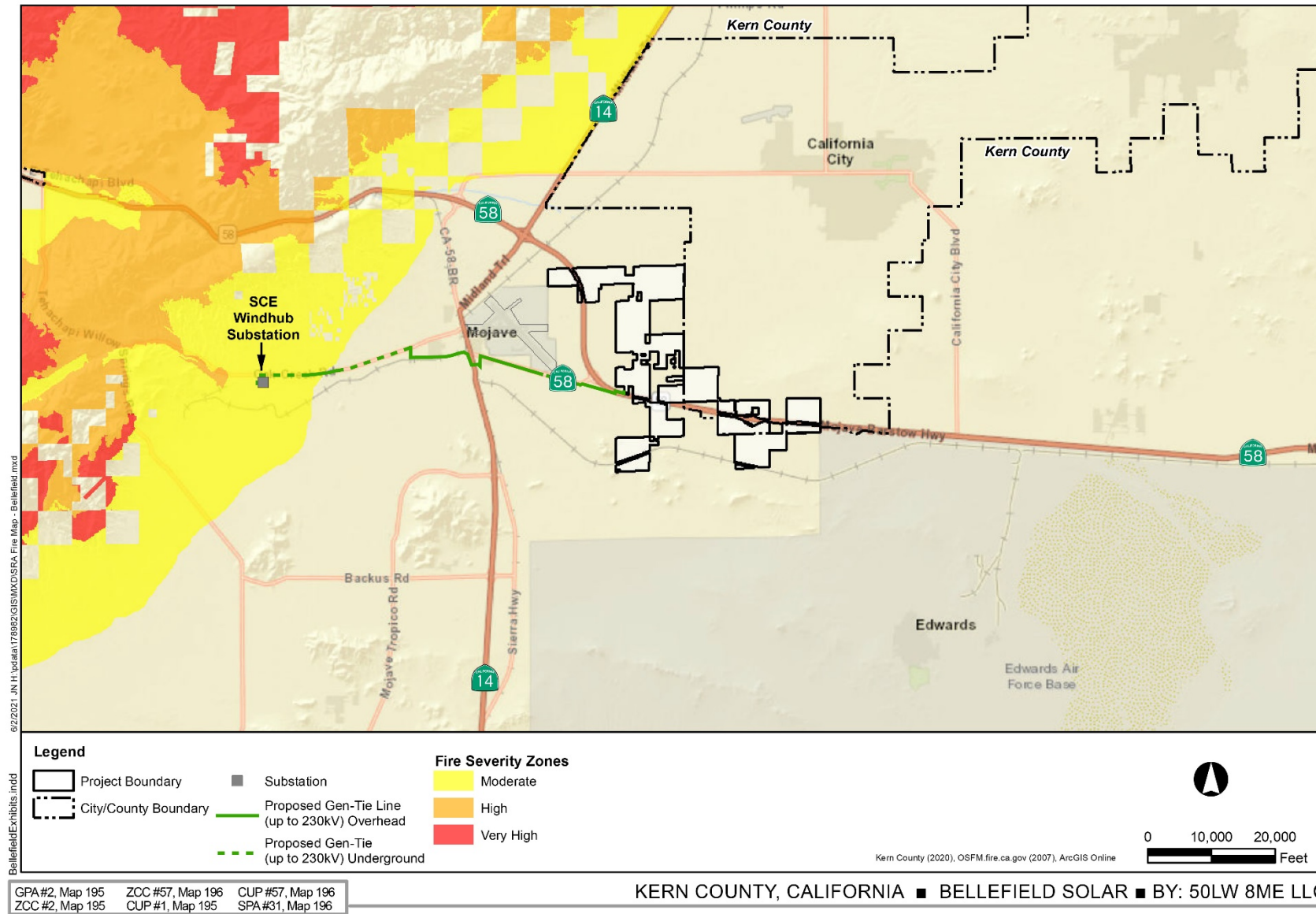


FIGURE 4.17-2 FIRE SEVERITY ZONES FOR STATE RESPONSIBILITY AREAS

## Vegetation (Fuels)

Native vegetation on the project site is typical of that found throughout the Mojave Desert. The project site, including along the collector lines, contains the following vegetation: creosote bush-white bursage scrub, allscale scrub, creosote bush scrub, white bursage scrub, spinescale scrub, winter fat scrubland, shadscale scrub, rubber rabbitbrush scrub, and Joshua tree woodland (EPC 2020a).

Fires in the desert environment are generally infrequent and of low severity because production of annual and perennial herbs seldom provides a fuel load capable of sustaining fire. The creosote bush community that makes up the majority of the vegetation on-site is not considered to have a high flammability potential because the shrubs are too sparse to carry fire; however, the foliage of creosote bush, which contains resin, is considered flammable (USFWS 2018).

## Topography

The project site is located in the Mojave Desert Region of the Desert Floristic Province. Landforms in the region include granite-derived basin floors, floodplains, alluvial fans, small clay pans, and rock pediments. Mountains and hills weathered from basalt, granite, and sandstone are also present.

Approximate elevations within the project site range from approximately 2,798 feet above mean sea level (amsl) in the northwest corner to approximately 2,532 feet amsl in the southern portion. The project site is relatively flat with increases in elevation to the west and east. The gen-tie corridor ranges in elevation from approximately 2,541 feet amsl near the southeastern portion of the project to approximately 3,468 feet amsl at the northwestern corner of the Southern California Edison (SCE) Windhub Substation.

## Winds

The project site is situated in the Mojave Desert portion of the Mojave Desert Air Basin (MDAB). The MDAB is disconnected from the southern California coastal and central California valley regions by the Tehachapi Mountains to the west and by the San Gabriel Mountains to the south. Prevailing winds in the MDAB come from the west and southwest and are due to a combination of the proximity of the MDAB to coastal and central regions and the location of the Sierra Nevada Mountains to the north that prevent air from passing through. High winds may occur during certain times of the year, resulting in blowing dust and/or increasing the potential for the occurrence or spread of wildfire, becoming particularly dangerous in the fall when summer droughts typically create the driest conditions.

### 4.17.3 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 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. The Fire Code includes regulations regarding fire resistance-rated construction, fire protection systems such as alarm and sprinkler systems, 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 (Fire and Smoke Protection Features) of the 2019 California Building Code (CBC) (Title 24, Part 2 of the California Code of Regulations) 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 Chapter 7A, Section 702A of the CBC as a geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Section 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 CBC 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 Sections 4291–4299 et seq. require 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 are 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

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 wildfire. The policies and implementation measures in the Kern County General Plan related to wildfire 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 4. Safety Element

##### 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.

### Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. The policies in the Mojave Specific Plan for wildfire applicable to the project are provided below. The Mojave Specific 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 Mojave Specific Plan are incorporated by reference.

## Chapter 9. Seismic and Safety Element

### *Policies*

- Policy 9.4.2: Work with the Kern County Fire Department and the Kern County Sheriff's Department to ensure sufficient services can adequately protect and serve the community.
- Policy 9.4.3: Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.
- Policy 9.4.5: Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.

## City of California City General Plan

The following goals, policies, and implementation measures in the California City General Plan (California City 2009) pertain to the subject of wildfire and related safety.

## Chapter 6. Safety Element

### 6.8 Public Safety Goals, Policies, and Implementation Measures

#### *Goals*

- Goal 1: Provide and implement effective emergency services that will protect the health, safety, and welfare of residents and workers within the community.
- Goal 2: Protect the health, safety and welfare of residents, businesses, and property from fire danger.

#### *Policies*

- Policy 1: Ensure that new development does not create a burden on adequate levels of emergency response services, including fire protection services and law enforcement services.
- Policy 2: Work with the Fire Department and Police Department to ensure sufficient services can adequately protect and serve the community.
- Policy 3: Ensure that new development proposal shall provide street widths and clearance areas are consistent with the City's requirements and, therefore, adequate to accommodate fire protection and emergency response vehicles.
- Policy 4: Continue to enforce the Health, Fire, and Building standards for all new development proposed and rehabilitation of existing structures.
- Policy 5: Continue to monitor water supply for fire-flow to insure adequacy of fire protection services.
- Policy 5: Review all new development proposals for fire safety considerations.

**Implementation Measures**

- S-23: The City shall require that new development proposals demonstrate the availability of fire, police, emergency response, and solid waste disposal services during the environmental review and discretionary approval process.
- S-25: The following measures shall be implemented to ensure adequate fire and police protection services in the incorporated areas of the City:
- All new development proposals shall be reviewed by the California City Fire Department and the California City Police Department to ensure the continuation of adequate levels of service.
  - If additional Fire Department or Police Department station sites are determined to be required, sites shall be identified and mechanisms to obtain these sites shall be defined. These shall include, but not be limited to, the dedication of land for such purposes or payment of proportional share of fees as a condition of development.
  - The City will continue to work with local organizations and the County Sheriff's Department and Fire Department to continue administration of the Mojave Desert Community Response Plan.
- S-27: The City shall review all new development proposals for fire safety considerations. This shall include the economic impacts on the City's ability to provide adequate levels of service. Items such as the incremental increase in staffing and requirements for equipment shall be analyzed and appropriate project level mitigation measures shall be applied. Measures may include specialized fire protection consideration to be incorporated into the design of the project and the contribution of funding for both staffing and equipment needs.

**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 made to more specifically address conditions in Kern County. 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; and the installation and maintenance of adequate means of egress. It also provides for the issuance of permits and collection of fees related to such activities.

**Kern County Fire Department Wildland Fire Management Plan**

The Kern County Fire Department (KCFD) Wildland Fire Management Plan was adopted in 2009. The document assesses wildland potential within the SRA in Kern County and identifies strategic targets for pre-fire solutions as defined by the people who live and work in the local area. The plan systematically assesses the existing levels of wildland protection services and identifies areas that may be potential locations for costly or damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes measures to reduce future fire management costs and to minimize potential loss from wildfire.

events. According to the plan, the project site, including the gen-tie line, is located within a moderate FHSZ (KCFD 2009).

### **Kern County Fire Department Unit Strategic Fire Plan**

The KCFD Unit Strategic Fire Plan was adopted in March 2018. 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. Additionally, the plan identifies areas considered to be of high risk and high value where wildfires may occur.

The plan gives an overview of KCFD battalions and ranks these areas in terms of priority needs, as well as identifying the SRA areas. According to the plan, 69 percent of the land area within Kern County is located within a SRA. The County is divided into six fuel management areas: Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi), which lies within a moderate FHSZ in the Tehachapi fire plan management area (KCFD 2018).

### **Fire Prevention Standard No. 503-507 Solar Panels**

The KCFD 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 2019 County Fire Code and is an official interpretation of the Kern County Fire Marshal's Office. The Standard outlines installation requirements for PV ground-mounted and roof-mounted solar panels. Ground-mounted solar panel requirements identified by this Standard address water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD 2019).

## **4.17.4 Impacts and Mitigation Measures**

### **Methodology**

Potential project impacts associated with wildfires were evaluated based upon various resources, including Cal Fire maps showing FHSZs, FRAP and fire history; vegetation data from the *Biological Evaluation* (EPC 2020a; see Appendix D.1, *Biological Evaluation*, of this EIR); and project location maps. Conditions such as potentially influencing wind and slope conditions and project characteristics were also considered. Wildfire impacts are considered on the basis of: (1) off-site wildland fires that could impact the proposed project; and (2) on-site generated combustion that could affect surrounding areas. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

### **Thresholds of Significance**

As established in Appendix G of the *CEQA Guidelines*, the Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria 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, and 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 instability, or drainage changes.

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to one of these environmental issue areas and that no further analysis would be needed in the EIR; therefore, this issue area is scoped out of this EIR. It was determined that the project would not:

- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.

As detailed in the NOP/IS, the project site is not considered to be a high risk area for landslides as it is relatively flat and is not anticipated to be subject to post-fire slope instability or drainage changes that would expose people or structures to significant risks; therefore, no further analysis will be conducted in the EIR.

## Project Impacts

### **Impact 4.17-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.**

#### **Solar Facility**

The site is located in a rural, sparsely developed area with limited population. The KCFD offers its Ready, Set, Go! Plan, which provides guidance for evacuation during a wildfire event (KCFD 2020). Additionally, the County implements its Emergency Operations Plan (EOP), which establishes an emergency management organization and provides for the integration and coordination of efforts of the County with those of surrounding cities, special districts, and the state for emergency response and short-term recovery. The EOP identifies an emergency management program, defines the County/Operational Area emergency management organization (i.e., local, regional, state, federal), includes standard operating procedures, and provides for public awareness and education.

As noted in **Section 4.14, *Traffic and Transportation***, the need for and number of any escorts (i.e., from California Highway Patrol), as well as the timing of transport, during construction would be at the discretion of Caltrans, Kern County, and/or California City, as applicable, and would be detailed in respective oversized load permits. Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** requires that all oversized vehicles used on public roadways during construction obtain the required permits and 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 a.m. and p.m. peak hours. This would ensure that the

potential for project-related construction traffic to interfere with vehicular circulation or emergency access along local roadways would be minimized, including during any times of emergency evacuation.

Additionally, project operations would generate minor volumes of daily traffic traveling to and from the site for work and/or for intermittent maintenance purposes. During the operational phase, the project would employ up to 20 full-time equivalent (FTE) personnel (or personnel hours totaling 20 FTE positions, or an average of 800 personnel hours per week) who would commute to the site. This translates into approximately 50 trips per day. It is not known where the employees would live or how long their commuting trips would be. However, due to the low number of operational trips, it is not anticipated that project-generated operational traffic would result in congestion or obstruction of access along any local roadways that could impair emergency response or evacuation activities. Impacts in this regard would be less than significant.

Additionally, in compliance with applicable 2019 California Fire Code and Kern County Fire Code requirements, project construction and maintenance/operations 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 and maintenance/operations would comply with applicable existing state and local codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials to minimize the potential for such activities to cause a wildfire event or induce the spread of wildfire.

Therefore, construction or operation of the PV solar facility would not conflict with the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

## Gen-Tie

Power generated by the project would be delivered via a 230 kilovolt (kV) overhead and/or underground electrical transmission line(s) originating from one or more on-site substation(s)/switchyard(s) and terminating at the SCE Windhub Substation. The gen-tie corridor lines would connect to SCE's Windhub Substation. The combined linear distance of the gen-tie alternatives is 89.6 miles with a width of 200 feet; refer to **Figure 3-3, Aerial Photograph**. The collector lines are generally located within or adjacent to the Kern County and/or California City project parcels, while the gen-tie alternatives generally originate from the central portion of the project heading west around Mojave before reaching Oak Creek Road and SCE's Windhub Substation. The project may require the acquisition of up to 200 feet of privately owned land, abutting the Oak Creek Road right-of-way for gen-tie routing purposes.

Approximately two miles of the western portion of the gen-tie route is located within a SRA classified as a moderate FHSZ (Cal Fire 2020). The proposed gen-tie route is located in a rural, sparsely developed area with limited population and is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan. In compliance with applicable Fire Code and Building Code requirements, construction and maintenance/operations managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained within proximity to the gen-tie corridor as construction progresses along the alignment. Additionally, project construction and maintenance/operations 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 to minimize the potential for a wildfire event that would require an emergency response.

Therefore, construction or operation of the gen-tie line would not conflict with the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.14-1KC** would be required (see **Section 4.14, *Traffic and Transportation***, for full Mitigation Measure text).

### **City of California City**

Implementation of Mitigation Measure **MM 4.14-1CC** would be required (see **Section 4.14, *Traffic and Transportation***, for full Mitigation Measure text).

### **Gen-Tie**

No mitigation measures are required.

## **Level of Significance after Mitigation**

### **Kern County**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.14-1KC**.

### **City of California City**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.14-1CC**.

### **Gen-Tie**

Impacts would be less than significant.

**Impact 4.17-2: The project would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.**

### **Solar Facility**

Slope and wind speed can influence the rate at which wildfire spreads. As described above, the project site has low topographic relief and is relatively flat. It is therefore not anticipated that the project would expose occupants to the uncontrolled spread of a wildfire due to slope.

The site is located in an area where blowing winds may occur. Such winds may have the potential to contribute to the uncontrolled spread of wildfire, as well as carrying pollutant concentrations from a wildfire occurring within the surrounding area to the site where project occupants may be exposed. Prevailing winds originate from the west and southwest, and in these directions, the landscape is mostly undeveloped with the exception of several existing railroad lines and roadways, the communities of Mojave, Fleta, and Sanborn, and the Mojave Airport. Such physical conditions do not represent a potential source of substantial

air pollution during a wildfire event (i.e., no industrial-type uses that may release hazardous pollutants if a fire occurred). Additionally, such lands to the west and southwest are classified as LRA Moderate, similar to the project site, and the potential for wildfire risk is not considered to be high (Cal Fire 2007a).

Further, it is anticipated that any employees occupying the site, during construction or operations, 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 or City evacuation directives. Such measures would ensure that the exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire from prevailing winds would be minimized to the extent feasible.

As discussed in **Section 4.13, Public Services**, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would require the project proponent/operator to develop and implement a Fire Safety Plan that identifies notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code for use during project construction, operation and decommissioning. As required by the Fire Safety Plan, project construction and maintenance personnel would be trained and equipped to extinguish small fires on-site, thus reducing the potential risk of damage from and/or spread of wildfire on-site. Given the moderate potential for fire to occur on the affected parcels, the generally flat topography of the site, and with implementation of Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**, 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.

## Gen-Tie

The lands along the aboveground (overhead) gen-tie route are generally flat and do not exhibit slopes that would have the potential to exacerbate wildfire occurrence or spread. It is therefore not anticipated that such improvements would expose occupants to the uncontrolled spread of a wildfire due to slope. The portions of the gen-tie line proposed to be undergrounded would not contribute to the exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.

The gen-tie route would be similarly located in an area subject to blowing winds, with prevailing winds originating from the west and southwest. Lands to the west/southwest of the proposed gen-tie route (aboveground) are generally undeveloped with exception of the CalPortland Mojave cement plant, located just southwest of the SCE Windhub Substation at the terminus of the gen-tie line. Although the cement plant may pose the potential to release pollutants during a wildfire event, project construction and/or operation of the gen-tie line would not exacerbate any such conditions or increase the potential for substantial air pollution during a wildfire event, nor would it expose project occupants to pollutant concentrations from a wildfire, as the gen-tie line is not an occupied use. Additionally, the lands through which the proposed aboveground gen-tie route would traverse are classified as LRA Moderate within the vicinity of the solar panels, transitioning to Other Moderate farther to the west. As stated above, approximately 2 miles of the western portion of the gen-tie route is located within a SRA classified as a moderate FHSZ (Cal Fire 2020). Refer to **Figure 4.17-1, Fire Severity Zones for Local Responsibility Areas**, and **Figure 4.17-2, Fire Severity Zones for State Responsibility Areas**. Therefore, the potential for wildfire risk along the gen-tie line is not considered to be high.

Construction of the gen-tie line 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. As discussed in **Section 4.13, Public Services**, the project proponent/operator

would be required to develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, as required by Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**. As part of the Fire Safety Plan, construction and maintenance personnel would be trained and equipped to extinguish small fires, thus reducing the risk of fire on-site. Given the moderate potential for wildfire occurrence, the generally flat topography of the gen-tie route, and with implementation of Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**, 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.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.13-1KC** would be required (see **Section 4.13, *Public Services***, for full Mitigation Measure text).

### **City of California City**

Implementation of Mitigation Measure **MM 4.13-1CC** would be required (see **Section 4.13, *Public Services***, for full Mitigation Measure text).

### **Gen-Tie**

Implementation of Mitigation Measure **MM 4.13-1KC** would be required (see **Section 4.13, *Public Services***, for full Mitigation Measure text).

## **Level of Significance After Mitigation**

### **Kern County**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.13-1KC**.

### **City of California City**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.13-1CC**.

### **Gen-Tie**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.13-1KC**.

**Impact 4.17-3: 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.**

### **Solar Facility**

Permanent facilities installed with the proposed project would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and operations and maintenance (O&M) facilities. Various flammable materials may be stored on-site during construction and operations and project components would be electrified (i.e., substation(s), collector lines, gen-tie line). Additionally, the project includes on-site energy storage (batteries), which contain flammable chemicals that would be fully contained within the battery storage components.

New internal roadways would be constructed to serve as access roads from the existing off-site road network to the solar array blocks. All roadway improvements would be constructed in conformance with County and California City engineering design requirements and regulations and would not include any flammable materials. These roads would be cleared and compacted for equipment and emergency vehicle travel and access to the solar blocks. These access roads would remain in place and be maintained over the long term to support ongoing project operations and maintenance activities after construction is completed.

Common sources of fires within the desert environment are most often caused by lightning strikes or vehicle exhausts. With regard to the proposed project, there is the potential for lightning to hit the collection system or energy storage facility, potentially causing a wildfire. The use of maintenance vehicles during project construction or operation may also increase fire risk due to the driving of heated mufflers and possibly scraping of loose metal pieces over vegetated areas, which could cause a spark. Such conditions may result in a slight increase in the risk of wildfire ignition.

As discussed in **Section 4.13, Public Services**, Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would require the project proponent/operator to develop and implement a Fire Safety Plan that identifies notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code for implementation during construction, operation and decommissioning. As stated in **MM 4.13-1KC** and **MM 4.13-1CC**, the Fire Safety Plan will include, but not be limited to, such measures as requiring that all internal combustion engines, both stationary and mobile, be equipped with spark arresters; maintaining spark arresters in good working order; limiting use of light trucks and cars with factory-installed (type) mufflers only on roads where the roadway has been cleared of vegetation; and restricting the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. Implementation of this plan would ensure that potential impacts related to installation or maintenance of project infrastructure are minimized and, thus, impacts would be less than significant.

Additionally, the proposed on-site energy storage systems would be situated internally to the project site, with access from a primary fire apparatus roadway, and would be separated from each other per the setback requirements identified in the CBC. Ongoing project maintenance and operations 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. The Fire Safety Plan, as discussed above, would also address potential fire hazards for the various components of the project,

including the energy storage system, and would include measures for fire suppression and extinguishment techniques if a fire were to occur. Implementation of this plan, as required by **MM 4.13-1KC** and **MM 4.13-1CC**, would ensure that potential impacts related to installation or maintenance of infrastructure associated with the energy storage system are reduced to less than significant.

### **Gen-Tie**

The proposed project includes the construction of a gen-tie line that could potentially exacerbate fire risk and result in temporary or ongoing impacts to the environment. From the proposed project's substation(s), power would be transmitted to the SCE Windhub Substation via a 230 kV overhead and/or underground gen-tie line.

As indicated above, the use of maintenance vehicles during project construction or operation may increase fire risk due to the driving of heated mufflers or scraping of loose metal pieces over vegetated areas, which could cause a spark. Such conditions may result in a slight increase in the risk of wildfire ignition.

As discussed in **Section 4.13, 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 2019 California Fire Code and Kern County Fire Code for use during construction, operation, and decommissioning, as identified in Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure are reduced to the extent feasible. With implementation of **MM 4.13-1KC** and **MM 4.13-1CC**, impacts would be less than significant.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.13-1KC** would be required (see **Section 4.13, Public Services**, for full Mitigation Measure text).

### **City of California City**

Implementation of Mitigation Measure **MM 4.13-1CC** would be required (see **Section 4.13, Public Services**, for full Mitigation Measure text).

### **Gen-Tie**

Implementation of Mitigation Measure **MM 4.13-1KC** would be required (see **Section 4.13, Public Services**, for full Mitigation Measure text).

## **Level of Significance after Mitigation**

### **Kern County**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.13-1KC**.

**City of California City**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.13-1CC**.

**Gen-Tie**

Impacts would be less than significant with implementation of Mitigation Measure **MM 4.13-1KC**.

## **Cumulative Setting, Impacts, and Mitigation Measures**

### **Solar Facility**

The geographic scope considered for wildfire impacts is the Fremont Valley, which includes the western edge of the Mojave Desert, where the proposed project is located. This geographic scope was selected because the land in the region possesses relatively similar features, including sparse desert vegetation, rural access roads, scattered rural residences, and mining, wind, and solar energy uses. As shown in Chapter 3, *Project Description*, **Table 3-4, Cumulative Projects List**, there are 29 projects proposed or approved within the cumulative study area that may have the potential to contribute to a significant cumulative impact with regard to wildfire.

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to demonstrate the provision of emergency access in accordance with the current California Fire Code and local fire and building code requirements prior to issuance of a building permit. As concluded in the discussion above, the project would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan. However, given the project's location in a rural area and limited infrastructure, the project, in combination with the related projects, would have the potential to result in a cumulative impact to an adopted emergency response plan or emergency evacuation plan, because such projects may have the potential to result in temporary traffic delays during construction when equipment and building materials are transported or when off-site improvements for access or other components are required. For these reasons, the project is considered to contribute to a significant and unavoidable cumulative impact in this regard.

Other pending projects located within an LRA, SRA and/or FHSZ would have an increased potential for the occurrence or spread of wildfire, thereby contributing to wildfire hazards in the area. Similar to the proposed project, all related projects would be required to implement a Fire Safety Plan (as required by Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** for the proposed project), as well as implementing building and landscape design features in accordance with the current California Fire Code and local fire codes requirements, to reduce potential wildfire risk and exposure of occupants to pollutant concentrations from wildfire that may be exacerbated by existing conditions, such as exposure to prevailing winds. Adherence to the current California Fire Code and local fire and building code requirements would minimize potential impacts related to exposure to and the uncontrolled spread of wildfire. As concluded in the discussion 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. However, given the locations of the cumulative projects considered within a rural area with limited available infrastructure, combined with the fact that certain cumulative projects in the study area may have a greater risk of wildfire due to on-site conditions such as slopes or exposure to prevailing winds, the project and related projects are considered to have the potential to result in a significant cumulative impact related to the exposure of project occupants to pollutant concentrations from a wildfire.



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. Such projects would be reviewed by Kern County, and possibly California City or other such agencies depending on each project's location, during the discretionary process relative to land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The placement of any infrastructure associated with these projects would occur in conformance with applicable fire codes to minimize the potential fire risk through appropriate siting and design. The proposed project includes the construction of solar panel arrays, O&M facility structures, an energy storage system, inverter station, substation(s), and access roads. While the potential for wildfire to occur on-site or on another pending project site is considered moderate, such components may have the potential to exacerbate fire risk or may result in impacts on the environment if damaged during a wildfire. Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would be implemented to require preparation of a Fire Safety Plan that identifies notification procedures and emergency fire precautions consistent with the current California Fire Code and local fire and building codes for use during project construction, operation, and decommissioning. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects would have the potential to result in a cumulative impact related to infrastructure improvements that may increase fire risk or result in significant environmental impacts. As such, the project, in combination with other related projects, would result in a significant and unavoidable cumulative impact in this regard.

### Gen-Tie

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 current California Fire Code and local fire and building code requirements prior to issuance of a building permit. As concluded in the discussion above, the gen-tie would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan, as such improvements would occur within easements and/or private property and would not interfere with existing roadways or circulation patterns. Nevertheless, given the location in a rural area and limited infrastructure, the proposed gen-tie and related projects would have the potential to result in a cumulative impact on adopted emergency response plans or emergency evacuation plans, and, thus, would result in a significant and unavoidable cumulative impact in this regard.

Similar to the proposed project, all related projects would be required to implement a Fire Safety Plan similar to the one required by Mitigation Measure **MM 4.13-1KC** and would be required to implement building and landscape design features in accordance with current California Fire Code and local fire and building code requirements to reduce potential wildfire risk and exposure of occupants to pollutant concentrations from a wildfire. As concluded in the discussion above, the gen-tie 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. Nevertheless, given the location of the project and other related projects in a rural area with limited infrastructure, the gen-tie and related projects would have the potential to result in a cumulative impact related to the exposure of project occupants to pollutant concentrations from a wildfire, and thus, impacts are considered to be significant and unavoidable.

Other related projects may result in the construction of associated infrastructure such as roads, fuel breaks, and/or utility lines that could contribute to potential fire risk or that may result in temporary or ongoing impacts to the environment. These projects would be subject to discretionary review by Kern County and/or other appropriate local agencies for land use and zoning consistency and compliance with applicable

requirements, and potentially analyzed for environmental impacts. Additionally, the placement of infrastructure would be required to adhere to all applicable fire codes to minimize potential fire risk such as through appropriate siting and design. While the potential risk for wildfire is considered to be moderate for lands traversed by the project's proposed gen-tie line, Mitigation Measure **MM 4.13-1KC** would be implemented to ensure that a Fire Safety Plan is prepared to address notification procedures and emergency fire precautions consistent with the current California Fire Code, and County and other local fire and building code requirements, for use during project construction, operation, and decommissioning. It is anticipated that related projects would be subject to similar requirements. Nevertheless, given the location in a rural area with limited infrastructure, the project and related projects would have the potential to result in a cumulative impact related to infrastructure improvements that may increase fire risk or result in environmental impacts. As such, the project, in combination with other related projects, could result in a significant and unavoidable cumulative impact.

## **Mitigation Measures**

### **Kern County**

Implementation of Mitigation Measure **MM 4.13-1KC** would be required (see **Section 4.13**, *Public Services*, for full Mitigation Measure text).

### **City of California City**

Implementation of Mitigation Measure **MM 4.13-1CC** would be required (see **Section 4.13**, *Public Services*, for full Mitigation Measure text).

### **Gen-Tie**

Implementation of Mitigation Measure **MM 4.13-1KC** would be required (see **Section 4.13**, *Public Services*, for full Mitigation Measure text).

## **Level of Significance after Mitigation**

### **Kern County**

Even with implementation of Mitigation Measure **MM 4.13-1KC**, cumulative impacts would remain significant and unavoidable.

### **City of California City**

Even with implementation of Mitigation Measure **MM 4.13-1CC**, cumulative impacts would remain significant and unavoidable.

### **Gen-Tie**

Even with implementation of Mitigation Measure **MM 4.13-1KC**, cumulative impacts would remain significant and unavoidable.

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## Chapter 5

# Consequences of Project Implementation

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## 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 this Environmental Impact Report. 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 a Notice of Preparation/Initial Study (NOP/IS) that was prepared in accordance with the CEQA Guidelines and in consideration of public and agency input received during the scoping process (see Appendix A of this EIR).

Issues that were found to have no impact or less-than-significant impacts do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, it was determined that the project would have no impact with regard to the following impact thresholds:

- mineral resources,
- population and housing
- recreation.

The NOP/IS determined that the proposed project area does not contain mineral resources of regional or statewide significance, nor is the project site designated by the Kern County General Plan or the State Department of Conservation, Geologic Energy Management Division for mineral resource activities; therefore, the project would not have an impact on mineral resources. The proposed project would only require up to 20 full-time equivalent (FTE) personnel, which to the extent possible, may be hired from the local population. Additionally, should workers relocate to the area, the local housing stock would be adequate to accommodate the additional workers. The proposed project would not directly or indirectly induce substantial unplanned growth and it would not displace any persons or housing as the project site does not contain any existing housing units. Even if the 20 FTE personnel were hired from out of the area and relocated to eastern 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 and would therefore not cause substantial physical deterioration of recreational facilities. As such, these issues were not further analyzed in this EIR.

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 after implementation of mitigation:

- |                                     |                     |
|-------------------------------------|---------------------|
| • Agricultural and Forest Resources | • Energy            |
| • Cultural Resources                | • Geology and Soils |

- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems

## 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/or cumulative impacts in the following areas would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures that would attempt to reduce impacts to the greatest extent feasible.

**Table 5-1, *Summary of Significant and Unavoidable Impacts of the Project***, provides a summary of significant and unavoidable impacts, even with the incorporation of feasible mitigation measures that would 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	Implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC</b> and <b>MM 4.1-1CC through MM 4.1-7CC</b> would be incorporated to reduce visual impacts to the extent feasible, which include requirements to provide ongoing site maintenance including trash and debris removal; preserve and enhance scenic vegetation where possible; install visually screening features that would limit the visibility of project features; minimize color contrast through the selection of appropriate paint colors and surface treatments for project facilities; and, limit impacts from the location of tall, intrusive project facilities near public viewing areas. However, because	The project would result in cumulative significant and unavoidable impacts related to visual character despite implementation of mitigation. While other projects in the region would also be required to implement various 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. Even with implementation of Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC</b> and <b>MM 4.1-1CC through MM 4.1-7CC</b> , the project's contribution to significant impacts associated with visual character in the Antelope Valley

	there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, the project would substantially degrade the existing visual character and scenic quality of public views of the site and its surroundings, as seen and described from the KOPs, and impacts on visual resources would remain <b>significant and unavoidable</b> , despite implementation of Mitigation Measures <b>MM 4.1-1KC through MM 4.1-7KC</b> and <b>MM 4.1-1CC through MM 4.1-7CC</b> .	would be <b>significant and unavoidable</b> .
Air Quality	Despite the implementation of Mitigation Measures <b>MM 4.3-1KC</b> , <b>MM 4.3-1CC</b> , <b>MM 4.3-5KC</b> and <b>MM 4.3-5CC</b> , exposure to dust resulting from construction could still occur, increasing the susceptibility to contracting COVID-19 and increasing the severity of the disease. Further, NO <sub>x</sub> and PM <sub>10</sub> emissions would be considered cumulatively considerable, despite implementation of mitigation measures. Therefore, impacts in this regard would remain <b>significant and unavoidable</b> .	If construction of the proposed projects in the project's vicinity overlap, emissions of NO <sub>x</sub> and PM <sub>10</sub> would be cumulatively considerable. Even with implementation of mitigation measures <b>MM 4.3-1KC through MM 4.3-7KC</b> and <b>MM 4.3-1CC through MM 4.3-7CC</b> , cumulative temporary construction impacts are considered <b>significant and unavoidable</b> . Additionally, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM <sub>2.5</sub> along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in <b>significant and unavoidable</b> cumulative level impacts.
Biological Resources	No project-level impacts to biological resources would be significant and unavoidable.	Given the number of present and reasonably foreseeable future development projects in the Fremont Valley, the project, when combined with these other projects, would have an incremental contribution to the cumulative loss of foraging and nesting habitat for special-status species. While the project would have less than significant impacts on sensitive biological resources with implementation of Mitigation Measures <b>MM 4.4-1KC through MM 4.4-23KC</b> and <b>MM 4.4-1CC</b>

		<b>through MM 1.1-23CC</b> at the project level, when combined with related development projects, cumulative impacts would be <b>significant and unavoidable</b> .
Hazards and Hazardous Materials	There would be no significant and unavoidable project impacts	Given the project's location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to impairment or interference with an adopted emergency response plan or emergency evacuation plan. Further, the project and related projects would have the potential to result in a cumulative impact from the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. Cumulative impacts in this regard are considered <b>significant and unavoidable</b> .
Wildfire	No project-level impacts as a result of wildfires would be significant and unavoidable.	Given the project's location in a rural area and limited infrastructure, the project, in combination with related projects, would have the potential to result in a cumulative impact to an adopted emergency response plan or emergency evacuation plan and to infrastructure improvements that may increase fire risk or result in significant impacts. Given the project's location combined with the fact that certain cumulative projects in the project vicinity may have a greater risk of wildfire, the project and related projects are considered to have the potential to result in a significant cumulative impact related to exposure of project occupants to pollutant concentrations from a wildfire. As such, the project, in combination with other related projects, could result in <b>significant and unavoidable</b> cumulative impacts..

## 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. Additionally, 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 California City General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan and California City General Plan ensure that any irreversible environmental changes associated with those commitments will be minimized.

## 5.4 Growth Inducement

The Kern County General Plan and California City General Plan recognizes that certain forms of growth are beneficial, both economically and socially. Section 15126.2(d) of the CEQA Guidelines states the following regarding 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. It is estimated that up to 1,000 workers per day (during peak construction periods) would be required during construction of the proposed project. Construction workers are expected to travel to the site from various local communities and locations throughout Southern California, and the number of workers expected to relocate to the surrounding area is not expected to be substantial. If temporary housing should be necessary, it is expected that accommodations would be available in the nearby communities of Mojave, California City, Rosamond, Tehachapi, or Lancaster. Therefore, the project is not anticipated to directly or indirectly induce the development of any new housing or businesses. During the operational phase, the project would have up to 20 full-time equivalent personnel (or personnel hours totaling 20 FTE positions, i.e., an average of 1800 personnel hours per week), who would be hired locally or commute to the site. Existing housing stock would accommodate operations personnel should they relocate to the area. The proposed project would not result in a large increase in employment that would significantly induce growth.

Although the project would contribute to the energy supply, which supports growth, the development of power infrastructure is a response to increased market demand and statewide regulatory mandates, including the Renewable Portfolio Standard mandate, and is not a factor that induces new growth. Kern County planning documents already permit and anticipate a certain level of growth in the area of the project site, 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 of Appeals 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.

### 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 proposed 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 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, 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 result in significant adverse effects, after the implementation of mitigation measures, related to the following topics:

- Aesthetics (project and cumulative)
- Air quality (project and cumulative)
- Biological resources (cumulative only)
- Hazards and hazardous materials (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 project are discussed below.

### Aesthetics

As discussed in **Section 4.1, *Aesthetics***, implementation of the project would result in potentially significant visual impacts to the existing visual quality and character of the site and surrounding area. When introduced into the project viewshed, the industrial nature of the project would substantially change the existing visual character of the landscape as viewed from sensitive receptors for the life of the project. The project facilities would add cultural modifications to the project site's landscape from certain viewpoints. Operation of a solar power generation facility of this size would introduce new infrastructure and other anthropogenic features; alter the existing visual character of the landscape from one that is rural and undeveloped in nature to industrial; be seen by viewers of high, moderately high, and moderate sensitivity; and reduce existing scenic quality through the intrusion of human-made elements on land that is currently largely undeveloped. Native vegetation would be left in place around the project site where feasible, allowing for some natural screening of project components; however, the project would remain highly visible, particularly along an approximately 7-mile-long section of the SR 58 highway corridor which is an eligible state scenic highway. Mitigation Measures **MM 4.1-1KC through MM 4.1-4KC** and **MM 4.1-1CC through MM 4.1-4CC** (see **Section 4.1, *Aesthetics*** for full Mitigation Measure text) would be incorporated to 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. Furthermore, the color treatment of buildings (O&M Facilities, energy storage systems (ESS), etc.) would help these components to better blend in with the natural landscape. Nevertheless, even with implementation of these aforementioned mitigation measures, project level impacts on visual character and quality would remain significant and unavoidable. The project would result in less than significant impacts related to light and glare with the implementation of Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC**.

Additionally, while related projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar energy

production uses cannot be mitigated to a degree that impacts are no longer significant. Therefore, even with implementation of Mitigation Measures **MM 4.1-1KC through MM 4.1-4KC** and **MM 4.1-1CC through MM 4.1-4CC**, the project's contribution to impacts on visual character and quality in the Antelope Valley would be cumulatively significant and unavoidable. The project would not result in cumulatively considerable impacts associated with any of the other impact criteria for aesthetics after mitigation.

## Air Quality

With project implementation, long-term increases in operational emissions of primary concern within the region (i.e., ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, and PM<sub>10</sub>, and PM<sub>2.5</sub>) would be minimal and would not exceed applicable significance thresholds. However, construction and decommissioning of the project would result in temporary increases of PM<sub>10</sub> that would exceed Eastern Kern Air Pollution Control District's (EKAPCD) significance thresholds. Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC** (see **Section 4.3, *Air Quality***, for full Mitigation Measure text) would be required implementation of dust control measures, following EKAPCD standards and permitting requirements, development of a decommissioning plan, best practices for fugitive dust management in order to reduce PM<sub>10</sub> emissions throughout construction and decommissioning and ensure the emission levels do not exceed EKAPCD's significance thresholds. In addition, Mitigation Measures **MM 4.3-2KC**, **MM 4.3-3KC**, **MM 4.3-4KC**, **MM 4.3-2CC**, **MM 4.3-3CC**, and **MM 4.3-4CC**, would be implemented to further reduce construction emissions. The project's impacts related to conflicts with applicable air quality plans and standards would be less than significant with mitigation.

The closest sensitive receptors to the project site include residences ranging from 1.2 to 2.9 miles away. To ensure there are no significant impacts related to potential for exposing sensitive receptors to pollutant concentrations, mitigation measures would be implemented to minimize project emissions and health-related effects, including Mitigation Measures **MM 4.3-1KC through MM 4.3-3KC**, **MM 4.3-1CC through MM 4.3-3CC** (reduced construction emissions), **MM 4.1-KC**, **MM 4.1-4CC** (limit vegetation removal). Implementation of Mitigation Measures **MM 4.3-1KC**, **MM 4.3-1CC**, **MM 4.3-5KC**, **MM 4.3-5CC** would also 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. As such, the impacts are conservatively considered to be significant and unavoidable.

During project construction, it is possible that surrounding residents and on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction even though dust minimizing techniques would be employed and dust reduction measures would be implemented (as described in Mitigation Measures **MM 4.3-1KC** and **MM 4.3-1CC**). The project would be required to implement Mitigation Measures **MM 4.3-6KC**, **MM 4.3-6CC**, **MM 4.3-7KC**, and **MM 4.3-7CC** to reduce risks pertaining to Valley Fever. Mitigation Measures **MM 4.3-6KC** and **MM 4.3-6CC** would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever. Mitigation Measures **MM 4.3-7KC** and **MM 4.3-7CC** would require a one-time fee paid to the Kern County Public Health Services Department for Valley Fever public awareness programs. With the implementation of these mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people, including construction workers, and impacts would be reduced to less than significant levels.

The project would result in potentially significant cumulative impacts associated with construction emissions and COVID-19. Mitigation Measures **MM 4.3-1KC through MM 4.3-7KC** and **MM 4.3-1CC**

**through MM 4.3-7CC** would be implemented to reduce impacts; however, cumulative impacts could remain significant and unavoidable related to NO<sub>x</sub> and PM<sub>10</sub> emissions as well as criteria air pollutants with indirect linkages to COVID-19 issues.

## Biological Resources

The project site and the surrounding area provides suitable habitat for several rare, special-status, or otherwise protected plant and wildlife species (broadly referred as special-status species). Several of these species were identified within or in close proximity to the project site during biological surveys (refer to **Section 4.4, Biological Resources** for details). The project has the potential to result in significant impacts on special-status species (i.e., various special-status plants including western Joshua tree; pacific Townsend's big-eared bat, Mohave ground squirrel, desert kit fox, American badger, and Agassiz's desert tortoise; raptors and migratory birds; and, crotch bumble bee, western bumble bee, and Mojave dotted-blue butterfly), including from causing direct or indirect effects during construction, operation, and decommissioning; causing the fragmentation or loss of habitat; and, interfering with movement and migratory behavior. The project could also result in potentially significant impacts on sensitive habitats or other natural communities, including spinescale scrub, winter-fat scrubland, and Joshua tree woodland, as well as potentially jurisdictional water features. Further, the project could conflict with local and regional policies for protecting western Joshua tree and other native desert plants, including those identified in the Kern County General Plan, California City General Plan, Mojave Specific Plan, and Desert Renewable Energy Conservation Plan. The following mitigation measures would be implemented to avoid or reduce all project-level impacts on biological resources to less than significant levels:

- **MM 4.1-5KC and MM 4.1-5CC**
- **MM 4.4-1KC, MM 4.4-7KC, MM 4.4-1CC and MM 4.4-7CC**
- **MM 4.4-2KC, MM 4.4-3KC, MM 4.4-2CC, and MM 4.4-3CC**
- **MM 4.4-4KC and MM 4.4-4CC**
- **MM 4.4-5KC and MM 4.4-5CC**
- **MM 4.4-6KC and MM 4.4-6CC**
- **MM 4.4-8KC and MM 4.4-8CC**
- **MM 4.4-9KC, MM 4.4-15KC, MM 4.4-9CC, and MM 4.4-15CC**
- **MM 4.4-10KC and MM 4.4-10CC**
- **MM 4.4-11KC and MM 4.4-11CC**
- **MM 4.4-12KC and MM 4.4-12CC**
- **MM 4.4-13KC and MM 4.4-13CC**
- **MM 4.4-14KC and MM 4.4-14CC**
- **MM 4.4-16KC and MM 4.4-16CC**
- **MM 4.4-17KC and MM 4.4-17CC**
- **MM 4.4-18KC and MM 4.4-**
- **MM 4.4-19KC and MM 4.4-**
- **MM 4.4-20KC and MM 4.4-**
- **MM 4.4-21KC and MM 4.4-**
- **MM 4.4-22KC, MM 4.4-23KC, MM 4.4-22CC and MM 4.4-**

Impacts of the proposed alone would be reduced to less-than-significant levels with implementation of biological Mitigation Measures **MM 4.4-1KC through MM 4.4-23KC** and **MM 4.4-1CC through MM**

**4.4-23KC**, as well as Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC** (see **Section 4.1, Aesthetics**). However, even with these mitigation measures, the proposed project would have cumulative considerable impacts on biological resources in the Antelope Valley area when taken into account with other current and foreseeable projects, due to the cumulative loss of habitat to special-status and transient wildlife species, including desert tortoise, Mohave ground squirrel, migratory birds, American badger, and desert kit fox. The cumulative impacts of the proposed project would be significant and unavoidable.

## Hazards and Hazardous Materials

The proposed project by itself would have either less-than-significant impacts or less-than-significant impacts with mitigation related to hazards and hazardous materials. These impacts include impacts from the transport, use, and disposal of hazardous materials; potential for the release of a hazardous materials; impair or interfere with an adopted emergency response or evacuation plan; or loss, injury, or death involving wildland fires. Potentially significant impacts of the project would be reduced to less-than-significant levels with implementation of Mitigation Measures **MM 4.9-1KC through MM 4.9-6KC**, **MM 4.9-1CC through MM 4.9-5CC**, **MM 4.13-1KC**, **MM 4.13-1CC**, **MM 4.16-1KC** and **MM 4.16-1CC**.

While the proposed project by itself would not result in significant impacts after mitigation, it was determined that the project could have cumulatively considerable impacts. The proposed project combined with other cumulative project impacts has the potential to exacerbate wildfire risks, due to the rural nature and limited infrastructure where the project site is located. Consistent with the findings for wildfire impacts, the proposed project with other cumulative project impacts also has the potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, due to the rural nature and limited infrastructure where the project site is located. The cumulative impacts involving wildland fire hazards would remain significant and unavoidable even after implementation of Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC**.

## Wildfire

The proposed project site is located within a rural, sparsely developed area with limited existing infrastructure. The area contains low desert vegetation typical of the Mojave Desert. Wildland fires in such desert environments are generally infrequent and of low severity because the fuel loads are incapable of sustaining fire. No recorded wildfires have burned across the project site, and neither the proposed solar field or gen-tie line are located in or near State Responsibility Areas or lands classified as “very high” Fire Hazards Severity Zones, which are the primary indicators for elevated fire risks that require detailed impact analysis according to Appendix G of the CEQA Guidelines. To ensure the proposed project would not substantially impair an adopted emergency response or evacuation plan, Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** (see **Section 4.14, Traffic and Transportation**) would be implemented during construction which requires the project to obtain the necessary traffic permits and approvals and to follow proper traffic control procedures. Construction and operation of the project would pose minor risks of causing or exacerbating the uncontrolled spread of wildfire and adverse post fire conditions. The associated impacts would all be less than significant with implementation of Mitigation Measure **MM 4.13-1KC** and **MM 4.13-1CC** (development and implementation of a Fire Safety Plan; see **Section 4.13, Public Services**).

Although impacts of the proposed project by itself would be less than significant with mitigation, the project would have cumulatively considerable impacts related to wildfire due to the rural nature of the project

region and the numerous other projects in the area. The proposed project in conjunction with other current and foreseeable projects would result in significant cumulative impacts related to wildfire, including potential conflicts with an adopted emergency response or evacuation plan; exposing people to pollutant concentrations from a wildfire; the installation or maintenance of associated infrastructure that may exacerbate fire risk. The cumulative impacts would be significant and unavoidable.

## 6.2 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 project and associated environmental impacts.

- Construct and operate a solar energy facility capable of producing up to 1,500 MW of reliable electricity and energy storage in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.
- Provide energy to the electric grid to meet increasing demand for in-state generation.
- Integrate operating facilities with other existing solar projects in the vicinity to maximize economies of scale.
- Assist the County in continuing 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.
- Promote economic development and bring regionally defined living-wage jobs to the region throughout the life of the proposed project.
- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under SB 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030.
- Support California's aggressive Renewable Portfolio Standard (RPS) Program consistent with the timeline established by SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") as approved by the California Legislature and signed by Governor Brown in September 2018, which established a 50 percent RPS goal by December 31, 2026, 60 percent by December 31, 2030, and a goal that 100 percent of electric retail sales to end-use customers be provided by renewable energy and zero-carbon resources by 2045.

## 6.3 Overview of the Proposed Project

The proposed project includes a photovoltaic solar facility and energy storage system capable of producing up to 1,500 MW AC utility-scale solar power with an up to 1,500 MWh energy storage capacity on approximately 8,371 acres of privately-owned land. The proposed project would be supported by a 230 kV overhead and/or underground electrical transmission line(s) originating from one or more on-site substation(s)/switchyard(s) and terminating at the SCE Windhub Substation. The combined linear distance of the gen-tie alternatives are 89.6 miles with a width of 200 feet. The collector lines are generally located within or adjacent to the Kern County and/or California City parcels, while the gen-tie alternatives generally originate from the central portion of the Project heading west around Mojave, before reaching Oak Creek Road and SCE's Windhub Substation. The project may require the acquisition of up to 200 feet of privately-owned land, abutting the Oak Creek Road right-of-way for gen-tie routing purposes. The proposed project's permanent facilities would include service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, project substations, energy storage system(s), and O&M facilities.

The proposed project consists of the following requests for approvals from Kern County:

- General Plan Amendment #2, Map 195:
  - From 1.1 (State or Federal Land) to 8.5 (Resource Management) for approximately 82.19 acres.
- Zone Change Case # 2, Map 195:
  - From A-1 (Limited Agriculture) to A (Exclusive Agriculture) for approximately 5,291.55 acres; and
  - From A-1 MH (Limited Agriculture - Mobile Home Combining) to A for approximately 146.71 acres.
- Zone Change Case #57, Map 196
  - From M-3 PD (Heavy Industrial - Precise Development Combining) to M-1 PD (Light Industrial - Precise Development Combining) for approximately 477.39 acres; and
  - From M-2 PD (Medium Industrial – Precise Development Combining) to M-1 PD for approximately 141.43 acres.
- Issuance of Conditional Use Permit #1, Map 195
  - To allow for the construction and operation of a 5,438.26-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance.
- Issuance of Conditional Use Permit #57, Map 196



- To allow for the construction and operation of a 830.87-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity within the A (Exclusive Agriculture) District pursuant to Section 19.12.030.G, M-1 PD (Light Industrial - Precise Development Combining) District pursuant to Section 19.36.030.G, and M-3 PD (Heavy Industrial - Precise Development Combining) District pursuant to Section 19.40.030.G of the Kern County Zoning Ordinance.
- General Plan Amendment #3, Map 195:
  - Amendment to the Circulation Element of the Kern County General Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- Specific Plan Amendment #31, Map 196
  - Amendment to the Circulation Element of the Mojave Specific Plan to remove road reservations on section and mid-section lines within the Kern County project boundaries.
- Non-Summary Vacations of Public Access Easements within the Project Boundaries

#### **City of California City (Responsible Agency):**

- The City of California City is a Responsible Agency under CEQA. For the parcels within California City city-limits, a Conditional Use Permit (CUP) must be obtained from the City to allow for the construction and operation of a solar facility, in the O/RA (Open Space/Residential Agricultural) zone (CUP 19-03), of a 2,102.63-acre PV solar facility with a total project generating capacity, in both Kern County and California City, of up to 1,500 MW of alternating current power and 1,500 MW hours of storage capacity. The project proponent has requested to remove the future section and mid-section lines for the portion of the project within the City of California City's jurisdiction. The City will determine during the CUP process (Sec. 9-2-2501 of the California City Municipal Code) what section lines will be required to be preserved and what ones will be removed.

See **Chapter 3, Project Description**, of this EIR, for a detailed project description.

## **6.4 Overview of Alternatives to the Proposed 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. The objectives established for the project and the feasibility of the alternatives considered are evaluated in this chapter and summarized in **Table 6-1, Summary of Proposed Project and Development Alternatives**. The following alternatives were evaluated, which are described in the sections below:

- Alternative 1: No Project Alternative (required by CEQA)
- Alternative 2: General Plans, Specific Plan and 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

Alternatives that were considered but rejected are discussed in **Section 6.5, *Alternatives Considered and Rejected***. The Environmentally Superior Alternative is described in **Section 6.8, *Environmentally Superior Alternative***, as required by CEQA. **Table 6-1, *Summary of Proposed Project and Development Alternatives***, provides a summary description, basis for analysis, and applicable feasibility of each development alternative. A complete discussion of each alternative is also provided below.

**Table 6-1. Summary of Proposed Project and Development Alternatives**

Alternative	Description	Basis for Selection and Summary of Analysis
Proposed Project	Construction and operation of a solar facility on approximately 8,371 acres would generate up to 1,500 MW of electricity and up to 1,500 MW of energy storage capacity. The power would then be delivered via 230 kV gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at the Southern California Edison's Windhub Substation. Approval of the project would require one general plan amendment, two zone case changes, two conditional use permits, one general plan amendment (Circulation Element), one specific plan amendment (Circulation Element) and non-summary vacations of public access easements from Kern County and one conditional use permit from California City.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	<ul style="list-style-type: none"> <li>• Required by CEQA.</li> <li>• Avoids the need for general plan amendments, zone case changes, conditional use permits, a specific plan amendment, and non-summary vacations from Kern County.</li> <li>• Avoids the need for a conditional use permit from California City.</li> <li>• Avoids all significant and unavoidable impacts.</li> <li>• Would not offset GHG emissions from nonrenewable energy generation, thus greater impacts on GHG emissions.</li> <li>• Less impact in all remaining environmental issue areas.</li> <li>• Does not meet any of the project objectives.</li> </ul>
Alternative 2: General Plans, Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan, Mojave Specific Plan, California City General Plan, land use designations, zoning classifications, and other existing applicable restrictions.	<ul style="list-style-type: none"> <li>• Avoids the need for general plan amendments, zone case changes, conditional use permits, and a specific plan amendment from Kern County.</li> <li>• Avoids the need for a conditional use permit from California City.</li> <li>• Reduces impacts on aesthetics, agriculture and forestry resources, and wildfire.</li> </ul>

**Table 6-1, continued**

Alternative	Description	Basis for Selection and Summary of Analysis
		<ul style="list-style-type: none"> <li>• Similar impacts on hazards and hazardous materials.</li> <li>• No impacts on land use and planning.</li> <li>• Greater overall impacts in all remaining environmental issue areas.</li> <li>• Does not meet any project objectives.</li> </ul>
Alternative 3: Reduced Acreage Alternative	Construction and operation of multiple solar facilities on a portion of the proposed project site on approximately 5,835 acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 1,050 MW, with up to approximately 1,050 MW of energy storage. As with the proposed project, this alternative would also require general plan amendments, zone case changes, conditional use permits, a specific plan amendment, and non-summary vacations of public access easements from Kern County and a conditional use permit from the City of California City.	<ul style="list-style-type: none"> <li>• Reduces, but results in similar impacts on aesthetics, air quality, biological resources, hazards and hazardous materials, land use and planning, noise, and public services.</li> <li>• Reduces impacts in all remaining environmental issue areas.</li> <li>• Reduces benefit of offsetting GHG emissions from nonrenewable energy generation, thus greater GHG emissions impact.</li> <li>• Does not meet all the project objectives.</li> </ul>
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 1,500 MW of PV solar distributed on rooftops throughout western Antelope Valley. Electricity generated would be for on-site use only. No energy storage would be included.	<ul style="list-style-type: none"> <li>• Avoids the need for general plan amendments and zone changes at the project site, but may require other entitlements on the site, such as a CUP or Variance.</li> <li>• Avoids significant and unavoidable impacts associated with aesthetics, air quality, biological resources, and hazards.</li> <li>• Reduces benefit of offsetting GHG emissions from nonrenewable energy generation by utility purveyors.</li> <li>• No impacts on land use and planning.</li> <li>• Similar impacts on energy.</li> <li>• Less impacts on all remaining issue areas.</li> <li>• Does not meet all the project objectives nor does it account for the energy storage component of the project.</li> </ul>

## 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 or denying a project altogether. Accordingly, Alternative 1 assumes that the development of the up to 1,500 MW solar facility with up to 1,500 MW energy storage capacity on the approximately 8,371-acre site would not occur. The No Project Alternative would not require one general plan amendment to the land use element, two zone case changes, two conditional use permits, one general plan amendment to the circulation element, one specific plan amendment to the circulation element (Mojave Specific Plan), and non-summary vacations of public access easements from Kern County, and one general plan amendment from California City for construction and operation of the proposed solar and energy storage project. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

## 6.4.2 Alternative 2: General Plan, Specific Plan and Zoning Build-Out Alternative

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing Kern County General Plan and Zoning Ordinance, the Mojave Specific Plan, and the City of California City’s General Plan and Zoning Ordinance in which the project is located. No project-related solar facilities would be developed under this alternative and, therefore, no zone changes for solar facility construction and operation would be required. A summary of these designations for the entire project site is provided below. A detailed description of the designations that apply to specific properties of the project or summaries by quadrant are provided in **Table 3-1** and **Table 3-2**, provided in **Chapter 3, Project Description**.

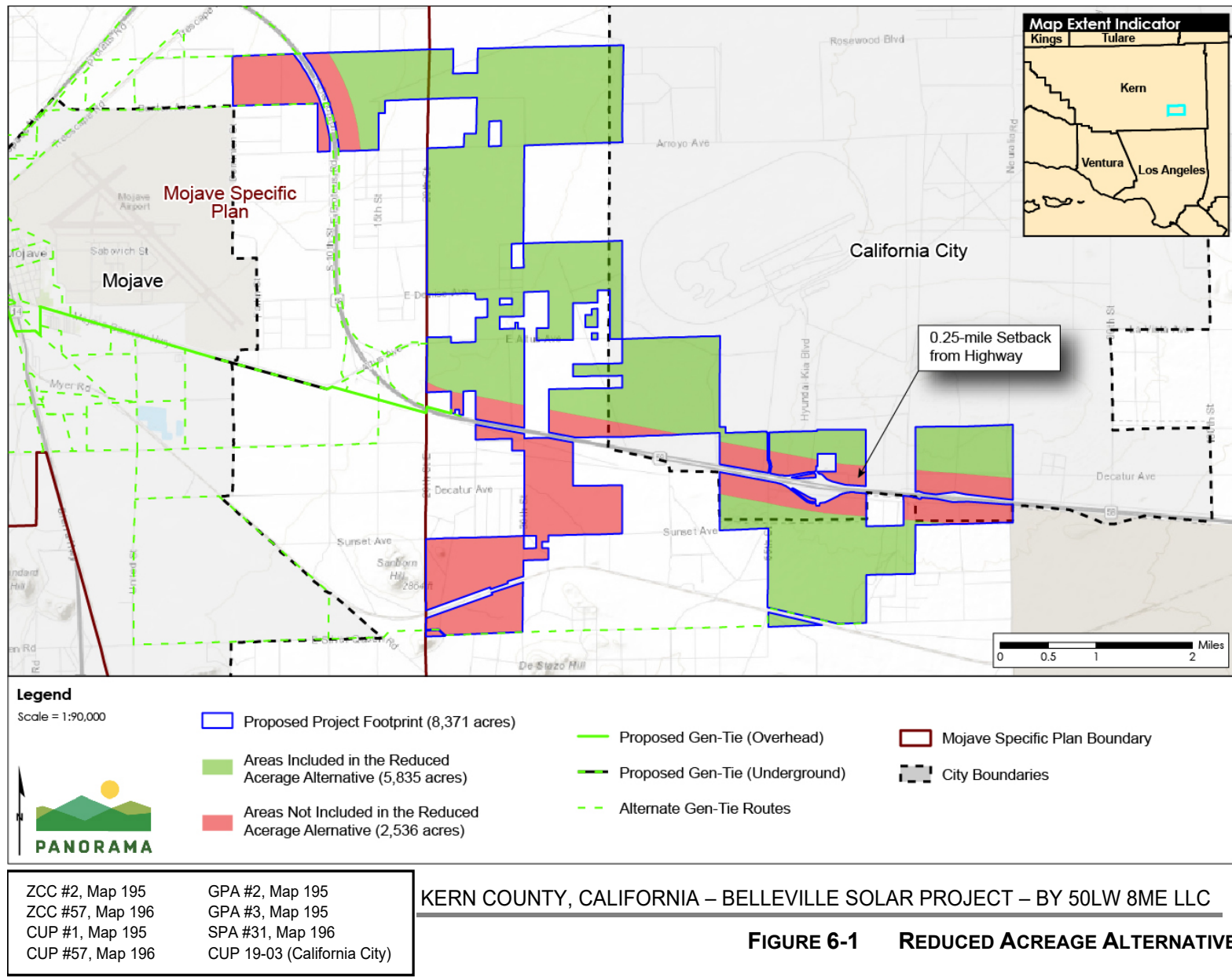
- **Kern County – General Plan**
  - 1.1 (State and Federal Lands)
  - 1.2 (Incorporated Cities)
  - 3.3 (Other Facilities)
  - 5.7 (Minimum 5 Gross Acres/Unit)
  - 8.3 (Extensive Agriculture, min. 20-acre parcel size)
  - 8.3 (Extensive Agriculture, min. 20-acre parcel size/Flood Hazard)
  - 8.5 (Resource Management, min. 20-acre parcel size)
  - 8.5/2.4 (Resource Management, min. 20-acre parcel size/Steep Slope)
  - 8.5/2.5 (Resource Management, min. 20-acre parcel size/Flood Hazard)
- **Kern County – Mojave Specific Plan**
  - 7.1 (Light Industrial)
  - 7.1/2.5 (Light Industrial/Flood Hazard)

- 7.2 (Service Industrial)
- 7.3 (Heavy Industrial)
- **Kern County – Zoning Ordinance**
  - A (Exclusive Agriculture)
  - A-1 (Limited Agriculture)
  - A-1 H (Limited Agriculture, Airport Approach Height Combining)
  - A-1 MH (Limited Agriculture, Mobile Home Combining)
  - E(2 ½) MH (Estate 2.5 Acres, Mobile home Combining)
  - M-1 (Light Industrial)
  - M-1 PD (Light Industrial, Precise Development Combining)
  - M-1 PD H (Light Industrial, Precise Development, Airport Approach Height Combining)
  - M-2 PD (Medium Industrial, Precise Development Combining)
  - M-3 PD (Heavy Industrial, Precise Development Combining)
- **California City – General Plan and Zoning Ordinance**
  - M1 (Light Industrial District)
  - O/RA (Controlled Development & Open Space)

### 6.4.3 Alternative 3: Reduced Acreage Alternative

Alternative 3 would involve a reduced footprint of the total area proposed where solar development would occur, including the installation of solar panels, collector lines, transformers, substations, energy storage facilities, access roads, and O&M facilities. The purpose of the Reduced Acreage Alternative is to avoid or minimize adverse effects associated with the project's proximity to sensitive receptors, vegetation removal, ground disturbance, construction air emissions, and the extent project facilities would be visible from sensitive viewing locations. Reducing acreage of the project to achieve these goals can be achieved through a number of different footprint configurations. While a portion of the proposed project's environmental resource conditions and impacts are consolidated or based on the presence of fixed features (i.e., receptor locations), others are not consolidated (i.e., biological resources) in a manner that clearly indicates which portions of the proposed project site could be eliminated to reduce the project's environmental effects across all parameters to the greatest extent possible. The Reduced Acreage Alternative targets an overall reduction of the project footprint by roughly 30 percent, which is intended to reduce impacts associated with project development roughly proportionally. A hypothetical reduced footprint configuration was developed for the Reduced Acreage Alternative that meets this reduction target, as discussed below; however, the County, acting within its role as CEQA lead agency when making its decision to approve or deny the project, may determine that a different footprint configuration would be more appropriate at reducing the project impacts. This could be based on considerations of operational feasibility and/or effectiveness, giving more weight to certain environmental objectives versus others, or possibly other considerations.

Under Alternative 3, the hypothetical footprint configuration for the Reduced Acreage Alternative, involves establishing a 0.25-mile setback from SR 58 and eliminating parcels from development in the northwest and southwest areas of the project located south and west of SR 58 (refer to **Figure 6-1, Reduced Acreage Alternative**). The remaining areas that comprise the Reduced Acreage Alternative footprint would be mostly consolidated on the north side of SR 58 (approximately 4,805 acres), except for the southeastern most area of the project site located on the south side of SR 58 (approximately 1,030 acres). In total, the Reduced Acreage Alternative footprint would be approximately 5,835 acres, which is approximately 70 percent of the proposed project. Based on the reduced area, the energy generation and storage capacities would both be reduced roughly proportionally from approximately 1,500 MW to 1,050 MW. It is assumed that the same gen-tie alignments identified for the proposed project would also be used for the Reduced Acreage Alternative (refer to **Figure 6-1**). Similar to the proposed project, this alternative would also require the aforementioned general plan amendment to the land use element, zone case changes, conditional use permits, a general plan amendment to the Circulation Element, a specific plan amendment to the Circulation Element, and non-summary vacations of public access easement for construction and operation of a commercial solar electrical generating facility.



#### **6.4.4 Alternative 4: No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Onsite Solar Only**

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Onsite Solar Only, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatt- hours to 1 MW) within existing developed areas, typically on the rooftops and/or already disturbed parking lots of commercial and industrial facilities situated throughout western Antelope Valley. 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 8,371 acres of total rooftop area) may be required to attain project's capacity of 1,500 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop or ground-level 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 1,500 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop or parking area development would occur primarily on commercial and industrial structures and associated parking areas, due to the greater availability of large, relatively flat roof and disturbed ground 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 energy storage systems, electrical substations or transmission facilities.

### **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 on aesthetics (project and cumulative), air quality (project and cumulative), biological resources (cumulative only), hazards and hazardous materials (cumulative only), and wildfire (cumulative only). 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 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 1,500 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, low maintenance and 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 conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan, and the Edwards Air Force Base due to the heights of the turbines.
- 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.

### 6.5.2 Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 300 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 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) increased demand on public utilities, including water and waste disposal.

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 manner 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 result in additional/greater impacts than the 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 may conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan, and the Edwards Air Force Base due to the heights of the cooling towers and smoke stacks.
- It would not contribute to the statewide renewable energy and GHG emission reduction objectives as this alternative would use nonrenewable energy to produce electricity.

### 6.5.3 Alternative Site

This alternative would involve the development of the 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 western Antelope Valley, similar to the project. This alternative is assumed to involve construction of a 1,500 MW PV solar facility with up to 1,500 MW of energy storage on a site totaling 8,371 acres. CEQA Guidelines 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 project.

Western Antelope Valley 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 western Antelope Valley, 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, biological resources, hazards, and wildfire. This is based on the known general conditions in the area and the magnitude of the 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 project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the 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. Note that in Alternatives 1 through 4 in **Table 6-2**, the references to “less, similar, or greater,” refer to the impact of the alternative compared to the 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**

<b>CEQA Issue Topic</b>	<b>Proposed Project Impacts</b>	<b>Alternative 1: No Project Alternative</b>	<b>Alternative 2: General Plan and Zoning Build-Out Alternative</b>	<b>Alternative 3: Reduced Acreage Alternative</b>	<b>Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only</b>
Aesthetics	Significant and unavoidable (project and cumulative)	Less (NI)	Less (SU)	Less (SU)	Less (LTS)
Agriculture and Forestry Resources	Less than significant with mitigation	Less (NI)	Less (NI)	Less (LTS)	Less (NI)
Air Quality	Significant and unavoidable (project and cumulative)	Less (NI)	Greater (SU)	Less (SU)	Less (LTS)
Biological Resources	Less than significant with mitigation (project) Significant and unavoidable (cumulative only)	Less (NI)	Greater (SU)	Less (SU)	Less (NI)
Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Energy	Less than significant	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Geology and Soils	Less than significant with mitigation	Less (NI)	Greater (SU)	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 (project) Significant and unavoidable (cumulative only)	Less (NI)	Similar (SU)	Less (SU)	Less (LTS)
Hydrology and Water Quality	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Land Use and Planning	Less than significant (project) Less than significant with mitigation (cumulative)	Less (NI)	Less (NI)	Similar (LTS)	Less (NI)
Noise	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Public Services	Less than significant with mitigation	Less (NI)	Greater (SU)	Similar (LTS)	Less (LTS)
Transportation	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)

**Table 6-4, continued**

<b>CEQA Issue Topic</b>	<b>Proposed Project Impacts</b>	<b>Alternative 1: No Project Alternative</b>	<b>Alternative 2: General Plan and Zoning Build-Out Alternative</b>	<b>Alternative 3: Reduced Acreage Alternative</b>	<b>Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only</b>
Tribal Cultural Resources	Less than significant with mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (NI)
Utilities and Service Systems	Less than significant with mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Wildfire	Significant and unavoidable (cumulative only)	Less (NI)	Greater (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	None	None	Some
Notes: <sup>a</sup> It was determined in the IS/NOP that no impacts would occur from project implementation with regard to Mineral Resources, Recreation, and Population and Housing resource areas and, therefore, no further analysis was required in the EIR. 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 existing scenic quality, visual character, or glare conditions of the site would occur. Impacts to scenic resources 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 project.

##### **Agriculture and Forestry Resources**

Under the No Project Alternative, the project site would remain undeveloped and solar panels and an energy storage system would not be installed. The project site would remain in its current state, as largely undeveloped desert land. 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 agriculture and forestry resources compared to the 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 project would not exceed the EKAPCD's significance thresholds for PM<sub>10</sub> and PM<sub>2.5</sub>, conflict with the attainment standard, nor contribute to a cumulative net increase of criteria pollutant in the projects' region. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to air quality compared to the project.

##### **Biological Resources**

Under the No Project Alternative, the project site would remain undeveloped and existing biological resources on the project site would remain undisturbed since no construction or operation would occur, including various special-status plants; special-status wildlife (e.g., pacific Townsend's big-eared bat, Mohave ground squirrel, desert kit fox, American badger, and Agassiz's desert tortoise; raptors and migratory birds; and, crotch bumble bee, western bumble bee, and Mojave dotted-blue butterfly); sensitive natural plant communities (e.g., spinescale scrub, winter-fat scrubland, and Joshua tree woodland); and potentially jurisdictional water features. The project site would remain in its current state, as undeveloped land containing the same existing habitat conditions, and would not contribute to a cumulative loss of habitat for species that occupy the area. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to biological resources compared to the 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 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. However, it should be noted that the No Project Alternative would not support the goals of the Renewable Portfolio Standard. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to energy compared to the 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, strong seismic ground shaking, seismic-related ground failure, and landslides; result in substantial soil erosion or loss of topsoil; result in on- or off-site landslides, be located on expansive soil; 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 less impact related to geology and soils compared to the project.

## **Greenhouse Gas Emissions**

Under the No Project Alternative, emissions associated with construction and operation of a solar energy facility and energy storage system 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, cumulative impacts from implementation of this alternative would be greater than those of the project as it would not offset GHG emissions that would occur through nonrenewable energy generation.

## **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 the routine transport, use, or 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; emit hazardous emissions or handling hazardous materials within 0.25 miles of an existing or proposed school; create a significant hazard to the public or environment; result in a safety hazard or excessive noise for

people residing or working in the project area for a project located within the vicinity of a private airstrip; impair implementation of or interfere with an adopted emergency response plan or emergency evacuation plan; expose people or structures to significant risk of loss, injury, or death involving wildland fires; or generate vectors or have a component that includes agricultural waste. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to hazards and hazardous materials compared to the 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: contribute to the depletion of available water sources; violate water quality standards or waste discharge requirements; substantially alter the existing drainage patterns of the site or area in a manner that would result in substantial erosion and/or sedimentation on-site or off-site, 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; impede or redirect flood flows. 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 project.

## **Land Use and Planning**

The No Project Alternative would not develop any new uses at the project site and would thus not require issuance of general plan amendments, specific plan amendment, zone case changes, or conditional use permits from Kern County or California City. 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 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 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. 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 and police protection. Therefore, there would be no impact and the No Project Alternative would result in less impact related to public services compared to the project.



## Transportation

Under the No Project Alternative, the proposed 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 and proposed closures to Oak Creek Road would no longer be required during construction and/or decommissioning phases. As such, the No Project Alternative would not conflict with a program, plan, ordinance or policy addressing the circulation system, nor would the No Project Alternative 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 than the project.

## Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped, and no ground disturbing activities would occur. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to tribal cultural resources compared to the 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; generate solid waste in excess of State or local standards; or conflict with federal, State, and local management and reduction statutes 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 project.

## Wildfire

Under the No Project Alternative, the solar facilities would not be constructed, and the project site would remain in an undeveloped condition. 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. Therefore, the No Project Alternative would not contribute to significant cumulative wildland fire hazards that could potentially result from the development of other past, present or reasonably foreseeable future projects in the vicinity.

## 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 GHGs; since this alternative would not offset GHGs through the operation of a solar energy facility, impacts from GHGs emissions 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 meeting its GHG emissions reduction goals. Although this alternative would result in less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

## 6.7.2 Alternative 2: General Plan, Specific Plan and Zoning Build-Out Alternative

### Environmental Impact Analysis

#### Aesthetics

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing Kern County General Plan and Zoning Ordinance, the Mojave Specific Plan, and the City of California City's General Plan and Zoning Ordinance in which the project is located. The project site includes existing Map Code designations for agricultural, residential, industrial, open space, governmental, and other uses that are defined in the Kern County General Plan (Map Codes 1.1, 1.2, 3.3, 5.7, 8.3, 8.5, 8.5/2.4, and 8.5/2.5); Mojave Specific Plan (Map Codes 7.1, 7.1/2.5, 7.2, and 7.3); Kern County Zoning Ordinance (Zone Classifications A, A-1, A-1 H, A-1 MH, E(2 ½) MH, M-1, M-1 PD, M-1 PD H, M-2 PD, and M-3 PD); and California City General Plan and Zoning (Map Code O/RA and Zones M1 and O/RA) (refer to **Section 6.4.2** for additional details).

The General Plan, Specific Plan and Zoning Build-Out Alternative would develop the project site into various uses allowable for agricultural, residential, industrial, and other development. Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. Depending on the existing land use designations and any development limitations, this alternative would involve the active or passive conversion of all or a portion of land within each project parcel, or alternatively retaining the land for open space or future governmental uses. Development of the project site with various structures or agricultural operations, where allowable, would result in visual changes from the existing undeveloped site conditions. New structures and man-made features that would be installed in designated agricultural, residential, industrial, governmental, and other use areas would likely contrast with the natural undeveloped environment and result in more diverse, significant impacts on the existing visual character and scenic quality in the area. Expansive agricultural operations, such as farms or ranches with relatively few visible structures, would likely result in less visual contrast overall and perceived as a negative change to viewers compared to development land uses that result permanent man-made features. The continuation of development limitations within open space designations would not result in visual impacts that would degrade visual character and quality. Overall, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in similar but less visual impacts compared to the proposed project, due to the extensive size of the project area that would be converted from an undeveloped and generally natural landscape to a developed appearance. This level of visual change in an area of the valley that is relatively free of development would be a significant and unavoidable impact similar to the proposed project.

The General Plan, Specific Plan and Zoning Build-Out Alternative could result in the installation of lighting fixtures and reflective surfaces where man-made features are developed; however, it is expected that such lights and surfaces would be dispersed across the project area and installed according to applicable Kern County and California City building requirements, which would minimize light and glare from facilities that may be constructed. Therefore, this alternative would not create a significant impact, nor combine with cumulative projects to create a significant cumulative impact, related to light and glare. While significant and unavoidable impacts on visual quality under the General Plan, Specific Plan and Zoning Build-Out Alternative would remain, this alternative would result in less aesthetic impacts compared to the proposed project.

## Agriculture and Forestry Resources

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. Depending on the existing land designations and any development limitations, this alternative would involve the active or passive conversion of all or a portion of land within each project parcel, or alternatively retaining the land for open space or future governmental uses. Under this alternative, there would be no zoning changes and areas zoned for agricultural uses would be utilized for agricultural activities. Retaining the existing agricultural land designations and developing the applicable parcels into active agricultural operations would not conflict with existing agricultural zoning or result in the loss of agricultural resources in Kern County or California City. This alternative would result in no impact on agricultural resources, which is a reduction of impacts compared to the proposed project as agricultural land uses would not be removed from the project area.

As noted in **Section 4.2, *Agricultural Resources***, the project site is not under a Williamson Contract and any development under this alternative would not conflict with a Williamson Act contract. Neither the proposed project or General Plan, Specific Plan and Zoning Build-Out Alternative would result in impacts on land subject to a Williamson Act contract.

No forestry resources are present in the project area; therefore, neither the proposed project or General Plan, Specific Plan and Zoning Build-Out Alternative would result in impacts on forestry resources.

## Air Quality

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. Depending on the existing land use designations and development limitations, this alternative would involve the active or passive conversion of all or a portion of land within each project parcel, or alternatively retaining the land for open space or future governmental uses. Both the proposed project and the General Plan, Specific Plan and Zoning Build-Out Alternative would result in short-term construction emissions. The conversion of portions of the project site to agricultural, residential, industrial, and other

uses over time is expected to result in less short-term construction air quality emissions than construction of the proposed solar facility and battery storage system due to reduced intensity of construction.

Over the operational life of Alternative 2, development involving ongoing human presence or activities would result in greater vehicle travel and associated air quality emissions than the proposed project, which would require limited operation and maintenance trips. Agricultural uses would also involve use of heavy equipment such as tractors or other vehicles to manage the agricultural production and trucks to ship agricultural products. Further, livestock grazing and industrial activities may generate various air emissions from operational activities. Given these potential increases in emissions, this alternative would result in greater long-term air quality impacts in the air basin than the proposed project. It is expected that the General Plan, Specific Plan and Zoning Build-Out Alternative would comply with all applicable air quality planning goals and agriculture emission standards set forth by EKAPCD, as required, and no conflicts would occur. Therefore, impacts of the General Plan, Specific Plan and Zoning Build-Out Alternative are expected to be less than significant.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations from use of heavy equipment during construction, and generation of dust over the life of the agricultural uses in agricultural areas. Alternative 2 would not be required to implement Mitigation Measures **MM 4.3-1KC through MM 4.3-3KC** and **MM 4.3-1CC through MM 4.3-3CC** (reduced construction emissions; see **Section 4.3, *Air Quality***) and **MM 4.1-4KC** and **MM 4.1-4CC** (limit vegetation removal; see **Section 4.1, *Aesthetics***); therefore, development involving the use of heavy equipment or dust generation could expose sensitive receptors in the region to greater levels of pollutant concentrations than the proposed project. Alternative 2 could generate pollutants that could cause or exacerbate Valley Fever in a similar way as the proposed project. However, as this alternative would not require any permits, dust-minimizing techniques would not be implemented, and associated impacts related to Valley Fever would not be reduced to a less-than-significant level. Further, due to the unknown factors about COVID-19, the potential for agricultural activities and increased residential and industrial development to exacerbate the spread or severity of COVID-19 remains with the General Plan, Specific Plan and Zoning Build-Out Alternative. Similar to the proposed project, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in significant and unavoidable project and cumulative impacts.

Overall, impacts on air quality under the General Plan, Specific Plan and Zoning Build-Out Alternative would likely remain significant and unavoidable and result in greater long-term impacts to air quality than the project due to the greater operational emissions associated with the agricultural uses and increased vehicle travel associated with the residential and industrial development. In addition, mitigation measures for air quality emissions would not be implemented because no mitigation would be required to implement projects that are consistent with the existing zoning, permitted on a “by-right” basis within their respective zone districts and/or are exempt from further review by CEQA.

## Biological Resources

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (see **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. The conversion of the undeveloped land for agricultural, residential, industrial, open space, governmental, and other uses would impact biological resources (e.g., special-status plants and special-

status wildlife that occupy the area) to varying degrees depending on the specific uses. Development involving significant land disturbance or where man-made structures would be installed, such as for certain agriculture operations, residential, industrial, etc., would impact biological resources similar to the proposed project. Land uses involving open space or livestock grazing would result in substantially fewer impacts on biological resources because a major portion of the existing ground surface and vegetation that provide habitat for special-status species would be retained. As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in similar impacts as the proposed project on biological resources. The alternative would involve more impervious surfaces and on-going human presence, particularly where intensive agriculture activities occur and where man-made structures and pavement are installed, such as within agricultural, residential, and industrial developments. As this alternative may not require any discretionary permits, the implementation of Mitigation Measures **MM 4.4-1KC through MM 4.4-21KC** and **MM 4.4-1CC through MM 4.4-21CC** (see **Section 4.4, Biological Resources**) would not be required; therefore, impacts would be potentially significant and unavoidable as it is unknown if conversion of the land to agricultural uses could result in the take of candidate, sensitive, or a special-status species.

The General Plan, Specific Plan and Zoning Build-Out Alternative has the potential to result in direct impacts on sensitive natural plant communities and potentially jurisdictional waters where land development would occur in the project areas. The extent of the impacts in developed areas could potentially be greater than the proposed project if the footprints of any structures or drainage systems would result in greater permanent effects; however, where little or no physical development would occur the impacts on sensitive natural plant communities and potentially jurisdictional waters may be avoided, reduced, or indirect. The General Plan, Specific Plan and Zoning Build-Out Alternative would not require implementation of Mitigation Measures **MM 4.4-14KC, MM 4.4-22KC, MM 4.4-23KC, MM 4.4-14CC, MM 4.4-22CC** and **MM 4.4-23CC** (see **Section 4.4, Biological Resources**), which would require permits and offsetting temporary and permanent impacts. Therefore, this alternative could result in substantial temporary or permanent impacts on sensitive natural plant communities and potentially jurisdictional waters that would not be offset, and such impacts would be potentially significant and unavoidable.

The General Plan, Specific Plan and Zoning Build-Out Alternative would not create a significant impact related to the movement of any resident or migratory fish or wildlife species, disrupt established resident or migratory wildlife corridors, or conflict with local policies and ordinances protecting biological resources. The General Plan, Specific Plan and Zoning Build-Out Alternative 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. These impacts would be avoided similar to the proposed project.

Based on the above, impacts under the General Plan, Specific Plan and Zoning Build-Out Alternative has the potential to result in significant and unavoidable impacts on biological resources at the project-level and cumulative level as no mitigation measures would be required to reduce potentially significant impacts on special-status species, sensitive natural community, or jurisdictional water features. Therefore, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in greater impacts related to biological resources compared to the proposed project.

## Cultural Resources

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. Depending on the existing land designations and any development limitations, this alternative would involve the active or passive conversion of all or a portion of land within each project parcel, or alternatively, retaining the land for open space or future governmental uses.

Multiple significant or potentially significant cultural resources have been located within the project site where solar facilities are proposed as well as along the gen-tie line corridors identified for the project. Alternative 2 would have the potential to impact sites located in parcels identified for the project where ground disturbance would occur; however, the sites located in parcels that would be preserved as open space or otherwise remain undeveloped, or located along the gen-tie routes, would not be avoided. The General Plan, Specific Plan and Zoning Build-Out Alternative would not implement Mitigation Measures **MM 4.5-1KC through MM 4.5-11KC** or Mitigation Measures **MM 4.5-1CC through MM 4.5-4CC** (see **Section 4.5, Cultural Resources**) because build out under the existing zoning designations may not require discretionary permits from Kern County or California City. Should buried archaeological deposits be uncovered during development and ground disturbance activities under Alternative 2, and should such sites meet the applicable significance criteria, they could be subject to significant impacts. Therefore, without implementation of mitigation measures, potential impacts on archaeological resources could be significant and unavoidable.

In addition, there is no indication that any particular location within the project site has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, this alternative would comply with Health and Safety Code Section 7050.5 as required by law, which includes requirements similar to Mitigation Measure **MM 4.5-13KC** and **MM 4.5-5CC** (see **Section 4.5, Cultural Resources**) and would ensure that any human remains encountered are appropriately addressed, therefore, impacts would be less than significant.

Based on the above, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in greater cultural resource impacts compared to the proposed project as this alternative would not implement mitigation measures and the ground disturbance that would occur under this alternative could affect previously undiscovered subsurface cultural resources, and such discoveries may not be addressed adequately without mitigation. Impacts to unknown cultural resources under this alternative could be significant and unavoidable.

## Energy

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. The portions of the project site that would be developed with agricultural, residential,

industrial, and other uses would involve less-intensive construction activities and short-term electricity usage; however, the residences, industrial facilities, and agricultural uses would require more energy over the operational life than the proposed project, due to higher levels of daily traffic and higher levels of energy usage compared to the project facilities.

Similar to the project, the General Plan, Specific Plan and Zoning Build-Out Alternative would be required to comply with the California Air Resources Board's (CARB) Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Impacts involving the wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant under this alternative or the proposed project. Furthermore, similar to the proposed project, the General Plan, Specific Plan and Zoning Build-Out Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This alternative would not, however, assist the state in meeting its renewable energy generation goals for investor-owned utilities.

Based on the above, impacts under the General Plan, Specific Plan and Zoning Build-Out Alternative related to energy use would be less than significant, but greater than those of the 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 General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site. Depending on the existing land designations and any development limitations, this alternative would involve the active or passive conversion of all or a portion of land within each project parcel, or alternatively retaining the land for open space or future governmental uses.

Construction of the General Plan, Specific Plan and Zoning Build-Out Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08), which includes similar requirements addressed in Mitigation Measures **MM 4.7-1KC** and **MM 4.7-1CC** (see **Section 4.7, *Geology and Soils***). Kern County has adopted the CBC 2016 Edition (California Code of Regulations Title 24), and California City has adopted the CBC 2019 Edition. Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with this alternative. The General Plan, Specific Plan and Zoning Build-Out Alternative would adhere to requirements of the National Pollutant Discharge Elimination System (NPDES) and would comply with Kern County Grading Code (Section 17.28.070) and any comparable regulations administered by California City, which includes requirements similar to Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** (conduct a hydrologic study; see **Section 4.10, *Hydrology and Water Quality***) in order to address potential soil erosion and loss of topsoil. The alternative could include installation of septic tanks at residential and industrial buildings, unless a cost-effective sanitary sewer system could be devised. Such facilities would be constructed to comply with applicable requirements of the Kern County Environmental Health Services Division, following similar requirements specified in Mitigation Measures **MM 4.7-2KC** and **MM 4.7-2CC**.

As it relates to unique paleontological resource or site or unique geologic feature, similar to the project, under the General Plan, 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 this alternative would not require any permits, the General Plan, Specific Plan and Zoning Build-Out Alternative would not implement Mitigation Measures **MM 4.7-3KC through MM 4.7-5KC** and **MM 4.7-3CC through MM 4.7-5CC** to the prevent destruction of significant paleontological resources. Therefore, without implementation of mitigation measures, potential impacts to paleontological resources could be significant and unavoidable.

Based on the above, impacts to geology and soils would be slightly greater under this alternative compared to the project as the General Plan, Specific Plan and Zoning Build-Out Alternative because mitigation measures would not be implemented to reduce potential impacts to paleontological resources and the alternative would involve construction of a greater number of structures.

### **Greenhouse Gas Emissions**

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. As portions of the General Plan, 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, residential use, industrial use, and livestock emissions), this would result in a net gain of GHG emissions within California. Unlike the project, the General Plan, Specific Plan and Zoning Build-Out Alternative would not assist a utility-scale purveyor of electrical energy in reducing its GHG emissions as consistent with the California Global Warming Solutions Act. Therefore, although both this alternative and the project would result in less-than-significant GHG emissions impacts, impacts from the General Plan, Specific Plan and Zoning Build-Out Alternative would be greater when compared to the project since the beneficial reduction in GHG emissions would not occur.

### **Hazards and Hazardous Materials**

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan designations and zoning classifications where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to Section 6.4.2 for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed.

There are no known hazardous materials in the soil that would be disturbed during construction of the residential, industrial, or agricultural uses. Residential and industrial uses are not expected to generate significant quantities of hazardous materials. Agricultural uses on the project site could require the use of hazardous materials during operation including herbicides and pesticides. However, as with the project, standard BMPs would ensure that exposure to potentially hazardous materials used or found on-site would be reduced or minimized, similar to those identified in Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-1CC**, and **MM 4.9-2CC** (see **Section 4.9, Hazards and Hazardous Materials**). Impacts related to significant hazards to the public or environment would be less than significant.



As it relates to wildland fires, the project site is not located within a high fire hazard severity zone. In addition, the General Plan, Specific Plan and Zoning Build-Out Alternative includes the development of residential, industrial, and agricultural uses, which have a similar potential overall for increasing fire risks. Due to the generally undeveloped rural character and limited infrastructure in this part of the County, cumulative impacts involving wildlife hazards would be significant and unavoidable, similar to the project. Since no discretionary permits would be required from Kern County or California City, this alternative would not implement Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** (see **Section 4.13**, *Public Services*), which requires preparation of a fire safety plan.

Impacts under the General Plan, Specific Plan and Zoning Build-Out Alternative and the project would result in less-than-significant impacts, except that cumulative impacts involving wildland fire hazards would remain significant and unavoidable.

## Hydrology and Water Quality

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. Depending on the existing land designations and any development limitations, this alternative would involve the active or passive conversion of all or a portion of land within each project parcel, or alternatively retaining the land for open space or future governmental uses.

The conversion of the project site to agricultural, residential, industrial, and other uses would increase impervious surfaces due to the construction of various structures, roadways, and parking areas. The alternative would result in a similar total area of ground disturbance where development would occur, but a larger portion of the area would become impervious and would no longer allow for groundwater infiltration. The grading and development of industrial and commercial uses could also alter the drainage patterns of the site. Compliance with the NPDES Construction General Permit, including development and implementation of a SWPPP, would be required under the General Plan, Specific Plan and Zoning Build-Out Alternative for any grading that disturbs more than one-acre of land. While the NPDES permit would reduce impacts on water quality, the alternative has the potential to substantially alter drainage patterns and infiltration due to development of the natural desert landscape with impervious surfaces. By contrast, the project would be required to prepare a detailed hydrology study to determine the specific drainage and water quality impacts from the final construction plan and to provide targeted control measures, specified in a SWPPP, to ensure that the project's drainage alterations and developed runoff does not result in significant impacts. This would be ensured through Mitigation Measures **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.10-1CC** and **MM 4.10-2CC** (see **Section 4.10**, *Hydrology and Water Quality*). The project would also be required to implement Mitigation Measures **MM 4.9-1KC** and **MM 4.9-1CC** (see **Section 4.9**, *Hazards and Hazardous Materials*) to prepare and implement a Hazardous Materials Business Plan (HMBP) to ensure the proper storage, handling, and disposal of hazardous materials over the life of the project. A similar requirement would apply to future industrial land uses that could occur in this alternative, if the volume of hazardous materials is large enough to trigger mandatory preparation/implementation of a HMBP.

The long-term agricultural, residential, industrial, and other uses that would be realized under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing,

use of herbicides and pesticides, and continued potential for leaks of hydrocarbons (e.g., oil and gas) on roadways, whereas the proposed project's operation would not. The alternative would, thereby, pose a greater threat to water quality than the proposed project. The General Plan, Specific Plan and Zoning Build-Out Alternative residential, industrial, and agricultural uses would result in greater demand for water resources, including groundwater than the project. Similar to the project, water demands would be met by developing on-site groundwater and would draw from the Fremont Valley Groundwater Basin or importing water from the Antelope Valley-East Kern Water Agency. Due to the long-term increased water demand for residential, industrial, and agricultural use, the alternative could result in unsustainable demand for groundwater resources and a significant impact.

Overall, the General Plan, Specific Plan and Zoning Build-Out Alternative could result in potentially significant and greater impacts on hydrology and water quality compared with the project as operation of residential, industrial, and agricultural uses developed under this alternative would involve increased impervious surfaces, greater demand for groundwater resources, less-controlled use of chemicals that could affect water quality, and continued ground disturbance from activities such as grazing and plowing. With piecemeal development of smaller development sites, it is more likely that there would not be a comprehensive approach to managing site runoff, resulting in a higher potential for significant and unavoidable impacts, compared to the project, which would control runoff in a carefully designed and comprehensive manner for all developed areas.

## Land Use and Planning

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. Unlike the project, the General Plan, Specific Plan and Zoning Build-Out Alternative would not conflict with the existing land use policies and regulations at the project site, because the site would be developed with the current designations defined in the Kern County General Plan and zoning, Mojave Specific Plan, and California City General Plan. This alternative would maintain consistency with current zoning as well as existing land use plans, policies, and regulations; however, some land uses may still require approvals of discretionary permits. Therefore, there would be no impact and the General Plan, Specific Plan and Zoning Build-Out Alternative would result in less impact related to land use and planning compared to the project.

## Noise

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. During construction, impacts under this alternative would be less than the impacts of the project, as the conversion of the project site to residential, industrial, and agricultural uses would occur in numerous, small-scale construction efforts, over a longer period of time, thus reducing the intensity of noise impacts and the extent to which neighboring land uses would be impacted by that noise. Since few, if any,

future land uses that could be developed under this alternative would require approval of a discretionary land use permit, the construction noise control measures required for the project described in Mitigation Measures **MM 4.12-1KC through MM 4.12-3KC** and **MM 4.12-1CC through MM 4.12-3CC** would not be implemented, except in limited instances. During operation, the residential uses would create new sensitive receptors in the area, as well as outdoor noise sources typical of rural residential and agricultural land uses, and the industrial uses could create new permanent noise sources that could result in a substantial increase in noise levels. Alternative 2 would likely result in greater ambient noise levels over time than the proposed project, due to more noise sources and higher daily traffic volumes; however, impacts would likely be less than significant because all land uses in the Kern County and California City would be subject to noise control standards according to existing zoning ordinance.

Based on the above, the alternative would result in somewhat lesser short-term construction noise impacts and somewhat greater long-term noise impacts than the project. Alternative 2 is not expected to generate substantial operational noise levels that would result in significant and unavoidable impacts.

## Public Services

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed.

Piecemeal construction of the General Plan and Zoning Build-Out for development of residential, industrial, and agricultural uses would also potentially generate new ignition sources. During operation, the alternative would introduce new populations into the residential area and create new employment opportunities with new industrial land uses. An increase in local population is not anticipated for new agricultural land uses, as those workers are expected to already live in the general area. This alternative would likely result in similar short-term impacts and greater long-term impact on fire safety services, compared to the project. In general, preparation of a fire safety plan for various small-scale individual development sites would not be required under this alternative, whereas the project must prepare and implement such a plan to mitigate potential impacts during construction, operations and decommissioning, as required by Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** (see **Section 4.13**, *Public Services*).

Construction activities related to installation of new structures would increase traffic volumes along SR 58 and SR 14, similar to the proposed project. The increase in traffic related to development of agricultural, industrial and residential uses during construction would be temporary and, thus, would not have a significant adverse effect on the Kern County Sheriff's Office (KCSO) protective service provision or California Highway Patrol's (CHP) ability to patrol the highways. During operation of this alternative, agricultural and industrial uses would increase operational traffic to a larger extent than the project, due to the increased in employees travelling to the project site, and residential uses would increase daily traffic due to residential activity. 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. With a larger residential population and a higher number of employees, this alternative would result in a greater demand on other public services, compared to the project, including schools, parks and possibly other government facilities that provide services to a residential population. Under this alternative, there would be no requirement to pay fees and taxes to offset potential impacts to fire, Sheriff, and other public services, as would be required

for the project by Mitigation Measures **MM 4.13-2KC** through **MM 4.13-4KC**, and **MM 4.13-2CC** through **MM 4.13-4CC**. As a result, this alternative would result in greater and possibly significant and unavoidable impacts on public services.

## Transportation

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed.

Construction of the residential, agricultural, industrial, and other uses would result in increased construction-related traffic. Because this would likely occur over a longer period of time, in a dispersed manner, the level of construction traffic and potential disruptions to traffic flow and the level of service on local streets and highways would likely be reduced, compared to the proposed project. The construction control measures to be implemented for the project, i.e., **MM 4.14-1KC** and **MM 4.14-1CC** (see **Section 4.14, Traffic and Transportation**) would not be implemented. Once operational, the General Plan, Specific Plan and Zoning Build-Out Alternative would involve more routine vehicle trips associated with residential, industrial, and agricultural uses. Due to the number of new residences that could be constructed, the increase in vehicle miles traveled could potentially be significant, and the increased traffic volumes could also potentially result in significant level of service (LOS) impact at some intersections, over the long-term.

As it relates to increasing hazards due to a geometric design feature or incompatible use, as the General Plan, Specific Plan and Zoning Build-Out Alternative does not include the installation of large arrays of ground-mounted solar panels on the project site, this alternative would not require the use of oversized vehicles operating on roadways and, as such, would not create a hazard to the public from use of oversized vehicles. Implementation of Mitigation Measure **MM 4.14-1KC** and **MM 4.14-1CC** would not be required. With regard to emergency access, this alternative would not be expected to cause a significant increase in congestion or significantly worsen the existing service levels at intersection roadways, therefore, the General Plan, Specific Plan and Zoning Build-Out Alternative would have a less-than significant impact on emergency access during construction and operation.

Therefore, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in greater impacts on transportation than the project as operational residential, industrial, and agricultural uses would increase the amount of trips and vehicle miles traveled to the project site as compared to the project. Because this alternative is consistent with the General Plan and Zoning regulations which are intended to provide consistency with the capacity of the transportation network, significant and unavoidable impacts are not anticipated. It is possible that there could be locations where there are significant LOS problems for periods of time, until capacity improvements are funded and constructed, however in this context impacts can be considered less than significant

## Tribal Cultural Resources

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial,

open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. According to record searches and tribal resource consultations, no tribal resources have been recorded within or are known to be present on the project site. Similar to the proposed project, there could potentially be significant impacts to unknown tribal cultural resources due to temporary or ongoing ground disturbances that would occur under the General Plan, Specific Plan and Zoning Build-Out Alternative. Because discretionary permits may not be required from Kern County or California City involving CEQA review, Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, **MM 4.5-1CC**, **MM 4.5-2CC**, and **MM 4.5-5CC** (see **Section 4.5**, *Cultural Resources*) required for the proposed project may not be implemented. Instances without such mitigation impacts on tribal cultural resources, therefore, could be greater than with the proposed project, and are potentially significant and unavoidable.

### Utilities and Service Systems

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed.

The proposed residential, industrial, and agricultural uses would create new impervious surfaces for new roadways, homes, and buildings/structures that may require construction of one or more municipal storm drainage systems. The residential, industrial, and agricultural uses would also increase solid waste generation and disposal at landfills. The long-term commitment for water supply and wastewater treatment would increase due to the increased demands for residential, industrial, and agricultural uses. Due to the increased population in the area, the overall demand and impact on utilities and service systems would be greater under the General Plans, Specific Plan and Zoning Build-Out Alternative than the proposed project, and more water, sewer, electricity and possibly natural gas infrastructure would need to be constructed than for the proposed project. Nonetheless, impacts are anticipated to be less than significant.

### Wildfire

Under the General Plan, Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the existing general plan and zoning designations where the project is located, which include designations for agricultural, residential, industrial, open space, governmental, and other uses (refer to **Section 6.4.2** for additional details). Solar panels and an energy storage system to provide 1,500 MW of electrical energy to the regional electricity grid would not be installed. As with the proposed project, this alternative would not occur 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 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; however, transportation permits and standard traffic management practices would be required for certain projects, similar to the requirements described in Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** (see **Section 4.14**, *Traffic and Transportation*). Therefore, the General Plan, Specific Plan and Zoning Build-Out Alternative would not substantially impair an adopted emergency response plan or emergency evacuation plan.



The project site has low topographic relief and is relatively flat. The project site is located within a Local Responsibility Area (LRA) Moderate zone, with a small section of the gen-tie study area in a State Responsibility Area (SRA) Moderate zone, which are considered wildland areas with low fire frequency and relatively modest fire behavior. As such, the impacts of the alternative residential, industrial, and agricultural uses would be less than significant. However, the General Plan, Specific Plan and Zoning Build-Out Alternative would result in new residential areas and structure development adjacent to wildlands, which would result in greater risk of wildland fire threats to homes and other structures. Since no discretionary permits would be required from Kern County or California City, this alternative would not implement Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** (see **Section 4.13, Public Services**) which require preparation of a fire safety plan.

Given the location of the project site in a rural area and with limited infrastructure, the alternative and related development have the potential to result in significant and unavoidable cumulative impacts related to wildfire hazards. By introducing more homes and an increase in permanent residential and working population into this area, impacts under the General Plan, Specific Plan and Zoning Build-Out Alternative would be greater than the proposed project.

## Comparison of Impacts

The General Plan, Specific Plan and Zoning Build-Out Alternative would result in less impact to aesthetics, agriculture and forestry resources, and land use and planning. This alternative would result in greater impacts in all remaining environmental issue areas. Greater impacts on air quality would result from emissions from the proposed residential, industrial, and agricultural uses on-site, such as livestock emissions, as well as higher vehicle exhausts from higher traffic volumes. As mitigation measures would not be implemented to avoid impacts on candidate, sensitive, or a special-status species and sensitive natural communities, impacts to biological resources would be greater. Given the ground disturbance required and no implementation of mitigation, greater impacts would occur to potentially undiscovered cultural and tribal resources. This alternative would result in greater energy impacts as the project site would not generate renewable energy as compared to the project, and would therefore, not assist the state in meeting its renewable energy generation goals. Greater impacts to geology and soils related to paleontological resources would result from greater initial soil disturbance during construction and no implementation of mitigation. 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 a higher level of impervious surfaces and groundwater use and ground disturbance from activities such as grazing and plowing and the application of herbicides or pesticides from the proposed agricultural uses. The increase in human population on-site during operation is also responsible for greater impacts to noise, public services, utilities and service systems, and transportation. This alternative would not avoid significant cumulative impacts on aesthetics, would not eliminate significant and unavoidable impacts associated with air quality (project and cumulative), biological resources (cumulative only), hazards and hazardous materials (cumulative only), and wildfire (cumulative only). This alternative would also create additional significant and unavoidable impacts related to biological resources (project), cultural resources (project), geology and soils – paleontological resources (project), hydrology and water quality (project), and tribal cultural resources (project).

## Relationship to Project Objectives

The General Plan, Specific Plan and Zoning Build-Out Alternative would not achieve any of the project objectives listed above in **Section 6.2**, including the project objective related to assisting California in meeting its GHG emissions reduction goals.

### 6.7.3 Alternative 3: Reduced Acreage Alternative

#### Environmental Impact Analysis

##### Aesthetics

Under the Reduced Acreage Alternative, all project areas within 0.25-mile of SR 58, as well as the northwestern and southwestern most project areas, would be eliminated from the project footprint. The remaining areas that would be developed would be mostly consolidated on the north side of SR 58, except for the southeastern most project area located south of SR 58 (refer to **Figure 6-1, *Reduced Acreage Alternative***). In total, the Reduced Acreage Alternative footprint would be approximately 5,835 acres, which is a reduction of approximately 30 percent (refer to **Section 6.4.3, *Alternative 3: Reduced Acreage Alternative***, for additional details).

As with the complete project site, the Reduced Acreage Alternative site may be visible to some degree from distant elevated views, such as from the mountain peaks and south facing slopes of the Tehachapi Mountains to the north and northwest, including areas where PCT passes through the Tehachapi Mountains approximately 7 miles away. Although portions of the project site may be visible, neither the proposed project nor the Reduced Acreage Alternative would result in significant impacts on a scenic vista.

There are no officially designated State Scenic Highways in Kern County; however, the Reduced Acreage Alternative has been designed to reduce visual impacts by setting the project back by 0.25-mile from SR 58, which is an eligible State Scenic Highway and a major travel corridor for motorists traveling through the area where the scenic qualities of Antelope Valley can be seen. The development setback would reduce visual impacts along the highway corridor by retaining a vegetative buffer between the highway and the solar facilities; however, solar facilities would still be visible and attract attention beyond the setback area. Regardless, neither the proposed project or Reduced Acreage Alternative would result in significant impacts because SR 58 has not been officially designated as a State Scenic Highway.

The Reduced Acreage Alternative would reduce impacts of the proposed project on existing visual character and scenic quality by increasing the viewing distance from SR-58 where the project's solar facilities would be most visible, retaining a vegetative buffer along the highway, and reducing the amount of man-made structures to be installed and the extent of existing vegetation removal by approximately 30 percent. In addition, the project would consolidate visually impacted areas on the north side of SR 58 in the vicinity of the Hyundai-Kia Proving Grounds as well as one area south of SR 58. Project development would not occur in the most scenic area of the project site located in the southwest where unique topographical features are present. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures **MM 4.1-1KC through MM 4.1-4KC** and **MM 4.1-1CC through MM 4.1-4CC** (see **Section 4.1, *Aesthetics***), which would be implemented to reduce visual impacts on visual character and scenic quality. However, similar to the proposed project, there are no feasible mitigation measures that can be

implemented to maintain the existing open and undeveloped desert landscape character of the project site, impacts on existing scenic quality and visual character would remain significant and unavoidable.

As the Reduced Acreage Alternative includes the installation of solar panels over a large area, as with the proposed project, the potential for the solar panels to result in light and glare impacts would be less extensive, but similar to the project during construction and operation. Potentially substantial levels of glare and exposure durations from solar panels could impact daytime views for receptors in the area for periods of the day and multiple months of the year. The removal of approximately 30 percent of the project site would reduce the extent of glare effects and potentially reduce the overall areas affected by glare; however, the potential for substantial glare levels and exposure durations would remain. As with the proposed project, Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC** would be implemented to minimize night lighting and glare to less-than-significant levels.

The Reduced Acreage Alternative would have less overall impacts on aesthetics compared to the proposed project due to the reduction in project site size; however, impacts would remain significant and unavoidable for both the project- and cumulative-level impacts.

## Agriculture and Forestry Resources

Under the Reduced Acreage Alternative, all project areas within 0.25-mile of SR 58, as well as the northwestern and southwestern most project areas, would be eliminated from the project footprint. The remaining areas that would be developed would be mostly consolidated on the north side of SR 58, except for the southeastern most project area located south of SR 58 (refer to **Figure 6-1, Reduced Acreage Alternative**). In total, the Reduced Acreage Alternative footprint would be approximately 5,835 acres, which is a reduction of approximately 30 percent (refer to **Section 6.4.3** for additional details).

The proposed project and the Reduced Acreage Alternative would both involve the installation of solar facilities on areas of land zoned for agriculture to non-agricultural uses. Similar to the project, the Reduced Acreage Alternative would not directly or indirectly impact farmland, as there is no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project area. In addition, according to available data, none of the parcels included as part of the project or any property in the vicinity of the project are subject to a Williamson Act Land Use contract or would result in the cancellation of an open space contract. There are no existing agricultural uses or any forestry resources on or adjacent to the project site; therefore, this alternative would also not affect such resources.

Impacts to agriculture and forestry resources would remain less than significant. As the Reduced Acreage Alternative would include a smaller footprint, the Reduced Acreage Alternative would result in less impact on land potentially available for agricultural activities, compared to the proposed project.

## Air Quality

Under the Reduced Acreage Alternative, all project areas within 0.25-mile of SR 58, as well as the northwestern and southwestern most project areas, would be eliminated from the project footprint. The remaining areas that would be developed would be mostly consolidated on the north side of SR 58, except for the southeastern most project area located south of SR 58 (refer to **Figure 6-1**). In total, the Reduced Acreage Alternative footprint would be approximately 5,835 acres, which is a reduction of approximately 30 percent (refer to **Section 6.4.3** for additional details). This area reduction would reduce the extent of construction-related impacts on air quality roughly proportionally. The use of construction vehicles, heavy



equipment operation, and worker trips would be similar but less than the proposed project, but grading and other construction activities that would generate emissions would not occur on approximately 2,536 acres. Similar to the proposed project, this alternative would require implementation of Mitigation Measures **MM 4.3-1KC**, **MM 4.3-2KC**, **MM 4.3-3KC**, **MM 4.3-4KC**, **MM 4.3-1CC**, **MM 4.3-2CC**, **MM 4.3-3CC**, and **MM 4.3-4CC** (see **Section 4.3, *Air Quality***), in order to minimize dust and gaseous construction-related emissions. Impacts after mitigation would be less than significant.

Implementation of this alternative could expose the same sensitive receptors to substantial pollutant concentrations as the proposed project. To ensure there are no significant impacts related to potential for exposing sensitive receptors to pollutant concentrations, mitigation measures would be implemented to minimize project emissions and health-related effects, including Mitigation Measures **MM 4.3-1KC through MM 4.3-3KC** and **MM 4.3-1CC through MM 4.3-3CC** (see **Section 4.3, *Air Quality***) and **MM 4.1-4KC** and **MM 4.1-4CC** (see **Section 4.1, *Aesthetics***). Implementation of Mitigation Measures **MM 4.3-1KC**, **MM 4.3-1CC**, **MM 4.3-5KC** and **MM 4.3-5CC** would also 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. As such and consistent with the proposed project, the impacts are conservatively considered to be significant and unavoidable.

During construction of both the proposed project and Alternative 3, it is possible that surrounding residents and on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. As with the proposed project, Mitigation Measures **MM 4.3-6KC**, **MM 4.3-6CC**, **MM 4.3-7KC**, and **MM 4.3-7CC** would be implemented to reduce risks pertaining to Valley Fever. Impacts would be less than significant after mitigation.

Overall, the Reduced Acreage Alternative would reduce dust generation and project emissions compared to the proposed project, and most air quality impacts would be less than significant with mitigation; however, as with the proposed project, cumulative impacts could remain significant and unavoidable related to NO<sub>x</sub> and PM<sub>10</sub> emissions as well as criteria air pollutants with indirect linkages to COVID-19 issues.

## Biological Resources

Under the Reduced Acreage Alternative, approximately 30 percent of the proposed project footprint would be eliminated from the project, and the remainder would be developed similar to the proposed project (refer to **Section 6.4.3** for additional details). As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS, the Reduced Acreage Alternative would result in similar, but decreased impacts than the proposed project on special-status plants and special-status wildlife (refer to **Section 4.4, *Biological Resources*** for details). Areas occupied by or that provide suitable habitat for special-status species are spread out across the project site. The reduced acreage alternative would avoid solar development on approximately 2,536 acres (refer to **Figure 6-1**), which would reduce direct and indirect impacts on special-status species that occupy their region. Specifically, biological resources and habitat within 0.25-mile of SR 58 and in the northwestern and southwestern areas of the project would not be directly impacted by the project, and these areas contain a substantial number of western Joshua trees; suitable habitat for various species; the greatest concentration of desert tortoise dens identified on the project site; and numerous active and inactive kit fox dens. Regardless of the impact reduction, the Reduced Acreage Alternative would still result in potentially significant impacts on the same species as the proposed project. As with the proposed project, Mitigation Measures **MM 4.4-1KC**, **MM 4.4-1CC**, **MM 4.4-22KC** and **MM 4.4-22CC** (see **Section 4.4, *Biological***

*Resources*) as well as Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC** (see **Section 4.1, Aesthetics**) would be implemented to reduce project-level impacts to less-than-significant levels.

With regard to impacts on sensitive natural community and jurisdictional water features, the Reduced Acreage Alternative would result similar but lesser impacts than the proposed project. The same types of vegetation communities and jurisdiction features would be impacted by construction of project facilities located in the reduced footprint and along gen-tie corridors. The same permitting requirements and implementation of mitigation measures would be required to ensure impacts would be less than significant, including Mitigation Measures **MM 4.4-14KC**, **MM 4.4-22KC**, **MM 4.4-23KC**, **MM 4.4-14CC**, **MM 4.4-22CC** and **MM 4.4-23CC**.

Based on the above, project-level impacts under the Reduced Acreage Alternative would be less than significant with implementation of mitigation and similar to those of the project. However, cumulatively, this alternative would still result in significant and unavoidable impacts on biological resources. Regardless of the type of development, biological resources are being impacted throughout the Antelope Valley due to the number of large projects, many of which are solar energy facilities. However, as this alternative would avoid disturbing approximately 2,536 acres of land, which is largely undeveloped and vegetated, the Reduced Acreage Alternative would result in less impacts on biological resources compared to the project. All other impacts related to biological resources would remain similar to the proposed project, where the development footprints are the same.

## Cultural Resources

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). The Reduced Acreage Alternative would avoid one potentially eligible site, and possibly others; however, all other eligible or potentially eligible cultural sites would be located within or adjacent to areas where solar facilities or gen-tie lines would be installed under this alternative. As with the proposed project, Mitigation Measures **MM 4.5-1KC through MM 4.5-11KC** or **Mitigation Measures MM 4.5-1CC through MM 4.5-4CC** (see **Section 4.5, Cultural Resources**) would be required to ensure impacts on these sites would be less than significant. In addition, there is no indication that any particular location within the project site has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, implementation of Mitigation Measures **MM 4.5-13KC** and **MM 4.5-5CC** 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. Furthermore, the Reduced Acreage Alternative would result in less overall impacts related to cultural resources compared to the project due to the avoidance of at least one cultural site and the reduction in total ground disturbance.

## Energy

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). Eliminating 2,536 acres from project development would result in reduced energy use, as the Reduced Acreage Alternative would generate approximately 1,050 MW, a 30 percent reduction from 1,500 MW targeted under the proposed

project with up to 1,050 MW of energy storage, based on the proportional reduction in acreage. Therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced as compared with the project. Similar to the proposed project, the Reduced Acreage Alternative would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. The fuel efficiency of the vehicles being used by the employees and visitors under this alternative would be similar to the project; however, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. 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 and the Reduced Acreage Alternative would result in less energy impacts compared to the project.

## Geology and Soils

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). Construction of the Reduced Acreage Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2016 Edition (California Code of Regulations Title 24) and California City has adopted the CBC 2019 Edition. Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with this alternative. In addition, as with the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures **MM 4.7-1KC**, **MM 4.7-2KC**, **MM 4.7-1CC**, and **MM 4.7-2CC** (see **Section 4.7, *Geology and Soils***) which a geotechnical study to evaluate soil conditions and geologic hazards, and that all project structures and soil-based wastewater disposal systems are constructed in accordance with the necessary specifications, procedures, and site conditions. Implementation of these mitigation measures, as with the project, would serve to reduce impacts to less-than-significant levels related to strong seismic ground shaking, unstable geologic units, and expansive soils. In addition, with regard to soil erosion and loss of topsoil, the Reduced Acreage Alternative would implement Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** (see **Section 4.10, *Hydrology and Water Quality***). As it relates to a unique paleontological resource or site or unique geologic feature, similar to the 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 4.7-3KC through MM 4.7-5KC** and **MM 4.7-3CC through MM 4.7-5CC** to prevent the destruction of significant paleontological resources. Therefore, impacts would be less than significant.

As discussed above, with implementation of mitigation consistent with the proposed project, impacts on geology and soils and paleontological resources would be less than significant. However, impacts of the Reduced Acreage Alternative would result in less impacts compared to the proposed project due to the reduction in overall ground disturbance.

## Greenhouse Gas Emissions

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). Construction and operational GHG emissions with the Reduced Acreage Alternative would be lower based on the smaller footprint; however, the smaller footprint would also reduce the solar energy generation and storage capacities. Eliminating 2,536 acres would reduce the project's clean and renewable energy generation capacity by

approximately 30 percent from 1,500 MW to approximately 1,050 MW, and the storage capacity from approximately 1,500 MW to 1,050 MW. Reducing the project's renewable energy contribution would offset less GHG emissions and increase the need for other projects in the region to meet demand. As such, impacts involving GHG emissions would be greater under this alternative, but less than significant.

## Hazards and Hazardous Materials

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). As with the proposed project, construction, operation, and decommissioning of the Reduced Acreage Alternative would involve the use of the same types of hazardous materials (i.e., fuels, lubricants, pesticides, CdTe, etc.). As with the proposed project, Mitigation Measures **MM 4.9-1KC**, **MM 4.9-2KC**, **MM 4.9-1CC**, and **MM 4.9-2CC** (see **Section 4.9, Hazards and Hazardous Materials**) would be implemented to ensure all hazardous materials used or found on site are transported, handled, stored, and disposed of appropriately. Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** (see **Section 4.16, Utilities and Service Systems**) would also be required to ensure appropriate debris and waste management during construction, operation, and decommissioning. As with the proposed project, impacts would be less than significant after mitigation.

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 energy storage 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 Measures **MM 4.13-1KC** and **MM 4.13-1CC** (see **Section 4.13, Public Services**) would be implemented to reduce impacts to less-than-significant levels, which includes the development and implementation of a Fire Safety Plan for construction and operation of the project. Consistent with the proposed project and the analysis for wildlife, the Reduced Acreage Alternative is expected to result in cumulative impacts associated with wildland fires. Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** would be implemented to minimize cumulative impacts; however, due to the number of projects occurring in Antelope valley and the potential for the dispersed project components to exacerbate fire risk, cumulative impacts associated with an increase fire risk would remain, as with the project.

For both the Reduced Acreage Alternative and the proposed project, impacts associated with wildfire would be less-than-significant after mitigation. The Reduced Acreage Alternative would result in somewhat less impacts compared to the proposed project due to the reduced area where fires could be ignited by the project; however, both the alternative and the proposed project would result in significant and unavoidable cumulative impacts.

## Hydrology and Water Quality

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). The Reduced Acreage Alternative would result in reduced, but similar impacts on hydrology and water quality as the proposed project, including impacts involving water quality standards and discharge requirements; groundwater supplies; alteration of the existing drainage pattern; risk the release of pollutants due to project inundation; and conflicts with water quality control plans or sustainable groundwater management plans. By reducing the footprint of the project site by 2,536 acres, impacts on hydrology and water quality would be lower than the proposed project based on a reduction of ground disturbance, area occupied by project facilities, stormwater collection area and runoff volume, and water demand and use. Water used for the alternative

would be obtained from the same sources identified for the proposed project, which could include local groundwater and surface flows. Nevertheless, mitigation measures would be required similar to the proposed project to ensure impacts would be less than significant, which includes Mitigation Measures **MM 4.9-1KC**, **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.9-1CC**, **MM 4.10-1CC**, and **MM 4.10-2CC** (see **Section 4.9**, *Hazards and Hazardous Materials*; and, **Section 4.10**, *Hydrology and Water Quality*).

Overall, impacts related to hydrology and water quality would be less than significant with implementation of mitigation measures similar to those implemented under the proposed project. Furthermore, 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, the amount of impervious surface, and water use when compared to the proposed project.

## Land Use and Planning

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). The Reduced Acreage Alternative area would remain within portions of unincorporated Kern County, the Mojave Specific Plan area, and California City, and within the same types of land uses designations and zoning classifications. The Reduced Acreage Alternative would still require approval for general plan amendments, zone case changes, a specific plan amendment, conditional use permits and non-summary vacations from Kern County in addition to approvals for a general plan amendment and conditional use permit from California City in order to operate a solar facility and energy storage facility on the project site. As with the proposed project, implementation of Mitigation Measure **MM 4.9-4KC** and **MM 4.9-4CC** (see **Section 4.9**, *Hazards and Hazardous Materials*) would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County and California City by requiring the developer to coordinate with the DoD, FAA, and the public airports and military installations in the area. Impacts would be less than significant under this alternative, and consistent with the proposed project. Land use and planning impacts would be similar under the Reduced Acreage Alternative when compared to the proposed project.

## Noise

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). Under the Reduced Acreage Alternative all overall construction and operational methods, workforce, and timing would be reduced when compared with the proposed project. Under this alternative, as the number of on-site construction equipment is assumed to be similar under this alternative on a daily basis, as with the proposed project, construction and decommissioning activities could generate noise greater than Kern County and California City standards for short periods of time. The Reduced Acreage Alternative would implement the same mitigation measures as the proposed project to minimize noise during construction and decommissioning, including Mitigation Measures **MM 4.12-1KC through MM 4.12-3KC** and **MM 4.12-1CC through MM 4.12-3CC** (see **Section 4.12**, *Noise*). Impacts associated with construction and operation noise would be less than significant with mitigation for both the proposed project and the Reduced Acreage Alternative. Similar to the proposed project, potential ground-borne vibration or ground-borne noise levels would be less than significant and no mitigation would be required.

Based on the above discussion, the Reduced Acreage Alternative would reduce the number of sensitive receptors that may be exposed to construction and noise impacts as well as the duration of potential noise exposure during construction. The elimination of project areas in the southwestern most area would increase

the distance between the project and residential dwellings in the area, further reducing the level of impacts compared to the project.

## Public Services

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). The Reduced Acreage Alternative would have a similar construction schedule and require a similar or possibly a lower number of construction workers. Up to 20 full-time staff would be employed to operate each site, and the number of operational staff would be reduced by reducing the project footprint by approximately 30 percent. The alternative would increase fire service demands similar to the proposed project during construction and operation. As with the proposed project, Mitigation Measures **MM 4.13-1KC**, **MM 4.13-2KC**, **MM 4.13-1CC**, and **MM 4.13-2CC** (see **Section 4.13**, *Public Services*) would be required. These measures require the development of a Fire Safety Plan to minimize fire risks during construction and operation, and the payment of development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation.

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 SR-58 and SR-14, similar to the 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, fences would be installed around the perimeter of the northern site, substation, and other areas requiring controlled access, for safety and security purposes. 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.

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 compared to the project. It is noted that the total amount of fees and taxes for this alternative, as required by Mitigation Measures **MM 4.13-2KC through MM 4.13-4KC** and **MM 4.13-2CC through MM 4.13-4CC**, would be lower than for the proposed project.

## Transportation

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the project. Similar to the proposed project, during construction of the Reduced Acreage Alternative, which would require similar construction trips and travel distances for installation of the solar facilities, the level of service impacts and the volume of vehicle miles traveled would be less, due to the reduced amount of materials and equipment that would be used to construct the project. During operation of this alternative, distances of day-to-day O&M trips would be the same, while total trips and total vehicle miles traveled would be reduced in comparison with those of the project. Similar to the project, the total number of daily trips and distances traveled for O&M of the solar panels would be substantially less than during construction. Both the proposed project and Reduced Acreage Alternative would result in less-than-significant impacts regarding conflicts with a program, plan, ordinance or policy establishing the

circulation system, including transit, roadway, bicycle, and pedestrian facilities; and conflicts or inconsistencies with CEQA *Guidelines* Section 15064.3, subdivision (b).

As it relates to increasing hazards due to a geometric design feature or incompatible use, similar to the proposed project, the Reduced Acreage Alternative would also require the use of oversized vehicles during construction which could create a hazard to the public by limiting motorist views and by the obstruction of space. As with the proposed project, this alternative would also implement Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** (see **Section 4.14, Traffic and Transportation**), which would reduce impacts from oversized construction vehicles and would also provide further assurances for emergency access, to reduce impacts during construction to less than significant.

Based on the above, impacts would be less than significant. Given the reduction in total construction and operational vehicle trips under this alternative as compared to those of the proposed project, the Reduced Acreage Alternative impacts related to transportation would be less compared to the proposed project.

### **Tribal Cultural Resources**

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). No tribal cultural resources were identified within or immediately adjacent to the project site; however, there is a potential to encounter and disturb unknown resources during site clearing and grading activities, which would require implementation of avoidance measures specified in Mitigation Measures **MM 4.5-1KC**, **MM 4.5-2KC**, **MM 4.5-11KC**, **MM 4.4-13KC**, **MM 4.5-1CC**, **MM 4.5-2CC**, and **MM 4.5-4CC** (see **Section 4.5, Cultural Resources**). Therefore, potential impacts to tribal cultural resources would be reduced, and with the same mitigation measures, would also result in a less than significant impact.

### **Utilities and Service Systems**

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). Eliminating 2,536 acres from project development would result in reduced demand for utilities and service systems, as the Reduced Acreage Alternative would provide approximately 1,050 MW of energy generation capacity and approximately 1,050 MW of energy storage capacity, a reduction from approximately 1,500 MW and 1,500 MW, respectively. 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 project, installation of solar panels would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, and telecommunications, to a lesser extent. 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 for periodic panel washing, in comparison with the 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 facilities. 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 project, the Reduced Acreage Alternative would implement Mitigation Measures **MM 4.10-1KC**, **MM 4.10-2KC**, **MM 4.16-1KC**, **MM 4.10-1CC**, **MM 4.10-2CC**, and **MM 4.16-1CC** (see **Section 4.10, Hydrology and Water Quality**; and, **Section 4.16, Utilities and Service Systems**), to reduce impacts to less-than-significant levels.

This alternative is expected to result in less-than-significant impacts to utilities and service systems and impacts would be less compared to the proposed project due to the reduced development area, smaller number of employees and reduced water demand required for maintenance of the solar panels.

## Wildfire

Under the Reduced Acreage Alternative, the project's footprint would be reduced from approximately 8,371 acres to approximately 5,835 acres (refer to **Section 6.4.3** for additional details). As with the proposed project, this alternative 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 not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Therefore, the Reduced Acreage Alternative would not substantially impair an adopted emergency response plan or emergency evacuation plan. Nonetheless, Mitigation Measures **MM 4.14-1KC** and **MM 4.14-1CC** (see **Section 4.14**, *Traffic and Transportation*) would be implemented to ensure the project would not impede emergency access conditions during construction.

The project site has low topographic relief and is relatively flat. A majority of the project site is located within an LRA Moderate zone, which are considered wildland areas with low fire frequency and moderate fire risk. Similar to the project, the energy storage facility developed under this alternative has the potential to burn and, should this occur, has the potential to expose workers and environment to pollutants and fire. As such, the Reduced Acreage Alternative would implement Mitigation Measures **MM 4.13-1KC** and **MM 4.13-1CC** (see **Section 4.13**, *Public Services*) 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. As such, impacts under this alternative related to exposing project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector and gen-tie lines, similar to the project. The installation of the electrical lines 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. No slopes are located within proximity to the project site. As such, similar to the project, the Reduced Acreage Alternative would not result in 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 associated with wildfire. However, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in significant and unavoidable cumulative impacts related to exacerbating wildfire risks and adverse post-fire conditions. The Reduced Acreage Alternative would likely result in less impact than the project due to the reduced footprint compared to the project, but significant and unavoidable cumulative impacts would remain.

## Comparison of Impacts

The Reduced Acreage Alternative footprint would reduce the proposed project footprint by approximately 30 percent, and thus reduce impacts of the proposed project roughly proportionally associated with ground disturbance, traffic, noise, water use, waste generation, and emissions. The overall duration of construction



and the workforce needed during construction and operation of the project would be similar to the proposed project but are ultimately expected to be less due to fewer facilities being installed and maintained. The generation capacity would also change roughly proportionally from approximately 1,500 MW to 1,050 MW, and the storage capacity would change from approximately 1,500 MW to 1,050 MW, based on the footprint reduction. Similar to the project, this alternative would require plan amendments and permits upon project approval for construction and operation of a commercial solar electrical generating facility. Due to the reduced footprint, the Reduced Acreage Alternative would result in less or similar impacts for the majority of environmental issue areas, depending on the physical location of environmental resources and the selected footprint of the Reduced Acreage Alternative. However, this alternative would offset fewer GHG emissions from fossil fuel-based electrical generating facilities, given the reduced solar energy output, and the need for other projects in the region to meet demand. In addition, the Reduced Acreage Alternative would not eliminate significant and unavoidable impacts associated with aesthetics (project and cumulative), air quality (project and cumulative), biological resources (cumulative only), hazards and hazardous materials (cumulative only), and wildfire (cumulative only).

### **Relationship to Project Objectives**

Although Alternative 3 would not achieve all of the project objectives, it achieves, to a lesser extent, the goal of developing facilities to produce the necessary amount of clean electricity to help achieve California's renewable energy goals to the degree associated with the proposed project. This alternative would meet the objective of developing a utility-scale solar energy generation and storage facility; integrate operating facilities with other existing solar projects; assist the County in continuing the goal in the Energy Element of its General Plan; promote economic development; and support California's efforts to reduce GHG emissions and RPS Program. However, the Reduced Project Alternative would not achieve the project objectives of constructing and operating a solar energy facility to produce (up to) 1,500 MW of reliable electricity and 1,500 MW of energy storage. It is unknown if this alternative would achieve the project objective of producing and transmitting electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.

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

### **Environmental Impact Analysis**

#### **Aesthetics**

Under Alternative 4, No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or parking areas of existing commercial and industrial facilities throughout the Antelope Valley. With regard to impacts related to scenic vistas, there are no local areas that are designated as scenic vistas within the vicinity of the site. With this alternative, solar installation would occur on the roofs or parking areas of the existing commercial and industrial sites. While portions of the PCT that passes through the Tehachapi Mountains has views of the

entire Antelope Valley, installation of solar panels on rooftops or ground mounted in parking areas of commercial and industrial facilities dispersed throughout the Antelope Valley would not substantially change the quality of the view. Thus, given that no local areas are designed as scenic vistas and development under this alternative would be dispersed throughout western Antelope Valley, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not have a substantial adverse effect on a scenic vista.

The project would not be visible from any officially designated State or County Scenic Highway. Although SR 58 is designated as an eligible State Scenic Highway, it has not yet been officially designated as a State Scenic Highway. Given the fact that development under this alternative would be dispersed throughout western Antelope Valley, this alternative would not substantially damage scenic resources. Impacts would be less than significant under this alternative and impacts would be less than those of the project.

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. Ground-mounted panels in parking areas would be visible only from nearby vantage points and would not be concentrated in large arrays, as with the proposed project. However, from other vantage points, the installation of rooftop and/or parking area 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.

With regard to light and glare, construction and operation of the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would require implementation of Mitigation Measures **MM 4.1-5KC through MM 4.1-7KC** and **MM 4.1-5CC through MM 4.1-7CC**, similar to the project. As development of this alternative would be dispersed throughout the Antelope Valley and not concentrated within proximity to other solar and wind developments, this alternative would eliminate the significant and unavoidable impacts of the proposed project associated scenic quality, visual character, and glare.

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 - Distributed Commercial and Industrial Rooftop Solar Only would result in reduced and less than significant impacts related to aesthetics compared to the significant and unavoidable impacts of the project due to substantial conversion of an open desert landscape into large concentrations of solar panels and related facilities, as well as additional tall transmission line structures.

## Agriculture and Forestry Resources

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities, or on already disturbed parking areas. Since the solar PV systems proposed for this alternative would be constructed on existing structures or already disturbed ground associated with vehicle parking, this alternative would not

create any changes in the existing environment that would convert land that is designated Farmland or forest land to non-agricultural or non-forest uses. As such, no impacts to agriculture or forestry resources would occur. Therefore, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in fewer impacts related to agriculture and forestry resources compared to the proposed project, as this alternative would not require ground disturbance.

## Air Quality

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, 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 project-level and 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, passenger vehicles driven by construction crews, and minor ground disturbance. Mitigation measures would be implemented as necessary to ensure that impacts are reduced as it relates to regional and localized construction emissions and valley fever exposure. Implementation of Mitigation Measures **MM 4.3-1KC**, **MM 4.3-2KC**, **MM 4.3-3KC**, **MM 4.3-4KC**, **MM 4.3-1CC**, **MM 4.3-2CC**, **MM 4.3-3CC**, and **MM 4.3-4CC** (see **Section 4.3, Air Quality**) would not be required. The potential for dispersing concentrations of criteria air pollutants such as PM<sub>2.5</sub> would be substantially lower than the proposed project, and therefore the concern over impacts associated with exacerbating the spread or severity of COVID-19 would be less than significant. Implementation of Mitigation Measures **MM 4.3-5KC** and **MM 4.3-5CC** would not be required. Additionally, the substantial reduction in dust generation would also reduce concerns over Valley Fever, and therefore, Mitigation Measures **MM 4.3-6KC**, **MM 4.3-6CC**, **MM 4.3-7KC**, and **MM 4.3-7CC** would not be required.

During operation, Alternative 4 would have similar impacts on air quality as the project related to occasional vehicular visits for maintenance. As such, operational impacts would also be less than significant. Overall, air quality impacts under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would be less than significant. Therefore, this alternative would result in less impacts related to air quality compared to the project as this alternative would result in a substantial reduction in construction activities and negligible emissions associated with long-term maintenance activities.

## Biological Resources

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only 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 Antelope Valley. The project site would remain undeveloped and only developed areas, typically on the rooftops of commercial and industrial facilities, in the Antelope Valley 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 sensitive habitat or other natural communities. As such, Mitigation Measures **MM 4.4-1KC through MM 4.4-23KC** and **MM 4.4-1CC through MM 4.4-23CC** (see **Section 4.4,**

*Biological Resources*) would not be required. Therefore, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not contribute to a cumulative loss of habitat that supports special-status and rare species that have potential to occur on the project site, including various special-status plants; special-status wildlife (e.g., pacific Townsend's big-eared bat, Mohave ground squirrel, desert kit fox, American badger, and Agassiz's desert tortoise; raptors and migratory birds; and, crotch bumble bee, western bumble bee, and Mojave dotted-blue butterfly); sensitive natural plant communities (e.g., spinescale scrub, winter-fat scrubland, and Joshua tree woodland); and potentially jurisdictional water features. As such, significant and unavoidable cumulative impacts would be eliminated as well. The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in no impacts related to biological resources compared to the project as this alternative would not require ground disturbance or other landscape alterations that could adversely impact sensitive plants, wildlife, natural communities, or wetlands resources.

## **Cultural Resources**

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops or nearby parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley. Given that development would occur on the rooftops of existing structures, or in already disturbed parking areas, there would be no potential for disturbance or damage to buried archaeological resources and human remains potentially located in undisturbed land throughout the project site. However, 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 45 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. Given the inability to impact archaeological resources under this alternative, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in fewer impacts related to cultural resources compared to the proposed project as this alternative would not require ground disturbance.

## **Energy**

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or already disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley. As such, construction energy consumption would be limited to fuels to power trucks transporting the solar panels and installation of the solar panels on the rooftops of existing buildings, and would be lower, compared to the amount of transportation fuel required to construct the project. Over the long-term, there would be negligible consumption of energy

involving maintenance activities with some minimal traffic to transport special workers and/or equipment. Therefore, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only 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 renewable solar energy generation capabilities would be provided, long-term impacts would be similar compared to the proposed project.

## Geology and Soils

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or already disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley. Given that only developed areas would be modified, there would be no potential for the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides; result in substantial soil erosion or loss of topsoil; result in on- or off-site landslides, be located on expansive soil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not require implementation of mitigation measures, including Mitigation Measures **MM 4.7-1KC**, **MM 4.7-2KC**, **MM 4.7-1CC**, **MM 4.7-2CC** (geotechnical study and address hazards); **MM 4.7-3KC through MM 4.7-6KC**, **MM 4.7-3CC through MM 4.7-6CC** (prevent the destruction of significant paleontological resources; see **Section 4.7, *Geology and Soils***); and **MM 4.10-2KC** and **MM 4.10-2CC** (topsoil and erosion control; see **Section 4.10, *Hydrology and Water Quality***). Development of rooftop and parking area 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 - Distributed Commercial and Industrial Rooftop Solar Only would result in less of an impact related to geology and soils compared to the proposed project as this alternative would not result in significant ground disturbance.

## Greenhouse Gas Emissions

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities. This alternative would generate substantially less 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 electricity generating potential and associated GHG emission offset potential would be lower than the proposed project. Further, this alternative would have less or no energy storage, whereas the project would provide 1,500 MW storage to maintain energy generating capacity when sunlight is not available. Therefore, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only 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, and because of the general absence of energy storage.

## Hazards and Hazardous Materials

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or already disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley. The installation of rooftop solar equipment on existing structures or on ground-mounted arrays in parking areas would involve the use of fewer hazardous materials overall (such as chemicals and fuels) than the project construction on the undeveloped project site. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would implement Mitigation Measures **MM 4.9-2KC**, **MM 4.9-2CC** (see **Section 4.9, Hazards and Hazardous Materials**), **MM 4.13-1KC**, and **MM 4.13-1CC** (see **Section 4.13, Public Services**) to ensure all hazardous materials used or found on site are transported, handled, stored, and disposed of appropriately. Mitigation Measures **MM 4.16-1KC** and **MM 4.16-1CC** (see **Section 4.16, Utilities and Service Systems**) would also be required to ensure appropriate debris and waste management during construction, operation, and decommissioning. As with the proposed project, impacts would be less than significant after mitigation.

While it is unknown where the solar PV systems would be located specifically within the Antelope Valley, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, similar to the project, would adhere to any applicable notification requirements related to the Airport Land Use Compatibility Plan.

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 Antelope Valley, it is expected that these areas where the solar PV systems would be installed would be in more urbanized areas that would not involve a battery storage component. The installation of solar panels on existing buildings or on already disturbed parking areas would not exacerbate fire risk and would have less potential to induce a wildfire than the project.

Based on the above, impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in less impacts related to hazards and hazardous materials compared to the proposed project, as this alternative would require usage of fewer hazardous materials and would result in less potential fire risk.

## Hydrology and Water Quality

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley. No ground disturbance related to construction would be required under this alternative.

Compliance with the NPDES Construction General Permit, including development and implementation of a SWPPP, would not be required for rooftop solar systems under this alternative, and may not require such compliance for parking area installations, as long as they do not trigger this due to the amount of land area disturbed. Thus this alternative could entirely or mostly eliminate implementation of Mitigation Measures **MM 4.10-1KC** and **MM 4.10-1CC** (see **Section 4.10, Hydrology and Water Quality**). Similar to the proposed project, this alternative would require implementation of Mitigation Measures **MM 4.9-1KC** and



**MM 4.9-1CC** (see **Section 4.9, Hazards and Hazardous Materials**), which would require an HMBP. Implementation of this mitigation measure would 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 - Distributed Commercial and Industrial Rooftop Solar Only. However, implementation of Mitigation Measures **MM 4.10-2KC** and **MM 4.10-2CC** would not be required, as this alternative would not disturb soils such that drainage patterns would be substantially altered.

As it relates to groundwater supplies, water requirements for periodic panel washing under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would be similar to or possibly reduced, as numerous private owners may wash panels less frequently or use other water sources more often. As such, this alternative would not substantially deplete groundwater levels in comparison to existing conditions, and therefore, 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 or already disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley, drainage patterns and flow paths would not be altered. As such, impacts related to drainage patterns would be less than significant.

The Antelope Valley 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. The use of water to construct and clean the solar panels would be less than the proposed project; water that would be needed would be sourced from locations similar to the proposed project or from the buildings' water connections on which they are installed. 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 reduced compared to the project and less than significant. To a large extent, this alternative would not require ground disturbance, except in some circumstances where panels may be erected on the ground surface of previously disturbed parking areas, which could introduce more pollutants to stormwater during construction. Water requirements during construction and operation of this alternative would be reduced as dust suppression or concrete mixing would be substantially reduced during construction. Furthermore, operational panel washing is expected to be less frequent.

## Land Use and Planning

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley. Under this alternative, there would be no zone changes or General/Specific Plan amendments that would be required. Installation of such solar systems would be consistent with current zoning as well as existing land use plans, policies, and regulations. The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would also achieve the County's and City's goals and policies relative to accommodating renewable energy facilities. However, the placement of solar panels on existing structures and existing parking areas 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. This alternative would have no impact involving conflicts with land use plans, policies or regulations and thus have less impact than the project.

## Noise

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities. Rooftops and parking areas 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 could also impact sensitive receptors, albeit in less intensive ways than the larger-scale construction of the project. The operational noise generated from these solar PV systems would be low level and similar to that of the project and would result in less-than-significant impacts. With regard to vibration, construction of the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not require the use of vibratory rollers or other construction equipment with high ground-borne vibration levels. Therefore, it is likely that construction vibration would have a less than significant construction vibration impact. Similar to the project, operation of the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only 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.

The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in reduced and less than significant impacts related to construction and operational noise, compared to the proposed project.

## Public Services

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley and the project site would remain undeveloped. Unlike the project, this alternative would not introduce structures into a currently undeveloped area and would not permanently increase the concentration of persons in an area that would require supporting public services.

With regard to fire protection, it is expected that the areas where the solar PV systems would be installed in more urbanized areas. The installation of solar panels on existing structures and in disturbed parking areas would not result in increased fire risk and would not require additional fire services. With regard to police protection, as the proposed small to medium solar PV systems would be installed in more urbanized areas, it is unlikely that construction and operation of the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would attract attention. Similar to the 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 and not require mitigation. The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not result in payment of substantial fees to support fire and police services provided by Kern County and California City.

## Transportation

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley.

Similar to the project, this alternative would require vehicular trips during construction to transport and install the solar panels. However, the trips would be more dispersed and fewer in number than the project given the location of the existing facilities and the much smaller sizes of solar systems, thereby reducing impacts on the roadways surrounding the project site. As such, roadway segments within the Antelope Valley are not expected to be impacted at levels that would trigger a significant transportation impact during construction of this alternative. During operation of this alternative, day-to-day O&M trips would be less than those of the project, since this alternative involves smaller onsite systems that require fewer persons for maintenance than the much larger solar facilities included in the project. However, as with construction, these maintenance trips would be more dispersed than the 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. Closures of roadways and the need for numerous construction traffic control measures would not be required, as they would for the proposed project.

With regard to consistency with CEQA *Guidelines* Section 15064.3(b), the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not increase vehicle trips or distances for the workforce already occupying the buildings which host the rooftop panels. There would be some increase in vehicle trips and thus vehicle miles traveled to perform occasional maintenance activities, unless those were to be performed by already on-site workers. Therefore, impacts related to vehicle miles traveled would be less than significant under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, as with the project.

Based on the above, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in less impact related to transportation compared to the proposed project due to the dispersed nature of the construction and operational trips.

## Tribal Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of commercial and industrial

facilities situated throughout the Antelope Valley. It is unlikely that these smaller solar systems would have an impact on tribal cultural resources, which do not occur on building rooftops, and only shallow/minor ground disturbance would be required to construct small systems within disturbed parking areas. As such, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would have no impact to tribal cultural resources and no mitigation would be required. As such, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in less impacts related to tribal cultural resources compared to the proposed project.

## **Utilities and Service Systems**

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, 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 Antelope Valley.

With regard to water demand, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would likely require minimal water for construction as no dust suppression or concrete mixing would be required during rooftop solar panel installations, and minor amounts of water for construction of small ground level systems in disturbed parking areas. This alternative would not generate wastewater, consume electricity or natural gas, and likely little or no telecommunications devices. In addition, construction of the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would not substantially alter stormwater drainage. With regard to operation, solar panel washing is expected to be less frequent, as compared to the project, given the smaller, more dispersed panel systems under numerous individual ownerships. As the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would occur on already developed sites and structures, this alternative would not require preparation of a drainage plan to reduce potential increases in stormwater runoff, and construction of new or alterations to existing municipal storm drainage systems would not be required. Wastewater and solid waste generation associated with this alternative would be largely eliminated to the project due to the much smaller number of employees required for maintenance of the solar panels at each of the dispersed sites.

Based on the above, impacts to utilities and service systems would be substantially lower than with the proposed project and less than significant.

## **Wildfire**

Under the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops and/or disturbed parking areas of existing commercial and industrial facilities situated throughout the Antelope Valley and would not introduce infrastructure that would result in increased fire risk. Development of this alternative would not require grading and excavation to change the overall slope of the affected site. As such, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only 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.

Because this alternative would occur on existing structures and on previously disturbed parking areas, within already developed sites and areas, the impact would be less than the project, on both a project level and with respect to cumulative impacts. With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only and other pending projects in this desert area 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. Thus, implementation of this alternative would still result in a significant and unavoidable cumulative impact.

## Comparison of Impacts

The No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only would result in less impact related to aesthetics, agriculture and forestry resources, air quality, cultural resources, biological resources, energy consumption, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire. Further, this alternative would avoid the significant and unavoidable impacts to aesthetics (project and cumulative), air quality (project and cumulative), and biological resources (cumulative only) that would occur under the project. However, this alternative's contribution to significant and unavoidable impacts to wildfire (cumulative only) would remain.

## Relationship to Project Objectives

This alternative would partially satisfy the project objective of assisting California in meeting its GHG emissions reduction goals by 2020 and 2030 as required by the California Global Warming Solutions Act (AB 32), as amended by Senate Bill 32 in 2016. However, up to 1,500 MW of energy storage (a component of the proposed project) would not be constructed under this alternative. Additionally, there are some drawbacks to this alternative that include, but are not limited to those listed below.

- Up to 1,500 MW of energy storage would not be included.
- The system would not likely be built out within a time frame that would be similar to that of the project.
- The project proponent does not have immediate control or access to sites with existing or proposed commercial or industrial buildings that could accommodate rooftop and/or parking area facilities to generate 1,500 MW of solar power.
- A distributed system of the scale of the project would be cost-prohibitive to implement under a Power Purchase Agreement (PPA) due to competitive pricing of PPAs and reduced cost-efficiency of distributed solar.

This alternative theoretically has the potential to generate up to 1,500 MW of electricity but it would be used entirely 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 up to 1,500 MW of energy storage. Given the size of the 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 time frame.

## 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 - Distributed Commercial and Industrial Rooftop Solar Only. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality, biological resources, and noise. Offsets of GHG emissions generated at fossil fuel-based electrical generating facilities would be reduced under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology or up to 1,500 MW of energy storage. However, this alternative would result in less impact to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire hazards. Thus, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the 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 - Distributed Commercial and Industrial Rooftop Solar Only within the same time frame and/or with the same efficiency as the project because the project proponent would lack control and access to the sites required to develop 1,500 MW of distributed solar generated electricity on building rooftops and the required land to support up to 1,500 MW of energy storage. 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, Specific Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only is considered the Environmentally Superior Alternative.

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## Chapter 7

# Response to Comments

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This chapter is being reserved for, and will be included with, the Final EIR.

## Chapter 8

# Organizations and Persons Consulted

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### 8.1 Federal

Edwards Air Force Base  
China Lake Naval Weapons Center  
Federal Aviation Administration  
Federal Communications Commission  
U.S. Air Force  
U.S. Army  
U.S. Army Corps of Engineers

U.S. Bureau of Land Management  
U.S. Department of Agriculture, Natural Resource Conservation Service  
U.S. Environmental Protection Agency Region IX  
U.S. Fish and Wildlife Service  
U.S. Marine Corps  
U.S. Navy

### 8.2 State of California

California Air Resources Board  
California Department of Conservation  
California Department of Conservation, Geologic Energy Management Division  
California Department of Fish & Wildlife, Central Region  
California EPA, Department of Toxic Substances Control, Region 1  
California Department of Transportation  
California Department of Water Resources San Joaquin District  
California Energy Commission

California Highway Patrol  
California Public Utilities Commission  
California Regional Water Quality Control Board, Lahontan Region  
California State Lands Commission  
California State Clearinghouse, Office of Planning and Research  
Caltrans Division of Aeronautics  
Caltrans District 6  
Caltrans District 9

## 8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo	Inyo County Planning Department
AES Midwest Wind Generation	Joyce LoBasso
Antelope Valley-East Kern Water Agency	Kelly Group
Bakersfield City Planning Department	Kern Audubon Society
Bakersfield City Public Works Department	Kern County Administrative Officer
California City Airport	Kern County Agriculture Department
California City Planning Department	Kern County Airports Department
California State University Bakersfield	Kern County Council of Governments
Carol Vaughn	Kern County Environmental Health Services Department
Center on Race, Poverty, & the Environment	Kern County Fire Department
City of Arvin	Kern County Library
City of Maricopa	Kern County Library, California City Branch
City of McFarland	Kern County Parks and Recreation
City of Ridgecrest	Kern County Public Works Department – Building and Development
City of Shafter	Kern County Public Works Department – Floodplain Management Section
City of Taft	Kern County Public Works Department – O&M/Regulatory Monitoring and Reporting
City of Tehachapi	Kern County Sheriff's Department
City of Wasco	Kern County Superintendent of Schools
Congentrix Sunshine, LLC David Laughing Horse Robinson	Kern County Water Agency
David Walsh	Kings County Planning and Natural Resources Department
Defenders of Wildlife	LiUNA Labor Union
Delano City Planning Department	Local Agency Formation Commission
Desert Tortoise Council	Los Angeles Audubon
Desert Tortoise Preserve Committee	Los Angeles County Regional Planning Department
East Kern Air Pollution Control District	Mojave Air and Space Port
East Kern Airport District Engineer	Mojave Foundation
East Kern Airport District- Mojave Air and Space Port	Mojave Unified School District
Eastern Kern Resource Conservation District	Muroc Unified School District
EDP Renewables Company	National Public Lands News
Fotowatio Renewable Ventures	
Iberdrola Renewables	
Integrated Waste Management	



Native American Heritage  
Northcutt and Associates  
Pacific Gas & Electric Company  
Pleistocene Foundation  
Recurrent Energy  
Renewal Resources, Group Holding Company  
Robert Burgett  
San Bernardino County Planning Department  
San Luis Obispo County Planning Department  
Santa Barbara County Resource Management  
Department  
Santa Rosa Rancheria  
Sierra Club

Slickforce Studio, Inc.  
Southern California Edison  
Southern San Joaquin Valley Information Center  
Structure Cast  
Tehachapi Area Association of Realtors  
Terra-Gen Power, LLC  
The Gorman Law Firm  
Tulare County Planning & Development  
Department  
Ventura County RMA Planning Division  
Verizon California, Inc.  
Wind Stream, LLC

## 8.4 Individuals

Chie Huei Wu and Yu Jen Wu  
Debra Secord  
Joseph Fulco  
Suhas Babtiwale

Mary-Anne Hernandez  
Ranajit (Ron) Sahu, Ph.D.

## 8.5 Other

Chumash Council of Bakersfield

Kern Valley Indian Community

Kitanemuk & Yowlumne Tejon Indians

Leadership Counsel for Justice and Accountability

San Fernando Band of Mission Indians

Santa Rosa Rancheria Tachi Yokut Tribe

Twenty-Nine Palms Band of Mission Indians

Tejon Indian Tribe

Torres Martinez Desert Cahuilla Indians

Tubatulabals of Kern County

Tule River Indian Tribe

Wuksache Indian Tribe/Eshom Valley Band

## **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  
Ronelle Candia – Supervising Planner  
Mark Tolentino – Planner 2  
Johnathan Jensen – Planner 2

## **9.2 Technical Assistance**

### ***Michael Baker International (MBI)***

Randy Nichols – Project Director  
Jennifer Wu– Senior Environmental Planner/Project Manager  
Nicole Marotz – Senior Environmental Planner/Project Manager  
John Bellas – Senior Advisor/Department Manager  
Zhe Chen – Senior Air Quality and Noise Specialist  
Ryan Winkleman – Senior Biologist/Project Manager  
Tim Tidwell – Regulatory Specialist/Project Manager  
Nick Hearth – Senior Archaeologist/Principal Investigator  
Madonna Marcelo – Principal Environmental Planner/Senior Project Manager  
Pei-Ming Chou – Senior Environmental Planner  
Julianne Frabizio – Project Manager – Surface Water  
Alex Maher – Project Manager - Water  
Dawn Wilson – Transportation Planning Department Manager  
Brent Schleck – Senior Environmental Planner  
Hilary Ellis – Associate Planner  
Garrett Peterson – Associate Environmental Planner  
Nathan Levey – Assistant Environmental Planner

### ***Panorama Environmental***

Susanne Heim - Principal  
Aaron Lui – Visual Resources Specialist

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## Chapter 10

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